



The lwarp package

L^AT_EX to HTML

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GitHub: <https://github.com/bdte/lwarp>

Abstract

The `lwarp` package converts L^AT_EX to HTML by using L^AT_EX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L^AT_EX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L^AT_EX, LuaL^AT_EX, XeL^AT_EX; by several CJK engines, classes, and packages; or by customized systems such as `pertex` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports *latexmk*. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M^IK_TE_X) and PERL. Detailed installation instructions are included for each of the major operating systems and T_EX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L^AT_EX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T_EX is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in L^AT_EX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T_EX. HTML5 and CSS3 are leveraged to provide advanced features such as `booktabs` trim, multicolumns, side-by-side minipages, and JAVASCRIPT-free navigation.

For a quick-start tutorial, see [section 5, Tutorial](#).

For a list of supported features, see [table 2: Supported packages and features](#).

To update existing projects, see [section 1: Updates](#).

Need help? See the [General Index](#) or the [Troubleshooting Index](#).

Lwarp is still in development. Changes are likely.

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T_EX and related projects:

- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring—many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
- require no yearly subscription fees;
- and are supported by an active community of knowledgeable volunteers.

Please consider helping by joining and/or contributing to the T_EX Users Group, a United States 501(c)(3) tax-exempt charitable organization. Contributions are accepted by credit card, check, or Pay Pal, via the United Way, or by USA or European bank transfer. Membership in TUG supports the development of T_EXLive, the major T_EX distribution.

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LuaTeX: Combining the PDF T_EX engine and the Lua language.

MetaPost: Postscript graphics.

MacTeX: T_EX for Mac.

PDF Accessibility: Modern PDF standards.

Other: Additional projects may be specified.

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1 Updates

The following is a summary of updates to **lwarp**, highlighting new features and any special changes which must be made due to improvements or modifications in **lwarp** itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1393](#).

v0.922: Package updates.

- Updated `embrac`, `babel-french`, `pdfpages`, `scrlayer`, `scrlayer-scrpage`, `siunitx`.

v0.921: Accessibility

- `picture`, `tikzpicture`, and `\pgfpicture`: Added optional `alt`, `actualtext`, and `artifact` keys.
- `graphics`: Added `actualtext` and `artifact` keys.
- See section [7.2](#) for details about tagging.
- `Docs`: Showed how to add paragraph indent. See section [7.7](#).
- `underscore`: Added a warning if used.

v0.920: CSS grid layout.

- Added CSS grid layout for improved `sideTOC`. **Note: CSS layout internals have changed!** See section [7.7.2](#).
- Added `physics` trig exponents missing from `MATHJAX`.
- Now partially emulates `tocbasic`.
- Updated `komascript`, `memoir`, `scrextend`, `scrlayer`, `scrlayer-scrpage`, `typearea`.
- Fixed `komascript` error `\AtBeginDocument`.

v0.919: Package updates.

- Updated `extramarks`, `fancyhdr`, `fvextra`, `minted`, `nameauth`, `nicematrix`, `pdfpages`, `pythontex`, `siunitx`.

v0.918: Package updates.

- Added an automatic vertical scroll bar to the `sideTOC`.
- Updated `mathtools`, `mismath`, `siunitx`.

v0.917: Improved `alt` tags.

 **New labels**

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**

 **New images**

- Due to changes in how automatically-generated SVG image file names are computed, after `lwarpmk html` use `lwarpmk cleanimages` a single time, and then `lwarpmk images` to generate the new images.
- Improved `alt` tag HTML sanitization.
- Updated `backref`, `extramarks`, `fancyhdr`, `fancyvrb`, `fvextra`, `lipsum`, `listings`, `minted`, `musicography`, `orcidlink`, `pdfpages`, `siunitx`, `witharrows`, `xr`.

v0.916: Now allows duplicate section names for file breaks.

- Adjusts file names to allow duplicate section names. See section 8.4.4.
- Fixed L^AT_EX3 key/value option handling.
- Fixed \<space> at end of a line.

v0.915: HTML list classes, meta tags.

- L^AT_EX lists now given the class `itemize`, `enumerate`, `description`, `hanging`.
- L^AT_EX list labels now given the class `listmarker`.
- Added \HTMLKeywords for the keywords meta tag.
- Added \HTMLMeta and \HTMLAddMeta for custom meta tags.
- Added data-nosnippet to MATHJAX customization <div>s.
- Updated pdfpages to v0.5y.

v0.914: Detects changing packages.

- Now verifies many definitions before patching, warning of possible problems if the original has changed.
- Fix: fontawesome5 for X_YL^AT_EX, LuaL^AT_EX.

v0.913: HTML sanitization for verbatims.

- Now at GitHub: <https://github.com/bdte/lwarp>
- Added bibliography usage info to docs and tutorial.
- \verb now uses a CSS class of `verb` instead of `texttt`.
- Improved HTML sanitization for hyperlinks, `fancybox`, `fancyvrb`, `fvextra`, `minted`.
- Updated `fancyvrb`, `fvextra`, `simplebnf`.
- `siunitx`: Updated, and improved complex i,j.
- Added `doipubmed`.

v0.912: Updated for new L^AT_EX label system.

 New labels

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**
- Fixed for updated kernel label system, name and back references.
- Updated `memoir`, `tcolorbox`.
- `nameref`: Now allowed to load before `lwarp`, such as by `memoir`.

v0.911: Updated `mismath`, `tcolorbox`.

v0.910: Updated `fvextra`, `minted`.

v0.909: \ref fix.

- Fixed \ref*, `beamerarticle`, `lyluatex`, `realscripts`.
- Updated `mismath`, `nicematrix`, `pablance`, `pdfpages`, `simplebnf`, `tagpdf`.

v0.908: Bug fix.

- Fixed obscure cross-reference issue, seen in some citations.

v0.907: Bug fix.

- Fixed svg images for WINDOWS.

v0.906: Screen readers

- For each tabular, add a hidden HTML header cell to convince screen readers that the tables are data not layout. Also hide from the screen reader any final row used only to produce bottom borders.
- Adjusted svg math for a margin change in *pdfcrop*.
- Added \Ref.
- Added docs regarding math in custom environments. See section 8.7.

v0.905: Bug fixes, internal improvements.

- Fixed conflict between *cleveref* and *splitidx*.
- Improved coexistence with *\AtEndDocument*.
- acronym: Updated to v1.47, added hyper links.

v0.904a: Fixed missing *lwarp-common-mathjax-siunitx* package.

v0.904: Added *siunitx* v3.

- Fixed HTML tags inside non-Latin text.
- MATHJAX now defaults to svg rendering.
- Added *siunitx* v3. Updated *siunitx-v2*. See section 8.7.15 for limitations.
- Updated *caption*, *chemmacros*, *fbox*, *hyperref*, *multicol*, *wrapfig2*.

v0.903: Various updates and improvements.

lwarpmk

- Error if *pdftotext* not available. Ensures that POPPLER programs are installed.

core

 New images

- *ps2pdf*: Allow transparency due to recent changes in *ps2pdf*.
- Due to changes in how automatically-generated svg image file names are computed, after *lwarpmk html* use *lwarpmk cleanimages* a single time, and then *lwarpmk images* to generate the new images.

- Improved back refs.
- Fixed *verbatim**.
- Various internal updates for recent L^AT_EX release.

packages

- *cuted*: Updated to v2.0.
- *flushend*: Updated to v4.0.
- *mathalpha*: Updated for v1.14+.
- *minted*: Updated to v2.6.
- *cases*: Updated to v3.2.
- *siunitx* with MATHJAX: Improved *\per*, *\numlist*, *\SIlist*, comma decimal points.
- Added *showlabels*, *wrapfig2*.

v0.902: beamerarticle, footnotes, paragraph tags.

- core**
 - Fixed footnotes inside descriptions, minipages, amsthm, \nameref.
 - Improved various paragraph tags.
- packages**
 - Improved parnotes, sympytex.
 - Added beamerarticle.
 - Updated luatexko, xetexko, tagpdf.
- MATHJAX**
 - Added missing standard international text symbols for MATHJAX.

v0.901: Tabular columns, float caption CSS, MATHJAX packages.

- core**
 - Added warpsvg to isolate SVG math, as opposed to warpMathJax.
 - Improved float caption CSS for newer browsers.
 - Improved emulation of \newcolumn type.
 - Added \HTMLnewcolumn type. See section 7.6,
 - >\centering\arraybackslash, etc. now sets HTML CSS text-align. Also detects \itshape, \bfseries, and \bfseries\itshape. See section 8.10.1.
- MATHJAX**
 - Now uses MATHJAX 3.2 packages for centernot, colortbl, gensymb, mathtools, textcomp, upgreek.
- packages**
 - dcolumn: Now works inside a lateximage.
 - Added mwe.
 - Added lltp-tascmac, which fixed ascmac.

v0.900: Package updates.

- core**
 - Fix for detecting \usepackage{lwarp}.
- packages**
 - amsmath: Fixed alignat with MATHJAX.
 - changes: Updated to v4.2.1.
 - froufrou: Updated to v1.4.0.
 - lipsum: Updated to v2.3.

v0.899: Minor updates.

- core**
 - *lwarpmk*: Warns if \usepackage{lwarp} is not detected.
- packages**
 - graphics: Added support for keepaspectratio.
 - keyfloat: Fix: lw with h.
 - multicol: Improved CSS.

v0.898: Minor updates.

- Fewer underfull \hbox warnings.
- wrapfig: Improved integration with keyfloat.

v0.897: siunitx rollback.

- docs**
 - Added a table of file extensions to use with \includegraphics. See table 9.
- core**
 - Added tests for additional incompatible packages.
- packages**
 - siunitx: Supports rollback to v2. Does not yet support v3.
 - fixme: Improved to work if the user modifies layouts.
 - float: Improved integration with newfloat, keyfloat.
 - Added centerlastline, decorule, fancypar, froufrou, pbalance.
 - Verified works as-is with fnpct.

v0.896: Back references, accessibility.

⚠ New labels

MATHJAX
theorems

accessibility

packages

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**
- Increased sectioning nesting stack depth. Error if overflow stack.
- Fixed footnotes at the end of the document, or inside a description label.
- Added an error if using braces inside `\usepackage` options.
- Fixed footnotes in bracket display math with MATHJAX.
- $\LaTeX$ theorems, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.
- Added HTML `<main>` element to each page.
- Added ARIA math role to SVG math images, and note role to margin notes, footnotes, etc.
- Improved citation backreferences for various packages.
- `chemfig`: Updated to v1.6a.
- `bigdelim`: Updated to v2.8.
- `xetexko`: Updated to v3.1.
- `hyperxmp`: Fix: Accept and discard additional keys.
- `hyperref`: Fix: Added `\*autorefname` macros.
- `biblatex`: Fix: Back references.
- `tocloft`: Fix: `\cftpagenumbersoff`, `\cftpagenumberson`.
- `threeparttablex`: Fix: `\TPTL@tnotex`.
- `amsthm`: Fix: Footnotes inside environment optional argument.
- `listings`: Fixed labels. Accepts but ignores escapes w/o error.
- `pdflscape`: Fix: Added landscape environment.
- Added `ccicons`, `classicthesis`, `orcidlink`.
- Added `enotez`.
- Verified support for `doi`, `doipubmed`.

v0.895: Vector packages, greatly improved MATHJAX for siunitx.

core

MATHJAX
packages

- Fixed quotes in HTML tags while using old font packages with $\XeLaTeX$ and $\LuaLaTeX$.
- Added `\ifblank` and `\ifstrequal` to MATHJAX emulation.
- `multirow`: Allow `\par` per v2.7.
- `acro`: Updated to v3.5.
- `fancyhdr`: Updated to v4.0.
- `changes`: Updated to v4.0.1.
- `epsfig`, `rotating`: Now work inside `lateximage`.
- `amscdx`: Verified to work with SVG math. Warning added about use with MATHJAX.
- Added MATHJAX emulation for `isomath`, `mattens`, `maybemath`, `skmath`, `tensor`.
- Improved MATHJAX emulation for `siunitx` `\ang`, `\num`, `\SI`.
- Added `epsf`, `imprnattypo`, `isotope`, `lpic`, `luavlina`, `mdwmath`, `pinlabel`, `rlepsz`, `tikz-image-labels`, `xevlina`.
- Verified to work as-is: `tensind`.

v0.894: MATHJAX additions and improvements.

- MATHJAX**
 - Improved warning message for enabling SVG graphics for select math expressions while using MATHJAX.
 - Accept and ignore a star for `\hspace`.
 - Ignores `\arabic`, `\number`, `\noalign`.
- packages**
 - Added MATHJAX emulation for `backnaur`, `colortbl`, `nicematrix`.
 - **booktabs**: MATHJAX emulation now absorbs and discards `trim`.
 - **menukeys**: Updated to v1.6.1.

v0.893: Minor fixes, more packages.

- MATHJAX**
 - Added MATHJAX emulation for `\mathnormal`.
- packages**
 - Fixed `pstricks` `pspicture*`.
 - Fixed `tikz` font macros.
 - **braket**: Now uses the MATHJAX extension.
 - Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectp`, `seqsplit`, `simplebnf`, `statistics`, `swfigure`.
 - Added MATHJAX emulation for `mathspec`.
 - Verified to work as-is for `apxproof`, `syntaxdi`, `venndiagram`.

v0.892: `minted`, `fvextra`, MATHJAX `\left/\right`.

- MATHJAX**
 - `fourier`, `libertinustlmath`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added MATHJAX `\left/\right` support for additional delimiters.
- packages**
 - `textpos`: Updated to v1.10.
 - `xcolor`: Fixed optional args for `\fcolorbox` and related.
 - Added `fvextra`, `minted`.

v0.891: MATHJAX additions and improvements.

- core**
 - Now displays inline `\verb` text as `\texttt`.
 - Fixed `alltt` and `verbatim` with L^AT_EX lists.
 - Now generates an error if nested each of `warpHTML`, `warpprint`, `warpMathJax` inside itself.
- MATHJAX**
 - Added MATHJAX *textmacros* extension, allowing formatting inside `\text`.
- packages**
 - **biblatex**, **hyperref**: Added back page references.
 - **fancyvrb**: Fixed `BVerbatim` with a label.
 - **listings**: Fixed MATHJAX with captions, improved HTML sanitation.
 - **babel-french**: Fixed `\texorpdfstring` conflict.
 - Now honors Greek package options for `mathdesign`, `mathpazo`, `mathptmx`, `newpxmath`, `newtxmath`.
 - Improved MATHJAX for `colonequals`, `mathdesign`, `mathdots`, `mathfixs`, `mathtools`, `multiobjective`, `nicfrac`, `shuffle`, `units`.
 - `unicode-math`: Added Greek macros, as well as macros for the first several categories listed in **texdoc** `unimath-symbols`. Improved symbol shape macros with Greek. Improved documentation.
 - Added `bussproofs`, `cmbright`, `fourier`, `kpfonts`, `kpfonts-otf`, `libertinustlmath`, `scalerel`, `txgreek`.

v0.89: Additional MATHJAX support.

- core**
 - Adapted to upcoming L^AT_EX kernel changes.
 - Allows load of amsmath before lwarp.
- lwarpmk**
 - Also removes *.bbl when cleaning aux files.
- MATHJAX**
 - MATHJAX: Neutralized \protect, \mathcode and related, ligatures. Fixed nested environments.
- packages**
 - caption: Updated for v3.5, fix for label sep.
 - thmtools: Updated for v0.72. Fixed swapnumber, margin.
 - Improved MATHJAX for centernot, mathtools, mismath, Slunits, siunitx, statmath.
 - Added MATHJAX emulation for accents, hepunits, hhtensor, mathalpha, mathdesign, mathpazo, mathptmx, mleftright, newpxmath, newtxmath, newtxsf, pxfonts, shuffle, txfonts, upgreek, ushort.
 - Verified to work as-is: authoraftertitle.

v0.88: Indexing, boxing, theorems.

- Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
- core**
 - Fixed: \ref*, and also added MATHJAX emulation.
 - If starting a new paragraph, \hrulefill creates a <div> with a thin horizontal line across the page. Use instead of \hrule.
 - Fixed: Use \chaptername where appropriate.
 - Fixed: Inline links causing extraneous paragraphs.
- lwarpmk**
 - Added **lwarpmk -v** to print the version number.
- indexing**
 - Added the IndexRef option to control the display of index entries. See section 7.5.
 - Added \IndexPageSeparator and \IndexRangeSeparator for custom index styles.
 - Added support for gindex, xindex.
 - Verified to work as-is with varindex.
- packages**
 - cleveref, varioref: Fix for starred macros.
 - varioref: Removed page-related text from HTML output.
 - xfakebold: Updated to v0.08, using pdfrender.
 - caption, scrextend: Fixed \caption*.
 - Added fbox, shadethm, tcolorbox, termcal, thmbox, thmtools.

v0.87: MATHJAX, bibliography packages.

- core**
 - Added boolean FixSmallCaps for fonts which render small caps as all caps.
 - Fixed \bibliography to use the HTML version's .bbl file. Previously the HTML bibliography relied on the print version's .bbl, thus would fail if the print document had not yet been created.
- MATHJAX**
 - Added \ifstar and \ifnextchar to MATHJAX, and removed \DeclareIfstar. See section 8.7.7.
- Removed**
 - \DeclareIfstar
- packages**
 - physics: Now supports the MATHJAX v3 extension.
 - mathtools: Improved \underbracket, \overbracket for MATHJAX.

- `nccmath`: Improved `\underrel` for MATHJAX.
- `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
- `cancel`: Now supports the MATHJAX v3 extension.
- `embrac`: Neutralized kerning for improved HTML conversion.
- Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
- Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

v0.86: MATHJAX major updates.

- core**
 - Fixed: Filename if named files with `*`, parens, period in section name.
 - Fixed: Labels in `eqnarray`, `lateximage`.
- MATHJAX**
 - Updated to MATHJAX v3. New repository.
 - Fixed forward references for MATHJAX.
 - Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.7.
 - Added `\DeclareIfstar` to define starred T_EX macros in MATHJAX. See section 8.7.7.
 - Generates an error if `\MathJaxFilename` file does not exist.
- packages**
 - `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
 - `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
 - `xcolor`: Fixed `\textcolor` with `babel-french`.

v0.85: fontspec

- packages**
 - `fontspec`: Fixed core font change macros for world languages.
-  **acro formats**
 - `acro`: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
 - Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.

- docs**
 - Added documentation of `BlockClass` and `\InlineClass` for CSS `<div>s` and `<span>s`. See section 7.7.1.
 - Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
 - Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
 - Improved coexistence with `comment`, support for nested environments.
-  **home page footer changed**
 - No longer requires but still supports the `caption` package.
 - Improved filenames and HTML titles when using special characters.
- core**
 -  Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
 - Fixed style tags for `\multicolumn`, `\multirow`.
 - Fixed spacing in tabbing.
 - Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
 - Fixed `textcomp` due to integration into L^AT_EX kernel.
 - Fixed `\itshape`, etc. Adapted to L^AT_EX fontaxes integration.

- Fixed `\@fnsymbol`.
 - Warns about section names with dollar-delimited math.
 - Warns about a `<span>` containing a float, caption, section, `mdframed`, or other `<div>` object.
 - Only warn about X_YTEX logo and `graphics` if actually used `\Xe`.
 - **lwarpmk clean** also removes `comment_*.cut`.
 - `scrextend`, `scrartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
 - `titling`: Fixed `\printthanks`.
 - `memoir`, `abstract`: Fixed for updated `memoir`.
 - `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
 - Fixed or improved: `amsthm`, `backref`, `biblatex`, `fixme`, `nfssect-cfr`, `ntheorem`, `parcolumns`, `realscripts`, `rotfloat`, `titling`.
 - Added `boxedminipage`, renamed from `boxedminipage2e` per author.
 - Verified to work as-is with `mcite`.
- v0.83:** `memoir` fixes.
- packages
- `memoir`: Various fixes and updates.
 - `physunits`: Updated to v1.0.4.
- v0.82:** MATHJAX notes, xpinyin improvements, various updates.
- MATHJAX
- Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for `endnotes`, `marginnote`, `nccfoots`, `pagenote`, `parnotes`, `sidenotes`.
- packages
- `xpinyin`: Added pinyin with modern HTML.
 - `luatexko`: Added `\dotemph`, `\ruby`, `\uline`, etc.
 - `soul`: Fixed `\<`.
 - `chemfig`: Updated to v1.5.
 - `draftwatermark`: Updated to v2.0.
 - `ulem`: Fixed: `\dashuline`.
 - `amsmath`: Fixed: `\intertext` with MATHJAX.
 - `endnotes`: Fixed: Marks in print mode.
 - `tocvsec2`, `tableof`: Verified to work as-is.
 - Added `etoc` (nullified).
- v0.81:** MATHJAX speedup and additional emulations.
- core
- Improved warning regarding SVG math sizing / baselines and `graphics` / `graphicx`. See section 8.7.
- MATHJAX
- Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for `accsupp`, `axessibilty`, `colonequals`, `decimal`, `dotlessi`, `econometrics`, `engtlc`, `multiobjective`, `physunits`, `Slunits`, `stackrel`, `statmath`.
- packages
- `axessibility`: Updated to 2020/01/08 version.
 - `gridset`: Updated to v0.3.
 - `Slunits`: Fixed for math mode.
 - Added `DotArrow`, `nolbreaks`, `luamplib`, `returntogrid`, `statex2`, `tagpdf`.
 - Verified to work as-is with `icomma`, `mathpunctspace`, `textualicomma`.

v0.80: MATHJAX, biblatex.

MATHJAX

- Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.7, [Customizing MATHJAX](#).
- Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrul, pdfcomment, relsize, rmathbr, subsubscripts, xfrac.
- Improved MATHJAX emulation for unicode-math.

packages

- biblatex, url: Now create hyperlinks.
- amsmath: Fix to center starred environments.
- xcolor, graphics: Made more macros robust.
- colortbl: Fix: Rule color in a lateximage.
- chemmacros: Updated to v5.10.
- Added fewerfloatpages, ghssystem, hline, mismath, nccmath.

v0.79: MATHJAX, nested tabular.

MATHJAX

- Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, bracket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
- Warn if using certain packages not supported by MATHJAX.

core

- tabular: Now may be nested.
- minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
- Uses new iftex.

packages

- graphicx: Fix: Negative angles.
- caption: Fix: \captionlistentry with longtable.
- multirow: Fix: Centered vertical alignment.
- siunitx: Fix: \square, \cubed.
- booktabs: Fix: memoir with lateximage.
- babel and polyglossia: Added troubleshooting warnings.
- fontawesome, fontawesome5: Supports text color and size.
- transparent: Fix: lateximages.
- epigraph: Updated to v1.5e.
- xurl: Updated to v0.08.
- subcaption: Fixed with memoir.
- floatrow: Fix: \linewidth. No longer require float, graphics.
- floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
- Added widetable, witharrows, steinmetz.
- Added awesomebox, catoptions.
- Added svg, supports svg-extract.
- Added parcolumns, pdfcolparcolumns,
- Added parallel, pdfcolparallel.
- Added pdfcol, pdfcolfoot, pdfcolmk.

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

docs

- Docs: Improved documentation regarding package options. See section 8.1.
- Fix to overwrite existing support files using new filecontents environment.

packages

- **breqn**: Previously broken by the 2019/10 L^AT_EX update, but now working again.
- **graphics**: Fix for `\includegraphics` alt tags.
- **babel-french**: Fix for hyperlinks.
- **media9**, **movie15**, **multimedia**: Fix for the 2019/10 L^AT_EX update.
- **accessibility**: Added.

v0.77: Updates to fix recently-broken packages.

- **booktabs**: Updated to v1.6180339.
- **chemformula**: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

docs

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.18.

MATHJAX

- MATHJAX: Updated to v2.7.6.

packages

- **xr**: Updated to v5.05.
- **xr-hyper**: Updated to v6.1.
- Verified works as-is with **xcite**.
- **acro**: Updated to v2.10.

⚠ broken

- Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: **breqn**, **grffile**, **multimedia**, **movie15**.

v0.75: keyfloat, wrapfig

- **\minipage**: Fix for `\linewidth`.
- **keyfloat**: Improved color control.
- **wrapfig**: Fix for `\linewidth`.

packages

v0.74: Docs, SVG math, *lwarpmk*, HTML alt and title text, lyluatex

docs

- Added to the tutorial the section **What next?**. See section 5.20.
- Added documentation about localization options. See section 7.1.
- Added documentation about accessibility options. See section 7.2.
- Renamed and updated HTML alt text macros:

⚠ HTML alt text
changed names

Old	New
(hard coded as “image”)	<code>\ImageAltText</code>
<code>\mathimagenname</code>	<code>\MathImageAltText</code>
<code>\packagediagramname</code>	<code>\PackageDiagramAltText</code>

- Added `\ImageAltText` for the default HTML alt text for an image. See section 7.6.
- Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by *lwarp*, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an SVG math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

- svg math
 - Adjusted `\LateximageFontScale` default from .75 to 1.
 - Fix: Font control for svg math.
- misc
 - Fix: Ignores negative `\hspace`.
 - Warning if `SideTOCDepth < FileDepth`.
- lwarpmk
 - **lwarpmk: lwarpmk clean** removes additional files.
 - **lwarpmk: lwarpmk epstopdf** and **lwarpmk pdftosvg** now honor directories.
- packages
 - lyuatex: Split images by system or per fullpage, improved margins and scaling.
 - Tested to work as-is with mathspec, unicode-math.
- v0.73: `\include`, memoir, koma-script, caption, xy, datatool, music scores.
 - Fix for `\include`.
 - Warning for a tabular inside a `<span>`.
 - `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
 - Improved many HTML tags, reducing *tidy* warnings. See Change History.
- packages
 - memoir: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
 - koma-script: Fix for starred captions in the toc.
 - caption: Fix for starred captions.
 - datatool: Added pie, bar, and plot charts.
 - threeparttable: Added measuredfigure.
 - intopdf: Updated to v0.2.1.
 - tocdata: Updated to v2.03.
 - quotchap: Updated to v1.2.
 - versionotes: Updated to v0.4.
 - backnaur: Now uses svg images. Updated to v3.1.
 - xy: Fix for `\xybox`, improved xy, also now compatible with qcircuit.
 - fancyvrb: Fix for label HTML tags.
 - Added stackengine.
- music
 - Added lyuatex. (Music scores.)
 - musicography: Updated to 2019/05/28. Added support for lateximages.
- v0.72: Font control, `\multicolumn`, xr and xr-hyper.
 - Due to internal changes, images for inline svg math and lateximages will have new hash values, and will have to be regenerated using

Enter ⇒ **lwarpmk cleanimages**
 and
 Enter ⇒ **lwarpmk limages**
 - Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by lwarp.
 - `\multicolumn`: Fix for paragraph columns.
- packages
 - xr, xr-hyper: Fixes for references, `\externaldocument`.
 - soulutf8: Fix: Loads soul for emulation.



images

- **boxedminipage2e**: Added support for lateximages.
- **zhlineskip**: Updated to v1.0e.
- Added fontaxes, slantsc, tabfigures.
- Added nfssect-cfr, thus supporting cfr-lm and several other font packages.
- Added backnaur, hypbmsec, minibox, pdfcrypt, shapepar.

v0.71: Error handling, multimedia, tabular.

- **tabular**: Added support for ‘*’ columns. Fix for paragraph tags.
- **quotation**: Fix for HTML tag.
- **Docs**: Added a section about error conditions tested by lwarp. See section 13.1.
- **lwarpmk**: If file lwarpmk.conf is an older version, or the incorrect operating system, displays the print command to use to recompile.
- **chemfig**: Updated for v1.4.
- **endfloat**: Updated for v2.7.
- **textpos**: Updated for v1.9.1.
- Added media9, movie15, multimedia.

packages

multimedia

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to **lwarpmk** **limages** until recompile first.
- Fix: If Computer Modern font is used, ensures cm-super or lmodern is used.
- Fixes for \makebox.
- Fixes for \parbox inside a .
- **MATHJAX**: Updated to v2.7.5. Loads the autoload-all.js extension. Added \MathJaxFilename to select custom scripts.
- **textcomp**, **xunicode**: Fix for \textinterrobang.
- **mhchem**: Works with MATHJAX. See section 420.
- **changes**: Updated to v3.1.2.
- Added autonum, changelayout, inputtrc, mathtools, metalogox.

packages

v0.69: Error handling, many fixes, improved keyfloat / tocdata.

- Fix for HTML corruption of lateximage displays.
- \makebox, \framebox: Fix for (<width,height>) arguments.
- **fminipage**: Honors \minipagefullwidth.
- **array**, **longtable**: Fix for \tabularnewline.
- **tabularx**, **tabulary**: Fix to require the array package.
- **supertabular**, **xtab**: Fix to clear caption after use.
- **graphics**: Added a warning if used the \includegraphics scale option.
- **multirow**: Added an error if didn’t use \mrowcell or \mcolrowcell when using \multirow or \multicolumnrow.
- **keyfloat**: Updated for v2.00, additional improvements.
- Added ctable, eqlist, eqparbox, ftcap, listliketab, minitoc, tocdata, topcapt.

packages

v0.68: Error handling, tabulars, footnotes.

- lwarpmk*
 - *lwarpmk*: Improved error handling for image generation if compile was incomplete.
 - tabular: Fix for \warpprintonly.
- packages
 - longtable: Improved flexibility for \endhead, etc. Improved error reporting if \endhead, etc. incorrect for lwarp.
 - threeparttable: Fix for caption type.
 - hyperref: Fix for options with braces.
 - morefloats: Fix to be loaded early for print output.
 - listings: Updated for v1.7.
 - Added bigfoot, fnpara, footnotebackref, manyfoot, tablefootnote, threeparttablex.
 - Added layouts, niceframe, perpage, showtags.
 - Prevented alg, algorithmic, pdfcpot, fncylab.

v0.67: Filename generation, symbol fonts.

- docs
 - Documentation fix for <project>-images, <project>-images.txt.
 - Added discussion regarding section names. See section 8.4.
- filenames
 - Added \FilenameNullify and \FilenameSimplify for filename generation. See section 8.4.
 - Core, textcomp, xunicode: Nullified additional symbols during filename generation.
- packages
 - color: Fix for version number warnings.
 - Added academicons, bbding, dingbat, eurosym, fontawesome, fontawesome5, marvosym, pifont, typicons.
 - Added changes, easyReview, fitbox, foreign, gloss, karnaugh-map, multicap, nomencl, notes, struktex, umoline, xfakebold.
 - Tested to work as-is with askmaps, curves, euro, karnaughmap, tikz-karnaugh.

v0.66: xr, multiple projects, image names/directory, HTML formatting

- ⚠ Reset the configuration
 - Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.
- lateximage
 - Adds options ImagesDirectory and ImagesName to assign directory and name prefixes for lateximage images. The new defaults include the jobname, allowing the image directories for multiple projects to coexist.
- ⚠ existing projects
 - To reuse existing lateximage directories, add lwarp options


```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing lateximages directory and lateximages.txt file may be removed.
- filenames
 - Added \FilenameLimit to control the maximum length of the filenames generated by lwarp.
- ⚠ Possible filename changes
 - Improved filename generation when special characters or macros are used in section names.
- WINDOWS
 - Fix for *lwarpmk* **cleanImages** with WINDOWS.

- floats
 - Fixes for floats in the home page.
- lists, table notes
 - Improved css for definition lists, table notes.
- tabular
 - tabular: Fixes for \par in column specifier, minipage inside tabular.
- indexing
 - Indexing: Fix for a long line of multiple entries.
- minipage
 - \minipagefullwidth: Fix for global changes.
 - Added \UseMinipageWidths and \IgnoreMinipageWidths. See section 8.3.3.
- colors
 - Improved \fbox, \fboxBlock, \fminipage to use current text color.
- HTML
 - Improved HTML output formatting.
- docs
 - Added discussion regarding invalid HTML. See section 8.1.1.
 - Added discussion regarding math in section names, \imagegraphics scale option. See section 6.
 - Added discussion regarding international languages in section names. See section 8.14.
- packages
 - caption: Fix for options clash.
 - xr, xr-hyper: Now compatible.
 - subcaption: Improved horizontal spacing.
 - multicol: Fix for minipage inside multicol.
 - multicolrule: Updated for v1.2.
 - tocbasic: Minor update.
 - acronym: Fix for acronym in float caption.
 - kotexutf: Patch with *pdf_latex* and new lwarp labels.
 - extramarks, fancyhdr: Updated for v3.10.
 - memoir: Added docs regarding version numbers. See section 8.13.
 - zref: No longer required.
 - Added ar, ed, indentfirst, nameauth, truncate.
 - Verified to work as-is with changelog.
 - Prevented colortab, epsf, hyper, picinpar, picins, sistyle, ucs.
- v0.65:** css layout, alt tags, Japanese.
 - page layout
 - Moved the sideroc to the left side, allowing improved css for margin notes.
 - Improved page layout css.
 - image alt tags
 - graphicx \includegraphics: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
 - duplicate HTML files
 - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
 - fixes
 - Fix for tabular*.
 - Fix for tabular border colors.
 - Fixes \quad, \enskip, and figure captions to pass validation.
 - Japanese
 - Added ltj* classes, bounddvi, gentombow, ltjext, plarydshln, plect, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac.
 - Verified to work with plarray, plautopatch, plectarray, plectdelarray, pxgentombow, plsiunitx, pxpdfpages, pxpgfrcs, pxpgfmark.
 - packages
 - Added support for fontspec \textsi and \sishape.
 - Added multicol’s \docolaction.
 - Added embrac, footnoterange, multicolrule, versionotes.

v0.64: KOMA-Script, Japanese, Chinese.

- Japanese
 - Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
- Chinese
 - Fix for `biblatex` with `CTEX` and other classes.
- KOMA-Script packages
 - Fixes for `scrlayer`, `scrlayer-scrpage`.
 - `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.

v0.63: `mdframed`, Chinese, Japanese, Korean

- localization
 - Added `\linkhomename`: A user-definable name for the **Home** link.
 - Documented `\sidetocname`: A user-definable name for the `sideroc`.
- fixes
 - Fix: `\LinkHome` for print output.
- optimizations
 - Moved package load checks to the `lwarp` core to reduce the number of `lwarp-*` files.
- packages
 - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
 - Fixes for `xeCJK`.
 - Added `xpinyin`, `zhlineskip`.
 - Verified to work with `ckjpunct`, `upzhkinsoku`, `zhspacing`.
- Japanese
 - Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxckjatype`.
- Korean
 - Verified to work with `kotex`, `xetexko`, `luatexko`.

v0.62: MiKTeX docs, HTML title, `CTEX`, `xeCJK`, `bitpattern`.

- docs
 - Docs: Setting a UTF-8 locale. See section 9.9.
- MiKTeX
 - MiKTeX: Docs for *MiKTeX Console* and `miktex-poppler-bin`.
- HTML `<title>`
 - HTML subpage titles: Added `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection` to select whether the HTML `<title>` displays the website name before or after the section name. See section 7.6.
- fixes
 - Fix for package options handling.
 - Fixes for horizontal white space between `fminipage`, `fcloorminipage`, `colorboxBlock`, `fcloorminipage`.
 - Logos: Fix for `X3TEX` logo, improved css, made robust, improved search-engine optimization.
 - `\[$1]`: Additional HTML `<br>` if `$1 > 0` pt.
 - Fixes for `\includgraphics` filename, and with `FormatWP`.
 - Fix: css for `\textup`.
 - Fix: Added `\slshape`.
- Chinese
 - Added `ctex` package and related classes, `xeCJK`.
 - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.

packages

- chemfig: Docs for new macro `\polymerdelim`.
- asymptote: Docs for compilation.
- chngpage: Fix to load lwarp-changepage.
- algorithm2e: Fix with non-book classes.
- register: Updated to v1.8.
- nicefrac: Improved font control and css, honors nice and ugly.
- units: Improved font control and css, honors tight and loose.
- xfrac: Improved css.
- textcomp and xunicode: Fix conflicts with `\textcircled`.
- ulem: Improved compatibility with CJKulem, lateximage.
- MATHJAX and siunitx: Removed inoperable extension.
- Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xexchangebar.
- Added musicography, octave, semantic-markup.
- Added 2in1, flippdf, notespages, rviewport, twoup.

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

docs

- Split index into multiple indexes.
- Improved documentation regarding font selection. See section 7.4.
- Added documentation regarding debugging options. See section 37.
- Added documentation regarding HTML entities inside program listings. See section 8.2.1.

custom compiling

- Added options to specify the shell commands to execute for `lwarpmk print` and `lwarpmk html`, allowing the use of lwarp with `perltex`, `pythontex`, etc. If not specified, these are set automatically depending on the L^AT_EX engine, `--shell-escape`, and lwarp options. See section 9.



changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

fixes

- Fix: Paragraph tags in a tabular.
- Fix: supertabular and xtab captions.
- Fix: DVI L^AT_EX `\includegraphics` EPS images.
- Fix: newfloat lists.
- Fix: css footnotes text align, minipage tabular and footnote margins.

packages

- Added epsfig, psfrag, psfragx, pstool.
- Added copyrightbox, pdfprivacy, thinsp, threadcol, uspace.
- Added chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.

v0.60: Fixes for longtable, listings.

fixes

- longtable, etc.: Fixes for slowdown and memory management for very long tables.
- listings: Fix for HTML entities, and also when used inside a list.
- diagbox: Fix for incorrect HTML par tags.

packages

- Added 2up, booklet.

- Added bophook, drafftfigure, fullminipage, grid-system, layaureo.
- Added leading, widows-and-orphans.
- Added fancytabs, thumb, thumbs.

v0.59: DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.



Reset the configuration

lwarpmk

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.

- Added an error if *lwarpmk.conf*'s format has changed and the document must be recompiled.
- Added a warning if the *lwarpmk.conf* configuration file appears to be for the wrong operating system, in case files are transferred between systems.

- Added

`lwarpmk epstopdf <list-of-EPS-files>`

to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI *latex*

- Added support for DVI *latex*. See section 7.5.

latexmk

- Fix for `--shell-escape` with *latexmk*.

math

- Updated MATHJAX script to v2.7.4.

- Fix: MATHJAX chapter number removed from non-numeric tagged equations.

- Added MATHJAX support for nicefrac, units.

- Fix for `\[` and `\]` with `\displaymathnormal`.

images

- Fix for `\includegraphics` filename expansion.

- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.

packages

- Moved amsmath out of the *lwarp* core.

- Fix for chemformula `\NMR`.

- Added asymptote, pdftricks, pstricks, pst-eps.

- Added breqn, Slunits.

- Added bxpapersize, canoniclayout, draftcopy, fnbreak, nccfancyhdr.

- Added accsupp, axessibility.

- Added xunicode.

- Improved and now supports epstopdf.

- Tested to work as-is: eepic, sepfootnotes.

docs

- Added information about setting up a development version of *lwarp*.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.



Reset the configuration

lwarpmk

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.

glossaries

- *lwarpmk*: Added the `-p` option to specify the project name.

- *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.

index and glossary

- Added **lwarp** option `GlossaryCmd` to specify the shell command used by **lwarpmk printglossary** and **lwarpmk htmlglossary**. Defaults to **makeglossaries**.
- Docs: Extra indexing options. See section 8.6.15.
- Added support for *makeindex*. (Previously supported only *xindy*.) Also added indexing packages listed below.
- Added **lwarp** options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by **lwarpmk printindex**, **lwarpmk htmlindex**, and *latexmk*. May be preset with the *makeindex* or *xindy* **lwarp** options. See section 7.5.
- Added **lwarp** options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added **lwarp** option `makeindexStyle` to tell *lwarpmk* to use a custom style instead of `lwarp.ist`. See section 8.6.21.

misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal print/HTML macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for memoir: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.

packages

- Fixes for komascript: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

v0.57: `algorithm2e`, float styles, tabular packages, internal improvements.

- Added support for MATHJAX equations with `\footnote`, `\footnotemark`.

MathJax

math macros

- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.9.

dynamic math

- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to svg math images even when MATHJAX is enabled. See section 8.7.10.

 new name

lateximage alt tags

- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage` HTML alt tags. For svg math images, the alt tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the alt tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

`(-xy- diagram)`

See section 7.6.

- Fix: Improved print/HTML macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.

misc. fixes

- Fixes: Colored `\rule` and `\boxframe`.
- `float`, `rotfloat`: Adds support for float styles ruled and boxed.
- `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
- `marginnote`: Fix: Long optional argument.
- `ellipsis`: Adds `\midwordellipsis`.
- `breakurl`: Fix for text catcodes.
- Added `algorithm2e`, `register`, `ltablex`, `xltablex`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
- Prevents `glossary`.
- Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

v0.56: Shell escape, tabular packages.

- Added
 - `lwarpmk pdftosvg <list-of-PDF-files>`
 - to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
- Added support for `--shell-escape`. See section 7.3.
- Added support for array `w` and `W` columns.
- Fix: `\multicolumn` parameter handling.
- Added support for double `\hlines`, `\midrules`, and vertical rules.
- Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.
- Fix: `\thinspace`.
- Fix: `paralist` compact environments.
- Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
- Added `bibunits`.
- Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

v0.55: Various fixes.

- Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
- Fix: Float optional argument regression.
- Fix: `\ForceHTMLTOC` with `\phantomsection`.
- Fix: Overfull boxes in `lateximages`.
- Fix: QED symbols in `lateximage`.
- `koma-script`: Fix: Figure with `\centering`, etc.
- Added `clrdblpg`.

v0.54: Float `\centering`, improved image checks.



Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.
- *lwarpmk* `limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.

- *lwarpmk*: Improved error message if configuration file does not exist.
- Added documentation for avoiding error with BibTeX and \etalchar. See section 8.6.9.
- Added documentation regarding polyglossia. See section 8.15.4.
- Added documentation regarding the use of macros in section names. See section 8.1.
- Renamed and added package options:

Old Package Option	New Package Option
xdyFilename	xindyStyle
IndexLanguage	xindyLanguage
–	xindyCodepage
–	pdftotextEnc

Use these options along with inputenc or inputenx to process documents in an encoding other than UTF-8. See section 7.4.

- Floats now honor \centering, \raggedright, \raggedleft, and their ragged2e equivalents, when placed directly after:

\begin{floattype}
\centering

- tikz: \pgfpicture, fit, align, font.
- ragged2e: \centering etc.
- hyperref: \hypertarget was creating duplicate of \label.
- hyperref: Active chars inside \hyperref, \hyperlink.
- hyperref: \ref inside \hyperlink caused a nested HTML link.
- glossaries: Fix when not using babel or polyglossia.
- textcomp: \textperthousand.
- L^AT_EX core verse environment: line spacing.
- Removed \citetitle, adjusted \attribution.
- memoir: Minor update for v3.7g.
- Added inputenx, bibunits, chngpage, forest, magaz, gridset.
- Prevents loading ae, aecc, tlenc, and wasysym.

v0.53: Improved image checks.

- *lwarpmk*: Added a warning about corrupted images due to the need to recompile the document one more time.
- *lwarpmk*: Added the **lwarpmk cleanimages** command.
- Added documentation for **lwarpmk cleanimages** and **lwarpmk pdftohtml**.

v0.52: Improved footnotes, svg math.

- Improved install instructions regarding lwarpmk_baseline_marker.png.
- Added documentation regarding footnotes in section headings, and footnotes with \VerbatimFootnotes from fancybox, fancyvrb. See section 8.5.4.
- Added documentation regarding font selection when using X_EL^AT_EX or LuaL^AT_EX with fontspec and traditional font packages. See section 7.4.
- Fix: Limit the number of background tasks when generating lateximages.

- Added user-adjustable svg math font scaling. See section 87.3.
 - Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
 - Improved `\ensuremath` hashing expansion.
 - Fix: `equation*` with `split`.
 - `tabbing` now works inside a `lateximage`. Use for math in `tabbing`.
 - Fix: `MATHJAX` script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
 - Fix: Footnote numbering when using `HTMLDebugComments`.
 - Fix: Footnote paragraph tags.
 - Fix: `FootnoteDepth` defaults to `\subsubsection`.
 - Fix: `\kill` in a `lateximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.
 - `hyperref` emulation: Fix for `#`, `%`, `&`, `~`, `_` characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
 - `nicefrac`: Added with fix for `\ensuremath`.
 - `graphicx`: Fix for option defaults. Added `v1.1a/b` options.
 - `endfloat`: Updated for `v2.6`.
 - `url`: Fixes for active characters.
- MathJax
- footnotes
- misc. fixes
- packages

2 Introduction

The `lwarp` project aims to allow a rich $\text{\LaTeX}$ document to be converted to a reasonable `HTML5` interpretation, with only minor intervention on the user's part. No attempt has been made to force $\text{\LaTeX}$ to provide for every `HTML`-related possibility, and `HTML` cannot exactly render every possible $\text{\LaTeX}$ concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the `HTML` conversion.

Several “modern” features of `HTML5`, `CSS3`, and `SVG` are employed to allow a fairly feature-rich document without relying on the use of `JAVASCRIPT`. Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native $\text{\LaTeX}$ package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in $\text{\LaTeX}$, `lwarp` has some advantages over other methods of `HTML` conversion. $\text{\TeX}$ itself is still used, allowing a wider range of $\text{\TeX}$ trickery to be understood. `Lua` expressions are still available with `Lua\TeX`. Entire categories of $\text{\LaTeX}$ packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of `PDF` output may be automatically converted to `SVG` images while using the same font and spacing as the original print document, directly supporting `TikZ` and `picture`. Numerous packages are easily adapted for `HTML` versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent CTAN updates, CTAN topics, mention in other packages, support by other `HTML` conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the `HTML` output to suit the creation of `EPUB` documents, and for modifying the `HTML` output to ease import into a word processor.

`pdf\latex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating `HTML` output, `SVG` files are used in place of `PDF`. Other formats such as `PNG` and `JPG` are used as-is.

¹An amazing number of decades-old packages are still in use today.

svg images may be used for math, and are also used for picture, TikZ, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the L^AT_EX source for the expression, allowing it to be copy/pasted into other documents.³ Custom L^AT_EX macros may be used as-is in math expressions, since the math is evaluated entirely inside L^AT_EX. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ *lwarp* maintains L^AT_EX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a L^AT_EX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarp automatically generates the extra files necessary for the HTML conversion, such as CSS and `.xdy` files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, *lwarp* first looks to see if it has its own modified version to use instead of the standard L^AT_EX version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over L^AT_EX for sharing math. The author has no particular opinion on the matter, except to say that in this case L^AT_EX is much easier to implement!

⁴One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

package	L ^A T _E X package.
<i>program</i>	Program's executable name.
option	Program or package option.
filename	File name in the operating system.
BRAND NAME	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
code	Program code.
\macroname	L ^A T _E X macro.
environment	L ^A T _E X environment.
counter	L ^A T _E X counter.
boolean	L ^A T _E X boolean.
<element>	HTML element.
attribute	HTML attribute.
User Interface	A user-interface item.
ACRO	Acronym.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

index entries Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used. Package names are colored according to their support level:

- name**: Supported as-is.
- name**: Modified to work with HTML output, and perhaps also as print output in SVG math or lateximage environments.
- name**: Emulated for HTML output.
- name**: Ignored for HTML output, but provides source-level compatibility.
- MJ**: Supported as-is for MATHJAX, subject to limitations.
- MJ**: Emulated for MATHJAX using custom macros, subject to limitations.
- MJ**: Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L^AT_EX lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, PDF L ^A T _E X, X _Y L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
L ^A T _E X compiling:	latexmk, make, etc.
External compiling:	perltex, pythontex, sympytex
Classes:	article, book, report, scrartcl, scrbook, scrreprt, memoir, CJK-related as listed below.
Koma-script:	scrextend, scrhack, sclayer. Others as listed below.
Memoir:	memhfixc
Beamer:	beamerarticle, but not the beamer class.
Languages:	babel, cjkpunct, impnatty, luavl ^{na} , polyglossia, xeCJK, xevl ^{na} .
Chinese:	C _T _E X, ctex, upzhkinsoku, xpinyin, zhlineskip, zhspacing.
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow, ll ^t j ^e x, plarray, plarydshl ⁿ , plautopatch, plect, plectarray, plectarydshl ⁿ , plectcolortbl, plectdelarray, pxatbegshi, pxeveryshi, pxftnright, pxgentombow, pxjahyper, pxpdfpages, pxpgfrcs, pxpgfmark, tasc ^{mac} , zxjatype. bxjsarticle and related, ltjsarticle and related, luatexja, luatexja-fontspec, uarticle and related, utarticle and related.
Korean:	kotex, luatexko, xetexko.

lwarp Supported Functions — continued

Category	Status
Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , balance, blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, centerlastline, changelayout , changepage , chngpage, clrdblpg, continue, draftcopy, drafftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfscape, pdfprivacy, preview, ragged2e , returntogrid, rmpage, scrlayer-scrpage , scrpage2 , setspace , selectp, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. anonchap , bsheaders, decorule , fncychap, froufrou , hypbmsec , indentfirst , quotchap , section, sectionbreak , secdot , sectsty, titlesec, tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc, minitoc, multitoc, shorttoc , tableof , titletoc, tocbasic , tocbibind , tocdata , tocloft, tocstyle, tocvsec2 .
Title page:	\maketitle, titlepage, authblk , authaftertitle , titling .
Front & back matter:	abstract , appendix .
Indexing:	<i>makeindex</i> , <i>xindy</i> , and <i>xindex</i> are supported, with hyperlinks. gindex , hindex , idxlayout , imakeidx , index , makeidx , repeatindex , splitidx , varindex , xindex .
Glossary:	gloss , glossaries and <i>xindy</i> , nomencl .
Bibliography:	babelbib , bibtopic , backref , biblatex , bibunits , chapterbib , cite , citeref , collref , drftcite , hypernat , jurabib , mcite , mciteplus , multibib , natbib , notes2bib , splitbib , showtags .
Cross-references:	bookmark , breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , varioref , xcite , xr , xr-hyper , xurl , zref .

lwarp Supported Functions — continued

Category	Status
Margin notes:	marginal, marginfit, marginfix, sclayer-notecolumn , versionotes .
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: bigfoot , dblfnote , endheads , endnotes ^{MJ} , enotez ^{MJ} , fixfoot , fnbreak , fnpara , fnpct , fnpos , footmisc , footnote , footnotebackref , footnoterange , footnpag , manyfoot , marginnote ^{MJ} , nccfoots ^{MJ} , pagenote ^{MJ} , parnotes ^{MJ} , pdfcolfoot , pfnote , sepfootnotes , sidenotes ^{MJ} , tablefootnote .
Math:	Converted to SVG images with HTML <alt> tags containing the L ^A T _E X source for the math expression. MATHJAX supported as an alternative. amsmath ^{MJ} : $\mathcal{AMS}$ environments are supported. User-defined macros are available during conversion, due to native L ^A T _E X processing.
Theorems:	Native L ^A T _E X theorems, amsthm , apxproof , nththeorem , shadethm , theorem , thmbox , thmtools .
Additional math:	Math fonts via SVG images, accents ^{MJ} , amscd ^{MJ} , amscdx , autobreak ^{MJ} , autonum , backnaur ^{MJ} , bm ^{MJ} , braket ^{MJ} , breqn ^{MJ} , bussproofs ^{MJ} , cases ^{MJ} , centernot ^{MJ} , cmbright ^{MJ} , colonequals ^{MJ} , decimal ^{MJ} , delarray , DotArrow ^{MJ} , dotlessi ^{MJ} , dotlessj ^{MJ} , esvect ^{MJ} , extrarrows ^{MJ} , fixmath ^{MJ} , fouridx ^{MJ} , fourier ^{MJ} , guass , hhtensor ^{MJ} , icomma ^{MJ} , isomath ^{MJ} , jkmath , kpfonts ^{MJ} , kpfonts-otf ^{MJ} , leftidx ^{MJ} , libertinust1math ^{MJ} , mathalpha ^{MJ} , mathastext ^{MJ} , mathcomp ^{MJ} , mathdesign ^{MJ} , mathdots ^{MJ} , mathfixs ^{MJ} , mathpazo ^{MJ} , mathptmx ^{MJ} , mathpunctspace ^{MJ} , mathspec ^{MJ} , mathtools ^{MJ} , mattens ^{MJ} , maybemath ^{MJ} , mdwmath ^{MJ} , mismath ^{MJ} , mleftright ^{MJ} , multiobjective ^{MJ} , nccmath ^{MJ} , nicematrix ^{MJ} , noitcrul ^{MJ} , newpxmath ^{MJ} , newtxmath ^{MJ} , newtxsf ^{MJ} , pb-diagram , pxfonts ^{MJ} , resizegather ^{MJ} , rmathbr ^{MJ} , scalrel ^{MJ} , shuffle ^{MJ} , skmath ^{MJ} , stackrel ^{MJ} , statex2 ^{MJ} , statistics , statmath ^{MJ} , subsupscripts ^{MJ} , tensind , tensor ^{MJ} , textualicomma ^{MJ} , txfonts ^{MJ} , txgreek ^{MJ} , unicode-math ^{MJ} , upgreek ^{MJ} , ushort ^{MJ} , witharrows ^{MJ} , xfakebold ^{MJ} , xy . Many others work as-is.
Display math with \displaymathother:	Complicated math objects in display math, such as tikz-cd , etc.

lwarp Supported Functions — continued

Category	Status
Units and fractions:	<code>nicefrac^{MJ}</code> , <code>Slunits^{MJ}</code> , <code>siunitx^{MJ}</code> , <code>units^{MJ}</code> , <code>unitsdef</code> , <code>xfrac^{MJ}</code> .
Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> , <code>wrapfig2</code> .
Tabular:	<code>tabular</code> environment, <code>array^{MJ}</code> , <code>arydshln^{MJ}</code> , <code>bigdelim^{MJ}</code> , <code>bigstrut^{MJ}</code> , <code>booktabs^{MJ}</code> , <code>colortbl^{MJ}</code> , <code>ctable</code> , <code>dcolumn</code> , <code>diagbox</code> , <code>hhline^{MJ}</code> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</code> , <code>multirow^{MJ}</code> , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to svg, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an svg image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsz</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-image-labels</code> , <code>xy</code>
xcolor:	Full package color names, any color models, and <code>mixing</code> . <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard L ^A T _E X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L ^A T _E X environments.
Paragraphs, minipage, \parbox:	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>fancypar</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .
Verbatim:	<code>fancyvrb</code> , <code>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox^{MJ}</code> , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox^{MJ}</code> , <code>vertbars</code> .

lwarp Supported Functions — continued

Category	Status
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .
Margins:	<code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> .
Line numbering:	<code>fnlineno</code> , <code>lineno</code> .
Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel</code> ^{MJ} , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>resize</code> ^{MJ} , <code>scaleftnt</code> , <code>seqsplit</code> ^{MJ} , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fmtcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for thin-unbreakable, unbreakable, <code>\enskip</code> , <code>\quad</code> , <code>\qqquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with width, height, raise, text color.
HTML reserved characters:	<code>\&</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
Fonts:	Used as-is. Appear in svg math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssext-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssext-cfr</code> . Also see the math section for math and MATHJAX support for math font packages.
Symbols:	Native L ^A T _E X diacriticals, <code>academicons</code> , <code>amssymb</code> ^{MJ} , <code>bbding</code> , <code>ccicons</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> ^{MJ} , <code>latexsym</code> ^{MJ} , <code>marvosym</code> , <code>metalogo</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> ^{MJ} , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputtrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> .

lwarp Supported Functions — continued

Category	Status
Science and engineering:	algorithm2e, algorithmicx, ar ^{MJ} , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, doipubmed, econometrics ^{MJ} , elements, engtlc ^{MJ} , fast-diagram, ghsystem, hepnice names, heppennames, hepunits ^{MJ} , isotope ^{MJ} , karnaughmap, karnaugh-map, keystroke, listings, listingsutf8, linop, menukeys, mhchem ^{MJ} , minted, pgfgantt, phfqit, physics ^{MJ} , physunits ^{MJ} , plimsoll ^{MJ} , qcircuit, register, simplebnf, simpler-wick, slashed ^{MJ} , steinmetz ^{MJ} , structmech, struktex, syntaxdi, tikz-karnaugh, tikzcodeblocks, venndiagram
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Academic:	academicons, classicthesis, doi, doipubmed, orcidlink ^{MJ} , termcal
Admonitions:	awesomebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment ^{MJ} , pdfmarginpar, todo, todonotes, tram, xexchangebar.
Accessibility:	accessibility ^{MJ} , accsupp ^{MJ} , axessibility ^{MJ} , pdfcomment ^{MJ} , repltext ^{MJ} , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, mwe, refcheck, showlabels, showkeys, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a $\text{\LaTeX}$ or other document to HTML. Where an existing $\text{\LaTeX}$ document is to be converted to HTML, **lwarp** may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

internet (*Cls*) The closest to **lwarp** in design principle is the **internet** class by Andrew Stacey—an interesting project which directly produces several versions of markdown, and also HTML and EPUB. <https://github.com/loopspace/latex-to-internet>

3.2 TeX4HT

TeX4ht (*Prog*) <http://tug.org/tex4ht/>

htlatex (*Prog*)

This system uses native $\text{\LaTeX}$ processing to produce a DVI file containing special commands, and then uses additional post-processing for the HTML conversion by way of numerous configuration files. In some cases **lwarp** provides a better HTML conversion, and it supports a different set of packages. **TeX4ht** produces several other forms of output beyond HTML, including ODT and a direct path to EPUB, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of $\text{\LaTeX}$ syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Hevea (*Prog*) **H^Ev^Ea**: <http://hevea.inria.fr/> (not on CTAN)

TtH (*Prog*) **T_TH**: <http://hutchinson.belmont.ma.us/tth/>

GELLMU (*Prog*) **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>

LaTeXML (*Prog*) **L^AT_EX^ML**: <http://dlmf.nist.gov/LaTeXML/>

Plastex (*Prog*) **PlasTeX**: <https://github.com/tiarno/plastex>

LaTeX2HTML (*Prog*) **L^AT_EX²HTML**: <http://www.latex2html.org/>
and <http://ctan.org/pkg/latex2html>.

TeX2page (*Prog*) **T_EX²page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, **GladTeX** may be used to directly insert $\text{\LaTeX}$ math into HTML:

GladTeX (*Prog*) **GladTeX**: <http://humenda.github.io/GladTeX/>

3.4 AsciiDoc and AsciiDoctor

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes L^AT_EX and HTML.

AsciiDoc (*Prog*) **Asciidoctor:** <http://asciidoctor.org/> (More active.)

AsciiDoctor (*Prog*) **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 AsciiDoctor-L^AT_EX

The AsciiDoctor-LaTeX project is developing additional L^AT_EX-related features.

AsciiDoctor-Latex:

AsciiDoctor-LaTeX (*Prog*) <http://www.noteshare.io/book/asciidoctor-latex-manual>
<https://github.com/asciidoctor/asciidoctor-latex>

3.5 PANDOC

Pandoc (*Prog*) A markup system which also reads and writes L^AT_EX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Word (*Prog*) It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a L^AT_EX-ish input syntax, unicode
 LibreOffice (*Prog*) math fonts, and high-quality output, and also generate HTML with varying success.
 OpenOffice (*Prog*) See recent developments in MICROSOFT[®] *Word*[®] and LIBREOFFICE[™] *Writer*.

3.7 Commercial systems

Adobe (*Prog*) Likewise, several professional systems exist whose abilities have been advancing
 FrameMaker (*Prog*) in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE[®]
 InDesign (*Prog*) *FrameMaker*[®], ADOBE *InDesign*[®], and MADCAP *Flare*[™].

Flare (*Prog*)

Madcap (*Prog*)

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, L^AT_EX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster

entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L^AT_EX is comparably easy to learn, while L^AT_EX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L^AT_EX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L^AT_EX back end, yielding high-quality results especially when the L^AT_EX template is adjusted, but they lose the ability to use L^AT_EX macros and other L^AT_EX source-document features.

The effort required to customize the output of each markup system varies. For print output, L^AT_EX configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarp, CSS is used, and much HTML output is adjusted through the usual L^AT_EX optional macro parameters, but further customization may require patching L^AT_EX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The lwarp package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a MiK_TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L^AT_EX code. On a MiK_TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPPLER PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and MiK_TE_X provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For MACOS[®], see <https://brew.sh/>, install *Homebrew*, then

Enter ⇒ **brew install poppler**

For WINDOWS, see MiK_TE_X *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:
<http://blog.alivate.com.au/poppler-windows/>

Perl:

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the lwarp package

There are several ways to install lwarp. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

Enter $\Rightarrow$ `kpsewhich lwarp.sty`

If a path to `lwarp.sty` is shown, then lwarp is already installed and you may skip to the next section.

TeX Live: If using a TeX Live distribution, try installing via *tlmgr*:

Enter $\Rightarrow$ `tlmgr install lwarp`

MiKTeX:

1. For newer versions of MiKTeX, install or update lwarp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarp the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package `miktex-misc`, which will install and update the *lwarpmk* executable.

Operating-system package: The operating-system package manager may already have lwarp, perhaps as part of a set of TeX-related packages.

CTAN TDS archive: lwarp may be downloaded from the Comprehensive TeX Archive:

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the TDS archive: `lwarp.tds.zip`
3. Find the TeX local directory:

TeX Live:

Enter $\Rightarrow$ `kpsewhich -var-value TEXMFLOCAL`

MiKTeX:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

`/usr/local/texlive/texmf-local/`

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

Enter $\Rightarrow$ `mktextlsr`

— or —

Enter $\Rightarrow$ `texhash`

Or, for WINDOWS MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of TeX package is `.dtx` and `.ins` source files. These files are used to create the documentation and `.sty` files.

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the zip archive `lwarp.zip` into your own lwarp directory.
3. Unpack `lwarp.zip`.

4. Locate the contents `lwarp.dtx` and `lwarp.ins`

5. Create the `.sty` files:

Enter $\Rightarrow$ **pdflatex lwarp.ins**

6. Create the documentation:

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

7. Copy the `.sty` files somewhere such as the T_EX Live local tree found in the previous CTAN TDS section, under the subdirectory:

`<texlocal>/tex/latex/local/lwarp`

8. Copy `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` to the same place as the `.sty` files.

9. Copy the documentation `lwarp.pdf` to a source directory in the local tree, such as:

`<texlocal>/doc/local/lwarp`

10. Renew the cache:

Enter $\Rightarrow$ **mktexlsr**

— or —

Enter $\Rightarrow$ **texhash**

Or, for WINDOWS MiK_TE_X, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

11. See section 4.2.1 to generate your local copy of *lwarpmk*.

12. Once the local version of `lwarpmk.lua` is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN `.dtx` and `.ins` files: The `.dtx` and `.ins` files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant `*.sty` and `lwarpmk.lua` files may be used as-is, so long as they are in the same directory as the document source. The files `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` must also be copied as well. This approach is especially useful if you would like to temporarily test *lwarp* before deciding whether to permanently install it.

Just testing!

4.2 Installing the *lwarpmk* utility

(Note: If *lwarpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the *lwarp* package is installed, you may need to setup the *lwarpmk* utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK_TE_X, try updating the `miktex-misc` package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the `scripts` directory of the `TDS` tree. On a `TeX Live` or `MiKTeX` system you may use

Enter $\Rightarrow$ **`kpsewhich lwarpmk.lua`**

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the `TeX Live` binaries:

Enter $\Rightarrow$ **`kpsewhich -var-value TEXMFROOT`**

This will be something like:

`/usr/local/texlive/<year>`

The binaries are then located in the `bin/<arch>` directory under the root:

`/usr/local/texlive/<year>/bin/<architecture>/`

In this directory you will find programs such as *pdf_latex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

Enter $\Rightarrow$ **`ln -s <path to lwarpmk.lua> lwarpmk`**

- (c) Make the link executable:

Enter $\Rightarrow$ **`chmod 0755 lwarpmk`**

Windows `TeX Live`: Create a new `lwarpmk.exe` file:

- (a) Locate the `TeX Live` binaries as shown above for `UNIX`.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

Windows `MiKTeX`: Create a new `lwarpmk.bat` file:

- (a) Locate the `MiKTeX` binaries. These will be in a directory such as:

`C:\Program Files\MiKTeX 2.9\miktex\bin\x64`

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

`texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*`

This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

`\usepackage[lwarpmk]{lwarp}`

2. When the tutorial is compiled with *pdf_latex*, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

- (a) Make
- `lwarpmk.lua`
- executable:

Enter ⇒ `chmod 0755 lwarpmk.lua`

- (b) Compile documents with

Enter ⇒ `./lwarpmk.lua html`Enter ⇒ `./lwarpmk.lua print`

etc.

- (c) It may be useful to rename or link to a version without the
- `.lua`
- suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

Enter ⇒ `texlua lwarpmk.lua html`Enter ⇒ `texlua lwarpmk.lua print`

etc.

Or:

Enter ⇒ `lwarpmk html`Enter ⇒ `lwarpmk print`

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 79.

Enter ⇒ `luatex --version`Enter ⇒ `xindy --version`Enter ⇒ `latexmk --version`Enter ⇒ `perl --version`Enter ⇒ `pdfcrop --version`Enter ⇒ `pdftotext -v`Enter ⇒ `pdfseparate --version`Enter ⇒ `pdftocairo -v`**To install *xindy*, *latexmk*, and *pdfcrop*:**

The TeX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the CTAN archive:

<http://ctan.org/pkg/xindy><http://ctan.org/pkg/latexmk><http://ctan.org/pkg/pdfcrop>

pdftotext (Prog) []

To install the POPPLER utilities to a UNIX/LINUX system:

pdfseparate (Prog) []

The tools from the POPPLER project should be provided by your operating system's package manager.

pdftocairo (Prog) []

To install the POPPLER utilities to a MacOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

If using MikTeX, install a miktex-poppler-bin-* package. Otherwise:

1. See table 3 on page 79.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path.
Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:
C:\Users\<myname>\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
Be sure to include \bin.
9. Click **Ok** when done.

perl (Prog) [] To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:
C:\Strawberry\perl\bin
Be sure to include \bin.
4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an `lwarp` document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.

`tutorial.tex` (file)

2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the `lwarp` documentation directory:

Another copy may be found by entering into a command line:

Enter $\Rightarrow$ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

`lwarp_tutorial.txt` (file)

 **Note: .txt suffix!**

 **Bad formatting!**

When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a Unix text file.

3. Compile the project:

Enter $\Rightarrow$ `pdflatex tutorial.tex`

(several times)

(*xelatex* or *lualatex* may be used as well. `lwarp` also supports DVI *latex* for use with `.eps` images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the `lwarp` package.

(Two of the new files are configuration files for the helper program *lwarpmk*. Whenever a print version of the document is created, the configuration files for *lwarpmk* are updated to record the operating system, L^AT_EX engine (*latex*, *pdflatex*, *xelatex*, or *lualatex*), the filenames of the source code and HTML output, and whether the additional helper program *latexmk* will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
%   HomeHTMLFilename=index,      % Filename of the homepage.
%   HTMLFilename={node-},        % Filename prefix of other pages.
%   IndexLanguage=english,       % Language for xindy index, glossary.
%   latexmk,                     % Use latexmk to compile.
%   OSWindows,                   % Force Windows. (Usually automatic.)
%   mathjax,                     % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2} % Include subsections in the \TOC.
\setcounter{secnumdepth}{2} % Number down to subsections.
\setcounter{FileDepth}{1} % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1} % Include subsections in the side\TOC
\HTMLTitle{Webpage Title} % Overrides \title for the web page.
\HTMLAuthor{Some Author} % Sets the HTML meta author tag.
\HTMLLanguage{en-US} % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}

\begin{document}

\maketitle % Or titlepage/titlingpage environment.
```

```

% An article abstract would go here.

\tableofcontents           % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}


\begin{warpprint}   % For print output ...
\cleardoublepage    % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage      % HTML index will be on its own page.
\ForceHTMLTOC       % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

<code>tutorial.pdf</code> :	The PDF output from L ^A T _E X. The print version of the document.
<code>tutorial_html.tex</code> :	A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.
Auxiliary files :	The usual L ^A T _E X files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.
<code>lwarpmk.conf</code> :	A configuration file for <i>lwarpmk</i> , which is used to automate the compilation of PDF or HTML versions of the document.
<code>tutorial.lwarpmkconf</code> :	Another configuration file used by <i>lwarpmk</i> , which is only useful if you wish to have several projects residing in the same directory.
<code>.css</code> files:	<code>lwarp.css</code> , <code>lwarp_formal.css</code> , <code>lwarp_sagebrush.css</code> These files are standard for <i>lwarp</i> , and are not meant to be modified by the user.
<code>sample_project.css</code> :	An example of a user-customized css file, which may be used for project-specific changes to the <i>lwarp</i> defaults.
<code>lwarp.ist</code> :	Used by <i>lwarp</i> while creating an index using <i>makeindex</i> . This file should not be modified by the user. A custom file may be used instead, if necessary.
<code>lwarp.xdy</code> :	Used by <i>lwarp</i> while creating an index using <i>xindy</i> . This file should not be modified by the user. A custom file may be used instead, if necessary.
<code>lwarp_one_limage.txt</code> :	For WINDOWS only. Used to process svg images in the background. Copied to <code>lwarp_one_limage.cmd</code> when images are generated.
<code>lwarp_mathjax.txt</code> :	Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see <code>\MathJaxFilename</code> instead.
<code>comment_*.cut</code> :	Temporary files used by <i>lwarp</i> to conditionally process blocks of text. These files may be ignored.

When the *lwarpmk* option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Re-compile the print version:

Enter $\Rightarrow$ `lwarpmk print`

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

3. Make a small change in the original document, such as adding a space character.

4. Recompile again.

Enter $\Rightarrow$ `lwarpmk print`

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

5. Force a recompile to occur.

Enter $\Rightarrow$ `lwarpmk again`

Enter $\Rightarrow$ `lwarpmk print`

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.⁵

6. Process the index.^{6 7}

Enter $\Rightarrow$ `lwarpmk printindex`

7. Recompile again to include the index.

Enter $\Rightarrow$ `lwarpmk print`

8. To force a single recompile when needed, even if no changes were detected:

Enter $\Rightarrow$ `lwarpmk print1`

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command `lwarpmk printglossary` is also available to process a glossary produced with the glossaries package. See section 8.6.13.

⁷Also see section 8.6.16 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Compile the HTML version:

Enter $\Rightarrow$ **lwarpmk html**

- (a) *lwarpmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

3. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math images

Note that math images have not yet been generated, so math is still displayed as its alt tag, which is set to the plain-text L^AT_EX source for that expression. Math may be displayed as svg images (section 5.4) or by a MATHJAX script (section 5.5).

4. Force a recompile:

Enter $\Rightarrow$ **lwarpmk again**

Enter $\Rightarrow$ **lwarpmk html**

Enter $\Rightarrow$ **lwarpmk print**

5. Process the HTML index and recompile:¹⁰¹¹

Enter $\Rightarrow$ **lwarpmk htmlindex**

Enter $\Rightarrow$ **lwarpmk html**

`_Index.html` is updated for the new L^AT_EX index.

6. Reload the web page to see the added index.

7. To force a single recompile when needed, even if no changes were detected:

Enter $\Rightarrow$ **lwarpmk html1**

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.13.

¹¹Also see section 8.6.16 for index options.

5.4 Generating the svg images

math as svg images By default `lwarp` represents math as svg images, with the $\text{\LaTeX}$ source included in `alt` attributes. In this way, the math is displayed as it was drawn by $\text{\LaTeX}$, and the $\text{\LaTeX}$ source may be copied and pasted into other documents.

picture and TikZ `lwarp` uses the same mechanism for `picture` and `TikZ` environments.

1. Create the svg images:

Enter $\Rightarrow$ `lwarpmk limages`

Enter $\Rightarrow$ `lwarpmk html`

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the $\text{\LaTeX}$ source.

 **adding/removing** When a math expression, picture, or `TikZ` environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as `TikZ` may move to new image numbers when the document is changed.

recompile first Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the $\text{\LaTeX}$ recompile warnings.

 **HTML instead of images** If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter** Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

 **Lots of files!** Expressing math as svg images has the advantage of representing the math exactly as $\text{\LaTeX}$ would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its $\text{\LaTeX}$ source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

math with MATHJAX Math may also be represented using the MATHJAX JAVASCRIPT project.

1. In the tutorial's source code, uncomment the `mathjax` package option for `lwarp`:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.

 **MATHJAX requirements** MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L^AT_EX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L^AT_EX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSFilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSFilename{lwarp_sagebrush.css}
```

See section 7.7 for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section 7.6 for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the *lwarp* package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

lwarp updates its own configuration files (*lwarpmk.conf* and *tutorial.lwarpmkconf*) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

forced single-pass recompile

5.9 Using Xe_ΛTeX or Lua_ΛTeX

Xe_ΛTeX or Lua_ΛTeX may be used instead of _ΛTeX.

1. Remove the auxiliary files for the project:

Enter ⇒ **lwarpmk cleanall**

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

Enter ⇒ **xelatex tutorial.tex**

— *or* —

Enter ⇒ **lualatex tutorial.tex**

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which TeX engine was used. Xe_ΛTeX or Lua_ΛTeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

Enter ⇒ **lwarpmk print**

-and-

Enter ⇒ **lwarpmk html**

4. Also remember to update the indexes and recompile again:

Enter ⇒ **lwarpmk htmlindex**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk print**

5.10 Using DVI _ΛTeX

Traditional DVI _ΛTeX may also be used along with .eps image files. An svg version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

Enter ⇒ **lwarpmk epstopdf *.eps** (or a list of files)

To convert PDF files to SVG:

Enter ⇒ **lwarpmk pdftosvg *.pdf** (or a list of files)

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a bibliography

To process the bibliography for the HTML version:

```
Enter ⇒ bibtex <filename>.html
```

or

```
Enter ⇒ biber <filename>.html
```

To see the bibliography in the HTML version:

```
Enter ⇒ lwarpmk html1
```

as many times as necessary.

5.12 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.12.1 `gloss` package

See section [8.6.12](#).

5.12.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.13](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.13](#) to set options for processing glossaries.

5.13 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

5.14 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

5.15 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, `tikz`, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

5.16 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. *pdftocairo* and *epstopdf* may be used one image at a time, but *lwarpmk* also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps      (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf      (or a list of files)
```

Be sure to always provide SVG files for HTML output.

5.17 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

5.18 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. *lwarpmk* has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarpmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

5.19 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.20 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 30, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css, adding paragraph indent](#).

MATHJAX customization: See section 8.7.7, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with lwarp:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load `lwarp`.
- (e) Load remaining packages.

2. Modify the document:

- (a) If using named HTML files, in section names use parentheses `\(x+y\)` instead of dollar math `$x+y$`. Parentheses math is removed from the file name. (Dollar math works, but it generates complicated filenames.) Or, use a short name for the roc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section[Simplified name]{Name with \((1+2=3\)) math}
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

- (b) Avoid using the `\includegraphics` `scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

- (c) Possible changes to tabular environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtab`, `bigdelim`. See section 8.10.1.

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

- (f) If using indexes, see section 8.6.16.

- (g) If using many indexes, glossaries, `.aux` files, etc., see section 8.6.16 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per [Special cases and limitations](#), section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with *latex*, *pdflatex*, *lualatex*, or *xelatex*.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG math, `lateximage`, `TikZ`, etc.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

⚠ math in section names

⚠ scale

⚠ tabular

⚠ package options

⚠ indexes

Table 5: Localization settings

Object names: L^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use `\renewcommand` to change these.

`\abstractname`: This macro is honored by lwarp.

`\linkhomename`: Displayed by the link to the homepage.

`\linkpreviousname`: Displayed by the link to the previous page

`\linknextname`: Displayed by the link to the next page.

`\sitetocname`: Displayed at the head of the sidenav.

HTML settings: See table 8 and section 7.6 for details.

`\HTMLLanguage`: The language to declare for each web page.

`\ImageAltText`, `\MathImageAltText`, `\PackageDiagramAltText`,
`\AltTextOpen`, `\AltTextClose`: The defaults used for HTML alt text for images. See section 7.2.

`\CSSFilename`: The name of the css file to use.

`\MathJaxFilename`: The name of the MATHJAX script to use.

Package options:

`ImagesName` and `ImagesDirectory`: These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

`xindyStyle`, `xindyLanguage`, `xindyCodepage`: When using *xindy*, these options may be set according to local use. See section 8.6.22.

`pdftotextEnc`: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. lwarp can use the HTML alt text attribute for images, as describe below. lwarp can also use the HTML title attribute, which usually generates a pop-up text in the browser. lwarp can add this to a reference or hyperlink. lwarp also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and lwarp assigns the math role for svg math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well.

Because `lwarp` does not yet work with `\DocumentMetadata` tagging, and print mode without `\DocumentMetadata` does not accept some alt text tags, the `alt`, `actualtext`, and `artifact` keys are added to print mode by `lwarp` if `\DocumentMetadata` is not used. This allows the user to use `\DocumentMetadata` for the print document with tagging, then comment it out to create the HTML document, which will apply tags to the HTML. If `\DocumentMetadata` is commented out, the print result will not have tagging, but will still compile.

See table 6.

7.3 Shell escape

`-\\-shell-escape` (*Opt*) Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

7.4 Font and UTF-8 support

⚠ **type 3 bitmapped fonts** `lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts While using older versions of DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

Computer Modern

⚠ `pdflatex`

⚠ `dvi latex`

`cm-super` (*Pkg*) To use the updated `cm-super`’s type 1 fonts instead of Computer Modern, install the `cm-super` font package.

`lmodern` (*Pkg*) To use Latin Modern instead, add

```
\usepackage{lmodern}
```

to the preamble.

`dejavu` (*Pkg*) Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

font size in math To adjust the size of the font used in SVG math, see section 8.7.4.

⚠ **Missing characters** To avoid “Missing character” warnings and empty or missing characters in HTML and math output, if using a font with an enhanced set of characters also specify a monospace font with similar coverage. `lwarp` uses the `mono` font for HTML and math output. Many font packages provide a monospace font automatically.

latex, pdflatex, T1, UTF8 While using DVI `latex` or PDF `pdflatex`, `lwarp` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarp`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but

Table 6: Accessibility settings

\ImageAltText: The default HTML alt text for `\includegraphics` and `\lateximages`. Set with `\renewcommand`.

Accessibility keys: `\includegraphics`, `picture`, `tikzpicture`, `\pgfpicture`, and `\lateximage` accept keys for alternate text. `lwarp` adds the key `alt` or `actualtext` to the HTML alt text tag. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

The artifact key is also accepted, and ignored. If `\DocumentMetadata` is not used, these keys are still accepted but ignored for print mode, but are still used for HTML tagging.

svg math: For simple svg math, `lwarp` places the $\LaTeX$ math expression in the alt text, so that the $\LaTeX$ expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated svg math, such as enclosed in `\InlineMathOther`/`\InlineMathNormal`, or `\DisplayMathOther`/`\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which `lwarp` converts into svg images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

⚠ ***xelatex, lualatex, fontspec*** X_YL^AT_EX and Lua^AT_EX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.

⚠ **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarp`, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:

2. Font and UTF-8 related commands:

- For X_YL^AT_EX or Lua^AT_EX:

`fontspec` (*Pkg*)

ligatures

- `fontspec` and font choices

`lwarp` sets the following to turn off T_EX ligatures during the generation of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

- For *pdf_latex*:

`lmodern` (*Pkg*)

`fontenc` (*Pkg*)

`inputenc` (*Pkg*)

`inputenx` (*Pkg*)

`newunicodechar` (*Pkg*)

`glyphtounicode.tex` (*file*)

- (a) `\usepackage{lmodern}`, or other font-related packages

- (b) `\usepackage[T1]{fontenc}`

- (c) `\usepackage[utf8]{inputenc}`, or `latin1`, etc. Or use `inputenx`.

- (d) `\usepackage{newunicodechar}` along with related definitions.

- (e) To assist with the PDF-HTML conversion:

- i. `\input glyphtounicode.tex`

- ii. `\input glyphtounicode-cmr.tex`% from the `pdfx` package

- iii. `\pdfgentounicode=1`

- (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (`\j`):

- `\usepackage{cmap}` — *or* —

- `\usepackage{mmap}` — *or* —

- `\usepackage[noTeX]{mmap}`

`textcomp` (*Pkg*)

- (g) `\usepackage{textcomp}`

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `lwarp`.

4. `\usepackage{lwarp}` (section 7.5) is placed after any of the above, followed by:

⚠ **fontspec with monospaced fonts** 5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using X_YL^AT_EX or Lua^AT_EX and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font's ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

⚠ **JETBRAIN MONO**

⚠ **HTML corrupted**

```
\setmonofont{JetBrains Mono}{%  
...  
Contextuals=AlternateOff,  
}
```

After `lwarp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

 **UTF-8 locale** In some cases, an external program may require a UTF-8 “locale”. See section 9.9.

7.4.1 Indexes, glossaries, and encoding

`lwarp` supports *makeindex*, *xindy*, *xindex*, and `glossaries`, `gloss`, and `nomencl`.

See section 8.6.15 for indexing, and section 8.6.13 for the `glossaries` package.

7.5 lwarp package loading and options

lwarp supports book, report, and article classes, as well as the equivalent KOMA-script classes and memoir, and various CJK-related classes and packages.

Load the lwarp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarp, or later with

```
\lwarpsetup{<key=value, . . . >}
```

lwarp (*Pkg*) lwarp package options are as follows:

mathsvg (*Opt*) **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

mathjax (*Opt*)

Default: mathsvg

latexmk (*Opt*) **latexmk**: Tells *lwarpmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarpmk* attempts to determine for itself whether to recompile. See section 7.6.

Default: false

dvips (*Opt*) **dvips**: Tells *lwarpmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.

Default: false

dvipdfm (*Opt*) **dvipdfm**: Tells *lwarpmk* to use *dvipdfm* to convert DVI output to PDF.

Default: false

dvipdfmx (*Opt*) **dvipdfmx**: Tells *lwarpmk* to use *dvipdfmx* to convert DVI output to PDF.

Default: false

HomeHTMLFilename (*Opt*) **HomeHTMLFilename**:

Default: \BaseJobname

Filename of the homepage, without the “.html” suffix. Defaults to the \BaseJobname. A common setting is:

```
HomeHTMLFilename=index
```

filename underscores

causing the homepage to be the file index.html. Underscores are allowed in HomeHTMLFilename and HTMLFilename options, but may need to be escaped elsewhere, such as when appearing in a list:

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

HTMLFilename (*Opt*) **HTMLFilename**: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Default: <empty>

ImagesName (*Opt*) **ImagesName**: The prefix for the images automatically generated by lwarp for objects such as svg math and lateximages.

Default: image-

ImagesDirectory (*Opt*) **ImagesDirectory**: The directory for the images automatically generated by lwarp for objects such as svg math and lateximages. By default, these images will appear in a directory named <jobname>-images, and the images will be named and numbered image-<nn>.

Default: \jobname-images

Table 7: Lwarp package options

Option	Description
<code>mathsvg</code>	Show math using SVG images.
<code>mathjax</code>	Show math using MATHJAX.
<code>latexmk</code>	Use <i>latexmk</i> for compiling documents.
<code>dvips</code>	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
<code>dvipdfm</code>	Use <i>dvipdfm</i> to convert DVI documents.
<code>dvipdfmx</code>	Use <i>dvipdfmx</i> to convert DVI documents.
<code>HomeHTMLFilename</code>	The filename of the home page.
<code>HTMLFilename</code>	A prefix for the filenames of the remaining web pages.
<code>ImagesName</code>	A prefix for the filenames of generated images.
<code>ImagesDirectory</code>	The directory used to hold generated images.
<code>PrintLatexCmd</code>	The shell commands for lwarpmk print .
<code>HTMLLatexCmd</code>	The shell commands for lwarpmk html .
For indexing (section 8.6.16) and glossaries (section 8.6.13):	
<code>makeindex</code>	Use <i>makeindex</i> to generate indices.
<code>makeindexStyle</code>	Set a custom style for <i>makeindex</i> .
<code>xindy</code>	Use <i>xindy</i> to generate indices.
<code>xindyStyle</code>	Set a custom style for <i>xindy</i> .
<code>xindyLanguage</code>	The <i>xindy</i> language option used for index generation.
<code>xindyCodepage</code>	The <i>xindy</i> codepage option used for index generation.
<code>xindex</code>	Use <i>xindex</i> to generate indices.
<code>xindexConfig</code>	Set a custom configuration file for <i>xindex</i> .
<code>PrintIndexCmd</code>	Shell commands executed by lwarpmk printindex .
<code>HTMLIndexCmd</code>	Shell commands executed by lwarpmk htmlindex .
<code>LatexmkIndexCmd</code>	Shell commands executed by <i>latexmk</i> .
<code>IndexRef</code>	How to format index links.
<code>GlossaryCmd</code>	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
<code>OSWindows</code>	Force compatibility with MS-WINDOWS.
<code>pdftotextEnc</code>	Set the encoding for <i>pdftotext</i> .
<code>lwarpmk</code>	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
<code>warpprint</code>	Generate print output, and also generate configuration files.
<code>warphTML</code>	Generate HTML output.
<code>BaseJobname</code>	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.
<code>warpdisable</code>	Disables most of lwarp for testing purposes.

- PrintLatexCmd** (*Opt*) **PrintLatexCmd:** Sets the shell commands executed by **lwarpmk print**. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of `--shell-escape`.
Default: `<automatic>`
- HTMLLatexCmd** (*Opt*) **HTMLLatexCmd:** Sets the shell commands executed by **lwarpmk html**. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of `--shell-escape`.
Default: `<automatic>`
- makeindex** (*Opt*) **makeindex:** Sets **PrintIndexCmd**, **HTMLIndexCmd**, and **LatexmkImageCmd** to use *makeindex* when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or *latexmk*. If neither *makeindex* nor *xindy* is used, *makeindex* is assumed.
Default: *makeindex*
- makeindexStyle** (*Opt*) **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.21.
Default: *lwarp.ist*
- xindy** (*Opt*) **xindy:** Sets **PrintIndexCmd**, **HTMLIndexCmd**, and **LatexmkImageCmd** to use *xindy* when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or *latexmk*.
Default: *makeindex*
- xindyStyle** (*Opt*) **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.22.
Default: *lwarp.xdy*
- xindyLanguage** (*Opt*) **xindyLanguage:** If using an index or glossary, see section 30.
Default: *english*
- xindyCodepage** (*Opt*) **xindyCodepage:** If using an index, see section 30.
Default: *utf8*
- xindex** (*Opt*) **xindex:** Sets **PrintIndexCmd**, **HTMLIndexCmd**, and **LatexmkImageCmd** to use *xindex* when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or *latexmk*.
Default: *makeindex*
- xindexConfig** (*Opt*) **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, see section 8.6.23.
Default: `<empty>`
- PrintIndexCmd** (*Opt*) **PrintIndexCmd:** Sets the shell commands executed by **lwarpmk printindex**. If not specified, will be set by the selection of *makeindex* or *xindy*. May be used to specify the creation of multiple indexes. See section 8.6.16.
Default: `<automatic>`

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

automatic setting

The use of the *makeindex* or *xindy* options sets **PrintIndexCmd** to sensible values for each of those programs while compiling a single index. **lwarp**'s **makeindexStyle**, **xindyStyle**, **xindyLanguage**, and **xindyCodepage** options will be used if specified.

⚠ xindy

If specifying **PrintIndexCmd** manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C` *xindy* options, as the **lwarp** **xindyLanguage** and **xindyCodepage** options are not used for the **PrintIndexCmd** option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the **lwarpmk printindex** command to the operating system to compile the print indexes. Since the command string is parsed by `TeX`, written to a file, read from the file by `LuaTeX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the **lwarp PrintIndexCmd** option.

HTMLIndexCmd (Opt) **HTMLIndexCmd:** Sets the shell commands executed by **lwarpmk htmlindex**. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.16.

Default: `<automatic>`

⚠ filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx      (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx
(xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. **lwarp**'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the **lwarp** `xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

LatexmkIndexCmd (Opt) **LatexmkIndexCmd:** Sets the shell commands executed by *latexmk*. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by *latexmk*. See section 8.6.16.

Default: `<automatic>`

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist                                (makeindex)
xindy -M lwarp.xdy -L english -C utf8                  (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. **lwarp**'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, *latexmk* uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the **lwarp** `xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

IndexRef (Opt) **IndexRef:** Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such as `(link)` or `(*)` for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does

Default: `cref`

not use `cleveref`, as the `lwarp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as (*) instead of ??.



??

If using `cref` (the default), and if a reference appears as ?? with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using (*) or similar yields a very compact index.

`GlossaryCmd` (*Opt*) **GlossaryCmd:** Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.13.
Default: `makeglossaries`

`OSWindows` (*Opt*) **OSWindows:** `lwarp` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.8.

`pdftotextEnc` (*Opt*) **pdftotextEnc:** Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.
Default: `UTF-8`

`lwarpmk` (*Opt*) **lwarpmk:** If you wish to have `lwarp` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 30.

The following options are used internally by `lwarp`, and usually are not used in the user's document:

`warpprint` (*Opt*) **warpprint** and **warphTML:** Usually controlled by `lwarpmk`, and not set in the document. Select the `warpprint` option to generate print output (default), or the `warphTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warphTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

`BaseJobname` (*Opt*) **BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the `*_html.tex` file used to compile the HTML version. See section 30.
Default: `\jobname`

`warppdisable` (*Opt*) **warppdisable:** Internally disables `warphTML` and forces `warpprint`, even when requesting HTML output. This disables most of `lwarp`, which may be useful for testing purposes to see whether `lwarp` is causing a problem.

7.6 Customizing the HTML output



Placement!

Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!



Changes!

Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter $\Rightarrow$ `lwarpmk cleanall`

2. Recompile the print version in order to recreate the configuration files for *lwarpmk*:

Enter $\Rightarrow$ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter $\Rightarrow$ `lwarpmk html`

Placed in the preamble before `\begin{document}`:

`\HTMLFirstPageTop`
Default: `<empty>`

\HTMLFirstPageTop: $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of the home page. Useful for logos, etc. `\LinkNext` may be used to link to the next web page. Defaults empty. Ignored in print output.

`\HTMLFirstPageBottom`
Default: `<empty>`

\HTMLFirstPageBottom: $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. `\LinkNext` may be used to link to the next web page. Defaults empty. Ignored in print output.

`\linkhomename`
Default: `Home`

\linkhomename: Name of the link to the home page. Paragraphs are allowed. Redefine with `\renewcommand`.

`\linkpreviousname`
Default: `Previous`

\linkpreviousname: Name of the link to the previous page. Paragraphs are allowed. Redefine with `\renewcommand`.

`\linknextname`
Default: `Next`

\linknextname: Name of the link to the next page. Paragraphs are allowed. Redefine with `\renewcommand`.

`tocdepth (Ctr)`

tocdepth: Sectioning depth of the table of contents. See section 16 for a list of L^AT_EX stack depths.

`SideTOCDepth (Ctr)`
Default: `1`
`sideroc`

SideTOCDepth: Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections.

Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by `SideTOCDepth`. This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to **Home** at the top and bottom.

It is recommended to set:

`SideTOCDepth=FileDepth`

or

`SideTOCDepth=FileDepth+1`

Table 8: HTML settings

Macro/Cntr/Bool	Loc [*]	Description
\linkhomename	P	Name of the link to the homepage.
\linkpreviousname	P	Name of the link to the previous page.
\linknextname	P	Name of the link to the next page.
SideTOCDepth	P	Sectioning depth of the sideroc.
\sidetocname	P	Name of the sideroc.
FileDepth	P	Sectioning depth of the file splits.
CombineHigherDepths	P	Combine higher section levels.
FileSectionNames	P	Use section names for file names, else use numbers.
\FilenameLimit	P	Maximum length of the generated filenames.
FootnoteDepth	P	Sectioning depth of footnotes.
\abstractname	P	The name of the abstract.
\ImageAltText	PD	\includegraphics and other images' alt tag.
\ThisAltText {<text>}	PD	Assigns an alt / title tag for the next image or link.
\MathImageAltText	PD	The svg math image lateximage alt tag.
\PackageDiagramAltText	PD	The suffix for a package's lateximage alt tags.
\AltTextOpen	PD	Start an HTML alt tag.
\AltTextClose	PD	End an HTML alt tag.
\CSSFilename	PS	The css for the following files.
\MathJaxFilename	PS	The MATHJAX script for the following files.
\HTMLLanguage	PS	The HTML lang tag.
\HTMLTitle	PS	The homepage's <title>, overriding \title.
\HTMLTitleBeforeSection	PS	Set subpage <title>s to \HTMLTitle - sectionname
\HTMLTitleAfterSection	PS	Set subpage <title>s to sectionname - \HTMLTitle
\HTMLAuthor	PS	The HTML author meta tag, overriding \author.
\HTMLDescription	PS	The HTML meta description tag.
\HTMLKeywords	PS	The HTML meta keywords tag.
\HTMLMeta	PS	Clear and set the custom meta tag.
\HTMLAddMeta	PS	Add another meta tag.
\HTMLFirstPageTop	P	Heading for the home page.
\HTMLFirstPageBottom	P	Footer for the home page.
\HTMLPageTop	PS	Heading for the other pages.
\HTMLPageBottom	PS	Footer for the other pages.
\HTMLnewcolumnType	D	\newcolumnType for HTML.
\IndexPageSeparator	P	Index page list separator.
\IndexRangeSeparator	P	Index page range separator.
FixSmallCaps	P	Set true if small caps rendered as all caps.
HTMLDebugComments	P	Boolean to generate HTML comments.

^{*} **P:** Preamble, **D:** Anywhere in the document. **S:** Before a section.

 inaccessible pages	If SideTOCDepth < FileDepth, web pages will be inaccessible via the sideroc.
<code>\sitetocname</code> Default: Contents	\sitetocname: Name of the sideroc. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
FileDepth (<i>Ctrl</i>) Default: -5	FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file. • To place the entire file into one HTML page, use: <code>\setcounter{FileDepth}{-5}</code> • To split the HTML file at \section depth, use: <code>\setcounter{FileDepth}{1}</code> • To ensure that the HTML pages/files are accessible: Place a <code>\tableofcontents</code> somewhere before the first section break (therefore in the “home page”), and set <code>tocdepth >= FileDepth</code>
	
CombineHigherDepths (<i>bool</i>) Default: true	CombineHigherDepths: Combine a higher section with its first lower subsections, down to the FileDepth. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example. The file splits are controlled by the counter FileDepth and the boolean CombineHigherDepths. Setting FileDepth to 0 splits the file at chapters, 1 at sections, etc. CombineHigherDepths controls whether to combine pages at levels higher than the chosen FileDepth, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set tocdepth and SideTOCDepth to allow access to each page of the website. Set tocdepth and SideTOCDepth to be greater than or equal to FileDepth.
 Inaccessible pages!	
 Lost in an old page!	When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (<code>lwarpmk cleanall</code>), change FileDepth and/or CombineHigherDepths, then finally recompile and renavigate to the desired page using the new file structure.
FileSectionNames (<i>bool</i>) Default: true	FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the HTMLFilename option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after being sanitized. For example, math in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.
 Unique filename!	
<code>\FilenameLimit</code> Default: 80	\FilenameLimit: The maximum length of the filenames generated by lwarp. “.html” is added to this length. Redefine with <code>\renewcommand</code> .
FootnoteDepth (<i>Ctrl</i>) Default: 3	FootnoteDepth: Determines where to place pending footnotes. 3 places footnotes before each break down to the \subsubsection level. 1 places footnotes before each \section break. Any pending footnotes are also placed at the bottom of each page before each file break.
FixSmallCaps (<i>bool</i>) Default: false	FixSmallCaps: Set true if SMALL CAPS are rendering in all caps (“SMALL CAPS”). May be required for some fonts (erewhon, utopia, fbb, et al.), and packages such as embrac.

HTMLDebugComments (<i>bool</i>) Default: false	HTMLDebugComments: Set true to generate HTML comments, such as which section or <div> is being opened or closed.
\abstractname Default: Abstract	\abstractname: The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”. Redefine with \renewcommand.
\IndexPageSeparator Default: “, ”	\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexpagessep.
\IndexRangeSeparator Default: “--”	\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexrangesep.

Placed before \begin{document}, or before any sectioning command which causes a file break:

\CSSFilename Default: lwarp.css	\CSSFilename: {<filename.css>} Sets the css file to use for the following files. May be changed before each sectioning command which would cause a file split.
------------------------------------	---

The css styles of the web pages are set by the \CSSFilename command. If \CSSFilename is not used, a default plain style is used to mimic printed L^AT_EX output. lwarp_sagebrush.css is a semi-fancy colored style as shown in this tutorial. Change it to lwarp_formal.css for a more formal look, or comment out the \CSSFilename command to see the default. \CSSFilename may be used before each file break to set the css for individual pages of the website.

\MathJaxFilename Default: lwarp_mathjax.txt	\MathJaxFilename: {<filename>} Sets the MATHJAX script file to use for the following files. May be changed before each sectioning command which would cause a file split.
--	--

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. \MathJaxFilename may be used before each file break to set the script file for individual pages of the website.

\HTMLLanguage Default: en-US	\HTMLLanguage: {<langauge>} The HTML file’s HTML lang meta tag. Defaults to en-US.
---------------------------------	---

\HTMLTitle Default: \thetitle	\HTMLTitle: {<title>} Overrides \title for the HTML header’s meta title. Defaults to \thetitle, which is set by \title, or empty otherwise. Unlike the author, \thetitle is set by \title even if not using the titling package.
----------------------------------	---

\HTMLTitleBeforeSection Default: \HTMLTitleBeforeSection	\HTMLTitleBeforeSection: Sets subpage <title> tags to show the website title followed by the section name.
---	---

\HTMLTitleAfterSection	\HTMLTitleAfterSection: Sets subpage <title> tags to show the section name followed by the website title.
------------------------	--

custom <title> To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```

\HTMLAuthor Default: \theauthor	\HTMLAuthor: {<author>} The HTML header’s meta author. Defaults to
------------------------------------	---

`\theauthor`, which is set by `\author` if using the titling package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the `authblk` package, most of which do not result in a sensible `\theauthor`, so `\HTMLAuthor` is useful to create a list of authors without their affiliations.

<code>\HTMLDescription</code> Default: <code><empty></code>	\HTMLDescription: <code>{\langle description \rangle}</code> Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLKeywords</code> Default: <code><empty></code>	\HTMLKeywords: <code>{\langle keywords \rangle}</code> Sets the HTML keywords tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLMeta</code> Default: <code><empty></code>	\HTMLMeta: <code>{\langle name \rangle}{\langle contents \rangle}</code> Clears then sets a new user-definable custom meta tag used for the following pages. Replaces any prior custom meta tags previously set by <code>\HTMLMeta</code> and <code>\HTMLAddMeta</code> .
<code>\HTMLAddMeta</code> Default: <code><empty></code>	\HTMLAddMeta: <code>{\langle name \rangle}{\langle contents \rangle}</code> Add to the user-definable custom meta tags for the following pages. May be used more than once to add multiple tags. Use <code>\HTMLMeta</code> to empty and start over with a new tag.
<code>\HTMLPageTop</code> Default: <code><empty></code>	\HTMLPageTop: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code><empty></code>	\HTMLPageBottom: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	\LinkHome: Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

Placed in the home page before the first sectioning command which causes a file break:

<code>\tableofcontents</code>	\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage.
-------------------------------	--



TOC on the homepage!

Links to each chapter/section are provided, as selected by `tocdepth`.

Placed in the document wherever necessary:

<code>\ImageAltText</code> Default: <code>image</code>	\ImageAltText: Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML <code>alt</code> tag according to <code>\ImageAltText</code> along with <code>\AltTextOpen</code> and <code>\AltTextClose</code> . This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “image”, and it may be changed according to
---	--

the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `\includegraphics` and other images.

`\ThisAltText` **\ThisAltText:** `{\text}` `\ThisAltText` can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`
Default: `math image` **\MathImageAltText:** Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`
Default: `diagram` **\PackageDiagramAltText:** Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

`(-xy- diagram)`

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`
Default: `(` **\AltTextOpen:** Redefine with `\renewcommand`.

`\AltTextClose`
Default: `)` **\AltTextClose:** Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

`\HTMLnewcolumnntype` **\HTMLnewcolumnntype:** `\newcolumnntype` may not always work with `lwarp` for HTML output, since it often involves `TEX` boxes and fills. To provide a simplified column type for HTML, add `\HTMLnewcolumnntype` in addition.

`warpprint (env.)` **warpprint:** An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won't have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.

		<i>Do not place anything else on the same line as <code>\end{warpprint}</code>. Also do not nest <code>warpprint</code> inside itself.</i>
<code>warpHTML (env.)</code>		warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.
		<i>Do not place anything else on the same line as <code>\end{warpHTML}</code>. Also do not nest <code>warpHTML</code> inside itself.</i>
<code>\warpprintonly</code>		\warpprintonly: <code>{\langle contents \rangle}</code> A macro version of the <code>warpprint</code> environment.
<code>\warpHTMLonly</code>		\warpHTMLonly: <code>{\langle contents \rangle}</code> A macro version of the <code>warpHTML</code> environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage `index.html`, and `node-1`, `node-2`. ¹³

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite-About.html`, `mywebsite-Products`, etc.

```
\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

7.7 Customizing the css, adding paragraph indent

`\CSSFilename` {<filename>}

Default: `lwarp.css`

`\CSSFilename` may be used to choose which .css file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by `lwarp` include:

`lwarp.css`: A default style if `\CSSFilename` is not used. This style is comparable to a plain L^AT_EX document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

`lwarp_formal.css`: A formal style with a serif fonts and a traditional look.

`lwarp_sagebrush.css`: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

`lwarp.css` (file) It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

```
/* ( --- Start of sample_project.css --- ) */
/* ( --- A sample project-specific CSS file for Lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
```

¹³See `\SetHTMLFileNumber` to number in groups by chapter, for example.

```

/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* To use paragraph indents, uncomment the following: */
/*
body p {
    text-indent: 2em ;
    margin-bottom: 0ex ;
    margin-top: 0ex ;
}
*/

/* ( --- End of sample_project.css --- ) */

```

Finally use `\CSSFilename{<project>.css}` in the document to activate the custom css.

paragraph indent The above example includes code to activate paragraph indent. Uncomment the `body p` lines by removing the `/*` and `*/`, and activate the custom css as described above.

7.7.1 Assigning css classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

`BlockClass (env)` [`<style>`] [`<class>`]

An entire block of text, including paragraphs, may be assigned a css class and optional css style using the `BlockClass` environment. The result is placed inside a `<div>`. A `BlockClass` may nest other `BlockClasses` or `\InlineClasses`.

`\InlineClass` (`<wp css style>`) [`<web css style>`] [`<css class>`] [`<text>`]

A section of text without paragraphs may be assigned a css class and optional css style using the `\InlineClass` macro. The result is placed inside a `<span>`. `\InlineClass` may be nested, but per the HTML standard it must not contain `BlockClass`, nor may it contain a paragraph, nor several other objects such as HTML figures. `\InlineClass` also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of `BlockClass` and `\InlineClass` are provided for the print version, so they may be used in the document without placing them inside `warpHTML` or `\warpHTMLonly`.

7.7.2 css page layout

If supported by the browser, css grid layout is used. If grid layout is not supported, the body is floated to the right of the sideroc. If the browser window is narrow enough, the contents are displayed below the sideroc. If the page is printed, the sideroc and top and bottom navigation are not displayed.

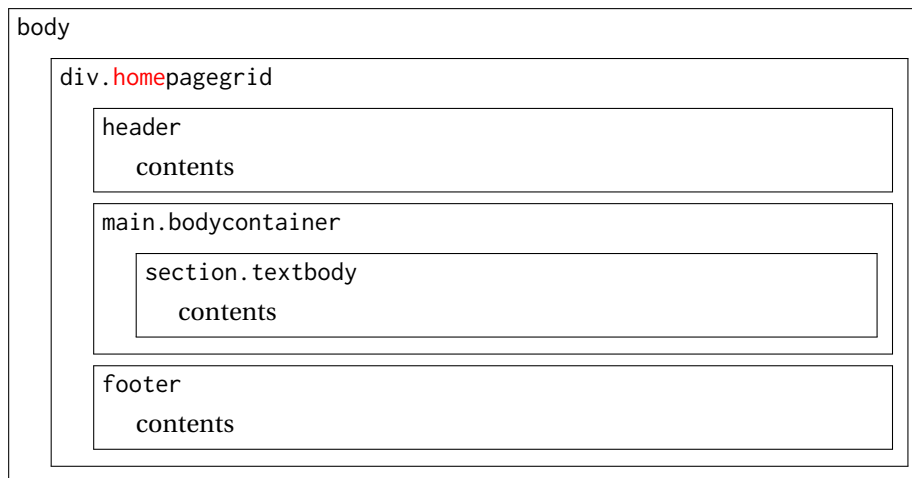


Figure 2: css page layout, homepage

The home page is under `body.div.homepagegrid`, and the following pages are under `body.div.pagegrid`, which allows css to target each separately.

See fig. 2, fig. 3.

7.8 Selecting the operating system

- Unix (*Prog*) `lwarp` tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
- Mac OS (*Prog*)
- Linux (*Prog*)
- MS-Windows (*Prog*) If MS-WINDOWS is not correctly detected, use the `lwarp` option `OSWindows`.
- Windows (*Prog*)
- OSWindows (*Opt*) When detected or specified, the operating-system path separator used by `lwarp` is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

7.9 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional $\text{\LaTeX}$ print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in $\text{\LaTeX}$ and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which `lwarp` does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

- `warpHTML` (*env*) Anything which is to be done only for HTML5 output is surrounded by a `warpHTML` environment:

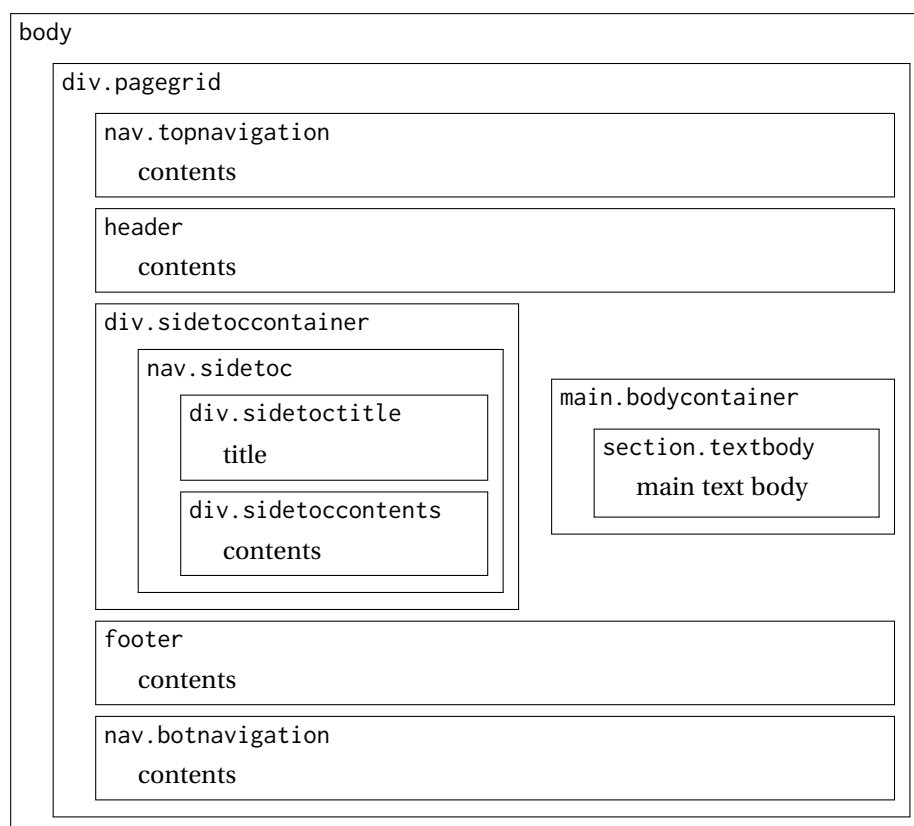


Figure 3: css page layout, all other pages

```
\begin{warpmHTML}
... something to be done only during \HTML\ generation
\end{warpmHTML}
```

- ⚠ `\end{warpmHTML}` Do *not* place anything else on the same line as `\end{warpmHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpmHTML` inside itself.
- ⚠ **nesting** `warpmMathJax` may be used inside `warpmHTML`.

`warpprint (env.)` Anything which is to be done only for print output is surrounded by a `warpprint` environment:

```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

- ⚠ `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.
- ⚠ **nesting**

`warppall (env.)` Anything which is to be done for any output may be surrounded by a `warppall` environment. Doing so is optional.

```
\begin{warppall}
... something to be done during print \PDF\ or \HTML\ output
\end{warppall}
```

- ⚠ `\end{warppall}` As above, do not place anything else on the line with `\end{warppall}`. Do not nest `warppall` inside itself.
- ⚠ **nesting**

Macros are also provided for print-only or HTML-only code:

`\warpprintonly` `{⟨actions⟩}`

Performs the given actions only when print output is being generated.

`\warpmHTMLonly` `{⟨actions⟩}`

Performs the given actions only when HTML output is being generated.

`warpmMathJax (env.)` Anything which is to be done only while using HTML output with MATHJAX is surrounded by a `warpmMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpmMathJax}` must appear on its own line.

- ⚠ `\end{warpmMathJax}` Do not nest `warpmMathJax` inside itself. `warpmMathJax` may be used inside `warpmHTML`.

⚠ **nesting**

`warpsvg (env.)` Anything which is to be done only while using print output or HTML output with SVG math is surrounded by a `warpsvg` environment. `\end{warpsvg}` must appear on its own line. Do not nest `warpsvg` inside itself. `warpsvg` may be used inside `warpmHTML`.

⚠ `\end{warpsvg}`

⚠ **nesting**

`\LWR@formatted` To define macros or environments which behave differently depending on print or HTML output, see section 38.

7.10 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a warpprint environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent \parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.11 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
  Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 72.8.

- | | |
|---------------------------------|--|
| <code>\maketitle</code> | Use <code>\maketitle</code> just after the <code>\begin{document}</code> , as this will establish the title of the homepage. Optionally, use a <code>titlepage</code> environment instead. |
| <code>titlepage (env.)</code> | The <code>titlepage</code> environment may be used to hold a custom title page. The <code>titlepage</code> will be set in a <code><div></code> class <code>titlepage</code> , and <code>\printtitle</code> , etc. may be used inside this environment. |
| <code>titlingpage (env.)</code> | Another form of custom title page, where <code>\maketitle</code> is allowed, and additional information may be included as well. |

`\title` `{\langle title \rangle}`



HTML corrupted



newlines

Avoid newlines in the `\title`; these will interfere with the file break and CSS detection. Use a `\subtitle` command instead (section 72.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The HTML meta title tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

`\author` `{\langle author \rangle}`

In `\author`, `\protect` may be needed before some formatting commands. In HTML, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a HTML meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.

`\date` `{\langle date \rangle}`

`\date` works as expected. In HTML, this will appear in a `<div>` class `titledate`.

`\thanks` `{\langle text \rangle}`

`\thanks` are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

7.12 HTML page meta descriptions

`\HTMLDescription` `{\langle A description of the web page. \rangle}`

Default: (none)

limitations

Each page of HTML output should have its own HTML meta description, which usually shows up in web search results. Usually limited to around 150 characters in length, and should not include the ASCII double quote character (`"`).

placement

Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.

disabling

To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.13 HTML page meta keywords

`\HTMLKeywords` `{\langle Keywords for the web page. \rangle}`

Default: (none)

`\HTMLKeywords` behaves like `\HTMLDescription`, but adds HTML meta keywords for the following web pages.

disabling

To disable the generation of HTML keyword meta tags, use:

```
\HTMLKeywords{}
```

7.14 HTML homepage meta title

`\HTMLTitle` `{\langle title \rangle}`

Default: `\HTMLtitle{\thetitle}`

Sets the contents of the web page `<meta name="title">` element. May be set empty to cancel the meta title tag.

See section 7.6 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

7.15 HTML page meta author

`\HTMLAuthor` $\{\langle author \rangle\}$

Default: `\HTMLAuthor{\theauthor}`

Sets the contents of the web page `<meta name="author">` element. May be set empty to cancel the meta author tag.

`\author` may be used to create a list of authors and their affiliations, in several formats if using `authblk`, and these may not successfully parse properly into a sensible list for `\theauthor`. `\HTMLAuthor` may be used to set the meta tag to a simple list of names.

8 Special cases and limitations

Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with lwarp, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwarp:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

Custom math environment macros: Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid L^AT_EX, but invalid HTML. An example is a `tabular` inside `\textbf`, since HTML does not allow a table inside a span. lwarp

will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

- ⚠ **Underscores, “Missing \$ inserted”** Underscores (`_`) are allowed in filenames and web links. Underscores must be escaped (`\_`) in text, otherwise “Missing \$ inserted” errors will occur. The `underscore` package is ignored.
- ⚠ **`\bfseries`, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.
- ⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.
- program listings** For program listings, the `listings` package is supported, and its `literate` option is used to automatically convert `&`, `<`, and `>` to proper HTML entities.
- minted** sanitizes HTML automatically by its colorizing, which splits the special characters from the rest of the tag.
- ⚠ **verbatim** The `fancyvrb` and `fvextra` packages automatically sanitize HTML entities, but the core L^AT_EX `verbatim`-related environments do not, nor does the `verbatim` package, so care must be taken to avoid accidentally including valid HTML code inside these environments. It may be sufficient to add a space on either side of `&`, `<`, and `>`.
- ⚠ **gobble** `fancyvrb` does not sanitize HTML when using the `gobble` option.

8.2.2 Small caps

- FixSmallCaps (*bool*)** Some fonts, such as `erewhon`, `utopia`, or `fbb`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarp` then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

- ⚠ **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set `true`.

8.2.3 Horizontal and vertical space and rules

- `\hspace`** `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (`U+2009`), and a `\fill` is converted to a `\quad`.
- `\vspace`** `\vspace` is ignored for HTML.
- `~`** `~` and `\,` are converted to HTML entities.
- `\,`**

<code>\kern</code>	<code>\kern</code> and <code>\hskip</code> are entered into the HTML PDF output as-is, then interpreted by <i>pdftotext</i> , and thus usually appear as a single space.
<code>\hskip</code>	
<code>\rule</code>	<code>\rule</code> is converted to an HTML rule of the same dimensions, of the currently selected text color.
<code>\hrule</code>	Both <code>\hrule</code> and <code>\vrule</code> are ignored for HTML. To create a horizontal dividing rule across the page, use <code>\hrulefill</code> in its own paragraph.
<code>\vrule</code>	
<code>\hrulefill</code>	<code>\hrulefill</code> usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a <code><div></code> with a thin horizontal border across the page, as would often be done with <code>\hrule</code> .

8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.2.5 Accents

Native $\text{\LaTeX}$ accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware  $\text{\XeLaTeX}$  and  $\text{\LuaLaTeX}$ . If using accents in section names which will become file names, it is recommended to use the  $\text{\LaTeX}$  accents such as `\`` and `\v` instead of Unicode accents. The $\text{\LaTeX}$ accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

`textcomp (Pkg)` Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system / browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use `\textsuperscript{x}` instead of `^{x}`

8.2.8 Empty `\item` followed by a new line of text or a nested list:

lists Use a trailing backslash: `\item[label] \`

8.2.9 relsize package

`relsize (Pkg)` For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

⚠ **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages

8.3.1 Marginpars

`\marginpar` [`<left>`] [`<right>`] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [`<left>`] [`<right>`] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

8.3.2 Save Boxes

⚠ **HTML corrupted**

⚠ **boxes** TEX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.

⚠ **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.

8.3.3 Minipages

⚠ **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

side-by-side Side-by-side `minipages` may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.

⚠ **minipage in a span** There is limited support for `minipages` inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, `minipages`, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

- ⚠ **minipage size** When using minipage, \parbox, and fminipage, a virtual 6×9 inch text area is used for \linewidth, \textwidth, and \textheight, both for sizing the minipage, and also for its contents.
- if width is \linewidth If a minipage or \parbox is assigned a width of exactly \linewidth, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML A new macro \minipagefullwidth requests that, during HTML output, the next single minipage or \parbox be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.
- ⚠ **tabular, multicols** Inside a tabular or multicols environment, where the width depends on the browser window, \minipagefullwidth is effectively used by default for every minipage or \parbox inside the environment. \UseMinipageWidths may be used to tell lwarp to honor the specified widths of all following minipages and \parboxes until the end of the local scope, and \IgnoreMinipageWidths may be used to tell lwarp to ignore the specified widths.
- \UseMinipageWidths
\IgnoreMinipageWidths
- ⚠ **multicol** Inside a multicols, \linewidth is divided by the specified number of columns.
- ⚠ **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a flushleft or similar environment in the child minipage to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a center environment, with horizontal space between them, such as \quad, \qquad, \hspace, or \hfill. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

\fbox can only be used around inline items during HTML output, but HTML cannot place a block element such as a <div> for a minipage or a list inside of a . Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

- \fbox For a framed object, options include:
- \fboxBlock
- fminipage (*env.*)
- To remove the frame in HTML output:** Place the \fbox command and its closing brace inside warpprint environments. This will nullify the frame for HTML output.
- To frame the contents inline with some formatting losses in HTML:** This is the default action of \fbox when enclosing a minipage. During HTML output, \fbox nullifies the HTML tags for minipage, \parbox, and lists. The contents are included as inline text inside the \fbox's of class framebox. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.
- For inline text:
- To frame the contents on their own line with improved formatting in HTML:** A new command \fboxBlock is included, intended to be a direct replacement
- For inline minipage and lists:

for `\fbox` for cases where the `\fbox` surrounds a minipage, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a tabular. While an `\fbox` containing a tabular is valid $\text{\LaTeX}$ code, the result in HTML is problematic since a table is a `<div>` not a `<span>`, so use `\fboxBlock` around a tabular, or else place the tabular inside a minipage, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display tabular,
minipages, and lists:

To create a framed minipage in both print and HTML: A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a tabular. Also see section 92 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 685 for `xcolor`’s `\colorbox` and `\fcolorbox`, and `lwarp`’s additional `\colorboxBlock` and `\fcolorboxBlock`.

⚠ Misplaced alignment
tab character &

To frame tables or verbatim environments: Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a tabular. Also, if using `\fboxblock` with tabular, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the tabular, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

To frame equations: See section 267 for the `fancybox` package.

For fancy framed minipages: See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

Custom environments: Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
  % use \CSS\ to format div class framedminipage
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

8.3.6 fancybox package

fancybox (*Pkg*)
framed equation example

`fancybox`’s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`’s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the HTML `alt` attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

framing alternatives `\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

framed table example The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

 **framed verbatim** `lwarp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}

```

framed \VerbBox `fancybox`'s `\VerbBox` may be used inside `\fbox`.

indented alignment `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

`lwarp` sanitizes HTML for `fancybox` verbatims, except for the contents of `\VerbBox` and any `\verb` inside.

8.3.7 mdframed package

`mdframed (Pkg)` Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

8.3.8 tcolorbox package

`tcolorbox (Pkg)` `tcolorbox` is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage` or `svg math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported. Use a `tcolorbox` with regular `math` inside it. `\tcboxmath` and `\tcbhighmath` are supported in `svg math`, and emulated in MATHJAX.
- Fitting features: `\tcboxfit` becomes `\tcbox` in HTML.
- Footnote numbering does not match the printed output.
- MATHJAX emulation is provided for common macros.

 **math**

 **footnotes**

 **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, several steps should be taken to avoid problematic file names.

8.4.1 Formatting in section names

 **macros in section names** When using special formatting in the section name, use the optional short form:

```
\section[Simplified name]{Fancy name with formatting}
```

Remember to `\protect` L^AT_EX commands which appear in section names and TOC captions.

8.4.2 Math in section names

 **math in section names** If using named HTML files, in section names use parentheses `math \langle x+y \rangle` instead of dollar math `$x+y$`. Parentheses `math` is removed from the file name. (Dollar math works, but it generates complicated filenames.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section[Simplified name]{Name with \langle 1+2=3 \rangle math}
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}
```

8.4.3 Simplifying file names

The generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {<macros>}
```

Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and `textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```

\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}

```

8.4.4 Preventing duplicate file names

-  **duplicate filename** Section names at levels which result in HTML file splits may be duplicates, but the resulting file names must be unique. **lwarp** will generate a warning if a duplicate section name occurs, then **lwarp** will append a unique file number to the resulting file name, thus avoiding file name clashes. These unique file numbers may change as sections are added or removed. As a result, old and orphaned HTML files may be left behind. To remove these leftover files, use **lwarpmk cleanall** and recompile. Also, as file names are adjusted, external links from outside to these files may be broken. To use fixed file names, use the optional short-form name, or use `\texorpdfstring` from **hyperref**:

```

\section[Unique Name]{Duplicate name}
\section{\texorpdfstring{Duplcate Name}{Unique Name}}

```

8.5 Cross-references

-  **labels** Labels with special characters may be a problem. It is best to stick with alphanumeric, hyphen, underscore, and perhaps the colon (if not French).
-  **label characters**
-  **\nameref** `\nameref` refers to the most recently-used section where the `\label` was defined.
-  **empty link** If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.

8.5.1 Page references

-  **L^AT_EX page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```

\ref{sec:name} on page \pageref{sec:name}
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.

```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 523.

8.5.2 cleveref and varioref packages

`cleveref (Pkg)` `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`.

`varioref (Pkg)` This phrase includes `\cpagerefFor`, which defaults to “for”.

-  **cleveref page numbers**

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 765 to redefine the message which is printed for page number references.

- ⚠ **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

8.5.3 Hyperlinks, `hyperref`, and `url`

`hyperref (Pkg)` `lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

- ⚠ **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarp` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarp` does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

- ⚠ **backref** When generating HTML, `lwarp`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

`lwarp` uses native $\text{\LaTeX}$ footnote code, although with its own `\box` to avoid the $\text{\LaTeX}$ output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

MATHJAX Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

footmisc The `footmisc` `stable` option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short toc entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

 **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

fancybox, fancyvrb If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

 **\VerbatimFootnotes**
 **sectioning or displaymath**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

pfnote While emulating `pfnote`, `lwarp` is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. `lwarp` therefore uses continuous footnote numbering even for `pfnote`.

 **pfnote numbers**

bigfoot, manyfoot Verbatim footnotes are not yet supported.

 **verbatim**

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L^AT_EX. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as an input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X_YL^AT_EX or LuaL^AT_EX instead of PDF L^AT_EX.

8.5.5 xr, xr-hyper, and xcite packages

See section 5.18.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with authblk:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

HTML page and TOC

The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, tocibind, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.

`\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.



inaccessible HTML page

8.6.3 abstract package

abstract (*Pkg*) If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

 **missing TOC**

8.6.4 titling and authblk

titling (*Pkg*) lwarp supports the native L^AT_EX titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**.

package support If using the **titling** package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubTitlePublished` in the preamble. See section 72.8.

 **load order**
`\published` and `\subtitle`

8.6.5 tocloft package

titles (*Opt*) [] If using **tocloft** with **tocbibind**, **anonchap**, **fncychap**, or other packages which change chapter title formatting, load **tocloft** with its **titles** option, which tells **tocloft** to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

tocloft (*Pkg*)

tocloft (*Pkg*)

 **tocloft & other packages**

8.6.6 appendix package

appendix (*Pkg*) During HTML conversion, the option **toc** without the option **page** results in a TOC link to whichever section was before the **appendices** environment. It is recommended to use both **toc** and **also page** at the same time.

 **incorrect TOC link**

8.6.7 pagenote package

pagenote (*Pkg*) **pagenote** works as-is, but the **page** option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 endnotes package

endnotes (*Pkg*) If using **cleveref**, **endnotes** displays as a link to an endnote, rather than a section. A comma-separated list of end notes does not work with `\cref` and `related`. (In print mode, such as `list simply` displays a link to the section.)

table of contents To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

HTML page To additionally have the endnotes on their own HTML page, if **FileDepth** allows:

```
\ForceHTMLPage
\theendnotes
```

- ⚠ **\endnotemark numbering** If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

8.6.9 BibTeX

To update the HTML version of the bibliography:

Enter ⇒ **bibtex <filename>_html**

\etalchar Displays a superscript “+” to indicate “and others”.

- ⚠ **Modify *.bib** When enough authors are cited for a source, BibTeX may use the \etalchar command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, lwarp requires that \etalchar be replaced by a text superscript. To do so, add to the start of the .bib file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}
```

8.6.10 biber

To update the HTML version of the bibliography:

Enter ⇒ **biber <filename>_html**

8.6.11 xcite package

See section 5.18.

8.6.12 gloss package

gloss (Pkg) To process the HTML glossary:

- ⚠ **compiling** **bibtex <projectname>_html.gls**

8.6.13 glossaries package

glossaries (Pkg) *lwarpmk* has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the glossaries package using that package's *makeglossaries* program.

GlossaryCmd (Opt) **Default: makeglossaries**
 printglossary (Opt) [] The shell command to execute is set by the lwarp option GlossaryCmd, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.
 htmlglossary (Opt) []

- ⚠ **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for glossaries conflicts with *lwarp*, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\nameref{s}` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.14 nomencl package

`nomencl` (*Pkg*) To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o
<project>_html.nls
```

8.6.15 Indexing overview

There are many ways to process indexes for a $\text{\LaTeX}$ document, including native $\text{\LaTeX}$ capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarp* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

- manual processing** The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, *.idx and *.ind files will be accompanied by *_html.idx and *_html.ind files.
- custom index style** If using a custom indexing style file, see sections 8.6.21 to 8.6.23.
- link appearance** To control how the index links appear in the HTML output, see the IndexRef option in section 7.5, page 109.
- source code** See section 82 for lwarp's core index and glossary code, section 350 for index, section 582 for splitidx, section 348 for imakeidx, section 639 for tocbibind, and section 706.17 for memoir's indexing patches.

8.6.16 Indexing with makeidx, makeindex, xindy, xindex, gindex

- lwarpmk processing** The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

- makeindex (Prog)** **For a single index using makeindex:**

```
\usepackage[makeindex,latexmk] {lwarp}
```

The usual .idx and .ind files will be used, along with the new lwarp.ist style file. When creating the HTML index, "_html" is automatically appended to each of the names.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.21.

- xindy (Prog)** **For a single index using xindy:**

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
```

The usual .idx and .ind files will be used, along with the new lwarp.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.22.

xindex (Prog) **For a single index using *xindex*:**

```
\usepackage[
  xindex,
  latexmk
]{lwarp} <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.23.

gindex (Pkg) **For a single index using *gindex*:**

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  . . . or . . .
  makeindexStyle=gindexh.ist,
  latexmk
]{lwarp} <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, copy *gindex.ist* to a new file, modify, then specify it with *MakeindexStyle* as above. *lwarp* will automatically adapt to *gindex*'s `\indexpagesep` and `\indexrangesep` settings.

8.6.17 Indexing with index

index (Prog)

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:(Assuming that the second index has file extensions *.sist* and *.sind*)

```

\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sind <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sind <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
...
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}

```

 WINDOWS*For Windows, replace the two “;” characters with “&”.*

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

8.6.18 Indexing with *splitidx*

splitidx (Prog)

lwarp is told how to use *splitindex* using the *PrintIndexCmd* and *HTMLIndexCmd* options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 **\thepage** When using *\AtWriteToIndex* or *\AtNextWriteToIndex*, the user must not refer to *\thepage* during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the *\index*-like action occurs, and then refer to *\arabic{LWR@autoindex}* instead of *\thepage* where the reference should occur.

See section 706.17 in the lwarp-patch-memoir package for the \@@wrsindexhyp macro as an example.

For multiple indexes using *makeindex* and *splitidx*:

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
    -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M
    lwarp.xdy
    -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.19 Indexing with imakeidx

imakeidx (Prog)

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include *lwarp*'s special `lwarp.ist` or `lwarp.xdy` file, or a file based on them. If using a custom indexing style file, see sections 8.6.21 to 8.6.23.

The `splitindex` option is also available if shell escape is used, in which case the `splitidx` package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s `lwarpmk printindex` and `lwarpmk htmlindex` commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. *lwarp*'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

imakeidx will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

Enter ⇒ **pdflatex --shell-escape** **projectname.tex**

Enter ⇒ **pdflatex --enable-write18** **projectname.tex** (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarp will remember that shell escape was used.

imakeidx will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

latexmk may be specified, and if so it will be used for **lwarpmk print** and **lwarpmk html**, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s `\makeindex` command. The style file `lwarp.xdy` is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for `\makeindex`, since *imakeidx* will process the indexes.

```
\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
...
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]
```

⚠ enable shell escape

For the first compile, use

Enter ⇒ **pdflatex --shell-escape** **projectname.tex**

Enter ⇒ **pdflatex --enable-write18** **projectname.tex** (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarp will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

latexmk will create the indexes automatically when **lwarpmk print** and **lwarpmk html** are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

 WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```

\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
]{lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]

```

⚠ enable shell escape

For the first compile, use:

Enter ⇒ **pdflatex --shell-escape** projectname.tex

Enter ⇒ **pdflatex --enable-write18** projectname.tex (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarp will remember if shell escape was used.

xindex will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

8.6.20 Indexes with memoir

For a single index with memoir and *makeindex*:

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex

```

The usual .idx and .ind files will be used, along with the lwarp.ist style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and *makeindex*, using *latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex
\makeindex[secondname]

```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes **lwarpmk print** and **lwarpmk html**.

For multiple indexes with memoir and *makeindex*, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
...
\makeindex
\makeindex[secondname]
```

 WINDOWS

For Windows, replace the two “,” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For a single index with memoir and *xindy*:

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                         <optional>
]{lwarp}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically.

For multiple indexes with memoir and xindy, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

 WINDOWS

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.21 Using a custom *makeindex* style file

makeindex (*Prog*) When using *makeindex*, *lwarpmk* uses the file *lwarp.ist* to process the index. This
lwarp.ist (*file*) file is over-written by *lwarp* whenever a print version of the document is processed.

To use a custom *makeindex* style file:

1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`makeindexStyle (Opt)`

4. In the document source use the `makeindexStyle` option for `lwarp`:

```
\usepackage[
... other options ...
makeindex,
makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

8.6.22 Using a custom *xindy* style file

`xindy (Prog)` When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file
`lwarp.xdy (file)` is over-written by `lwarp` whenever a print version of the document is processed.

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

`\IndexPageSeparator` -and- `\IndexRangeSeparator`

to match.

`xindyStyle` (*Opt*)

4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
... other options ...
xindy,
xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells *lwarpmk* to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

8.6.23 Using a custom *xindex* style file

`xindex` (*Prog*) To use a custom *xindex* style file:

 **filename**

1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.
2. Make changes to `xindex-projectname.lua`.
3. If changing

`itemPageDelimiter` -and- `rangeSymbol`

in `xindex-projectname.lua`, then in the document preamble redefine

`\IndexPageSeparator` -and- `\IndexRangeSeparator`

to match.

`xindexConfig` (*Opt*)

4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
... other options ...
xindex,
xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells *lwarpmk* to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

8.6.24 Additional indexing limitations

 **xindy with hyperref** *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

 **empty index** If an HTML index is empty, it may be necessary to add the following before *lwarp* is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{lwarp}
```

makeindex custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
...
A sentence.\index{key|notesstyle}
```

xindy custom display styles For custom styles with *xindy*, see *lwarp.xdy* for `\textbf` and `\textit` as examples.

8.6.25 Index positions, toc, tocbibind

placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

makeidx (*Pkg*) **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

makeidx (*Pkg*) **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

tocbibind (*Pkg*) **Inline, with an automatic toc entry:**

The *tocbibind* package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

`tocbibind (Pkg)` **On its own HTML page, with an automatic TOC entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

`numindex (Opt)`  Use the `tocbibind` `numindex` option to generate a numbered index. Without this option, the index heading has no number.

numbered index section

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

`tocloft (Pkg)` If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

 **tocloft & other packages**

8.7 Math

8.7.1 Math in section names

 **math in section names** If using named HTML files, in section names use parentheses `math \langle x+y \rangle` instead of dollar `math $x+y$`. Parentheses `math` is removed from the file name. (Dollar `math` works, but it generates complicated filenames.) Or, use a short name for the TOC entry without the `math`, or use `\texorpdfstring` from the `hyperref` package:

```

\section[Simplified name]{Name with \langle 1+2=3 \rangle math}
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}

```

8.7.2 Math in custom environments

To create an environment which places its contents inside `math`, instead of:

```

\newenvironment{mymathenv}{ \langle starting math \rangle {ending math \rangle }

```

use:

```

\NewDocumentEnvironment{mymathenv}{b}
{
  \inlinemathother
  \langle starting math #1 ending math \rangle
  \inlinemathnormal
}
{}

```

or:

 **math in environments**

```

\usepackage{environ}
\NewEnviron{mymathenv}{
  \inlinemathother
  \(\ starting math \BODY ending math \)
  \inlinemathnormal
}

```

For display math, use `\[, \]`, `\displaymathother`, and `\displaymathnormal`.

8.7.3 Rendering tradeoffs

Math rendering Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

SVG files Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

SVG inline The SVG images are currently stored separately, but they could be encoded inline directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

PNG files Others L^AT_EX-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.

MathML Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.4 SVG option

SVG math option For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML `alt` attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

SVG image font size For SVG display math and the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

¹⁴See section 691 regarding fonts and fractions.

```
\newcommand*{\LateximageFontScale}{.75}
```

svg math copy/paste For SVG math, text copy/paste from the HTML `<alt>` tags lists the equation number or tag for single equations, along with the $\text{\LaTeX}$ code for the math expression. For $\mathcal{AMS}$ environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred $\mathcal{AMS}$ environment, although the `\tag` macro will still appear inside the $\text{\LaTeX}$ math expression.

 **svg math size, baseline** SVG math sizing and baselines are improved if the `graphics` or `graphicx` package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if `graphics` or `graphicx` are not used.

 **svg math in $\text{\TeX}$ boxes** SVG math does not work inside $\text{\TeX}$ boxes, since a `\newpage` is required before and after each image.

8.7.5 MATHJAX option

MATHJAX math option The MATHJAX (mathjax.org) $\text{\LaTeX}$ -math to HTML converter may be used to display math.
MathJax (*Prog*)

When MATHJAX is enabled, math is rendered twice:

1. As regular $\text{\LaTeX}$ PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of $\text{\LaTeX}$, and
2. As detokenized printed $\text{\LaTeX}$ commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current $\text{\LaTeX}$ values, and the MATHJAX equation numbering system is ignored in favor of the $\text{\LaTeX}$ internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

8.7.6 MATHJAX rendering options

MATHJAX v3 may render using CHTML or SVG. SVG display renders italic characters correctly. To select SVG rendering, right-click on some math, and select

Math Settings → **Math Renderer** → **SVG**

Wait a moment for the math to rerender.

8.7.7 Customizing MATHJAX

equation numbering lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```

\renewcommand*\theequation{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*\theMathJaxsection{\Alph{section}.}
}

```

 **subequation** The `amsmath` subequations environment is supported, but only with `\alpha` subequation numbering.

global customizations MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```

\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}

```

 **slow compilation** To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or svg math output. Also, place each new definition inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

lwarp already provides MATHJAX customizations for some packages.

siunitx When using `siunitx`, a similar process may be used to add custom units:

```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\micro\myunit}}}
\end{warpMathJax}

```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the lwarp definition for `\DeclarePairedDelimiterX`, in section 409, [mathtools](#).

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```

\begin{warpMathJax}
\(\ \newcommand{\macroname}{. . . } \)
\(\ \newcommand{\anothername}{. . . } \)
\end{warpMathJax}

```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```

\CustomizeMathJax{
  \def\myname{
    \ifstar\starredaction\unstarredaction
    % (Do not place anything after!)
  } }

```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.8 MATHJAX limitations

MATHJAX limitations Limitations when using MATHJAX include:

MathJax (*Prog*)



`\multicolumn`, `\multirow`

- MATHJAX does not support `\multicolumn` or `\multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



`footnotes`

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.



`references`

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

`lateximage`

- Math appearing inside a `lateximage`, and therefore also inside a `TikZ` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.

`siunitx`

- For `siunitx`, see [siunitx package](#), section 8.7.15.

`physics`

- For `physics`, see [physics package](#), section 8.7.17.

`tabbing`

- A tabbing environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside tabbing, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

`\text`

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. Lwarp supports this extension.



`Unicode`

- If using DVI $\LaTeX$ or PDF $\LaTeX$, unicode input may not appear correctly in MATHJAX. Either use $\XeLaTeX$ or $\LuaLaTeX$, or replace Unicode special characters such as

```
\text{special character æ}
```

with their special macros, such as

```
\text{special character \ae}
```



`other macros and packages`

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, lwarp provides emulation for many of these

macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.9 Catcode changes

preamble macros with math

The math shift character $\$$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain $\$$ must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of $\$$:

```
\StartDefiningMath
\newcommand{. . . }
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of $\$$, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using $\$$, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.10 Complicated inline math objects

`\inlinemathnormal`
`\inlinemathother`

changing contents complicated alt tag

MATHJAX limitations

An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as $x+1$, so the image can be reused for multiples instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an alt tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells `lwarp` to use unhashed SVG math images for those particular expressions, even if MATHJAX is otherwise in use. See section 46.

8.7.11 Complicated display math objects

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated TikZ pictures, compilation will fail.

`\displaymathother`
 MATHJAX unsupported
 complicated alt tag

When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate TikZ picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as TikZ pictures are more likely to compile successfully.

8.7.12 Theorems

- ⚠ **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.¹⁵ For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{}
}
```

8.7.13 ntheorem package

- `ntheorem (Pkg)` This conversion is not total. Font control is via css, and the custom $\text{\LaTeX}$ font settings are ignored.
- ⚠ **Font control**
- ⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in $\mathcal{AMS}$ environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

8.7.14 mathtools package

- `mathtools (Pkg)` `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.
- ⚠ **equation numbering**
- ⚠ **italic correction** `mathic` is not emulated for HTML.
- ⚠ **MATHJAX** If using MATHJAX:

- Recent changes may not yet be updated in the MATHJAX extension, which is used by `lwarp`.
- `mathtools disallowspace` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:


```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```
- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- `alignat` in MATHJAX requires math mode, but in $\text{\LaTeX}$ it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.
- `\MakeAboxedCommand` uses `\Aboxed` for all commands made.

¹⁵`lwarp` uses `cleveref` for the HTML conversion, and loads `cleveref \AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

8.7.15 siunitx package

`siunitx` (*Pkg*) `siunitx` is well supported by `lwarp`.

Limitations Some general limitations:

fractions Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

`\cancel` is not currently supported for `siunitx` v3.

Negative values are not automatically colored.

tabular Tabular `S` and `s` columns are rendered as simple `c` columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

drop-exponent

table-auto-round `table-auto-round` is ignored.

Math rendering Math may be rendered in several ways in the same document:

For math mode with svg display: The original `siunitx` code is used while generating the `svg` image.

For HTML text mode: `lwarp` uses `siunitx` code patched for `HTML`, and simplified units.

For math expressions while using MATHJAX: A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

Custom units `siunitx` allows customized units:

`\DeclareSIUnit` $\{\langle name \rangle\} \{\langle definition \rangle\}$

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for `HTML` if an `HTML`-specific version is not defined with `\HTMLDeclareSIUnit`.

`\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}`

`\HTMLDeclareSIUnit` $\{\langle name \rangle\} \{\langle definition \rangle\}$

v3 only! Use this after the print unit has been defined. For `siunitx` v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for `HTML`, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

`\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}`

It is also possible to provide a custom unit for `MATHJAX`:

`\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}`

Predefined units Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

⚠ MathJax

Document modifications required for MATHJAX

⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

⚠ complex numbers

custom units

- Complex numbers are displayed as entered, ignoring `output-complex-root`.
- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.5.

8.7.16 units and nicefrac packages

`units (Pkg)` `units` and `nicefrac` work with `lwarp`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `lwarp`'s option `svgmath`.

8.7.17 physics package

`physics (Pkg)` `physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

8.8 Graphics

`graphics (Pkg)` Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase

`graphicx (Pkg)`

[file extensions](#)

⚠ case sensitive

Table 9: \includegraphics and file names

Print image file	HTML image file	Command to use
image.pdf ^a	image.svg ^a	\includegraphics{image}
image.eps ^a	image.svg ^a	\includegraphics{image}
image.jpg	— ^b	\includegraphics{image}
image.png	— ^b	\includegraphics{image}
image.JPG	— ^b	\includegraphics{image.JPG} ^c
image.PNG	— ^b	\includegraphics{image.PNG} ^c
image.jpg	image.gif	\includegraphics{image}

^a: Must be a lowercase file extension.
^b: The same file is used for print and HTML.
^c: The uppercase extension must be specified.

extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as `JPG` or `PNG`, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

`\includegraphics` file formats For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

`\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.`

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

`\includegraphics{filename.pdf} % uses .svg in html`
`\includegraphics{filename.eps} % uses .svg in html`

`pdftocairo` (*Prog*) To convert a PDF image to SVG, use the utility *pdftocairo*:
PDF to SVG

Enter ⇒ `pdftocairo -svg filename.pdf`

`lwarpmk pdftosvg` (*Prog*) For a large number of images, use *lwarpmk*:

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

`lwarpmk epstopdf` (*Prog*) For EPS images converted to PDF using the package `epstopdf`, use

`epstopdf` (*Prog*)
epstopdf package Enter ⇒ `lwarpmk pdftosvg *.PDF`

to convert to SVG images.

DVI L^AT_EX When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **lwarpmk epstopdf *.eps** (or a list of filenames)

Enter ⇒ **lwarpmk pdftosvg *.pdf** (or a list of filenames)

PNG and JPG For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

duplicate files A complication occurs if a file of the same name exists elsewhere in the T_EX tree, such as a test image from some L^AT_EX package. T_EX looks in the local document directory before considering the directories specified by `\graphicspath`, but the T_EX tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ **image not displayed**

⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that

⚠ **viewport** viewports are not supported by `lwarp` — the entire image will be shown.

units For `\includegraphics`, avoid px and % units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

options `\includegraphics` accepts width and height, origin, rotate and scale, plus new class and alt keys. (alt has recently been incorporated into `graphicx` itself.)

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

⚠ **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

\rotatebox `\rotatebox` accepts the optional origin key.

⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace

which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.

8.8.1 tikz package

 **displaymath and matrices** `tikz (Pkg)` If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

8.8.2 grffile package

 **matching PDF and SVG** `grffile (Pkg)` `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

`color (Pkg)` `color` is superseded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

8.8.4 xcolor package

`xcolor (Pkg)` `\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a `<span>`. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarp`'s core if `xcolor` is loaded.

background: none `\fcolorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

color support Color definitions, models, and mixing are fully supported without any changes required.

colored text and boxes `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

\color and \pagecolor `\color` and `\pagecolor` are ignored. Use CSS or `\textcolor` where possible.

8.8.5 epstopdf package

 **convert to .svg** `epstopdf (Pkg)` Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the `.svg` version, so use

Enter $\Rightarrow$ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

8.8.6 pstricks package

pstricks (*Pkg*) All pstricks content should be contained inside a pspicture environment.

 **use pspicture**

8.8.7 pdftricks package

pdftricks (*Pkg*) The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

 **convert image files**

Enter $\Rightarrow$ **lwarpmk pdftosvg <jobname>-fig*.pdf**

8.8.8 psfrag package

psfrag (*Pkg*) The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 **use psfrags**

 **Tip:** Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

pstool (*Pkg*) \graphicspath is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter $\Rightarrow$ **lwarpmk html**

followed by

Enter $\Rightarrow$ **lwarpmk limages**

.

8.8.10 asymptote package

asymptote (*Pkg*) To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

overpic (*Pkg*) The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

 **scaling**

8.8.12 Multimedia packages

multimedia (*Pkg*) The packages `multimedia`, `movie15`, and `media9` are supported.

movie15 (*Pkg*) HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

media9 (*Pkg*) HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9` `\addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that `svg` `math` and `lateximages` do not yet work inside the environment.

⚠ **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

8.10 Tabular

8.10.1 tabular environment

`Tabular` mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx` `S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
```

```
<define macros or environments using tabular and & here>
```

```
\StopDefiningTabulars
```

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

⚠ **Misplaced alignment tab character &**

⚠ **floatrow**

⚠ **tabular inside another environment**

```

\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

Cell contents:

⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:

⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{<math>}<{<math>` do not work with `lwarp`. Instead, each cell must specify math mode individually.

@ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

⚠ \newcolumntype

- If `\newcolumntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumntype`.

font and alignment

- **lwarp** detects each of the following, and sets HTML CSS appropriately:
 - >\centering\arraybackslash
 - >\raggedright\arraybackslash
 - >\raggedleft\arraybackslash
 - >\itshape
 - >\bfseries
 - >\bfseries\itshape
- These may be used with \newcolumntype, such as:
- ```
\newcolumntype{P}[1]{>\centering\arraybackslashp{#1}}
```

**Rules:**

## vertical rules

## width and trim

## combined rules

- Doubled \hlines, \midrules, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.
- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.
- If you wish to use \cmidrule followed by \bottomrule, it may be necessary to use:
 

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.
- For \toprule and \bottomrule, when combined with a warpprint or warpHTML environment, if a “Misplaced \noalign” error occurs, change
 

```
This & That \endhead
```

 to
 

```
\warpprintonly{This & That \endhead}
```

and likewise with the other \end headings. Keep the \endfirsthead row unchanged, as it is still relevant to HTML output.

⚠ \warpprintonly

⚠ Misplaced \noalign

**Other:**

## longtable headings

⚠ S columns

- **tabularx** ignores the width, but X columns do produce paragraph columns or multicolumns.
- For **longtable**, place headings and footings which do not apply to HTML inside \warpprintonly{ }.
- For S columns (from the siunitx package), while producing print output, anything non-numeric must be placed inside { } braces, including commands such as \multirow. While producing HTML output, though, anything placed inside braces is not seen by lwarp’s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:
 

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```
- In L<sup>A</sup>T<sub>E</sub>X, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a <span>. If this situation is detected, a warning is printed instructing the user to isolate the <span> using \warpprintonly or the warpprint environment.

⚠ tabular inside a &lt;span&gt;

### 8.10.2 multirow package

vposn

- Note that recent versions of multirow include a new optional vposn argument.

multirow cells

- For multirow, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

colored cells

- The multirow documentation regarding colored cells recommends using a negative number of rows. This will not work with lwarp, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn`

⚠ `\multicolumn & \multirow`

- See section 439.2 for `\multicolumnrow`.

lwarp does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ skipped cells

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ empty cells

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ MathJax

- MATHJAX does not support multirow, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

### 8.10.3 longtable package

`longtable (Pkg)` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}[column specifiers]
[...] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[...] \endhead % or \endfirsthead
[...] \endfoot
[<lastfoot macros>] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[<lastfoot macros>] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

#### 8.10.4 threeparttablex package

`threeparttablex` (*Pkg*) `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}[column specifiers] {
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpprintonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

#### 8.10.5 supertabular and xtab packages

`supertabular` (*Pkg*) For `\tablefirsthead`, etc., enclose them as follows:

`xtab` (*Pkg*)

```
\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars
```

⚠ **Misplaced alignment tab character &**

See section 8.10.1.

⚠ **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

### 8.10.6 colortbl package

`colortbl (Pkg)` Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ **row/cell color** `colortbl` ignores the overhang arguments.

**colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.

### 8.10.7 ctable package

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

### 8.10.8 bigdelim package

⚠ **use \mrowcell** `bigdelim (Pkg)` `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{\}{3}{.25in}[left] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<-> a b
 {
left { c d
 { e f
 { g h
<-> i j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

## 8.11 Floats

### 8.11.1 Float contents alignment

⚠ **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```

\begin{table*}
\centering
\caption{A Table}
...

```

### 8.11.2 float, trivfloat, and/or algorithmicx together

`float (Pkg)` If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 650.1.

`trivfloat (Pkg)`

`algorithmicx (Pkg)`

#### ⚠ package conflicts

`caption (Pkg)`

`subcaption (Pkg)`

### 8.11.3 caption and subcaption packages

Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

#### ⚠ numbering

To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

### 8.11.4 subfig package

`subfig (Pkg)`

#### ⚠ table numbering

To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

#### ⚠ lof/lotdepth

At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

#### ⚠ horizontal spacing

In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

### 8.11.5 floatrow package

-  **Misplaced alignment tab character & subfig package** `floatrow (Pkg)` Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.
-  When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.
-  **`\FBwidth`, `\FBheight`** The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:
- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
  - Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
  - Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

### 8.11.6 keyfloat package

- `keyfloat (Pkg)` If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)
-  **keywrap**

For wrapped figures, overhang and number of lines are ignored.

## 8.12 KOMA-SCRIPT classes

- `komascript (Cls)` Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

-  **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

## 8.13 MEMOIR class

- `memoir (Cls)` `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.
-  **captions**

While emulating `memoir`, `lwarp` pre-loads a number of packages (section 706.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

-  **options clash**

```

\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}

```

⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since *lwarp* is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` \label accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The comment environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```

\begin{comment}
This is a comment.
\end{comment}

```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

⚠ **page notes** *lwarp* loads `pagenote` to perform memoir's `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

`page notes with cleveref` To add support for `pagenotes` with `cleveref`, add:

```

\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}

```

`page note \nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ **poems** Poem numbering is not supported.

⚠ **verbatim** The verbatim environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

⚠ **glossaries** The memoir glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

⚠ **framewithtitle, titledframe** The custom frame commands in the memoir manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```

\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
 \textbf{#2}
}

```

```

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
 \begin{fminipage}{\linewidth}
 \textbf{#2}
 \begin{minipage}{\linewidth}
 }
 {\end{minipage}\end{fminipage}}

\newcommand{\TitleFrame}[2]{%
 \par
 \textbf{#1}\par
 \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
 \par
 \textbf{#2}
 \begin{fminipage}{\linewidth}
 }
 {\end{fminipage}}
\end{warphTML}

```

## 8.14 International languages



### section and file names

If using *pdf<sub>l</sub>atex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdf<sub>l</sub>atex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xel<sub>l</sub>atex*, *lual<sub>l</sub>atex*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

## 8.15 Miscellaneous packages

### 8.15.1 verse and memoir

*verse* (*Pkg*) When using *verse* or *memoir*, always place a `\\` after each line.

*memoir* (*Cls*) The documentation for the *verse* and *memoir* packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. *lwarp* provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warphTML}
\let\attrib\attribution
\end{warphTML}

```

`\leftskip` (*Len*) These lengths are used by *verse* and *memoir* to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any *verse* environment, and persist

`\leftmargini` (*Len*)

`\HTMLleftskip` (*Len*)

`\HTMLleftmargini` (*Len*)

until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

 **spacing**

Horizontal spacing relies on *pdf<sub>totext</sub>*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdf<sub>totext</sub>* to shift everything over.

 **verse margin**

### 8.15.2 newclude package

`newclude (Pkg)` **newclude** modifies `\label` in a non-adaptive way, so **newclude** must be loaded before **lwarp** is loaded:

 **loading**

```
\documentclass{article}
...
\usepackage{newclude}
\usepackage[warppHTML]{lwarp}
...
```

### 8.15.3 babel package

`babel (Pkg)` When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before **lwarp** is loaded:

 **\CaptionSeparator**

```
\renewcommand*{\CaptionSeparator}{:~}
```

**punctuation spaces**

Also when French is used, **lwarp** creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user’s document also changes these parameters, the user’s changes should be placed inside a `warpprint` environment so that the user’s changes do not affect the HTML output.

 **customized spacing**

### 8.15.4 polyglossia package

`polyglossia (Pkg)` **lwarp** uses **cleveref**, which has some limitations when using **polyglossia**, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by **cleveref**, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

### 8.15.5 `todonotes` and `luatodonotes` packages

`todonotes` (*Pkg*)    The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

`luatodonotes` (*Pkg*)

### 8.15.6 `fixme`

`fixme` (*Pkg*)    External layouts (`\fxloadlayouts`) are not supported.

#### external layouts

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

### 8.15.7 `acro` package

 **formats**    Define acronymn formats using `\textbf` instead of `\bfseries` etc.

### 8.15.8 `chemfig` package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig~\PackageDiagramAltText]
\chemfig{. . .}
\polymerdelim[. . .]{. . .}
\end{lateximage}
```

### 8.15.9 `chemformula` package

 **chemformula with MATHJAX**    `chemformula` works best without `MATHJAX`. If `MATHJAX` is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about `MATHJAX`, and `MATHJAX` does not know about `chemformula`.)

While using `MATHJAX`, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

### 8.15.10 mhchem package

See section 420.

### 8.15.11 kotex package

kotex (*Pkg*) See section 8.14 regarding *pdf<sub>l</sub>atex* and Korean section names.



Korean section names

## 9 Compiling using custom shell commands

`lwarp` and `lwarpmk` try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T<sub>E</sub>X engine, and `lwarp` options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using `lwarp` options, thus allowing the use of packages such as `perltex` and `pythontex`.

### 9.1 Command options

`PrintLatexCmd` (*Opt*)    The `lwarp` options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.  
`HTMLLatexCmd` (*Opt*)

**PrintLatexCmd** should be set to shell commands which take `project.tex` and generate `project.pdf`.

**HTMLLatexCmd** should be set to take `project_html.tex` and generate `project_html.pdf`.  
`lwarpmk` will then take `project_html.pdf` and automatically convert it and generate `project.html`.

### 9.2 Literal character macros

The `lwarp` package options are parsed by T<sub>E</sub>X, and so some characters require the use of a special macro to represent them. See table 10. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found**    To use these macros, either `kvoptions-patch` must be loaded before `lwarp`:

---

```
\usepackage{kvoptions-patch}
\usepackage[
 PrintLatexCmd={... } ,
 HTMLLatexCmd={ ... }
]{lwarp}
```

---

Table 10: Literal character macros

| Character | Macro         | Comment                          |
|-----------|---------------|----------------------------------|
| %         | \LWRpercent   |                                  |
| \$        | \LWRdollar    |                                  |
| &         | \LWRamp       |                                  |
| %         | \LWRhash      |                                  |
| \         | \LWRbackslash |                                  |
| ' or "    | \LWRopquote   | Depends on the operating system. |
| & or &&   | \LWRopseq     | Depends on the operating system. |
| (space)   | \space        | Forces an extra space.           |
| (jobname) | \jobname      | Without file extension.          |

or `\lwarpsetup` must be used to set `PrintLatexCmd` and `HTMLLatexCmd`:

---

```

\usepackage[...]{lwarp}
\lwarpsetup{
 PrintLatexCmd=
 {
 latex tm \LWRopseq
 dvips -o tm-pics.ps tm.dvi \LWRopseq
 ps2pdf -dALLOWPSTRANSPARENCY tm-pics.ps \LWRopseq
 pdflatex tm.tex
 } ,
 HTMLLatexCmd=
 {
 latex tm_html \LWRopseq
 dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
 ps2pdf -dALLOWPSTRANSPARENCY tm_html-pics.ps \LWRopseq
 pdflatex tm_html.tex
 }
}

```

---

### 9.3 *latexmk*

*latexmk* (*Prog*) If *latexmk* is used for a project, it may be easiest to continue using it.

**latexmk project.tex** would create `project.pdf` as normal.

**latexmk project\_html.tex** would create `project_html.pdf`, then

**lwarpmk pdftohtml project\_html.pdf** would take `project_html.pdf` and convert it to `project.html`.

*sagetex* (*Pkg*) *latexmk* may simplify the use of packages such as *sagetex*.

## 9.4 perltex package

`perltex (Pkg)` The `lwarp` package option settings to use `perltex` would be similar to:

```
\usepackage[
 . . .
 PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
 HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
 . . .
]{lwarp}
```

⚠ “impure” math Place `perltex` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.11.

## 9.5 pythontex package

`pythontex (Pkg)` An example using `pythontex`:

```
\usepackage[
 . . .
 PrintLatexCmd={
 pdflatex project.tex \LWRopseq
 pythontex project \LWRopseq
 pdflatex project.tex
 } ,
 HTMLLatexCmd={
 pdflatex project_html.tex \LWRopseq
 pythontex project_html \LWRopseq
 pdflatex project_html.tex
 } ,
 . . .
]{lwarp}
```

Another possibility is to use `latexmk`, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `lwarp` option `latexmk` would not be used.

⚠ “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be

⚠ HTML look-alike enclosed inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

## 9.6 sympytex package

`sympytex (Pkg)` For `sympytex`:

```

\usepackage[
 . . .
 PrintLatexCmd={
 pdflatex project.tex \LWRopseq
 python project.sympy \LWRopseq
 pdflatex project.tex
 } ,
 HTMLLatexCmd={
 pdflatex project_html.tex \LWRopseq
 python project_html.sympy \LWRopseq
 pdflatex project_html.tex
 } ,
 . . .
]{lwarp}

```

Also see the warnings for `pythontex`, above.

## 9.7 Other packages

`rterface` (*Pkg*) Other packages such as `rterface` would be set up similar to `pythontex`, and the same warnings would apply.

## 9.8 *make* program

`make` (*Prog*) To use `lwarp` with the *make* program, have the makefile take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

## 9.9 UTF-8 locale

 **UTF-8 locale** *lwarpmk* uses the *texlua* program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```

\usepackage{lwarp}[
 PrintLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project.tex
 }
 HTMLLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project_html.tex
 }
]

```

`ditaa (Pkg)` The only example seen so far where this is required is the `ditaa` package, where the locale change allows the use of UTF-8 with Xe $\LaTeX$  and `ditaa`. To use Lua $\LaTeX$  instead, the locale change would have to be made inside the `ditaa` package where it calls the *ditaa* program.

## 10 EPUB conversion

lwarp does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

**<meta> author** To assign the author's name for regular lwarp HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta>` author element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

| FormatEPUB                                          |                                                                                                                                                                  |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FormatEPUB ( <i>bool</i> )<br>Default: <i>false</i> | FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section. |

To help convert lwarp HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk images
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

### search order

The EPUB conversion program must know what order the files are included. For lwarp projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

**Preferences → Plugins → File type plugins → HTML to Zip**

### encoding

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what lwarp generates for HTML, even if the original printed document uses some other encoding.

### section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarp's section headings, see table 12. For example, an article class document would break at `\section`, which is mapped to HTML heading level

<h4>, whereas a book class document would break at \chapter, which is HTML heading level <h3>. For *Calibre*, this option is found in

**Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)**

Select the “magic wand” to the right of this entry box, and set the first entry

**Match HTML tags with tag name:**

to “h4”. (Or “h3” for document classes with \chapters.) The Detect chapters at field should then show

**//h:h4**      — or —      **//h:h3**

This option is also available on the main tool bar at the **Convert books** button.

Once these settings have been made, the *lwarp*-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

---

#### *MathJax support*

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for siunitx.

lwarp adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader’s version of MATHJAX, so lwarp requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn’t work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where siunitx support is important.

---

## 11 Word-processor conversion

lwarp may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that **LIBREOFFICE** works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarp provides some assistance in locating these frame boundaries, as shown below.

### 11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

| FormatWP                                          |                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FormatWP ( <i>bool</i> )<br>Default: <i>false</i> | Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT. |

To help modify lwarp HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

#### formatting adjustments

to the project's source preamble after lwarp is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.
- Tabular rule borders are made explicit for *LibreOffice Writer*. **LIBREOFFICE** displays a light border around each cell while editing, even those which have

no border when printed, and `lwarp` also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in `LIBREOFFICE`.

- `\includegraphics` and `svg` math width and height are made explicit for `LIBREOFFICE`.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit HTML styles are given to:
  - `\textsc`, etc.
  - `\underline`, `soul` and `ulem` markup.
  - `center`, `flushleft`, `flushright`.
  - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
  - `fancybox` `\shadowbox`, etc.
  - The `LATEX` and `TEX` logos.

- Honors several booleans:

**WPMarkFloats:** Marks the begin and end of floats.

**WPMarkMinipages:** Marks the begin and end of minipages.

**WPMarkTOC:** Marks the location of the Table of Contents.

**WPMarkLOFT:** Marks the locations of the List of Figures/Tables.

**WPMarkMath:** Prints `LATEX` math instead of using images.

**WPTitleHeading:** Adjusts title and section headings.

Several of these may be used to add markers to the `HTML` text which help determine where to adjust the word processor document after import.

## 11.2 Additional modifications

### WPMarkFloats

---

WPMarkFloats (*bool*)

Default: `false`

Adds

```
=== begin table ===
...
=== end ===
```

or

```
=== begin figure ===
...
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

---

### WPMarkMinipages

---

WPMarkMinipages (*bool*)

Default: `false`

Adds

```

=== begin minipage ===
...
=== end minipage ===

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

---

#### WPMarkTOC

---

WPMarkTOC (*bool*)  
 Default: *true*

While formatting for word processors, adds  
 === table of contents ===

where the Table of Contents would have been. This helps identify where to insert the actual toc.

*If set false, the actual toc is printed instead.*

---

#### WPMarkLOFT

---

WPMarkLOFT (*bool*)  
 Default: *false*

While formatting for word processors, adds  
 === list of figures === *and/or*  
 === list of tables ===

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

---

#### WPMarkMath

---

[siunitx](#)  
 WPMarkMath (*bool*)  
 Default: *false*  
 TeXMaths (*Prog*)

While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating svg images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the *siunitx* package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for  $\mathcal{M}$ S math environments.

---

#### WPTitleHeading

---

WPTitleHeading (*bool*)  
 Default: *false*  
[section headings](#)

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

Table 11: Section HTML headings for word-processor conversion

| Section       | HTML headings* |       |                  |       |
|---------------|----------------|-------|------------------|-------|
|               | With \chapter  |       | Without \chapter |       |
|               | WPTitleHeading |       | WPTitleHeading   |       |
|               | true           | false | true             | false |
| Title         | <h1>           | plain | <h1>             | plain |
| \book         | <div>          | <div> | <div>            | <div> |
| \part         | <h2>           | <h1>  | <h2>             | <h1>  |
| \chapter      | <h3>           | <h2>  | —                | —     |
| \section      | <h4>           | <h3>  | <h3>             | <h2>  |
| \subsection   | <h5>           | <h4>  | <h4>             | <h3>  |
| \paragraph    | <h6>           | <h5>  | <h5>             | <h4>  |
| \subparagraph | <span>         | <h6>  | <h6>             | <h5>  |

\* For default depths when not FormatWP, see table 12 on page 208.

See table 11 on page 192.

11.3 Recommendations

TOC, LOF, LOT For use with *LibreOffice Writer*, it is recommended to:

- 1. Set \booltrue{FormatWP}
- 2. Set \booltrue{WPMarkTOC} and \boolfalse{WPMarkLOFT}
- 3. Use lwarp to generate the HTML document.
- 4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
- 5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
- 6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
- 7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

siunitx For siunitx, remember to adjust the preamble as mentioned above.

LO view border options LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

## 11.4 Limitations

Floats and captions are not explicitly converted to LIBREOFFICE floats with their own captions. Floats are surrounded by a thin frame in the LIBREOFFICE editor, and may be marked with `WPMarkFloats`, but are not given a proper LIBREOFFICE object frame. Captions are given an explicit italic formatting, but not a proper LIBREOFFICE paragraph style.

Cross references are not actual LIBREOFFICE linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L<sup>A</sup>T<sub>E</sub>X and HTML versions.

Equation numbering is not automatic, but the equation numbers in svg math will match the L<sup>A</sup>T<sub>E</sub>X and HTML output. svg math is recommended when using the  $\mathcal{M}\mathcal{S}$  environments, which may have multiple numbered equations per object.

As of when last checked, LIBREOFFICE ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
  - `\textcircled`
  - `booktabs trim`
- `\hspace` and rules, also used by `algorithmic`.
- Coloring of text decorations, used by `soul` and `ulem`.
- Overline text decoration, used by `romanbar`.

LIBREOFFICE also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

## 12 Modifying lwarp

- locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.
- Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.
- Purely text-based packages probably will work as-is when generating HTML.
- Look to existing code for ideas on how to expand into new code.
- image of T<sub>E</sub>X output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L<sup>A</sup>T<sub>E</sub>X output. See section 96 for an example of the picture environment.
- css classes** To create a custom HTML block or inline CSS class, see section 54.10.
- print/HTML macros** To create print and HTML versions of the same macro or environment, see section 38.
-  **T<sub>E</sub>X boxes** Any T<sub>E</sub>X boxes must be undone, as SVG math or `lateximages` require `\newpage`, which will not work in a T<sub>E</sub>X box.

### 12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

#### Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

Enter ⇒ **`pdflatex lwarp.ins`**

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

Enter ⇒ **`pdflatex lwarp.dtx`**

#### To make the development files visible to other projects:

Create the directory

`/usr/local/texlive/texmf-local/tex/latex/local/lwarp`

Inside this directory, create the file `update`, containing:

---

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

---

Run `./update` now, and whenever a new `lwarp-*` package is added.

**To make the development version of *lwarpmk* visible to other projects:**

---

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

---

Verify that the correct version is found with

Enter  $\Rightarrow$  **which lwarpmk**

**To make the local versions visible to the shell:**

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

---

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

---

In `.cshrc`:

---

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

---

**To fully compile the *lwarp* documentation and indexes:**

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The multiple rounds of index processing are required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

## 12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for lwarp, since lwarp must be loaded before most other packages.

To work with lwarp, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load lwarp, then finally load and adjust any other required packages.

When creating HTML, lwarp redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the lwarp version is used instead. This modular system allows users to create their own versions of packages for lwarp to use for HTML, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other lwarp-packages where T<sub>E</sub>X can see it, then the user's new package will be seen by any documents using lwarp. (Remember `mktextsr` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and @ characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the lwarp-version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the lwarp- version continues loading as well. See section 467 ([ntheorem](#)) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a lwarp-version.

### 12.2.1 Adding a package to the lwarp.dtx file

When adding a package to `lwarp.dtx` for permanent inclusion in lwarp, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 21.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

### 12.3 Modifying a class for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

### 12.4 Testing lwarp

Compiling `lwarp.ins` generates all the `*.sty` files for `lwarp`. It can be useful to create additional `*.ins` files to be able to recompile only the pieces which have changed.

#### compiling individual packages

`core.ins` (*file*)

For example, to be able to recompile the `lwarp` core alone, copy `lwarp.ins` to `core.ins`, then modify `core.ins` to only compile:

```
\generate{
\file{lwarp.sty}{\from{lwarp.dtx}{package}}
}
```

For individual packages, create `packagename.ins`, set to compile only:

```
\generate{
\file{lwarp-packagename.sty}{\from{lwarp.dtx}{packagename}}
}
```

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

#### compiling css and other generated files

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins` -or- `pdflatex core.ins`
3. If modifying *lwarpmk* the new version should now be active.
4. If modifying css files or other files generated by `lwarp`:
  - (a) For the document, `lwarpmk print` to update the css files in the project.
  - (b) Reload the HTML document to see the effect of the new css files.
5. If done testing, `pdflatex lwarp.dtx` to update the `lwarp` documentation.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and CSS code.

## 12.5 Modifying *lwarpmk*

`lwarpmk` (*Prog*) In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing **lwarpmk** into a terminal.

`lwarpmk.lua` (*file*)

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

## 13 Troubleshooting

### 13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

#### 13.1.1 Configuration file `lwarpmk.conf`

**File does not exist:** The configuration file must exist for `lwarpmk`.

**Incorrect Unix /Windows selection:** The operating system which was detected by lwarp. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of *lwarpmk* used a different delimiter.

**Source name is set to lwarp:** lwarp has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if *lwarpmk* is executed in lwarp's source directory.

**Incorrect operating system:** The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

**Outdated configuration files:** lwarp has been updated since this projects was last compiled. If there appears to be a valid print command in the file, *lwarpmk* displays this to instruct the user how to recompile the print version, which then updates the configuration files.

**The designated source file does not exist:** For whatever reason...

**Unknown engine:** lwarp cannot determine which engine is being used. Supported are DVI  $\text{\LaTeX}$ , PDF  $\text{\LaTeX}$ , Xe $\text{\LaTeX}$ , Lua $\text{\LaTeX}$ , and up $\text{\LaTeX}$ .

#### 13.1.2 Image generation with `lwarpmk limages`

**“Wait a moment for the images to complete before reloading page.”:**

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. *lwarpmk* tries to wait for background tasks to complete before exiting.

**HTML version does not exist:** Images are extracted from the HTML version, which must be compiled before images are generated.

**\*-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

**Cross references are not correct:** The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

**“WARNING: Images will be incorrect.”:** An image reference was not found. Re-compile.

**lwarpmk epstopdf \* or lwarpmk pdftosvg \*:** Errors if filenames are not found.

### 13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

### 13.1.4 Packages

**Loaded before lwarp:** Some packages and classes must be loaded before lwarp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

**Loaded after lwarp:** Most packages which are modified by lwarp must be loaded after lwarp.

**Loaded never:** Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

**Specific packages:** Some packages enforce a specific load order vs. certain other packages.

**Patching error:** lwarp tries to patch some packages using xpatch. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

**longtable:** lwarp's longtable package issues detailed error messages regarding the use of the table headers and footers.

**polyglossia:** If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

**babel or polyglossia:** An informative message is printed to note that not all languages are supported by cleveref.

### 13.1.5 Compiling

**SideTOCDepth < FileDepth:** A warning is displayed if these counters are set such that the sideroc will not be able to access all pages of the website.

**Filenames:** lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, and warning is generated, describing the filename and which section name generated it, and a unique file number is appended to the file name. A warning is also issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

 **HTML corrupted** **Multirow:** When \multirow or \multicolrow are used, \mrowcell or \mcolrowcell must be placed in the appropriate cells to avoid corrupted HTML output.

**(width,height) missing a comma:** \makebox and \framebox can accept a parenthesis-delimited width and height, which must be separated by a comma.

**“Load graphicx or graphics for improved svg math baselines.”:** svg math sizing and baselines are improved if either of these packages are used.

**“Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the Xe<sub>Λ</sub>TeX logo can use the reversed “E”.

**“It is recommended to use [width=xx\linewidth] instead of [scale=yy] ”:** Browser support of scale does not have the same effect as in  $\Lambda$ TeX.

## 13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.10: **Commands to be placed into the warpprint environment**

Section 8: **Special cases and limitations**

 **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
- See section 8.2.1 regarding HTML entities and the characters &, <, and >.

 **dotlessj** **Dotless j (\j):** See section 7.4 regarding cmap, mmap.

**Undefined HTML settings:**

- See the warning regarding the placement of the HTML settings at section 7.6.

**Tabular problems:** See section 8.10.1.

**Obscure error messages:**

**Print first:** Be sure that a print version of the document compiles and that your document's  $\Lambda$ TeX code is correct, before attempting to generate an HTML version.

**\end{warpHTML}, \end{warpprint}, \end{warpall}, \end{warpMathJax}:**

Each of these must be without any other characters on the same line.

**“Runaway argument? File ended while scanning use of \next:**

Don't use warpHTML, warpprint, warpall, or warpMathJax inside itself.

**Options clash:** If using memoir, see section 8.13.

**“Missing \begin{document}.”:** Some packages require that their options be specified before lwarp is loaded, or via the package's setup macro, especially if these options include the use of braces. See section 8.1.

**“No room for a new \write.”:** Before \usepackage{lwarp}, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

**“! TeX capacity exceeded, sorry [text input levels=15].”:** Packages were nested too many levels deep. Locate the file texmf.cnf for your distribution, and add the line

```
max_in_open = 30
```

**“Missing \$ inserted.”:** If using a filename or URL in a footnote or \item, or regular text, escape underscores with \\_.

 **warpHTML, warpprint,  
warpMathJax, warpall**

**“Label(s) may have changed. Rerun to get cross-references right.”:**

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as  $X=1$  may be replaced with

```
\textit{X}\,,=\,,1
```

**“Temporary page! LaTeX was unable to guess the total number of pages ...”:**

Harmless. Recompile the document one more time.

**“Leaders not followed by proper glue”:**

This can be caused by a missing `l@<floattype>` or `l@<sectiontype>` definition. See `lwarp`’s definitions for examples.

**“Improper \prevdepth”:** `lateximages` and `svg` math require `\newpage`, which cannot work inside `TeX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `\lrbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

`LWR@texboxdepth`

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

**“! Undefined control sequence. . . . \\_\_hook begindocument”:**

See section 8.15.4 if using `polyglossia`.

**“\begin{equation} ended by \end{document}”:** Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
...
\end{equation}
```

**“Misplaced \omit”:** If using `\LWR@formatted` to define new macros for print and HTML modes, see section 38 regarding `\LWR@expandableformatted`.**“Token not allowed in a PDF string”:** This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the `TeX` text, v.s. the PDF bookmark. See the `hyperref` manual.**“Command \textquoteright invalid in math mode”:** This can occur when the document source has math containing the slanted quote `'` character, instead of using the upright quote `'` character.**Complicated objects inside math:** Some objects, such as `TikZ`, may not compile in `lwarp`’s normal math emulation. Insert

⚠ macros in section, table, figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for environments

⚠ `\LWR@formatted`

⚠ quote character

⚠ “impure” math objects

`\displaymathother` — *or* — `\inlinemathother`  
 before the math, and then  
`\displaymathnormal` — *or* — `\inlinemathnormal`  
 when displaying “normal” math. See section 8.7.11.

**Slow compilation of math objects:** Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ **MATHJAX** **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.11.

**Missing sections:** See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

**Misnumbered footnotes from section headings:** See section 8.5.4.

**Missing HTML files:**

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

**Missing / incorrect cross-references:**

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).  
`\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

`\cpageref{tab:first,tab:second}`

in html becomes:

“pages **for** table 4.1 and **for** table 4.2”

See `\cpagerefFor` at page 765 to redefine the message which is printed for page number references.

**BibTeX errors with `\etalchar`:** See section 8.6.9.

**Malformed URLs:** Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

**Em-dashes or En-dashes in listing captions and titles:**

Use  $\text{\LaTeX}$  or  $\text{\LaTeX}$ .

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

**Floats out of sequence:**

**Mixed “Here” and floating:** Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

**Caption setup:** With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

**Images are appearing in strange places:**

- When images are added or removed, Enter `lwarpmk limages` to refresh the lateximage images.

**svg images:**

⚠ adding/removing

When a math expression, picture, or TikZ environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as TikZ may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.<sup>16</sup> If it is necessary to recompile the document’s HTML version one more time, *lwarpmk* usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L<sup>A</sup>T<sub>E</sub>X recompile warnings.

⚠ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

⚠ Lots of files!

Expressing math as svg images has the advantage of representing the math exactly as L<sup>A</sup>T<sub>E</sub>X would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, *lwarp* uses an MD5 hash on its L<sup>A</sup>T<sub>E</sub>X source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

**Plain-looking document:**

- The document’s css stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFilename` statements point to a valid css file.

⚠ HTML corrupted **Broken fragments of HTML:**

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

**Changes do not seem to be taking effect:**

<sup>16</sup>This becomes important when dealing with a document containing thousands of images.

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

#### Un-matched conditional compiles:

- Verify the proper begin/end of `warpprint`, `warpHTML`, and `warpall` environments.

### 13.2.1 Debug tracing output

`\tracinglwarp` When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

## 13.3 Compiling the `lwarp.dtx` file

**lwarp\_tutorial.tex:** Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

#### Illogical error messages caused by an out-of-sync `lwarp.sty` file:

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

#### Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

## 14 Trademarks

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File 1 **lwarp.sty**

## 15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude~~ ~~haeks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 12: Section depths and HTML headings

| Section                     | L <sup>A</sup> T <sub>E</sub> X<br>depth | HTML headings *                           |
|-----------------------------|------------------------------------------|-------------------------------------------|
| Title of the entire website |                                          | <h1>                                      |
| (none)                      | -5                                       | new for this package                      |
| book                        | -2                                       | <div class = "book">                      |
| part                        | -1                                       | <h2>                                      |
| chapter                     | 0                                        | <h3>                                      |
| section                     | 1                                        | <h4>                                      |
| subsection                  | 2                                        | <h5>                                      |
| subsubsection               | 3                                        | <h6>                                      |
| paragraph                   | 4                                        | <span class = "paragraph">                |
| subparagraph                | 5                                        | <span class = "subparagraph">             |
| listitem                    | 7                                        | new for this package, used for list items |

\* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 11 on page 192.

## 16 Section depths and HTML headings

Stacks are created to track depth inside the L<sup>A</sup>T<sub>E</sub>X document structure. This depth is translated to HTML headings as shown in table 12. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the L<sup>A</sup>T<sub>E</sub>X document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.

## 17 Source code

This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the `lwarp` package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

**index entries** Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

**for HTML output:**  
**for PRINT output:**  
**for HTML & PRINT:** Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

## 18 Required L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> format

This date is to ensure a recent enough version of lthooks, ltcmdhooks, ltpara, ltfilehook, ltshipout.

```
1 \NeedsTeXFormat{LaTeX2e}[2021/06/01]
```

## 19 Detecting the T<sub>E</sub>X engine — *pdf<sub>l</sub>atex*, *lua<sub>l</sub>atex*, *xel<sub>l</sub>atex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X<sub>Y</sub>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X:

```
2 \RequirePackage{iftex}[2019/11/07]
3 \RequirePackage{ifpdf}
4 \RequirePackage{ifptex}% in case TL2019 or earlier
5
6 \newif\ifxetexorluatex
7
8 \ifXeTeX
9 \xetexorluatextrue
10 \else
11 \ifLuaTeX
12 \xetexorluatextrue
13 \else
14 \xetexorluatexfalse
15 \fi
16 \fi
```

## 20 Early package requirements

etoolbox (*Pkg*) Provides \ifbool and other functions.

```
17 \RequirePackage{etoolbox}[2020/10/05]%
```

Patch to fix copy of environment with a \par:

<https://github.com/josephwright/etoolbox/issues/35>

```
18 \long\def\etb@carsquare#1#2#3\@nil{#1#2}%
```

verifycommand (*Pkg*) Verify macros before patching.

```
19 \RequirePackage{verifycommand}
```

xpatch (*Pkg*) Patches macros with optional arguments.

```
20 \RequirePackage{xpatch}
```

`ifplatform (Pkg)` Provides `\ifwindows` to try to automatically detect WINDOWS OS.

21 `\RequirePackage{ifplatform}% sense op-system platform`

`letltxmacro (Pkg)`

22 `\RequirePackage{letltxmacro}`

## 21 Package load order

Several packages must never be used with `lwarp`, others should only be loaded before `lwarp`, and others should only be loaded after. The `lwarp` core checks most of these cases. In some `lwarp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `lwarp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

### 21.1 Tests of package load order

`\LWR@loadafter {<packagename>}` Error if this package was loaded before `lwarp`.

```

23 \newcommand*{\LWR@loadafter}[1]{%
24 \IfPackageLoadedTF{#1}
25 {
26 \PackageError{lwarp}
27 {%
28 Package #1,\MessageBreak
29 or one which uses #1,\MessageBreak
30 must be loaded after Lwarp.\MessageBreak
31 Enter 'H' for possible solutions%
32 }
33 {%
34 Move ``\protect\usepackage{#1}'' after
35 ``\protect\usepackage{lwarp}''.\MessageBreak
36 Package #1 may also be loaded by something else,\MessageBreak
37 which must also be moved after Lwarp.%
38 }
39 }
40 {\relax}
41 }
```

`\LWR@notmemoirloadafter {<packagename>}` Error if not `memoir` class and this package was loaded before `lwarp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

42 \IfClassLoadedTF{memoir}
43 {\newcommand*{\LWR@notmemoirloadafter}[1]{}{}}
44 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}

```

`\LWR@notltjloadafter {<packagename>}` Error if not a ltjs\* class and this package was loaded before lwarp.

```

45 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
46
47 \IfClassLoadedTF{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
48 \IfClassLoadedTF{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
49 \IfClassLoadedTF{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
50 \IfClassLoadedTF{ltjsarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
51 \IfClassLoadedTF{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
52 \IfClassLoadedTF{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
53 \IfClassLoadedTF{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
54 \IfClassLoadedTF{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
55 \IfClassLoadedTF{ltjtarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
56 \IfClassLoadedTF{ltjtbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
57 \IfClassLoadedTF{ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}

```

`\LWR@loadbefore {<packagename>}` Error if this package is loaded after lwarp.

```

58 \newcommand*{\LWR@loadbefore}[1]{%
59 \IfPackageLoadedTF{#1}
60 {\relax}
61 {
62 \PackageError{lwarp}
63 {%
64 Package #1 must be loaded before lwarp.\MessageBreak
65 Enter 'H' for possible solutions%
66 }
67 {Move ``\protect\usepackage{#1}'' before ``\protect\usepackage{lwarp}''}.}
68 }
69 }

```

`\LWR@checkloadbefore {<packagename>}`

Given `\LWR@tempone` is the package name to compare to, if package names match, error if it is loaded after lwarp.

```

70 \newcommand*{\LWR@checkloadbefore}[1]{%
71 \ifdefstring{\LWR@tempone}{#1}{%
72 \LWR@loadbefore{#1}%
73 }{}%
74 }

```

`\LWR@loadnever {<badpackagename>} {<replacementpkgnames>}`

The first packages is not supported, so tell the user to use the second instead. Factored from `\LWR@checkloadnever` and `\LWR@earlyloadnever`.

```

75 \newcommand*{\LWR@loadnever}[2]{%
76 \PackageError{lwarp}
77 {%
78 Package #1 is not yet supported\MessageBreak

```

```

79 by lwarp's HTML conversion%
80 \ifblank{#2}{}{%
81 .\MessageBreak
82 Package(s)\MessageBreak
83 \space\space#2\MessageBreak
84 may be useful instead%
85 }%
86 }
87 {%
88 Package #1 might conflict with lwarp in some way,\MessageBreak
89 or is superceded by another package.%
90 \ifblank{#2}{}{%
91 .\MessageBreak
92 For possible alternatives, see package(s) #2.%
93 }%
94 }
95 }

```

`\LWR@afterloadnever`  $\{\langle badpackagename \rangle\} \{\langle replacementpkgnames \rangle\}$

Given: `\LWR@tempone` is set to the package name being tested against, if this package name is the bad packagename, suggest the replacements instead. This is used when loading packages after `lwarp`.

```

96 \newcommand*{\LWR@afterloadnever}[2]{%
97 \ifdefstring{\LWR@tempone}{#1}{%
98 \LWR@loadnever{#1}{#2}%
99 }{}%
100 }

```

`\LWR@earlyloadnever`  $\{\langle badpackagename \rangle\} \{\langle replacementpkgname \rangle\}$

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before `lwarp`.

```

101 \newcommand*{\LWR@earlyloadnever}[2]{%
102 \IfPackageLoadedTF{#1}{%
103 \LWR@loadnever{#1}{#2}%
104 }{}%
105 }

```

`\LWR@earlyclassloadnever`  $\{\langle badclassname \rangle\} \{\langle replacementclassname \rangle\}$

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before `lwarp`.

```

106 \newcommand*{\LWR@earlyclassloadnever}[2]{%
107 \IfClassLoadedTF{#1}{%
108 \PackageError{lwarp}
109 }{%
110 Class #1 is not supported\MessageBreak
111 by lwarp's HTML conversion%
112 \ifblank{#2}{}{%
113 .\MessageBreak
114 #2 may be useful instead%
115 }%

```

```

116 }
117 {%
118 Class #1 might conflict with lwarp in some way,\MessageBreak
119 or is superceded by another class.%
120 \ifblank{#2}{\}%
121 \MessageBreak
122 For a possible alternative, see #2.%
123 }%
124 }
125 }\relax}%
126 }

```

## 21.2 Error for disallowed packages and classes loaded before lwarp

`\LWR@checkloadnevers` Checks against a list of incompatible packages.

```

127 \newcommand*\LWR@checkloadnevers{
128 \LWR@checkloadnever{ae}{cm-super, lmodern}
129 \LWR@checkloadnever{aecc}{cm-super, lmodern}
130 \LWR@checkloadnever{alg}{algorithm2e, algorithmicx}
131 \LWR@checkloadnever{algorithmic}{algorithm2e, algorithmicx}
132 \LWR@checkloadnever{bitfield}{bytefield}
133 \LWR@checkloadnever{

```

`bxckjatype` is based on CJK:

```

134 \LWR@checkloadnever{bxckjatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

135 \LWR@checkloadnever{caption2}{caption}
136 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
137 \LWR@checkloadnever{colortab}{colortbl}
138 \LWR@checkloadnever{csvtools}{datatool}
139 \LWR@checkloadnever{doublespace}{setspace}
140 \LWR@checkloadnever{fancyheadings}{fancyhdr}
141 \LWR@checkloadnever{fncylab}{cleveref}
142 \LWR@checkloadnever{formula}{siunitx}
143 \LWR@checkloadnever{glossary}{glossaries}

```

`hangul` is not in TeXLive, and is not tested:

```

144 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}

145 \LWR@checkloadnever{hyper}{hyperref}
146 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}
147 \LWR@checkloadnever{newthm}{ntheorem}
148 \LWR@checkloadnever{pdfcprot}{microtype}
149 \LWR@checkloadnever{picins}{floatflt, wrapfig, wrapfig2}
150 \LWR@checkloadnever{rplain}{fancyhdr}
151 \LWR@checkloadnever{si}{siunitx}
152 \LWR@checkloadnever{sisstyle}{siunitx}
153 \LWR@checkloadnever{slashbox}{diagbox}
154 \LWR@checkloadnever{statex}{statex2}
155 \LWR@checkloadnever{tlenc}{fontenc, inputenc, inputenx}
156 \LWR@checkloadnever{ucs}{inputenc, inputencx}
157 \LWR@checkloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

The following may one day be supported by lwarp:

```

158 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
159 \LWR@checkloadnever{animate}{}
160 \LWR@checkloadnever{auto-pst-pdf}{}
161 \LWR@checkloadnever{auto-pst-pdf-lua}{}
162 \LWR@checkloadnever{algorithms}{}
163 \LWR@checkloadnever{arraycols}{}
164 \LWR@checkloadnever{bidi}{}
165 \LWR@checkloadnever{cals}{}

166 \LWR@checkloadnever{cellspace}{tbls}

167 \LWR@checkloadnever{cgloss4e}{}
168 \LWR@checkloadnever{collcell}{}
169 \LWR@checkloadnever{colophon}{}
170 \LWR@checkloadnever{cooltooltips}{}
171 \LWR@checkloadnever{covington}{}
172 \LWR@checkloadnever{crbox}{}
173 \LWR@checkloadnever{decision-table}{}
174 \LWR@checkloadnever{dvgloss}{}
175 \LWR@checkloadnever{ednotes}{}
176 \LWR@checkloadnever{edfnotes}{}
177 \LWR@checkloadnever{eledform}{}
178 \LWR@checkloadnever{eledmac}{}
179 \LWR@checkloadnever{embedfile}{}
180 \LWR@checkloadnever{endnotes-hy}{endnotes}
181 \LWR@checkloadnever{expex}{}
182 \LWR@checkloadnever{fancytooltips}{}
183 \LWR@checkloadnever{fixocgx}{}
184 \LWR@checkloadnever{flowfram}{}
185 \LWR@checkloadnever{gb4e}{}
186 \LWR@checkloadnever{gmverse}{}
187 \LWR@checkloadnever{graphbox}{}
188 \LWR@checkloadnever{graphicxbox}{}
189 \LWR@checkloadnever{hvfloat}{}
190 \LWR@checkloadnever{inline-images}{}
191 \LWR@checkloadnever{isorot}{rotating}
192 \LWR@checkloadnever{ledmac}{}
193 \LWR@checkloadnever{linguex}{}
194 \LWR@checkloadnever{longdiv}{}
195 \LWR@checkloadnever{longfigure}{}
196 \LWR@checkloadnever{longtabu}{}
197 \LWR@checkloadnever{mdwenv}{}
198 \LWR@checkloadnever{mdwlist}{}
199 \LWR@checkloadnever{mdwtab}{}
200 \LWR@checkloadnever{navigator}{}
201 \LWR@checkloadnever{nccpic}{}
202 \LWR@checkloadnever{nccsect}{}
203 \LWR@checkloadnever{newvbtm}{}
204 \LWR@checkloadnever{ocg-p}{}
205 \LWR@checkloadnever{ocgtools}{}
206 \LWR@checkloadnever{ocgx}{}
207 \LWR@checkloadnever{ocgx2}{}
208 \LWR@checkloadnever{parrun}{}
209 \LWR@checkloadnever{poemscol}{}
210 \LWR@checkloadnever{poetry}{}
211 \LWR@checkloadnever{program}{}
212 \LWR@checkloadnever{proofread}{}

```

```

213 \LWR@checkloadnever{pst-pdf}{}
214 \LWR@checkloadnever{refstyle}{}
215 \LWR@checkloadnever{robustindex}{}
216 \LWR@checkloadnever{robustglossary}{}
217 \LWR@checkloadnever{semionese}{}
218 \LWR@checkloadnever{slemp}{}
219 \LWR@checkloadnever{snotez}{sidenotes}
220 \LWR@checkloadnever{spacingtricks}{}
221 \LWR@checkloadnever{sverb}{verbatim, fancyvrb}
222 \LWR@checkloadnever{syntax}{}
223 \LWR@checkloadnever{tablists}{}
224 \LWR@checkloadnever{tabto}{}
225 \LWR@checkloadnever{tabu}{}
226 \LWR@checkloadnever{tabularht}{}
227 \LWR@checkloadnever{tabularkv}{}
228 \LWR@checkloadnever{thumby}{}
229 \LWR@checkloadnever{titles}{}
230 \LWR@checkloadnever{typehtml}{}
231 \LWR@checkloadnever{unicode-bidi}{}
232 \LWR@checkloadnever{vcell}{}
233 \LWR@checkloadnever{xhfill}{}
234 }

```

`\LWR@checkloadnever {<badpackagename>} {<replacementpkgname>}`

The first package is not supported, so tell the user to use the second instead.

When `lwarp` is first loaded, this is set to `\LWR@earlyloadnever` to check for incompatible packages which were loaded before `lwarp`. After `lwarp` is loaded, this is changed to `\LWR@afterloadnever` to check for incompatible packages during `\usepackage`.

```

235 \LetLtxMacro\LWR@checkloadnever\LWR@earlyloadnever

```

Now check for incompatible packages which have been loaded before `lwarp`:

```

236 \LWR@checkloadnevers

```

The older CJK and CJKutf8 only work with `xeCJK`:

```

237 \IfPackageLoadedTF{xeCJK}{}{
238 \LWR@checkloadnever{CJK}{ctex, xeCJK}
239 \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
240 }

```

Some classes do not work with `lwarp`:

```

241 \LWR@earlyclassloadnever{beamer}{beamerarticle}
242 \LWR@earlyclassloadnever{jarticle}{ujarticle}
243 \LWR@earlyclassloadnever{jbook}{ujbook}
244 \LWR@earlyclassloadnever{jreport}{ujreport}
245 \LWR@earlyclassloadnever{tarticle}{utarticle}
246 \LWR@earlyclassloadnever{tbook}{utbook}
247 \LWR@earlyclassloadnever{treport}{utreport}
248 \LWR@earlyclassloadnever{novel}{}
249 \LWR@earlyclassloadnever{powerdot}{}

```

## 21.3 Enforcing package loading after lwarp

Packages which should only be loaded after lwarp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after lwarp:

```

250 \LWR@loadafter{2in1}
251 \LWR@loadafter{2up}
252 \LWR@loadafter{a4}
253 \LWR@loadafter{a4wide}
254 \LWR@loadafter{a5comb}
255 \LWR@notmemoirloadafter{abstract}
256 \LWR@loadafter{academicons}
257 \LWR@loadafter{accents}
258 \LWR@loadafter{accessibility}
259 \LWR@loadafter{accsupp}
260 \LWR@loadafter{acro}
261 \LWR@loadafter{acronym}
262 \LWR@loadafter{adjmulticol}
263 \LWR@loadafter{addlines}
264 \LWR@loadafter{afterpage}
265 \LWR@loadafter{algorithm2e}
266 \LWR@loadafter{algorithmicx}
267 \LWR@loadafter{alltt}
268 \LWR@loadafter{amscdx}
269 % \LWR@loadafter{amsmath}% may be preloaded
270 % \LWR@loadafter{amsthm}% may be preloaded
271 \LWR@loadafter{anonchap}
272 \LWR@loadafter{anysize}
273 \LWR@notmemoirloadafter{appendix}
274 \LWR@loadafter{apxproof}
275 \LWR@loadafter{ar}
276 \LWR@loadafter{arabicfront}
277 % \LWR@notmemoirloadafter{array}% may be loaded by \DocumentMetadata
278 \LWR@loadafter{arydshln}
279 \LWR@loadafter{asymptote}
280 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
281 \LWR@loadafter{attachfile}
282 \LWR@loadafter{attachfile2}
283 \LWR@loadafter{authblk}
284 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
285 \LWR@loadafter{autobreak}
286 \LWR@loadafter{autonum}
287 \LWR@loadafter{awesomebox}
288 \LWR@loadafter{axessibility}
289 \LWR@loadafter{axodraw2}
290 \LWR@loadafter{backnaur}
291 \LWR@loadafter{backref}
292 \LWR@loadafter{balance}
293 \LWR@loadafter{bbding}
294 \LWR@loadafter{beamerarticle}
295 \LWR@loadafter{bigdelim}
296 \LWR@loadafter{bigfoot}
297 \LWR@loadafter{bigstrut}
298 \LWR@loadafter{bitpattern}
299 \LWR@loadafter{blowup}
300 \LWR@loadafter{bm}
301 \LWR@loadafter{booklet}

```

```
302 \LWR@loadafter{bookmark}
303 \LWR@notmemoirloadafter{booktabs}
304 \LWR@loadafter{bophook}
305 \LWR@loadafter{boundddvi}
306 \LWR@loadafter{boxedminipage}
307 \LWR@loadafter{boxedminipage2e}
308 \LWR@loadafter{braket}
309 \LWR@loadafter{breakurl}
310 \LWR@loadafter{breqn}
311 \LWR@loadafter{bsheaders}
312 \LWR@loadafter{bussproofs}
313 \LWR@loadafter{bypapersize}
314 \LWR@loadafter{bytefield}
315 \LWR@loadafter{ccicons}
316 \LWR@loadafter{cancel}
317 \LWR@loadafter{canoniclayout}
318 \LWR@loadafter{caption}
319 \LWR@loadafter{caption2}
320 \LWR@loadafter{caption3}
321 \LWR@loadafter{cases}
322 % catoptions is supported by the lwarp core
323 % \LWR@loadafter{ccaption}% may be preloaded by memoir
324 \LWR@loadafter{centerlastline}
325 % \LWR@loadafter{centernot}% may be preloaded by newtx
326 \LWR@loadafter{changebar}
327 \LWR@loadafter{changelayout}
328 \LWR@notmemoirloadafter{changepage}
329 \LWR@loadafter{changes}
330 \LWR@loadafter{chappg}
331 \LWR@loadafter{chapterbib}
332 \LWR@loadafter{chemfig}
333 \LWR@loadafter{chemformula}
334 \LWR@loadafter{chemgreek}
335 \LWR@loadafter{chemmacros}
336 \LWR@loadafter{chemnum}
337 \LWR@loadafter{chkfloat}
338 \LWR@notmemoirloadafter{chnpage}
339 \LWR@loadafter{cite}
340 \LWR@loadafter{citeref}
341 \LWR@loadafter{classicthesis}
342 \LWR@loadafter{cleveref}
343 % cmbright may be preloaded
344 \LWR@loadafter{cmdtrack}
345 \LWR@loadafter{colonequals}
346 \LWR@loadafter{color}
347 \LWR@loadafter{colortbl}
348 \LWR@loadafter{continue}
349 \LWR@loadafter{copyrightbox}
350 \LWR@notmemoirloadafter{crop}
351 % ctex must be loaded before lwarp
352 \LWR@loadafter{ctable}
353 \LWR@loadafter{cuted}
354 \LWR@loadafter{cutwin}
355 \LWR@loadafter{dblfloatfix}
356 \LWR@loadafter{dblfnote}
357 \LWR@notmemoirloadafter{dcolumn}
358 \LWR@loadafter{decimal}
359 \LWR@loadafter{decorule}
360 \LWR@loadafter{diagbox}
361 \LWR@loadafter{dingbat}
```

```
362 \LWR@loadafter{doipubmed}
363 \LWR@loadafter{DotArrow}
364 \LWR@loadafter{dotlessi}
365 \LWR@loadafter{dprogress}
366 \LWR@loadafter{draftcopy}
367 \LWR@loadafter{draftfigure}
368 \LWR@loadafter{draftwatermark}
369 \LWR@loadafter{drftcite}
370 \LWR@loadafter{easy-todo}
371 \LWR@loadafter{ebook}
372 \LWR@loadafter{econometrics}
373 \LWR@loadafter{ed}
374 \LWR@loadafter{ellipsis}
375 \LWR@loadafter{embrac}
376 \LWR@loadafter{emptypage}
377 \LWR@loadafter{endfloat}
378 \LWR@loadafter{endheads}
379 \LWR@loadafter{endnotes}
380 \LWR@loadafter{engtlc}
381 \LWR@loadafter{enotez}
382 \LWR@notmemoirloadafter{enumerate}
383 \LWR@loadafter{enumitem}
384 \LWR@notmemoirloadafter{epigraph}
385 \LWR@loadafter{epsf}
386 \LWR@loadafter{epsfig}
387 \LWR@loadafter{epstopdf}
388 \LWR@loadafter{epstopdf-base}
389 \LWR@loadafter{eqlist}
390 \LWR@loadafter{eqparbox}
391 \LWR@loadafter{errata}
392 \LWR@loadafter{eso-pic}
393 \LWR@loadafter{esvect}
394 \LWR@loadafter{etoc}
395 \LWR@loadafter{eurosym}
396 \LWR@loadafter{everypage}
397 % \LWR@loadafter{everyshi}% now in LaTeX core
398 \LWR@loadafter{extarrows}
399 \LWR@loadafter{extramarks}
400 \LWR@loadafter{fancybox}
401 \LWR@loadafter{fancyhdr}
402 \LWR@loadafter{fancypar}
403 \LWR@loadafter{fancyref}
404 \LWR@loadafter{fancytabs}
405 \LWR@loadafter{fancyvrb}
406 \LWR@loadafter{fbox}
407 \LWR@loadafter{fewerfloatpages}
408 \LWR@loadafter{figcaps}
409 \LWR@loadafter{figsize}
410 \LWR@loadafter{fitbox}
411 \LWR@loadafter{fix2col}
412 \LWR@loadafter{fixmath}
413 \LWR@loadafter{fixme}
414 \LWR@loadafter{fixmetodonotes}
415 \LWR@loadafter{flafter}
416 \LWR@loadafter{flippdf}
417 \LWR@loadafter{float}
418 \LWR@loadafter{floatflt}
419 \LWR@loadafter{floatpag}
420 \LWR@loadafter{floatrow}
421 \LWR@loadafter{fltrace}
```

```
422 \LWR@loadafter{flushend}
423 \LWR@loadafter{fnbreak}
424 \LWR@loadafter{fncychap}
425 \LWR@loadafter{fnlineno}
426 \LWR@loadafter{fnpara}
427 \LWR@loadafter{fnpos}
428 \LWR@loadafter{fontawesome}
429 \LWR@loadafter{fontawesome5}
430 % fontenc must be loaded before lwarp
431 % fontspec must be loaded before lwarp
432 \LWR@loadafter{footmisc}
433 \LWR@loadafter{footnote}
434 \LWR@loadafter{footnotebackref}
435 \LWR@loadafter{footnotehyper}
436 \LWR@loadafter{footnoterange}
437 \LWR@loadafter{footnpag}
438 \LWR@loadafter{foreign}
439 \LWR@loadafter{forest}
440 \LWR@loadafter{fouridx}
441 % fourier may be loaded before lwarp
442 \LWR@loadafter{framed}
443 \LWR@loadafter{froufrou}
444 \LWR@loadafter{ftcap}
445 \LWR@loadafter{ftnright}
446 \LWR@loadafter{fullminipage}
447 \LWR@loadafter{fullpage}
448 \LWR@loadafter{fullwidth}
449 \LWR@loadafter{fvextra}
450 \LWR@loadafter{fwlw}
451 \LWR@loadafter{gensymb}
452 \LWR@loadafter{gentombow}
453 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
454 \LWR@loadafter{ghsystem}
455 \LWR@loadafter{gindex}
456 \LWR@loadafter{glossaries}
457 \LWR@loadafter{gmeometric}
458 % \LWR@loadafter{graphics}% pre-loaded by xunicode
459 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
460 \LWR@loadafter{gloss}
461 \LWR@loadafter{glossary}
462 \LWR@loadafter{grffile}
463 \LWR@loadafter{grid}
464 \LWR@loadafter{grid-system}
465 \LWR@loadafter{gridset}
466 \LWR@loadafter{hang}
467 \LWR@loadafter{hanging}
468 \LWR@loadafter{hepunits}
469 \LWR@loadafter{hhline}
470 \LWR@loadafter{hhtensor}
471 \LWR@loadafter{hypbmsec}
472 \LWR@loadafter{hypcap}
473 \LWR@loadafter{hypdestopt}
474 \LWR@loadafter{hypernat}
475 \LWR@loadafter{hyperref}
476 \LWR@loadafter{hyperxmp}
477 \LWR@loadafter{hyphenat}
478 \LWR@loadafter{idxlayout}
479 \LWR@loadafter{ifoddpag}
480 \LWR@loadafter{imakeidx}
481 \LWR@loadafter{imphnatypo}
```

```
482 \LWR@notmemoirloadafter{index}
483 % inputenc must be loaded before lwarp
484 % inputenx must be loaded before lwarp
485 % inputtrc may be loaded before lwarp
486 \LWR@loadafter{intopdf}
487 \LWR@loadafter{isomath}
488 \LWR@loadafter{isotope}
489 \LWR@loadafter{jurabib}
490 \LWR@loadafter{karnaugh-map}
491 \LWR@loadafter{keyfloat}
492 \LWR@loadafter{keystroke}
493 % kpfonts may be loaded before lwarp
494 % kpfonts-otf may be loaded before lwarp
495 \LWR@loadafter{layaureo}
496 \LWR@loadafter{layout}
497 \LWR@loadafter{layouts}
498 \LWR@loadafter{leading}
499 \LWR@loadafter{leftidx}
500 \LWR@loadafter{letterspace}
501 \LWR@loadafter{letrine}
502 % libtintustlmath may be loaded before lwarp
503 \LWR@loadafter{lineno}
504 \LWR@loadafter{lips}
505 \LWR@loadafter{listings}
506 \LWR@loadafter{listliketab}
507 \LWR@loadafter{lltjp-siunitx}
508 \LWR@loadafter{lltjp-tascmac}
509 \LWR@loadafter{longtable}
510 \LWR@loadafter{lpic}
511 \LWR@loadafter{lscape}
512 \LWR@loadafter{ltablex}
513 \LWR@loadafter{ltxcaption}
514 \LWR@loadafter{ltxgrid}
515 \LWR@loadafter{ltxtable}
516 \LWR@loadafter{lua-check-hyphen}
517 \LWR@loadafter{lua-visual-debug}
518 \LWR@loadafter{luacolor}
519 \LWR@loadafter{luamplib}
520 \LWR@loadafter{luatodonotes}
521 \LWR@loadafter{luavlna}
522 \LWR@loadafter{lylualatex}
523 \LWR@loadafter{magaz}
524 \LWR@notmemoirloadafter{makeidx}
525 \LWR@loadafter{manyfoot}
526 \LWR@loadafter{marginfit}
527 \LWR@loadafter{marginfix}
528 \LWR@loadafter{marginnote}
529 \LWR@loadafter{marvosym}
530 % mathalpha may be loaded before lwarp
531 \LWR@loadafter{mathastext}
532 \LWR@loadafter{mathcomp}
533 \LWR@loadafter{mathdesign}
534 \LWR@loadafter{mathdots}
535 \LWR@loadafter{mathfixs}
536 \LWR@loadafter{mathpazo}
537 \LWR@loadafter{mathptmx}
538 \LWR@loadafter{mathspec}
539 \LWR@loadafter{mathtools}
540 \LWR@loadafter{mattens}
541 \LWR@loadafter{maybemath}
```

```
542 \LWR@loadafter{mcaption}
543 \LWR@loadafter{mdframed}
544 \LWR@loadafter{mdwmath}
545 \LWR@loadafter{media9}
546 \LWR@loadafter{memhfixc}
547 \LWR@loadafter{menukeys}
548 \LWR@loadafter{metalogo}
549 \LWR@loadafter{metalogoX}
550 \LWR@loadafter{mhchem}
551 \LWR@loadafter{microtype}
552 \LWR@loadafter{midfloat}
553 \LWR@loadafter{midpage}
554 \LWR@loadafter{minibox}
555 \LWR@loadafter{minitoc}
556 \LWR@loadafter{minted}
557 \LWR@loadafter{mismath}
558 \LWR@loadafter{mleftright}
559 % morefloats must be allowed early for print mode
560 \LWR@notmemoirloadafter{moreverb}
561 % morewrites must be loaded before lwarp
562 \LWR@notmemoirloadafter{movie15}
563 \LWR@notmemoirloadafter{mparhack}
564 \LWR@loadafter{multibib}
565 \LWR@loadafter{multicap}
566 %\LWR@loadafter{multicol}% loaded by ltxdoc
567 \LWR@loadafter{multicolrule}
568 \LWR@loadafter{multimedia}
569 \LWR@loadafter{multiobjective}
570 \LWR@loadafter{multirow}
571 \LWR@loadafter{multitoc}
572 \LWR@loadafter{musicography}
573 \LWR@loadafter{mwe}
574 \LWR@loadafter{nameauth}
575 \LWR@loadafter{natbib}
576 \LWR@notmemoirloadafter{nccfancyhdr}
577 \LWR@loadafter{nccfoots}
578 \LWR@loadafter{nccmath}
579 \LWR@notmemoirloadafter{needspace}
580 % newclude must be loaded before lwarp
581 % newpxmath may be preloaded
582 % newtxmath may be loaded before lwarp
583 % newtxsf may be loaded before lwarp
584 % newunicodechar must be loaded before lwarp
585 \LWR@notmemoirloadafter{nextpage}
586 \LWR@loadafter{nicefrac}
587 \LWR@loadafter{niceframe}
588 \LWR@loadafter{nicematrix}
589 \LWR@loadafter{noitcruL}
590 \LWR@loadafter{nolbreaks}
591 \LWR@loadafter{nomencl}
592 \LWR@loadafter{nonfloat}
593 \LWR@loadafter{nonumonpart}
594 \LWR@loadafter{nopageno}
595 \LWR@loadafter{notes}
596 \LWR@loadafter{notespages}
597 \LWR@loadafter{nowidow}
598 \LWR@loadafter{ntheorem}
599 \LWR@loadafter{octave}
600 \LWR@loadafter{orcidlink}
601 \LWR@loadafter{overpic}
```

```
602 \LWR@loadafter{pagegrid}
603 \LWR@notmemoirloadafter{pagenote}
604 \LWR@loadafter{pagesel}
605 \LWR@loadafter{paralist}
606 \LWR@loadafter{parallel}
607 \LWR@loadafter{parcolumns}
608 \LWR@loadafter{parnotes}
609 \LWR@notmemoirloadafter{parskip}
610 \LWR@loadafter{pbalance}
611 \LWR@loadafter{pbox}
612 \LWR@loadafter{pdfcol}
613 \LWR@loadafter{pdfcolfoot}
614 \LWR@loadafter{pdfcolmk}
615 \LWR@loadafter{pdfcolparallel}
616 \LWR@loadafter{pdfcolparcolumns}
617 \LWR@loadafter{pdfcomment}
618 \LWR@loadafter{pdfcrypt}
619 \LWR@loadafter{pdfscape}
620 \LWR@loadafter{pdfmarginpar}
621 \LWR@loadafter{pdfpages}
622 \LWR@loadafter{pdfprivacy}
623 \LWR@loadafter{pdfrender}
624 \LWR@loadafter{pdfsync}
625 \LWR@loadafter{pdftricks}
626 \LWR@loadafter{pdfx}
627 \LWR@loadafter{perpage}
628 \LWR@loadafter{pfnote}
629 \LWR@loadafter{phfqit}
630 \LWR@loadafter{physics}
631 \LWR@loadafter{physunits}
632 \LWR@loadafter{picinpar}
633 \LWR@loadafter{pifont}
634 \LWR@loadafter{pinlabel}
635 \LWR@loadafter{placeins}
636 \LWR@loadafter{plarray}
637 \LWR@loadafter{plarydshln}
638 \LWR@loadafter{plextarray}
639 \LWR@loadafter{plextarydshln}
640 \LWR@loadafter{plcolortbl}
641 \LWR@loadafter{plextdelarray}
642 \LWR@loadafter{plimsoll}
643 \LWR@loadafter{prelim2e}
644 \LWR@loadafter{prettyref}
645 \LWR@loadafter{preview}
646 \LWR@loadafter{psfrag}
647 \LWR@loadafter{psfragx}
648 \LWR@loadafter{pst-eps}
649 \LWR@loadafter{pstool}
650 \LWR@loadafter{pstricks}
651 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
652 \LWR@loadafter{pxeveryshi}
653 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
654 \LWR@loadafter{pxftnright}
655 \LWR@loadafter{pxjahyper}
656 \LWR@loadafter{pythontex}
657 \LWR@loadafter{quotchap}
658 \LWR@loadafter{quoting}
659 \LWR@loadafter{ragged2e}
660 \LWR@loadafter{refcheck}
661 \LWR@loadafter{register}
```

```
662 \LWR@loadafter{relsize}
663 \LWR@loadafter{repeatindex}
664 \LWR@loadafter{resizegather}
665 \LWR@loadafter{returntogrid}
666 \LWR@loadafter{rlepsf}
667 \LWR@loadafter{rmathbr}
668 \LWR@loadafter{rmpage}
669 \LWR@loadafter{romanbar}
670 \LWR@loadafter{romanbarpagenumber}
671 \LWR@loadafter{rotating}
672 \LWR@loadafter{rotfloat}
673 \LWR@loadafter{rviewport}
674 \LWR@loadafter{savetrees}
675 % scalefont is loaded by babel-french
676 \LWR@loadafter{scalereel}
677 \LWR@loadafter{schemata}
678 \LWR@loadafter{scrextend}
679 \LWR@loadafter{scrhack}
680 \LWR@loadafter{scrlayer}
681 \LWR@loadafter{scrlayer-notecolumn}
682 \LWR@loadafter{scrlayer-scrpage}
683 \LWR@loadafter{scrpage2}
684 \LWR@loadafter{section}
685 \LWR@loadafter{sectionbreak}
686 \LWR@loadafter{sectsty}
687 \LWR@loadafter{selectp}
688 \LWR@loadafter{semantic-markup}
689 \LWR@notmemoirloadafter{setspace}
690 \LWR@loadafter{shadow}
691 \LWR@loadafter{shapepar}
692 \LWR@notmemoirloadafter{showidx}
693 \LWR@loadafter{showlabels}
694 \LWR@loadafter{showkeys}
695 \LWR@loadafter{showtags}
696 \LWR@loadafter{shuffle}
697 \LWR@loadafter{sidecap}
698 \LWR@loadafter{sidenotes}
699 \LWR@loadafter{simplebnf}
700 \LWR@loadafter{SIunits}
701 \LWR@loadafter{siunitx}
702 \LWR@loadafter{siunitx-v2}
703 \LWR@loadafter{skmath}
704 \LWR@loadafter{slantsc}
705 \LWR@loadafter{slashed}
706 \LWR@loadafter{soul}
707 \LWR@loadafter{soulpos}
708 \LWR@loadafter{soulutf8}
709 \LWR@loadafter{splitbib}
710 \LWR@loadafter{splitidx}
711 \LWR@loadafter{srcltx}
712 \LWR@loadafter{srctex}
713 \LWR@loadafter{stabular}
714 \LWR@loadafter{stackengine}
715 \LWR@loadafter{stackrel}
716 \LWR@loadafter{statex2}
717 \LWR@loadafter{statistics}
718 \LWR@loadafter{statmath}
719 \LWR@loadafter{steinmetz}
720 \LWR@notltxloadafter{stfloats}
721 \LWR@loadafter{struktex}
```

```
722 \LWR@loadafter{subcaption}
723 \LWR@loadafter{subfig}
724 \LWR@loadafter{subfigure}
725 \LWR@loadafter{subsupscripts}
726 \LWR@loadafter{supertabular}
727 \LWR@loadafter{svg}
728 \LWR@loadafter{swfigure}
729 \LWR@loadafter{sympytex}
730 \LWR@loadafter{syntonly}
731 \LWR@loadafter{t1inc}
732 \LWR@loadafter{tabfigures}
733 \LWR@loadafter{tabls}
734 \LWR@loadafter{tablefootnote}
735 \LWR@notmemoirloadafter{tabularx}
736 \LWR@loadafter{tabulary}
737 %\LWR@loadafter{tagpdf}% no longer true
738 %\LWR@loadafter{tagpdf-mc-code-generic}
739 %\LWR@loadafter{tagpdf-mc-code-lua}
740 \LWR@loadafter{tascmac}
741 \LWR@loadafter{tcolorbox}
742 \LWR@loadafter{tensor}
743 \LWR@loadafter{termcal}
744 \LWR@loadafter{textarea}
745 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
746 \LWR@loadafter{textfit}
747 \LWR@loadafter{textpos}
748 \LWR@loadafter{theorem}
749 \LWR@loadafter{thinsp}
750 \LWR@loadafter{thm-listof}
751 \LWR@loadafter{thm-restate}
752 \LWR@loadafter{thmbox}
753 \LWR@loadafter{thmtools}
754 \LWR@loadafter{threadcol}
755 \LWR@loadafter{threeparttable}
756 \LWR@loadafter{threeparttablex}
757 \LWR@loadafter{thumb}
758 \LWR@loadafter{thumbs}
759 \LWR@loadafter{tikz}
760 \LWR@loadafter{tikz-image-labels}
761 \LWR@loadafter{titlesp}
762 \LWR@loadafter{titlesec}
763 \LWR@loadafter{titletoc}
764 \LWR@notmemoirloadafter{titling}
765 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
766 \LWR@notmemoirloadafter{tocbibind}
767 \LWR@loadafter{tocdata}
768 \LWR@loadafter{toccenter}
769 \LWR@notmemoirloadafter{tocloft}
770 \LWR@loadafter{tocstyle}
771 \LWR@loadafter{todo}
772 \LWR@loadafter{todonotes}
773 \LWR@loadafter{topcapt}
774 \LWR@loadafter{tram}
775 \LWR@loadafter{transparent}
776 \LWR@loadafter{trimclip}
777 \LWR@loadafter{trivfloat}
778 \LWR@loadafter{truncate}
779 \LWR@loadafter{turnthepage}
780 \LWR@loadafter{twoup}
781 % \LWR@loadafter{txfonts}% may be loaded before lwarp
```

```

782 % txgreek may be loaded before lwarp

783 % \LWR@loadafter{typearea}% preloaded by koma-script classes
784 \LWR@loadafter{typicons}
785 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
786 \LWR@loadafter{umoline}
787 \LWR@loadafter{underscore}
788 % unicode-math may be loaded before lwarp
789 \LWR@loadafter{units}
790 \LWR@loadafter{unitsdef}
791 \LWR@loadafter{upgreek}
792 \LWR@loadafter{upref}
793 \LWR@loadafter{url}
794 \LWR@loadafter{ushort}
795 \LWR@loadafter{uspace}
796 \LWR@loadafter{varioref}
797 \LWR@notmemoirloadafter{verse}
798 \LWR@loadafter{versionotes}
799 \LWR@loadafter{vertbars}
800 \LWR@loadafter{vmargin}
801 \LWR@loadafter{vowel}
802 \LWR@loadafter{vpe}
803 \LWR@loadafter{vwcol}
804 \LWR@loadafter{wallpaper}
805 \LWR@loadafter{watermark}
806 \LWR@loadafter{widetable}
807 \LWR@loadafter{widows-and-orphans}
808 \LWR@loadafter{witharrows}
809 \LWR@loadafter{wrapfig}
810 \LWR@loadafter{wrapfig2}
811 \LWR@loadafter{xbmks}
812 \LWR@loadafter{xcolor}
813 \LWR@loadafter{xexchangebar}
814 \LWR@loadafter{xellipsis}
815 % xetexko must be loaded before lwarp
816 \LWR@loadafter{xevlna}
817 \LWR@loadafter{xfakebold}
818 \LWR@loadafter{xfrac}
819 \LWR@loadafter{xltabular}
820 \LWR@loadafter{xltxtra}
821 \LWR@loadafter{xmpinl}
822 \LWR@loadafter{xpiano}
823 \LWR@loadafter{xpinyin}
824 \LWR@loadafter{xr}
825 \LWR@loadafter{xr-hyper}
826 \LWR@loadafter{xtab}
827 % xunicode must be loaded before lwarp
828 \LWR@loadafter{xurl}
829 \LWR@loadafter{xy}
830 \LWR@loadafter{zwpagelayout}

```

## 22 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

831 \newcommand{\LWR@mdfive}[1]{%
832 \PackageError{lwarp}

```

```

833 {No MD5 macro was found}
834 {%
835 Lwarp must find the macros \protect\pdfmdfivesum\space
836 or \protect\mdfivesum.%
837 }
838 }

```

The default for PDF L<sup>A</sup>T<sub>E</sub>X, DVI L<sup>A</sup>T<sub>E</sub>X, upL<sup>A</sup>T<sub>E</sub>X, etc:

```

839 \ifdef{\pdfmdfivesum}
840 {\let\LWR@mdfive\pdfmdfivesum}
841 {}

```

For LuaL<sup>A</sup>T<sub>E</sub>X:

```

842 \ifLuaTeX
843 \RequirePackage{pdftexcmds}
844 \let\LWR@mdfive\pdf@mdfivesum
845 \fi

```

For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X:

```

846 \ifXeTeX
847 \@ifundefined{pdf@fivesum}{}
848 {\let\LWR@mdfive\pdfmdfivesum}
849 \@ifundefined{mdfivesum}{}
850 {\let\LWR@mdfive\mdfivesum}
851 \fi

```

## 23 PDF L<sup>A</sup>T<sub>E</sub>X T1 and UTF-8 encoding

When using PDF L<sup>A</sup>T<sub>E</sub>X, lwarp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarp will try to use it instead, and hope for the best.

X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```

852 \newcommand*{\LWR@pdfencoding}{%
853 \RequirePackage[T1]{fontenc}
854
855 \IfPackageLoadedTF{inputenc}{}{
856 \IfPackageLoadedTF{inputenx}{}{
857 \RequirePackage[utf8]{inputenc}
858 }
859 }
860 }

861 \ifPDFTeX% pdflatex or dvi latex
862 \LWR@pdfencoding
863 \fi
864

```

```

865 \ifpTeX
866 \LWR@pdfencoding
867 \fi

```

## 24 Unicode input characters

for HTML & PRINT:

If using *pdf<sub>l</sub>atex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```

868 \ifpTeX
869 \else
870 \RequirePackage{newunicodechar}
871
872 \newunicodechar{×}{\texttimes}
873
874 \ifPDFTeX% pdflatex or dvilatex
875 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
876 \newunicodechar{fi}{fi}
877 \newunicodechar{fl}{fl}
878 \newunicodechar{ffi}{ffi}
879 \newunicodechar{ffl}{ffl}
880 \newunicodechar{-}{---}
881 \newunicodechar{-}{--}
882 \fi
883
884 \fi

```

## 25 Avoid a bitmapped font

If DVI or PDF  $\text{\LaTeX}$ , and if the default Computer Modern is the selected font family, ensure that `cm-super` or `lmodern` is used to provide a vector font.

```

885 \ifxetexorluatex
886 \else
887 \ifdefstring{\f@family}{cmr}{
888 \IfFileExists{typelec.sty}% found in cm-super
889 {}
890 {% cm-super not installed
891 \IfFileExists{lmodern.sty}{
892 \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
893 \RequirePackage{lmodern}
894 }{
895 \PackageError{lwarp}
896 {%
897 Lwarp requires a vector font.\MessageBreak
898 Install and load cm-super, lmodern, or another\MessageBreak
899 Type-1 vector font before loading lwarp.\MessageBreak
900 Enter 'H' for possible solutions%
901 }

```

```

902 {%
903 Install cm-super or lmodern.\MessageBreak
904 If lmodern, load it before lwarp:\MessageBreak
905 \space\space\protect\usepackage{lmodern}\MessageBreak
906 \space\space\protect\usepackage{lwarp}%
907 }
908 }
909 }% cm-super not installed
910 }{}% f@family
911 \fi

```

## 26 Upright quotes

In PDF T<sub>E</sub>X, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

912 \ifPDFTeX
913 \RequirePackage{upquote}
914 \fi
915
916 \ifpTeX
917 \RequirePackage{upquote}
918 \fi

```

## 27 Avoid bad font combinations

For X<sub>E</sub>L<sub>A</sub>T<sub>E</sub>X and LuaL<sub>A</sub>T<sub>E</sub>X, certain font combinations cause problems with `lwarp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```

919 \ifxetexorluatex
920 \AtBeginDocument{
921 \IfPackageLoadedTF{kpfonts}{
922 \PackageError{lwarp}
923 {%
924 When using XeLaTeX or LuaLaTeX,\MessageBreak
925 use kpfonts-otf instead of kpfonts%
926 }
927 }%
928 Replace: \protect\usepackage{kpfonts}\MessageBreak
929 with: \protect\usepackage{kpfonts-otf}
930 }
931 }{}
932 }
933 \fi

```

## 28 Miscellaneous tools

### 28.1 Variables

```

934 \newlength{\LWR@templengthone}

```

```

935 \newlength{\LWR@templengthtwo}
936 \newlength{\LWR@templengththree}
937 \newcounter{\LWR@tempcountone}

```

## 28.2 Lengths and units

`\LWR@providelength {<\lengthname>}` Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

938 \newcommand*\LWR@providelength[1]{%
939 \ifdeflength{#1}{\newlength{#1}}%
940 }

```

`\LWR@convertto {<dest unit>} {<length>}`

Prints a length in the given units, without printing the unit itself.

```

941 \newcommand*\LWR@convertto[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}

```

`\LWR@printpercentlength {<smaller>} {<larger>}`

Prints a percent ratio of the two lengths.

```

942 \newcommand*\LWR@printpercentlength[2]{%
943 \setcounter{\LWR@tempcountone}{100*\ratio{#1}{#2}}%
944 \arabic{\LWR@tempcountone}%
945 }

```

## 28.3 Counters

`\defaddtcounter {<name>} {<value>}`

Locally add to a counter.

```

946 \providecommand*\defaddtcounter[2]{%
947 \defcounter{#1}{\value{#1}+#2}%
948 }

```

## 28.4 Booleans

`\LWR@typeoutbool {<boolean>} {<message>}`

Types out the message and the boolean's value.

```

949 \newcommand*\LWR@typeoutbool[2]{%
950 \ifblank{#1}%
951 {%
952 \PackageError{\lwarp}%
953 {%
954 Boolean not given.\MessageBreak
955 Usage: \protect\LWR@printbool{boolean}{message}%

```

```

956 }%
957 {No more info.}%
958 }%
959 {%
960 \ifbool{#1}%
961 {\typeout{***** #2 #1 TRUE}}%
962 {\typeout{***** #2 #1 FALSE}}%
963 }%
964 }

```

`\LWR@printbool {<boolean>} {<message>}`

Types out the message and the boolean's value.

```

965 \newcommand*\LWR@printbool}[2]{%
966 \ifblank{#1}%
967 {%
968 \PackageError{lwarp}%
969 {%
970 Boolean not given.\MessageBreak
971 Usage: \protect\LWR@printbool{boolean}{message}%
972 }%
973 {No more info.}%
974 }%
975 {%
976 \ifbool{#1}%
977 {*** #2 #1 TRUE ***}%
978 {*** #2 #1 FALSE ***}%
979 }%
980 }

```

## 28.5 Patching macros

`\LWR@patcherror {<packagename>} {<macroname>}`

Prints an error if could not patch a macro.

```

981 \newcommand*\LWR@patcherror}[2]{%
982 \PackageError{lwarp}%
983 {%
984 Unable to patch package #1,\MessageBreak
985 macro \LWRbackslash #2.\MessageBreak
986 Lwarp or #1 may need to be updated%
987 }%
988 {Please contact the maintainer of the Lwarp package.}%
989 }

```

## 28.6 Copying macros

`\csNewCommandCopycs {<dest csname>} {<source csname>}`

Given a cs-name for each, copies a macro to a new definition.

```

990 \providecommand*\csNewCommandCopycs}[2]{%
991 \expandafter\NewCommandCopy\csname#1\expandafter\endcsname%

```

```

992 \csname#2\endcsname%
993 }

```

`\NewEnvironmentCopy`  $\{\langle dest \rangle\} \{\langle source \rangle\}$

Copies an environment to a new definition.

```

994 \providecommand*\NewEnvironmentCopy[2]{%
995 \csNewCommandCpypcs{#1}{#2}%
996 \csNewCommandCpypcs{end#1}{end#2}%
997 }

```

## 28.7 Chinese text isolation

`\LWR@isolate`  $\{\langle text \rangle\}$  Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```

998 \newcommand{\LWR@isolate}[1]{#1}%
999
1000 \IfPackageLoadedTF{ctexpatch}{
1001 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
1002 }{}
1003
1004 \IfPackageLoadedTF{xCJK}{
1005 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
1006 }{}

```

`\LWR@disablepinyin` Disable xpinyin during file, sideroc, and footnote generation. Set by xpinyin.

```

1007 \newcommand*\LWR@disablepinyin{}

```

## 28.8 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```

1008 \newcommand*\LWR@forceemptyline{%
1009 \LWR@origrule{0pt}{1\baselineskip}%
1010 \LWR@orignewline%
1011 }

```

## 28.9 Argument selection

`\LWR@thir dofthree`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\}$

`\LWR@fourth offfour`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@first offfive`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

`\LWR@second offfive`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

`\LWR@thirdoffive {<first>} {<second>} {<third>} {<fourth>} {<fifth>}`

`\LWR@fourthoffive {<first>} {<second>} {<third>} {<fourth>} {<fifth>}`

`\LWR@fifthoffive {<first>} {<second>} {<third>} {<fourth>} {<fifth>}`

Expands to the *nth* of the five arguments. Used for extra cross referencing.

```
1012 \long\def\LWR@thirdofthree#1#2#3{#3}%
1013 \long\def\LWR@fourthoffour#1#2#3#4{#4}%
1014
1015 \long\def\LWR@firstoffive#1#2#3#4#5{#1}
1016 \long\def\LWR@secondoffive#1#2#3#4#5{#2}
1017 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}
1018 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}
1019 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

`\LWR@edeffirstoffive {<first>} {<second>} {<third>} {<fourth>} {<fifth>} \edefs to the first of five arguments. Used for back referencing.`

```
1020 \long\def\LWR@edeffirstoffive#1#2#3#4#5{%
1021 \edef\@tempa{#1}%
1022 }%
```

## 28.10 Inside boxes

Greater than zero if currently inside a TeX box, thus should not use `\LWR@orignewpage`. See section 13.2.

```
1023 \newcounter{LWR@texboxdepth}
1024 \setcounter{LWR@texboxdepth}{0}
```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a TeX box. Avoids nested paragraph tags.

```
1025 \newcommand*{\LWR@maybe@orignewpage}{%
1026 \LWR@traceinfo{LWR@maybe@orignewpage}%
1027 \ifnumgreater{value{LWR@texboxdepth}}{0}%
1028 {}%
1029 {\LWR@orignewpage}%
1030 \LWR@traceinfo{LWR@maybe@orignewpage done}%
1031 }
```

## 28.11 Global boxes

`\LWR@gsavebox {<macroname>} {<contents>}`

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
1032 \DeclareRobustCommand\LWR@gsavebox[1]{%
1033 \@ifnextchar(%
1034 {\LWR@gsavepicbox#1}{\@ifnextchar[{\LWR@gsavebox#1}{\LWR@gsbox#1}}}%
1035 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
```

```

1036 \color@setgroup#2\color@endgroup}}
1037 \def\LWR@igsavebox#1[#2]{%
1038 \ifnextchar [{\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}}
1039 \long\def\LWR@igsavebox#1[#2][#3]#4{%
1040 \LWR@gsbox#1{\@makebox[#2][#3]{#4}}
1041 \def\LWR@igsavepicbox#1(#2,#3){%
1042 \@ifnextchar[%
1043 {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[]}}
1044 \long\def\LWR@igsavepicbox#1(#2,#3)[#4]#5{%
1045 \LWR@gsbox#1{\@makepicbox(#2,#3)[#4]{#5}}

```

`LWR@glrbox (env.)` {*<macroname>*}

```

1046 \def\LWR@glrbox#1{%
1047 \edef\reserved@a{%
1048 \endgroup
1049 \global\setbox#1\hbox{%
1050 \begingroup\aftergroup}%
1051 \def\noexpand\@currrent{\@currrent}%
1052 \def\noexpand\@currrentline{\@currrentline}%
1053 \reserved@a
1054 \@endpfalse
1055 \color@setgroup
1056 \ignorespaces}
1057 \let\LWR@endglrbox\LWR@endlrbox

```

## 28.12 Converting a macro name to a cs name

`\macrotoaname` {*<macro name with backslash>*}

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

1058 \newcommand*{\macrotoaname}[1]{%
1059 \ifcat\relax\noexpand#1%
1060 \expandafter\expandafter\expandafter\@gobble\expandafter\string
1061 \fi
1062 #1%
1063 }

```

## 28.13 Title case

`\LWRtexttitlecase`

```

1064 \ExplSyntaxOn
1065 \newcommand*{\LWRtexttitlecase}[1]{%
1066 \text_titlecase:n{#1}%
1067 }
1068 \ExplSyntaxOff

```

## 28.14 Absorbing a star

`\LWR@absorbstar {<csname>}`

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.

```

1069 \newcommand*{\LWR@absorbstar}[1]{%
1070 \csNewCommandCpycs{\LWR@origs@#1}{#1}%
1071 \expandafter\DeclareDocumentCommand\csname #1\endcsname{s}{%
1072 \csuse{\LWR@origs@#1}%
1073 }%
1074 }
```

## 29 Operating-System portability

- Unix (*Prog*)    `lwarp` tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and
- Mac OS (*Prog*)    MS-WINDOWS is supported as well.
- Linux (*Prog*)
- MS-Windows (*Prog*)    If MS-WINDOWS is not correctly detected, use the `lwarp` option `OSWindows`.
- Windows (*Prog*)    When detected or specified, the operating-system path separator used by `lwarp`
- OSWindows (*Opt*)    is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

### 29.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without `@` to easily allow their inclusion in the user’s document.

The literal `%` character:

```
1075 \let\LWRpercent\@percentchar
```

The literal `$` character:

```

1076 \catcode`\$=12
1077 \def\LWRdollar{$}
1078 \def\LWRdollar{$}% syntax highlighting
1079 \catcode`\$=3
```

The literal `&` character:

```

1080 \catcode`\&=12
1081 \def\LWRamp{&}
1082 \catcode`\&=4
```

The literal `\` character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```

1083 \catcode`\&=0
1084 &\catcode`\&=12
```

```

1085 &def&LWRbackslash{\}
1086 &catcode`\&=0
1087 \catcode`\&=4

```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```

1088 \catcode`\&=1
1089 \catcode`\{=12
1090 \def\LWRleftbrace&{
1091 \catcode`\{=1
1092 \catcode`\&=4

```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```

1093 \catcode`\&=2
1094 \catcode`\}=12
1095 \def\LWRrightbrace{&
1096 \catcode`\}=2
1097 \catcode`\&=4

```

The literal # character:

```

1098 \catcode`\#=12
1099 \def\LWRhash{#{
1100 \catcode`\#=6

```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```

1101 \def\LWRopquote{' }

```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```

1102 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}

```

## 29.2 Common portability code

`usingOSWindows` (*bool*) Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```

1103 \newbool{usingOSWindows}
1104 \boolfalse{usingOSWindows}

```

## 29.3 UNIX, LINUX, and Mac OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```

1105 \newcommand*{\OSPathSymbol}{/}

```

## 29.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the `OSWindows` option may also be used to force MS-WINDOWS compatibility.

```
1106 \newcommand*{\LWR@setOSWindows}
1107 {
1108 \booltrue{usingOSWindows}
1109 \renewcommand*{\OSPathSymbol}{\@backslashchar}
1110 \def\LWRopquote{"}
1111 \def\LWRopseq{\space\LWRamp\space\space}
1112 }
```

Test for windows during compile. The user may also specify `OSWindows` package option in case this test fails.

```
1113 \ifwindows
1114 \LWR@setOSWindows
1115 \fi
```

## 30 Package options

`kvoptions (Pkg)` Allows key/value package options.

```
1116 \RequirePackage{kvoptions}
1117 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

`\lwarpsetup` A user interface to set the keys:

```
1118 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

`warpingprint (bool)`

`warpingHTML (bool)`

`mathjax (bool)`

`LWR@origmathjax (bool)`

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

`LWR@origmathjax` remembers the original setting to be restored by `\displaymathnormal`.

```
1119 \newbool{warpingprint}
1120 \newbool{warpingHTML}
1121 \newbool{warpingdisabled}
1122 \newbool{mathjax}
1123 \newbool{LWR@origmathjax}
```

**defaults** The default is print output, and svg math if the user chose HTML output.

```
1124 \booltrue{warpingprint}%
1125 \boolfalse{warpingHTML}%
1126 \boolfalse{warpingdisabled}%
1127 \boolfalse{mathjax}%
```

`warpprint` (*Opt*) If the `warpprint` option is given, boolean `warpingprint` is true and boolean `warpingHTML` is false, and may be used for `\ifbool` tests.

```
1128 \DeclareVoidOption{warpprint}{%
1129 \PackageInfo{lwarp}{Using option 'warpprint'}
1130 \booltrue{warpingprint}%
1131 \boolfalse{warpingHTML}%
1132 }
```

`warpHTML` (*Opt*) Anything in the `warpHTML` environment will be generated for HTML output only.

`warpHTML` (*Opt*) If the `warpHTML` option is given, boolean `warpingHTML` is true and boolean `warpingprint` is false, and may be used for `\ifbool` tests.

```
1133 \DeclareVoidOption{warpHTML}{%
1134 \PackageInfo{lwarp}{Using option 'warpHTML'}%
1135 \booltrue{warpingHTML}%
1136 \boolfalse{warpingprint}%
1137 }
```

`warpdisable` (*Opt*) If the `warpdisable` option is given, boolean `warpingprint` will be forced true, and boolean `warpingHTML` will be forced false. This option may be used to disable almost all of `lwarp`, for testing purposes, even when requesting HTML.

```
1138 \DeclareVoidOption{warpdisable}{%
1139 \PackageInfo{lwarp}{Using option 'warpdisable'}
1140 \booltrue{warpingdisabled}%
1141 }
```

`mathsvg` (*Opt*) Option `mathsvg` selects SVG math display: If the `mathsvg` option is given, boolean `mathjax` is false, and may be used for `\ifbool` tests.

```
1142 \DeclareVoidOption{mathsvg}{%
1143 \PackageInfo{lwarp}{Using option 'mathsvg'}
1144 \boolfalse{mathjax}%
1145 \boolfalse{LWR@origmathjax}%
1146 }
```

`mathjax` (*Opt*) Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```
1147 \DeclareVoidOption{mathjax}{%
1148 \PackageInfo{lwarp}{Using option 'mathjax'}
1149 \booltrue{mathjax}%
1150 \booltrue{LWR@origmathjax}%
1151 }
```

`BaseJobname` (*Opt*) Option `BaseJobname` sets the `\BaseJobname` for this document.

Default: `\jobname`

This is the `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
1152 \DeclareStringOption[\jobname]{BaseJobname}
```

`ImagesDirectory` (*Opt*) Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.  
 Default: `\jobname-images`

```
1153 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

`ImagesName` (*Opt*) Option `ImagesName` sets the prefix to use for the `lateximage` images.  
 Default: `image-`

```
1154 \DeclareStringOption[image-]{ImagesName}
```

`makeindexStyle` (*Opt*) Selects a custom `.ist` file. A customized file should be based on `lwarp.ist`. See section 8.6.21.  
 Default: `lwarp.ist`

```
1155 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```

`xindyStyle` (*Opt*) Selects a custom `.xdy` file. A customized file should be based on `lwarp.xdy`. See section 8.6.22.  
 Default: `lwarp.xdy`

```
1156 \DeclareStringOption[lwarp.xdy]{xindyStyle}
```

`xindyLanguage` (*Opt*) Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.  
 Default: `english`

```
1157 \DeclareStringOption[english]{xindyLanguage}
```

`xindyCodepage` (*Opt*) Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.  
 Default: `utf8`

```
1158 \DeclareStringOption[utf8]{xindyCodepage}
```

`xindexConfig` (*Opt*) Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`. See section 8.6.23.  
 Default: `<empty>`

```
1159 \DeclareStringOption[]{xindexConfig}
```

`pdftotextEnc` (*Opt*) The option `pdftotextEnc` sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its `-enc` option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.  
 Default: `UTF-8`

```
1160 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

`lwarpmk` (*Opt*) Tells *lwarp* to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.

If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:

```
1161 \newbool{LWR@creatinglwarpmk}
1162 \boolfalse{LWR@creatinglwarpmk}
1163
1164 \DeclareVoidOption{lwarpmk}{
1165 \PackageInfo{lwarp}{Using option 'lwarpmk'}
1166 \booltrue{LWR@creatinglwarpmk}
1167 }
```

OSWindows (*Opt*) Tells **lwarp** to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
1168 \DeclareVoidOption{OSWindows}{
1169 \PackageInfo{lwarp}{Using option 'OSWindows'}
1170 \LWR@setOSWindows
1171 }
```

HomeHTMLFilename (*Opt*) The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.

Default: `\BaseJobname`

```
1172 \DeclareStringOption[]{HomeHTMLFilename}
```

HTMLFilename (*Opt*) The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.

Default: `<empty>`

```
1173 \DeclareStringOption[]{HTMLFilename}
```

PrintLatexCmd (*Opt*) The shell commands to use to compile the print document.

Default: `<automatic>`

```
1174 \DeclareStringOption[]{PrintLatexCmd}
```

HTMLLatexCmd (*Opt*) The shell commands to use to compile the HTML document.

Default: `<automatic>`

```
1175 \DeclareStringOption[]{HTMLLatexCmd}
```

PrintIndexCmd (*Opt*) The shell commands to use to compile the print indexes.

Default: `<empty>`

```
1176 \DeclareStringOption[]{PrintIndexCmd}
```

HTMLIndexCmd (*Opt*) The shell commands to use to compile the HTML indexes.

Default: `<empty>`

```
1177 \DeclareStringOption[]{HTMLIndexCmd}
```

LatexmkIndexCmd (*Opt*) The shell commands to be used by *latexmk* to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by *latexmk*.

Default: `<empty>`

```
1178 \DeclareStringOption[]{LatexmkIndexCmd}
```

makeindex (*Opt*) Tells **lwarp** to use *makeindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *makeindex* with a single index file.

```
1179 \DeclareBoolOption[false]{makeindex}
```

xindy (*Opt*) Tells **lwarp** to use *xindy* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindy* with a single index file.

```
1180 \DeclareBoolOption[false]{xindy}
```

`xindex` (*Opt*) Tells **lwarp** to use *xindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindex* with a single index file.

```
1181 \DeclareBoolOption[false]{xindex}
```

`IndexRef` (*Opt*) Tells **lwarp** how to display the index entries in HTML output. See section 7.5.

Default: `cref`

```
1182 \DeclareStringOption[cref]{IndexRef}
```

`GlossaryCmd` (*Opt*) The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.

Default: `makeglossaries`

```
1183 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

`latexmk` (*Opt*) Option `latexmk` tells **lwarpmk** to use *latexmk* when compiling documents.

```
1184 \DeclareBoolOption[false]{latexmk}
```

`dvips` (*Opt*) Option `dvips` tells **lwarpmk** to use *dvips* when compiling DVI *latex* documents.

```
1185 \DeclareBoolOption[false]{dvips}
```

`dvipdfm` (*Opt*) Option `dvipdfm` tells **lwarpmk** to use *dvipdfm* when compiling DVI *latex* documents.

```
1186 \DeclareBoolOption[false]{dvipdfm}
```

`dvipdfmx` (*Opt*) Option `dvipdfmx` tells **lwarpmk** to use *dvipdfmx* when compiling DVI *latex* documents.

```
1187 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
1188 \ProcessKeyvalOptions*\relax
```

If `warpdisable`, override other options:

```
1189 \ifbool{warpingdisabled}
1190 {
1191 \booltrue{warpingprint}
1192 \boolfalse{warpingHTML}
1193 \boolfalse{mathjax}
1194 }{}
```

### 30.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1195 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```

1196 \ifcseempty{LWR@HomeHTMLFilename}{
1197 \newcommand*{\HomeHTMLFilename}{\BaseJobname}
1198 }{
1199 \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1200 }
1201
1202 \csedef{HTMLFilename}{\LWR@HTMLFilename}

```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```

1203 \newcommand*{\LWR@sanitized}{}

```

`\LWR@sanitize` `{<text>}`

Sanitizes the text and returns the result in `\LWR@sanitized`.

```

1204 \newcommand*{\LWR@sanitize}[1]{%
1205 \edef\LWR@sanitized{#1}%
1206 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1207 }

```

Sanitize some string options to neutralize underscores.

```

1208 \LWR@sanitize{\LWR@BaseJobname}
1209 \edef\LWR@BaseJobname{\LWR@sanitized}
1210
1211 \LWR@sanitize{\LWR@ImagesDirectory}
1212 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1213
1214 \LWR@sanitize{\LWR@ImagesName}
1215 \edef\LWR@ImagesName{\LWR@sanitized}

```

`\LWR@PrintIndexCmd` and `\LWR@HTMLIndexCmd` are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the `lwarp xindy` option was selected, then likewise for *xindex* if the `xindex` option was selected.

```

1216 \ifdefempty{\LWR@PrintIndexCmd}{
1217 \renewcommand{\LWR@PrintIndexCmd}{%
1218 makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1219 }
1220 \ifbool{LWR@xindy}{
1221 \renewcommand{\LWR@PrintIndexCmd}{%
1222 xindy
1223 -M \LWR@xindyStyle \space
1224 -L \LWR@xindyLanguage \space
1225 -C \LWR@xindyCodepage \space
1226 \jobname.idx%
1227 }
1228 }{}
1229 \ifbool{LWR@xindex}{
1230 \ifdefvoid{\LWR@xindexConfig}{
1231 \renewcommand{\LWR@PrintIndexCmd}{%
1232 xindex

```

```

1233 \jobname.idx%
1234 }
1235 }{
1236 \renewcommand{\LWR@PrintIndexCmd}{%
1237 xindex
1238 -c \LWR@indexConfig \space
1239 \jobname.idx%
1240 }
1241 }
1242 }{}
1243 }{}
1244
1245 \ifdefempty{\LWR@HTMLIndexCmd}{
1246 \renewcommand{\LWR@HTMLIndexCmd}{%
1247 makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1248 }
1249 \ifbool{\LWR@xindy}{
1250 \renewcommand{\LWR@HTMLIndexCmd}{%
1251 xindy
1252 -M \LWR@xindyStyle \space
1253 -L \LWR@xindyLanguage \space
1254 -C \LWR@xindyCodepage \space
1255 \jobname_html.idx%
1256 }
1257 }{}
1258 \ifbool{\LWR@index}{
1259 \ifdefvoid{\LWR@indexConfig}{
1260 \renewcommand{\LWR@HTMLIndexCmd}{%
1261 xindex
1262 \jobname_html.idx%
1263 }
1264 }{
1265 \renewcommand{\LWR@HTMLIndexCmd}{%
1266 xindex
1267 -c \LWR@indexConfig \space
1268 \jobname_html.idx%
1269 }
1270 }
1271 }{}
1272 }{}
1273
1274 \ifdefempty{\LWR@LatexmkIndexCmd}{
1275 \renewcommand{\LWR@LatexmkIndexCmd}{%
1276 makeindex -s \LWR@makeindexStyle%
1277 }
1278 \ifbool{\LWR@xindy}{
1279 \renewcommand{\LWR@LatexmkIndexCmd}{%
1280 xindy
1281 -M \LWR@xindyStyle \space
1282 -L \LWR@xindyLanguage \space
1283 -C \LWR@xindyCodepage%
1284 }
1285 }{}
1286 \ifbool{\LWR@index}{
1287 \ifdefvoid{\LWR@indexConfig}{
1288 \renewcommand{\LWR@LatexmkIndexCmd}{%
1289 xindex
1290 }
1291 }{
1292 \renewcommand{\LWR@LatexmkIndexCmd}{%

```

```

1293 xindex
1294 -c \LWR@xindexConfig
1295 }
1296 }
1297 }{}
1298 }{}

```

## 30.2 Conditional compilation

`\warpprintonly {<contents>}`

Only process the contents if producing printed output.

```
1299 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

`\warpHTMLonly {<contents>}`

Only process the contents if producing HTML output.

```
1300 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

`comment (Pkg)` Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1301 \RequirePackage{comment}
```

`\LWR@includecomment {<env name>} {<partial filename>}`

`\LWR@excludecomment {<env name>} {<partial filename>}`

Use many `comment` cut files to avoid collision in case the user uses the `comment` package. Each filename is “comment\_#2.cut”. Based on the `comment` package.

```

1302 \def\LWR@includecomment
1303 #1#2{\message{Lwarp: Including comment '#1'}%
1304 \csarg\def{After#1Comment}{%
1305 \CloseAndInputCutFile%
1306 \csundef{LWR@#1commentused}%
1307 }
1308 \csarg\def{#1}{%
1309 \endgroup
1310 \ifcsdef{LWR@#1commentused}{
1311 \PackageError{lwarp}%
1312 {Nested #1 environment}%
1313 {%
1314 Environment #1 cannot be nested.\MessageBreak
1315 This can happen when a package is loaded
1316 from inside a\MessageBreak
1317 #1 environment.%
1318 }%
1319 }\relax}
1320 \csdef{LWR@#1commentused}{}
1321 \message{Including '#1' comment.}%

```

```

1322 \def\CommentCutFile{comment_#2.cut}
1323 \SetUpCutFile
1324 \ProcessComment{#1}
1325 }%
1326 \CommentEndDef{#1}
1327 }
1328
1329 \def\LWR@excludcomment
1330 #1#2{\message{Lwarp: Excluding comment '#1'}%
1331 \csarg\def{#1}{
1332 \endgroup
1333 \message{Excluding '#1' comment.}%
1334 \begingroup
1335 \def\CommentCutFile{comment_#2.cut}
1336 \def\ProcessCutFile{}%
1337 \def\ThisComment###1{}%
1338 \ProcessComment{#1}
1339 }%
1340 \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1341 \CommentEndDef{#1}}

```

`warpall (env.)` Anything in the `warpall` environment will be generated for print or HTML outputs.

```

1342 \LWR@includecomment{warpall}{all}

```

`warpHTML (env.)` For HTML output:

```

1343 \ifbool{warpingHTML}
1344 {\LWR@includecomment{warpHTML}{html}}
1345 {\LWR@excludcomment{warpHTML}{html}}

```

`warpprint (env.)` Anything in the `warpprint` environment will be generated for print output only.

```

1346 \ifbool{warpingprint}
1347 {\LWR@includecomment{warpprint}{print}}
1348 {\LWR@excludcomment{warpprint}{print}}

```

`warpMathJax (env.)` Only if MATHJAX is being used along with HTML.

```

1349 \begin{warpprint}
1350 \LWR@excludcomment{warpMathJax}{mathjax}
1351 \end{warpprint}
1352
1353 \begin{warpHTML}
1354 \ifbool{mathjax}
1355 {\LWR@includecomment{warpMathJax}{mathjax}}
1356 {\LWR@excludcomment{warpMathJax}{mathjax}}
1357 \end{warpHTML}

```

`warpsvg (env.)` Only if SVG math is being used along with HTML, or in print mode.

```

1358 \begin{warpprint}
1359 \LWR@includecomment{warpsvg}{mathsvg}
1360 \end{warpprint}
1361
1362 \begin{warpHTML}

```

```

1363 \ifbool{mathjax}
1364 {\LWR@excludacomment{warpsvg}{mathsvg}}
1365 {\LWR@includacomment{warpsvg}{mathsvg}}
1366 \end{warpHTML}

```

`LWRcreatelwarpmk` (*env.*) Optionally generate a local copy of *lwarpmk*. Default to no.

```

1367 \ifbool{LWR@creatinglwarpmk}
1368 {\LWR@includacomment{LWRcreatelwarpmk}{lwarpmk}}
1369 {\LWR@excludacomment{LWRcreatelwarpmk}{lwarpmk}}

```

## 31 Warn if using PDF tagging

```

1370 \begin{warpHTML}
1371 \IfPackageLoadedTF{tagpdf-base}% *88*
1372 {%
1373 \PackageError{lwarp}
1374 {%
1375 PDF tagging is not supported yet.\MessageBreak%
1376 Comment out \string\DocumentMetadata\space for HTML%
1377 }
1378 {Still in development!}
1379 }
1380 {}
1381 \end{warpHTML}

```

## 32 Required packages

These packages are automatically loaded by `lwarp` when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1382 \begin{warpHTML}

`fontspec` (*Pkg*) Load `fontspec` if necessary:

```

1383 \ifxetexorluatex
1384 \IfPackageLoadedTF{fontspec}{}{
1385 \usepackage[no-math]{fontspec}
1386 }

```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```

1387 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1388 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1389 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1390 \else

```

**pdf<sub>l</sub>atex only:** Only pre-loaded if *pdf<sub>l</sub>atex* is being used.

`microtype` (*Pkg*)

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash

and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```
1391 \RequirePackage{microtype}
1392
1393 \microtypesetup{
1394 protrusion=false,
1395 expansion=false,
1396 tracking=false,
1397 kerning=false,
1398 spacing=false}
```

Nullify a few macros:

```
1399 \renewcommand\leftprotrusion[1]{#1}
1400 \renewcommand\rightprotrusion[1]{#1}
```

Disable ligatures for typewriter fonts. The comma was causing issues with MATHJAX and \, followed by a comma. Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but are now allowed.

```
1401 \DisableLigatures{encoding = *,family = tt*}

1402 \fi

1403 \end{warpHTML}
```

*geometry (Pkg)* Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

**for HTML output:** 1404 \begin{warpHTML}

If *geometry* has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by `lwarp \AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```
1405 \IfPackageLoadedTF{geometry}
1406 {}{
1407 \RequirePackage[
1408 reset,
1409 paperwidth=\paperwidth,
1410 paperheight=\paperheight,
1411 textwidth=\textwidth,
1412 textheight=\textheight,
1413 left=\oddsidemargin,
1414 top=\topmargin,
1415 marginparsep=\marginparsep,
```

```

1416 marginparwidth=\marginparwidth,
1417]{geometry}
1418 }

```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `lwarp-geometry` will nullify the user-level originals.

```

1419 \LetLtxMacro\LWR@origgeometry\geometry
1420 \LetLtxMacro\LWR@orignewgeometry\newgeometry
1421 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1422 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1423 \LetLtxMacro\LWR@origloadgeometry\loadgeometry

```

`LWR@allowanothergeometry` `geometry` may be loaded by the user before `lwarp`, after `lwarp`, or not at all. If *(bool)* before `lwarp`, it will have already been loaded by now and its page layout has already been saved. If `geometry` is loaded after `lwarp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads `geometry`, `lwarp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergeometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```

1424 \newbool{LWR@allowanothergeometry}
1425 \booltrue{LWR@allowanothergeometry}

```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```

1426 \AtEndPreamble{

```

Whatever `geometry` choices the user has made in the preamble, either before or after `lwarp` was loaded, are now saved for possible temporary reuse, such as by `lyluatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```

1427 \LWR@origsavegeometry{LWR@usergeometry}

```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```

1428 \newlength{LWR@userspaperwidth}
1429 \setlength{LWR@userspaperwidth}{\paperwidth}
1430
1431 \newlength{LWR@userspaperheight}
1432 \setlength{LWR@userspaperheight}{\paperheight}
1433
1434 \newlength{LWR@usersmarginparwidth}
1435 \setlength{LWR@usersmarginparwidth}{\marginparwidth}
1436
1437 \newlength{LWR@userstextwidth}
1438 \setlength{LWR@userstextwidth}{\textwidth}
1439
1440 \newlength{LWR@userstextheight}
1441 \setlength{LWR@userstextwidth}{\textheight}

```

For **lwarp**, use a very large page and margins to help avoid letting HTML tags run off the edge:

```
1442 \LWR@origgeometry{
1443 reset,
1444 paperheight=190in,
1445 paperwidth=20in,
1446 left=2in,
1447 right=6in,
1448 top=1in,
1449 bottom=1in,
1450 heightrounded,%
1451 }
```

The **lwarp** page geometry is saved for future restore:

```
1452 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when **lwarp-geometry** is loaded `\AtBeginDocument`:

```
1453 \boolfalse{\LWR@allowanothergeometry}%
```

**ltjsbook** and other classes can print vertically, and require these to be reset by **lwarp**:

```
1454 \setlength{\textheight}{0.8\paperheight}
1455 \setlength{\textwidth}{0.7\paperwidth}
1456
1457 \@twosidefalse
1458 \@mparswitchfalse
1459 }% \AtEndPreamble
1460
1461 \end{warpHTML}
```

**for HTML & PRINT:** 1462 \begin{warpall}

`xparse (Pkg)`

L<sup>A</sup>T<sub>E</sub>X3 command argument parsing

```
1463 \IfFormatAtLeastTF{2020-10-01}{\RequirePackage{xparse}}
```

`calc (Pkg)`

```
1464 \RequirePackage{calc}
```

```
1465 \end{warpall}
```

**for HTML output:** 1466 \begin{warpHTML}

`expl3 (Pkg)`

L<sup>A</sup>T<sub>E</sub>X3 programming

```
1467 \RequirePackage{expl3}
```

`getttitlestring (Pkg)`

Used to emulate `\nameref`.

```
1468 \RequirePackage{getttitlestring}
1469
1470
1471 \end{warpHTML}
```

**for HTML & PRINT:** 1472 \begin{warpall}

filecontents (*Pkg*)

Used to write helper files while creating the print version.

Recent versions of L<sup>A</sup>T<sub>E</sub>X (as of Fall 2019) now include the functionality of the `filecontents` package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L<sup>A</sup>T<sub>E</sub>X kernel is used, the original `filecontents` package is used, but it is patched to throw away the new optional argument.

```
1473 \ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1474
1475 \RequirePackage{filecontents}
1476
1477 \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
1478
1479 \IfPackageAtLeastTF{filecontents}{2011/10/08}
1480 {
```

For a newer version of the `filecontents` package, simply discard the optional argument.

```
1481 \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
1482 }
1483 {% patch older package for morewrites
```

For an older version of `filecontents`, discard the optional argument, and also patch to work with `morewrites`, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```
1484 \newwrite\fcwrite
1485 \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]{%
1486 \def\chardef##1\write{\let\reserved@c\fcwrite}%
1487 \LWR@orig@filec@ntents%
1488 }
1489 }
1490
1491 }% older kernel
1492 {% newer kernel
```

For a newer kernel with a `filecontents` environment which accepts the optional `overwrite` argument, use the environment as-is.

```
1493 }% newer kernel, filecontents env accepts optional args, do not load package

1494 \end{warpall}
```

**for HTML output:** 1495 \begin{warpHTML}

`xifthen (Pkg)`

```
1496 \RequirePackage{xifthen}
```

`verbatim (Pkg)`

```
1497 \RequirePackage{verbatim}
```

`refcount (Pkg)`

Provides `\setcounterref`, `\setcounterpageref`, etc.

```
1498 \RequirePackage{refcount}
```

`newfloat (Pkg)`

```
1499 \RequirePackage{newfloat}
```

```
1500 \end{warpHTML}
```

**for HTML & PRINT:** 1501 `\begin{warpall}`

`xstring (Pkg)` There was a short-term bug in `xstring` regarding `\IfInteger` which affected `lwarp`'s index generation. The updated version is requested here.



**index**

```
1502 \RequirePackage{xstring}[2019/02/01]
```

`environ (Pkg)` Used to encapsulate math environments for re-use in HTML `<alt>` text.

```
1503 \RequirePackage{environ}
```

```
1504 \end{warpall}
```

**for HTML output:** 1505 `\begin{warpHTML}`

`printlen (Pkg)` Used to convert lengths for image width/height options.

```
1506 \RequirePackage{printlen}
```

`\LWR@printlength {<length>}`

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1507 \newrobustcmd*{\LWR@printlength}[1]{%
```

```
1508 \begingroup%
```

```
1509 \uselengthunit{PT}%
```

```
1510 \renewcommand*{\unitspace}{}%
```

```
1511 \ifdimless{#1}{10pt}{%
```

```
1512 \printlength{#1}%
```

```
1513 }{%
```

```
1514 \rndprintlength{#1}%
```

```
1515 }%
```

```
1516 \endgroup%
```

```
1517 }
```

```
1518 \end{warpHTML}
```

### 33 Loading packages

`\RequirePackage` and `\usepackage` are modified to error-check for certain packages, and for HTML they load the `lwarp-` version if it exists.

**for HTML & PRINT:** 1519 `\begin{warpall}`

Remember the original `\RequirePackage`:

```
1520 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
1521 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

`\LWR@requirepackagenames` Stores the list of required package names.

```
1522 \newcommand*\LWR@requirepackagenames{}
```

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1523 \newcommand*\LWR@parsedrequirepackagenames{}
```

`\LWR@nullifycomment` Remove the preexisting comment environment. Certain packages define it for their own use.

```
1524 \newcommand*\LWR@nullifycomment{%
1525 \PackageInfo{lwarp}%
1526 {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1527 \let\comment\relax%
1528 \let\endcomment\relax%
1529 }
```

`\LWR@findword` [*<1: separator>*] {<2: list>} {<3: index>} [*<4: destination>*]

Note that argument 4 is passed directly to `\StrBetween`.

```
1530 \newcommand*\LWR@findword[3][,]{%
1531 \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1532 }
```

`\LWR@checkloadnever` {<*bad package name*>} {<*replacement package names*>}

From now on, check for incompatible packages loaded via `\usepackage`, instead of packages loaded before `lwarp`:

```
1533 \LetLtxMacro\LWR@checkloadnever\LWR@afterloadnever
```

`\LWR@checkloadfilename` {<*filename*>} Checks if this filename should be loaded after `lwarp`, or never at all.

```
1534 \newcommand*\LWR@checkloadfilename[1]{%
```

Remember the package name to compare with, to be used by `\LWR@checkloadnever` and `\LWR@checkloadbefore`.

```
1535 \edef\LWR@tempone{#1}%
```

Check against the list of packages which should never be loaded:

```
1536 \LWR@checkloadnevers
```

The following should only be loaded before lwarp:

```
1537 \LWR@checkloadbefore{ctex}
1538 \LWR@checkloadbefore{fontspec}
1539 \LWR@checkloadbefore{inputenc}
1540 \LWR@checkloadbefore{inputenx}
1541 \LWR@checkloadbefore{nfssect-cfr}
1542 \LWR@checkloadbefore{fontaxes}
1543 \LWR@checkloadbefore{kotex}
1544 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1545 \LWR@checkloadbefore{luatexja}
1546 \LWR@checkloadbefore{luatexja-fontspec}
1547 \LWR@checkloadbefore{luatexko}
1548 \LWR@checkloadbefore{morewrites}
1549 \LWR@checkloadbefore{newclude}
1550 \LWR@checkloadbefore{newunicodechar}
1551 \LWR@checkloadbefore{plext}
1552 \LWR@checkloadbefore{xeCJK}
1553 \LWR@checkloadbefore{xetexko}
1554 \LWR@checkloadbefore{zxjatype}
1555 }
```

`\LWR@lookforpackagename`  $\{\langle index \rangle\}$

If HTML, and if this is an lwarp-supported package name, re-direct it to the lwarp version by renaming it lwarp- followed by the original name.

Looks index deep into the list of package names, `\LWR@requirepackagenames`, and builds `\LWR@parsedrequirepackagenames` which is the modified list of names.

```
1556 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the index'th package name from the list:

```
1557 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in `LWR@strresult` and the final name with no blanks goes into `LWR@strresulttwo`.

```
1558 \StrSubstitute[100]{\LWR@strresult}{ }{ }[\LWR@strresulttwo]%
```

See if the package name was found:

```
1559 \IfStrEq{\LWR@strresulttwo}{}%
1560 {}% no filename
1561 {% yes filename was found
```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```
1562 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1563 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

If HTML, check if the package should be loaded before lwarp, or never at all:

```
1564 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}
```

If HTML, and if found, and if an lwarp-equivalent name exists, use lwarp-\* instead.

```
1565 \ifboolexpr{
1566 bool{warpingHTML} and
1567 test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1568 }%
1569 {% lwarp-* file found
1570 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1571 \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1572 }{%
1573 \edef\LWR@parsedrequirepackagenames{%
1574 \LWR@parsedrequirepackagenames,lwarp-\LWR@strresulttwo%
1575 }%
1576 }%
1577 }%
1578 {% lwarp-* file not found
```

Otherwise, use the current package name.

```
1579 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1580 \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1581 }{%
1582 \edef\LWR@parsedrequirepackagenames{%
1583 \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1584 }%
1585 }%
1586 }% no lwarp-* file
1587 }% yes filename
1588 }
```

`\RequirePackage` [*<1: options>*] [*<2: package names>*] [*<3: version>*]

For each of many package names in a comma-separated list, if an lwarp version of a package exists, select it instead of the L<sup>A</sup>T<sub>E</sub>X version.

```
1589 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:<sup>17</sup>

```
1590 \renewcommand*{\LWR@requirepackagenames}{#2}%
1591 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1592 \LWR@lookforpackagename{1}%
1593 \LWR@lookforpackagename{2}%
1594 \LWR@lookforpackagename{3}%
1595 \LWR@lookforpackagename{4}%
1596 \LWR@lookforpackagename{5}%
1597 \LWR@lookforpackagename{6}%
1598 \LWR@lookforpackagename{7}%
1599 \LWR@lookforpackagename{8}%
1600 \LWR@lookforpackagename{9}%
1601 \LWR@lookforpackagename{10}%
1602 \LWR@lookforpackagename{11}%
```

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

```

1603 \LWR@lookforpackagename{12}%
1604 \LWR@lookforpackagename{13}%
1605 \LWR@lookforpackagename{14}%
1606 \LWR@lookforpackagename{15}%
1607 \LWR@lookforpackagename{16}%
1608 \LWR@lookforpackagename{17}%
1609 \LWR@lookforpackagename{18}%
1610 \LWR@lookforpackagename{19}%
1611 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

```

1612 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1613 {%
1614 \PackageError{lwarp}{%
1615 You used:\MessageBreak
1616 \protect\usepackage[#1]{#2}\MessageBreak
1617 Braces in the package options will fail with Lwarp.\MessageBreak
1618 Instead, use:\MessageBreak
1619 \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1620 \protect\usepackage{#2}\MessageBreak
1621 near the line number given below.\MessageBreak
1622 Enter 'h' for more info%
1623 }%
1624 {%
1625 See the Lwarp manual troubleshooting index entry for\MessageBreak
1626 ``package, options with braces''%
1627 }%
1628 }%
1629 {% no brace

```

\RequirePackage depending on the options and version:

```

1630 \IfValueTF{#1}%
1631 {% options given

```

The L<sup>A</sup>T<sub>E</sub>X3 key/value handler does not appear to expand the option argument, so it is pre-expanded here. This was a problem for mathspec, which passed options to fontspec.

```

1632 \edef\LWR@packageoptions{#1}%
1633 \IfValueTF{#3}% version given?
1634 {%
1635 \expandafter\LWR@origRequirePackage%
1636 \expandafter[\LWR@packageoptions]%
1637 {\LWR@parsedrequirepackagenames}[#3]%
1638 }%
1639 {%
1640 \expandafter\LWR@origRequirePackage%
1641 \expandafter[\LWR@packageoptions]%
1642 {\LWR@parsedrequirepackagenames}%
1643 }%
1644 }%
1645 {% no options given
1646 \IfValueTF{#3}% version given?
1647 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1648 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1649 }%

```

```

1650 }
1651 \LetLtxMacro\usepackage\RequirePackage
1652 \@onlypreamble\RequirePackage
1653 \@onlypreamble\usepackage

1654 \end{warppall}

```

for HTML output: 1655 \begin{warppHTML}

`\LWR@ProvidesPackagePass`  $\{\langle pkgnam e \rangle\} [\langle version \rangle]$

Uses the original package, including options.

```

1656 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1657 \PackageInfo{lwarp}{%
1658 Using package `#1',\MessageBreak
1659 and adding lwarp modifications, including options,\MessageBreak%
1660 }%
1661 \IfValueTF{#2}%
1662 {\ProvidesPackage{lwarp-#1}[#2]}%
1663 {\ProvidesPackage{lwarp-#1}}%
1664 \DeclareOption*{%
1665 \PassOptionsToPackage{\CurrentOption}{#1}%
1666 }%
1667 \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```

1668 \IfPackageLoadedTF{#1}{%
1669 \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1670 \IfValueTF{#2}%
1671 {%
1672 \expandafter\LWR@origRequirePackage%
1673 \expandafter[\LWR@tempone]{#1}[#2]%
1674 }%
1675 {%
1676 \expandafter\LWR@origRequirePackage%
1677 \expandafter[\LWR@tempone]{#1}%
1678 }%
1679 }{%
1680 \IfValueTF{#2}%
1681 {\LWR@origRequirePackage{#1}[#2]}%
1682 {\LWR@origRequirePackage{#1}}%
1683 }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1684 \DeclareOption*{%
1685 \ProcessOptions\relax%
1686 }

```

`\LWR@ProvidesPackageDropA`  $\{\langle name \rangle\} \{\langle date or -NoValue- \rangle\}$

Declares the package. Factored for reuse.

```

1687 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1688 \PackageInfo{lwarp}{%
1689 Replacing package `#1' with the lwarp version,\MessageBreak
1690 and discarding options,%
1691 }%
1692 \IfValueTF{#2}
1693 {\ProvidesPackage{lwarp-#1}[#2]}
1694 {\ProvidesPackage{lwarp-#1}}
1695 }
```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1696 \newcommand*{\LWR@ProvidesPackageDropB}{%
1697 % \ProcessOptions\relax% original LaTeX code
1698 \let\ds@\empty% from the original \ProcessOptions
1699 \edef\@curroptions{% lwarp modification to \ProcessOptions
1700 \@process@ptions\relax% from the original \ProcessOptions
1701 }
```

`\LWR@ProvidesPackageDrop` `{\<pkgname>}` `[\<version>]`

Ignores the original package and uses lwarp’s version instead. Drops/discards all options.

```

1702 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```

1703 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```

1704 \DeclareOption*{}
```

Process the options:

```

1705 \LWR@ProvidesPackageDropB
1706 }
```

```

1707 \end{warppHTML}
```

## 34 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1708 `\begin{warppall}`

`\LWR@quickfile` For quick temporary use only. This is reused in several places.

```

1709 \newwrite\LWR@quickfile%
```

```
1710 \end{warpall}
```

**for HTML output:** 1711 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1712 \newwrite\LWR@lateximagesfile
```

```
1713 \end{warpHTML}
```

## 35 Include a file

During HTML output, \include{<filename>} causes the following to occur:

1. lwarp creates <filename>\_html\_inc.tex whose contents are:  

```
\input <filename>.tex
```
2. <filename>\_html\_inc.tex is then \included instead of <filename>.tex.
3. <filename>\_html\_inc.aux is automatically generated and used by L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1714 \begin{warpHTML}

\include {<filename>} Modified to load \_html\_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```
1715 \def\@include#1 {%
1716 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1717 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1718 \immediate\closeout\LWR@quickfile% lwarp
1719 \LWR@maybe@orignewpage% changed from clearpage
1720 \if@files
1721 \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1722 \fi
1723 \@tempswattrue
1724 \if@partsw
1725 \@tempswafalse
1726 \edef\reserved@a{\@partlist\do
1727 {\ifx\reserved@a\reserved@b\@tempswattrue\fi}%
1728 \fi
1729 \fi
1730 \if@tempswa
1731 \let\@auxout\@partaux
1732 \if@files
1733 \immediate\openout\@partaux #1_html_inc.aux % changed
1734 \immediate\write\@partaux{\relax}%
1735 \fi
1736 \@input{#1_html_inc.tex}% changed
1737 \LWR@maybe@orignewpage% changed from clearpage
1738 \@writeckpt{#1}%
1739 \if@files
1740 \immediate\closeout\@partaux
```

```

1741 \fi
1742 \else
1743 \deadcycles\z@
1744 \@nameuse{cp@#1}%
1745 \fi
1746 \let\@auxout\@mainaux%
1747 }

1748 \end{warpHTML}

```

## 36 Copying a file

**for HTML output:** 1749 \begin{warpHTML}

\LWR@copyfile {<source filename>} {<destination filename>}

Used to copy the .toc file to .sidetoc to re-print the TOC in the sideroc navigation pane.

```

1750 \newwrite\LWR@copyoutfile % open the file to write to
1751 \newread\LWR@copyinfile % open the file to read from
1752
1753 \newcommand*{\LWR@copyfile}[2]{%
1754 \LWR@traceinfo{LWR@copyfile: copying #1 to #2}
1755
1756 \immediate\openout\LWR@copyoutfile=#2
1757 \openin\LWR@copyinfile=#1
1758 \begingroup\endlinechar=-1
1759 \makeatletter
1760
1761 \LWR@traceinfo{LWR@copyfile: about to loop}
1762
1763 \loop\unless\ifeof\LWR@copyinfile
1764 \LWR@traceinfo{LWR@copyfile: one line}
1765 \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1766 % \LWR@fileline\par % print the content into the pdf
1767 % print the content:
1768 \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1769 \repeat
1770 \immediate\closeout\LWR@copyoutfile
1771 \LWR@traceinfo{LWR@copyfile: done}
1772 \endgroup
1773 }

1774 \end{warpHTML}

```

## 37 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which <div> is closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

`\tracinglwarp`

**for HTML & PRINT:** 1775 `\begin{warpall}`

`LWR@tracinglwarp` (*bool*) True if tracing is turned on.

1776 `\newbool{LWR@tracinglwarp}`

`\tracinglwarp` Turns on the debug tracing messages.

1777 `\newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}`

`\LWR@traceinfo`  $\{\langle text \rangle\}$  If tracing is turned on, writes the text to the `.log` file.

```
1778 \newcommand{\LWR@traceinfo}[1]{%
1779 \ifbool{LWR@tracinglwarp}%
1780 {%
1781 \typeout{*** lwarp: #1}%
1782 }%
1783 {}%
1784 }
```

`HTMLDebugComments` (*bool*) Add comments in HTML about closing `<div>`s, sections, etc.

Default: `false`

```
1785 \newbool{HTMLDebugComments}
1786 \boolfalse{HTMLDebugComments}
```

If `\tracinglwarp`, show where preamble hooks occur:

```
1787 \AfterEndPreamble{
1788 \LWR@traceinfo{AfterEndPreamble}
1789 }
1790
1791 \AtBeginDocument{
1792 \LWR@traceinfo{AtBeginDocument}
1793 }

1794 \end{warpall}
```

## 38 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and may also be of some use for package authors to adapt their packages for `lwarp`. The following is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by  $\text{\LaTeX}$  and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print

version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro:** An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```
\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version to a new name `\LWR@print@<name>`, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using.

**For a preexisting environment:** The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}{...}

\LWR@formattedenv{name}
\end{warpHTML}
```

**For a new macro or environment:** The print version is defined inside `warpall`, so that it can also be seen and modified by during HTML output.

```
\begin{warpall}
\newcommand{\name}{...}% The print version.
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment, using `\formattedenv`.

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
  1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.

- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`. For an environment, `\endname` is directed to `\endLWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.
- Since the new `\name` does not process any arguments, they are processed by `\LWR@print@name` or `\LWR@HTML@name`.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a tabular, without which a “Misplaced \omit” error may occur.



**Misplaced \omit error**

```
\LWR@expandableformatted
\LWR@expandableformattedenv
```

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

Print or disabled versions:

**for HTML & PRINT:** 1795 `\begin{warpall}`

```
1796 \newcommand*{\LWR@formatted}[1]{}
1797 \newcommand*{\LWR@expandableformatted}[1]{}
1798 \newcommand*{\LWR@formattedenv}[1]{}
1799 \newcommand*{\LWR@expandableformattedenv}[1]{}
1800 \end{warpall}
```

**for HTML output:** HTML versions:

```
1801 \begin{warpHTML}
```

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

```
1802 \newcommand*{\LWR@formatting}{HTML}
```

`\LWR@formatted@checkname` `{\langle name \rangle}`

Verify that a print and HTML version exist.

```
1803 \newcommand*{\LWR@formatted@checkname}[1]{%
1804 \ifcsundef{#1}{%
1805 \ifcsundef{LWR@print@#1}{%
1806 \PackageError{lwarp}
1807 {%
```

```

1808 \LWRbackslash#1 or \protect\LWR@print@#1\MessageBreak
1809 must be defined before using \protect\LWR@formatted, etc%
1810 }
1811 {Perhaps #1 is misspelled.}
1812 }{\relax}%
1813 }{\relax}%
1814 \ifcsundef\LWR@HTML@#1{%
1815 \PackageError{lwarp}
1816 {%
1817 \protect\LWR@HTML@#1 must be defined
1818 before using \protect\LWR@formatted, etc%
1819 }
1820 {Perhaps #1 is misspelled.}
1821 }{\relax}%
1822 }

```

\LWR@formatted@checkendname {<name>}

```

1823 \newcommand*\LWR@formatted@checkendname}[1]{%
1824 \ifcsundef{end#1}{%
1825 \ifcsundef{endLWR@print@#1}{%
1826 \PackageError{lwarp}
1827 {%
1828 \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
1829 must be defined before using \protect\LWR@formatted, etc%
1830 }
1831 {Perhaps #1 is misspelled.}
1832 }{\relax}%
1833 }{\relax}%
1834 \ifcsundef{endLWR@HTML@#1}{%
1835 \PackageError{lwarp}
1836 {%
1837 \protect\endLWR@HTML@#1 must be defined
1838 before using \protect\LWR@formatted, etc%
1839 }
1840 {Perhaps #1 is misspelled.}
1841 }{\relax}%
1842 }

```

\LWR@formatted {<macroname>}      No backslash in the macro name.

If not yet defined, defines \LWR@print@<name> as the original print-mode \<name>. Also redefines \<name> to use \LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```

1843 \renewcommand*\LWR@formatted}[1]{%
1844 \LWR@formatted@checkname{#1}%
1845 \ifcsundef\LWR@print@#1{%
1846 \csNewCommandCpycs\LWR@print@#1}{#1}%
1847 }{%
1848 \ifcsundef{#1}{%
1849 \expandafter\newrobustcmd\csname #1\endcsname{%
1850 \@nameuse{LWR@LWR@formatting @#1}%
1851 }%
1852 }{%
1853 \expandafter\renewrobustcmd\csname #1\endcsname{%
1854 \@nameuse{LWR@LWR@formatting @#1}%
1855 }%

```

```
1856 }%
1857 }
```

`\LWR@expandableformatted {<macroname>}` No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```
1858 \renewcommand*{\LWR@expandableformatted}[1]{%
1859 \LWR@formatted@checkname{#1}%
1860 \ifcsundef{LWR@print@#1}{%
1861 \csNewCommandCopy{LWR@print@#1}{#1}%
1862 }{}%
1863 \ifcsundef{#1}{%
1864 \expandafter\newcommand\csname #1\endcsname{%
1865 \@nameuse{LWR@\LWR@formatting @#1}%
1866 }%
1867 }{}%
1868 \expandafter\renewcommand\csname #1\endcsname{%
1869 \@nameuse{LWR@\LWR@formatting @#1}%
1870 }%
1871 }%
1872 }
```

`\LWR@formattedenv {<environmentname>}`

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```
1873 \renewcommand*{\LWR@formattedenv}[1]{%
1874 \LWR@formatted@checkname{#1}%
1875 \LWR@formatted@checkendname{#1}%
1876 \ifcsundef{LWR@print@#1}{%
1877 \NewEnvironmentCopy{LWR@print@#1}{#1}%
1878 }{}%
1879 \DeclareDocumentEnvironment{#1}{}%
1880 {%
1881 \@nameuse{LWR@\LWR@formatting @#1}%
1882 }%
1883 {%
1884 \@nameuse{endLWR@\LWR@formatting @#1}%
1885 }%
1886 }
```

`\LWR@expandableformattedenv {<environmentname>}`

An expandable version of `LWR@formattedenv`.

```
1887 \renewcommand*{\LWR@expandableformattedenv}[1]{%
1888 \LWR@formatted@checkname{#1}%
1889 \LWR@formatted@checkendname{#1}%
1890 \ifcsundef{LWR@print@#1}{%
1891 \NewEnvironmentCopy{LWR@print@#1}{#1}%
1892 }{}%
1893 \DeclareExpandableDocumentEnvironment{#1}{}%
1894 {%
```

```

1895 \@nameuse{LWR@LWR@formatting @#1}%
1896 }%
1897 {%
1898 \@nameuse{endLWR@LWR@formatting @#1}%
1899 }%
1900 }

1901 \end{warpHTML}

```

## 39 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1902 \begin{warppall}

### 39.1 User-level controls

**FormatEPUB** (*bool*) Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

**Default:** false

```

1903 \newbool{FormatEPUB}
1904 \boolfalse{FormatEPUB}

```

**FormatWP** (*bool*) Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

**Default:** false

```

1905 \newbool{FormatWP}
1906 \boolfalse{FormatWP}

```

**WPMarkFloats** (*bool*) Adds

**Default:** false

```

=== begin table ===
...
=== end ===

or

=== begin figure ===
...
=== end ===

```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions. <sup>18</sup>

```

1907 \newbool{WPMarkFloats}
1908 \boolfalse{WPMarkFloats}

```

**WPMarkMinipages** (*bool*) Adds

**Default:** false

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

```

=== begin minipage ===
. . .
=== end minipage ===

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```

1909 \newbool{WPMarkMinipages}
1910 \boolfalse{WPMarkMinipages}

```

WPMarkTOC (*bool*) While formatting for word processors, adds

Default: true

```

=== table of contents ===

```

where the Table of Contents would have been. This helps identify where to insert the actual toc.

*If set false, the actual toc is printed instead.*

```

1911 \newbool{WPMarkTOC}
1912 \booltrue{WPMarkTOC}

```

WPMarkLOFT (*bool*) While formatting for word processors, adds

Default: false

```

=== list of figures === and/or
=== list of tables ===

```

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

```

1913 \newbool{WPMarkLOFT}
1914 \boolfalse{WPMarkLOFT}

```

WPMarkMath (*bool*) While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

Default: false

```

1915 \newbool{WPMarkMath}
1916 \boolfalse{WPMarkMath}

```

WPTitleHeading (*bool*) While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

Default: false

See table 11 on page 192.

```

1917 \newbool{WPTitleHeading}
1918 \boolfalse{WPTitleHeading}

```

```

1919 \end{warpall}

```

## 39.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

**for HTML output:** 1920 \begin{warpHTML}

```

1921 \AtBeginDocument{
1922 \LWR@traceinfo{AtBeginDocument tags}
1923 \ifbool{FormatWP}{
1924 \@ifundefined{chapter}{
1925 \ifbool{WPTitleHeading}{% part and section starting at h2
1926 \renewcommand*\LWR@tagtitle}{h1}
1927 \renewcommand*\LWR@tagtitleend}{/h1}
1928 \renewcommand*\LWR@tagpart}{h2}
1929 \renewcommand*\LWR@tagpartend}{/h2}
1930 \renewcommand*\LWR@tagsection}{h3}
1931 \renewcommand*\LWR@tagsectionend}{/h3}
1932 \renewcommand*\LWR@tagsubsection}{h4}
1933 \renewcommand*\LWR@tagsubsectionend}{/h4}
1934 \renewcommand*\LWR@tagsubsubsection}{h5}
1935 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1936 \renewcommand*\LWR@tagparagraph}{h6}
1937 \renewcommand*\LWR@tagparagraphend}{/h6}
1938 \renewcommand*\LWR@tagsubparagraph}{%
1939 span class=\textquotedbl{}subparagraph\textquotedbl%
1940 }
1941 \renewcommand*\LWR@tagsubparagraphend}{/span}
1942 }% WPTitleHeading
1943 {% not WPTitleHeading, part and section starting at h1
1944 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1945 \renewcommand*\LWR@tagtitleend}{/div}
1946 \renewcommand*\LWR@tagpart}{h1}
1947 \renewcommand*\LWR@tagpartend}{/h1}
1948 \renewcommand*\LWR@tagsection}{h2}
1949 \renewcommand*\LWR@tagsectionend}{/h2}
1950 \renewcommand*\LWR@tagsubsection}{h3}
1951 \renewcommand*\LWR@tagsubsectionend}{/h3}
1952 \renewcommand*\LWR@tagsubsubsection}{h4}
1953 \renewcommand*\LWR@tagsubsubsectionend}{/h4}
1954 \renewcommand*\LWR@tagparagraph}{h5}
1955 \renewcommand*\LWR@tagparagraphend}{/h5}
1956 \renewcommand*\LWR@tagsubparagraph}{h6}
1957 \renewcommand*\LWR@tagsubparagraphend}{/h6}
1958 }% not WPTitleHeading
1959 }% chapter undefined
1960 {% chapter defined
1961 \ifbool{WPTitleHeading}{
1962 {% not WPTitleHeading, part and chapter starting at h1
1963 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1964 \renewcommand*\LWR@tagtitleend}{/div}
1965 \renewcommand*\LWR@tagpart}{h1}
1966 \renewcommand*\LWR@tagpartend}{/h1}
1967 \renewcommand*\LWR@tagchapter}{h2}
1968 \renewcommand*\LWR@tagchapterend}{/h2}
1969 \renewcommand*\LWR@tagsection}{h3}
1970 \renewcommand*\LWR@tagsectionend}{/h3}
1971 \renewcommand*\LWR@tagsubsection}{h4}
1972 \renewcommand*\LWR@tagsubsectionend}{/h4}
1973 \renewcommand*\LWR@tagsubsubsection}{h5}
1974 \renewcommand*\LWR@tagsubsubsectionend}{/h5}

```

```

1975 \renewcommand*\LWR@tagparagraph}{h6}
1976 \renewcommand*\LWR@tagparagraphend}{/h6}
1977 \renewcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1978 \renewcommand*\LWR@tagsubparagraphend}{/span}
1979 }% not WPTitleHeading
1980 }% chapter defined
1981 }{}% FormatWP
1982 }% AtBeginDocument

1983 \end{warpHTML}

```

## 40 Remembering original formatting macros

for HTML output: 1984 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any `lateximage` environment and inside a `tabbing` environment. Also nullify unused commands.

Some packages redefine `\#`, which is used to generate HTML, so the original must be remembered here.

```

1985 \chardef\LWR@origpound=\#

1986 \let\LWR@origcomma\,
1987 \let\LtxMacro\LWR@origtilde~
1988 \let\LtxMacro\LWR@orignobreakspace\nobreakspace
1989 \let\LWR@origfil\hfil
1990 \let\LWR@orighss\hss
1991 \let\LWR@origllap\llap
1992 \let\LWR@origrlap\rlap
1993 \let\LWR@origfilneg\hfilneg
1994 \let\LWR@orighspace\hspace
1995
1996 \let\LWR@origrule\rule
1997
1998 \let\LWR@origmedskip\medskip
1999 \let\LWR@origbigskip\bigskip

```

`libertinus-otf` has too much kerning for `\textquotedbl`, causing an extra space.

```

2000 \let\LtxMacro\LWR@orig@@textquotedbl\textquotedbl
2001 \let\LtxMacro\LWR@orig@textquotedbl\LWR@orig@@textquotedbl
2002
2003 \AtEndPreamble{
2004 \IfPackageLoadedTF{libertinus-otf}{
2005 \renewcommand*\LWR@orig@textquotedbl{\LWR@orig@@textquotedbl\kern-.15em}
2006 \let\LtxMacro\textquotedbl\LWR@orig@textquotedbl
2007 }{}
2008 }

2009 \let\LtxMacro\LWR@origttfamily\ttfamily
2010
2011 \let\LtxMacro\LWR@origem\em
2012

```

```

2013 \LetLtxMacro\LWR@orignormalfont\normalfont
2014
2015 \let\LWR@origonecolumn\onecolumn
2016
2017 \let\LWR@origsp\sp
2018 \let\LWR@origsb\sbs
2019
2020 \LetLtxMacro\LWR@origunderline\underline

2021 \let\LWR@orignewpage\newpage
2022
2023 \let\LWR@origpagestyle\pagestyle
2024 \let\LWR@origthispagestyle\thispagestyle
2025 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
2026
2027 \let\LWR@orignewline\newline
2028
2029 \AtBeginDocument{% in case packages change definitions
2030 \LWR@traceinfo{AtBeginDocument lists}
2031 \let\LWR@orig@trivlist\@trivlist
2032 \let\LWR@origtrivlist\trivlist
2033 \let\LWR@origendtrivlist\endtrivlist
2034 \LetLtxMacro\LWR@origitem\item
2035 \LetLtxMacro\LWR@origitemize\itemize
2036 \LetLtxMacro\LWR@endorigitemize\enditemize
2037 \LetLtxMacro\LWR@origenumerate\enumerate
2038 \LetLtxMacro\LWR@endorigenumerate\endenumerate
2039 \LetLtxMacro\LWR@origdescription\description
2040 \LetLtxMacro\LWR@endorigdescription\enddescription
2041 \let\LWR@orig@mklab\@mklab
2042 \let\LWR@origmakelabel\makelabel
2043 \let\LWR@orig@donoparitem\@donoparitem
2044 \LetLtxMacro\LWR@orig@item\@item
2045 \let\LWR@orig@nbititem\@nbititem
2046 }
2047
2048 \let\LWR@origpar\par
2049
2050 \LetLtxMacro\LWR@origfootnote\footnote
2051 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
2052
2053
2054 \AtBeginDocument{% in case packages change definition
2055 \LetLtxMacro\LWR@orighline\hline%
2056 \LetLtxMacro\LWR@origcline\cline%
2057 }

2058 \end{warpHTML}

```

## 41 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as `\`" will work, but many more kinds of accents are available when using Unicode-aware X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X. If using accents in section names which will become file names, it is recommended to use the L<sup>A</sup>T<sub>E</sub>X accents such as `\`" and `\v` instead of Unicode accents. The L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

for HTML output: 2059 \begin{warpHTML}

Without \AtBeginDocument, \t was being re-defined somewhere.

```
2060 \AtBeginDocument{
2061 \LWR@traceinfo{\AtBeginDocument accents}
```

The following are restored for print when inside a lateximage.

For Unicode engines, only \t needs to be redefined:

```
2062 \LetLtxMacro\LWR@origtie\t
```

For PDF L<sup>A</sup>T<sub>E</sub>X, additional work is required:

```
2063 \ifPDFTeX% pdflatex or dvi latex
2064 \LetLtxMacro\LWR@origgraveaccent`\`
2065 \LetLtxMacro\LWR@origacuteaccent\'
2066 \LetLtxMacro\LWR@origcircumflexaccent\^
2067 \LetLtxMacro\LWR@origtildeaccent\~
2068 \LetLtxMacro\LWR@origmacronaccent\=
2069 \LetLtxMacro\LWR@origbreve\u
2070 \LetLtxMacro\LWR@origdotaccent\.
2071 \LetLtxMacro\LWR@origdiaeresisaccent\"
2072 \LetLtxMacro\LWR@origdoubleacuteaccent\H
2073 \LetLtxMacro\LWR@origcaronaccent\v
2074 \LetLtxMacro\LWR@origdotbelowaccent\d
2075 \LetLtxMacro\LWR@origcedillaaccent\c
2076 \LetLtxMacro\LWR@origmacronbelowaccent\b
```

The HTML redefinitions follow.

For PDF L<sup>A</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```
2077 \renewcommand*{\`}[1]{\#1\HTMLUnicode{0300}}
2078 \renewcommand*{\'}[1]{\#1\HTMLUnicode{0301}}
2079 \renewcommand*{\^}[1]{\#1\HTMLUnicode{0302}}
2080 \renewcommand*{\~}[1]{\#1\HTMLUnicode{0303}}
2081 \renewcommand*{\=}[1]{\#1\HTMLUnicode{0304}}
2082 \renewcommand*{\u}[1]{\#1\HTMLUnicode{0306}}
2083 \renewcommand*{\.}[1]{\#1\HTMLUnicode{0307}}
2084 \renewcommand*{\"}[1]{\#1\HTMLUnicode{0308}}
2085 \renewcommand*{\H}[1]{\#1\HTMLUnicode{030B}}
2086 \renewcommand*{\v}[1]{\#1\HTMLUnicode{030C}}
2087 \renewcommand*{\d}[1]{\#1\HTMLUnicode{0323}}
2088 \renewcommand*{\c}[1]{\#1\HTMLUnicode{0327}}
2089 \renewcommand*{\b}[1]{\#1\HTMLUnicode{0331}}
2090 \fi
```

For all engines, a Unicode diacritical tie is used:

```
2091 \def\LWR@t#1#2{\#1\HTMLUnicode{0361}#2}
2092 \renewcommand*{\t}[1]{\LWR@t#1}
```

\LWR@restoreorigaccents Called from \restoreoriginalformatting when a lateximage is begun.

```
2093 \ifPDFTeX% pdflatex or dvi latex
2094 \newcommand*{\LWR@restoreorigaccents}{%
```

```

2095 \LetLtxMacro\` \LWR@origgraveaccent%
2096 \LetLtxMacro\ ' \LWR@origacuteaccent%
2097 \LetLtxMacro\^ \LWR@origcircumflexaccent%
2098 \LetLtxMacro\~ \LWR@origtildeaccent%
2099 \LetLtxMacro\= \LWR@origmacronaccent%
2100 \LetLtxMacro\u \LWR@origbreve%
2101 \LetLtxMacro\. \LWR@origdotaccent%
2102 \LetLtxMacro\" \LWR@origdiaeresisaccent%
2103 \LetLtxMacro\H \LWR@origdoubleacuteaccent%
2104 \LetLtxMacro\v \LWR@origcaronaccent%
2105 \LetLtxMacro\t \LWR@origtie%
2106 \LetLtxMacro\d \LWR@origdotbelowaccent%
2107 \LetLtxMacro\c \LWR@origcedillaaccent%
2108 \LetLtxMacro\b \LWR@origmacronbelowaccent%
2109 }%
2110 \else% XeLaTeX, LuaLaTeX:
2111 \newcommand*{\LWR@restoreorigaccents}{%
2112 \LetLtxMacro\t \LWR@origtie%
2113 }%
2114 \fi%
2115 }% AtBeginDocument

2116 \end{warpHTML}

```

## 42 Configuration files

### 42.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a pstool image. pstool uses an additional compile for each image using the original document's preamble, which includes lwarp, so the lwarp configuration files are turned off if -pstool is part of the \jobname.

Default to no configuration files:

```
2117 \LWR@excludecomment{\LWRwriteconf}{writeconf}
```

HTML mode adds a \_html suffix to the \jobname, which would corrupt the configuration files, so they are only generated in print mode.

Generate configuration files if print mode and not -pstool. But not if warpingdisabled.

```

2118 \begin{warpprint}
2119 \fullexpandarg%
2120 \IfSubStr*{\jobname}{-pstool}
2121 {
2122 \PackageInfo{lwarp}{%
2123 Jobname with -pstool is found.\MessageBreak
2124 Not generating lwarp configuration files,%
2125 }
2126 }
2127 {
2128 \ifbool{warpingdisabled}
2129 {}
2130 {

```

```

2131 \PackageInfo{lwarp}{Generating lwarp configuration files,}%
2132 \LWR@includecomment{LWRwriteconf}{writeconf}%
2133 }
2134 }
2135 \end{warpprint}

```

## 42.2 <project>\_html.tex

\*\_html.tex (*file*) Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

2136 \begin{LWRwriteconf}
2137 \immediate\openout\LWR@quickfile=\jobname_html.tex
2138 \immediate\write\LWR@quickfile{%
2139 \detokenize{\PassOptionsToPackage}%
2140 {warpHTML,BaseJobname=\jobname}{lwarp}%
2141 }
2142 \immediate\write\LWR@quickfile{%
2143 \detokenize{\input}\string{\jobname.tex\string }%
2144 }
2145 \immediate\closeout\LWR@quickfile
2146 \end{LWRwriteconf}

```

## 42.3 lwarpmk configuration files

**Config file:**

```

2147 \begin{LWRwriteconf}

```

`\LWR@lwarpcnfversion` The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

```

2148 \newcommand*{\LWR@lwarpcnfversion}{2}% also in lwarpmk.lua

```

### 42.3.1 Helper macros

`\LWR@shellescapecmd` The LaTeX compile option for shell escape, if used.

```

2149 \ifshellescape
2150 \def\LWR@shellescapecmd{--shell-escape }
2151 \else
2152 \def\LWR@shellescapecmd{}
2153 \fi

```

`\LWR@compilecmd` {<engine>} {<suffix>}

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdf~~l~~atex*, etc. Suffix is empty or `_html`

```

2154 \newcommand*{\LWR@compilecmd}[2]{%
2155 #1 \LWR@shellescapecmd \jobname#2%
2156 }

```

`\LWR@addcompilecmd {<cmd>} {<suffix>}`

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or `_html`

```
2157 \newcommand*{\LWR@addcompilecmd}[2]{%
2158 \LWRopseq
2159 #1 \jobname#2%
2160 }
```

`\LWR@unknownengine` Error message if not sure which  $\text{\LaTeX}$  engine is being used.

```
2161 \newcommand*{\LWR@unknownengine}{%
2162 \PackageError{lwarp}%
2163 {Unknown LaTeX engine}%
2164 {%
2165 Lwarp only knows about pdflatex, DVI latex,
2166 xelatex, lualatex, and upLaTeX.%
2167 }%
2168 }
```

`\LWR@latexmkvar {<varname>} {<value>}`

Adds a *latexmk* variable assignment.

```
2169 \newcommand*{\LWR@latexmkvar}[2]{%
2170 -e
2171 \LWRopquote%
2172 \LWRdollar #1=q/#2/%
2173 \LWRopquote
2174 }
```

`\LWR@latexmkcmd {<latexmk options>}`

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```
2175 \newcommand*{\LWR@latexmkcmd}[1]{%
2176 latexmk \space \LWR@shellescapecmd \space #1 \space
2177 -recorder \space
2178 \LWR@latexmkvar{makeindex}\LWR@LatexmkIndexCmd}%
2179 }
```

`\LWR@latexmkdvipdfm {<dvipdfm or dvipdfmx>}`

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
2180 \newcommand*{\LWR@latexmkdvipdfm}[1]{%
2181 -pdfdvi \space
2182 \LWR@latexmkvar{dvipdf}%
2183 #1
2184 \@percentchar O
2185 -o \@percentchar D
2186 \@percentchar S%
2187 }
2188 }
```

`\LWR@compileuplatex` Sets compile options for upL<sup>A</sup>T<sub>E</sub>X with `ujarticle` or related classes.

```

2189 \newcommand*{\LWR@compileuplatex}{
2190 \def\LWR@tempprintlatexcmd{%
2191 \LWR@compilecmd{uplatex}{}
2192 \LWR@addcompilecmd{dvipdfmx}{}
2193 }
2194 \def\LWR@tempHTMLlatexcmd{%
2195 \LWR@compilecmd{uplatex}{_html}
2196 \LWR@addcompilecmd{dvipdfmx}{_html}
2197 }
2198 }
```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source  
`\LWR@HTMLLatexCmd` to PDF form.

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with `--shell-escape`:

---

```
[[latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %0 -o %D %S/'
-recorder
-e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```

2199 \ifbool{\LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```

2200 \ifpdf
```

For *latexmk* with *pdflatex*:

```

2201 \ifPDFTeX
2202 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2203 \else
```

For *latexmk* with *lualatex*:

```

2204 \ifLuaTeX
2205 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2206 \else
2207 \LWR@unknownengine
2208 \fi
2209 \fi
2210 \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
2211 \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2212 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2213 \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
2214 \ifbool{LWR@dvi pdfm}{
2215 \def\LWR@latexcmd{%
2216 \LWR@latexmkcmd{%
2217 \LWR@latexmkdvipdfm{dvipdfm}%
2218 }
2219 }
2220 }{
2221 \ifbool{LWR@dvi pdfmx}{
2222 \def\LWR@latexcmd{%
2223 \LWR@latexmkcmd{%
2224 \LWR@latexmkdvipdfm{dvipdfmx}%
2225 }
2226 }
2227 }{
2228 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2229 }
2230 }
2231 \fi
2232 \fi% \ifpdf
```

The final assignment if *latexmk*:

```
2233 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2234 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2235 }% latexmk
```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```
2236 {% not latexmk
2237 \ifpdf
```

For *pdflatex* or *lualatex*:

```
2238 \ifPDFTeX
```

For *pdflatex*:

```
2239 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2240 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2241 \else
2242 \ifLuaTeX
```

For *lualatex*:

```
2243 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2244 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
```

```

2245 \else
2246 \LWR@unknownengine
2247 \fi
2248 \fi
2249 \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```

2250 \ifXeTeX

```

For *xelatex*:

```

2251 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}}{}
2252 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}}{_html}
2253 \else

```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```

2254 \ifbool{LWR@dvipdfm}{

```

For DVI *latex* with *dvipdfm*:

```

2255 \def\LWR@tempprintlatexcmd{%
2256 \LWR@compilecmd{latex}}{}
2257 \LWR@addcompilecmd{dvipdfm}}{}
2258 }
2259 \def\LWR@tempHTMLlatexcmd{%
2260 \LWR@compilecmd{latex}}{_html}
2261 \LWR@addcompilecmd{dvipdfm}}{_html}
2262 }
2263 }{
2264 \ifbool{LWR@dvipdfmx}{

```

For DVI *latex* with *dvipdfmx*:

```

2265 \def\LWR@tempprintlatexcmd{%
2266 \LWR@compilecmd{latex}}{}
2267 \LWR@addcompilecmd{dvipdfmx}}{}
2268 }
2269 \def\LWR@tempHTMLlatexcmd{%
2270 \LWR@compilecmd{latex}}{_html}
2271 \LWR@addcompilecmd{dvipdfmx}}{_html}
2272 }
2273 }{% dvips

```

For DVI *latex* with *dvips* and *ps2pdf*:

```

2274 \def\LWR@tempprintlatexcmd{%
2275 \LWR@compilecmd{latex}}{}
2276 \LWR@addcompilecmd{dvips}}{}
2277 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSparency}}{.ps
2278 }
2279 \def\LWR@tempHTMLlatexcmd{%
2280 \LWR@compilecmd{latex}}{_html}
2281 \LWR@addcompilecmd{dvips}}{_html}
2282 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSparency}}{_html}.ps
2283 }
2284 }
2285 }

```

```

2286 \fi% \ifXeTeX
2287 \fi% \ifpdf
2288 }% latexmk

```

For `ujarticle`, `utarticle`, and related, using `upLATEX` and `dvipdfmx`:

```

2289 \IfClassLoadedTF{ujarticle}{\LWR@compileuplatex}{}
2290 \IfClassLoadedTF{ujbook}{\LWR@compileuplatex}{}
2291 \IfClassLoadedTF{ujreport}{\LWR@compileuplatex}{}
2292 \IfClassLoadedTF{utarticle}{\LWR@compileuplatex}{}
2293 \IfClassLoadedTF{utbook}{\LWR@compileuplatex}{}
2294 \IfClassLoadedTF{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

2295 \ifdefempty{\LWR@PrintLatexCmd}{
2296 \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2297 }{}
2298 \ifdefempty{\LWR@HTMLLatexCmd}{
2299 \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2300 }{}

```

`\LWR@writeconf {<filename>}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2301 \newcommand{\LWR@writeconf}[1]{
2302 \ifcsdef{LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
2303 \immediate\openout\LWR@quickfile=#1
2304 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpconfversion]]}
2305 \ifbool{usingOSWindows}{
2306 \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2307 }{
2308 \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2309 }
2310 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2311 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2312 \immediate\write\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}
2313 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2314 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2315 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{LWR@latexmk}{true}{false}]]}
2316 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2317 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2318 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2319 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2320 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2321 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2322 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2323 \immediate\closeout\LWR@quickfile
2324 }
2325
2326 \end{LWR@writeconf}

```

### 42.3.2 lwarpmk.conf

`lwarpmk.conf` (*file*) `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project.tex>`, or similar for *xelatex* or *lualatex*, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility *lwarpmk*.

**Config file:**

```

2327 \begin{LWRwriteconf}
2328
2329 \AtBeginDocument{%
2330 \LWR@traceinfo{AtBeginDocument writing lwarpmk.conf}
2331 \LWR@writeconf{lwarpmk.conf}%
2332 }
2333
2334 \end{LWRwriteconf}

```

### 42.3.3 <project>.lwarpmkconf

`project.lwarpmkconf` (*file*) A project-specific configuration file for *lwarpmk*.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

**Config file:**

```

2335 \begin{LWRwriteconf}
2336
2337 \AtBeginDocument{%
2338 \LWR@traceinfo{AtBeginDocument writing jobname.lwarpmkconf}
2339 \LWR@writeconf{\jobname.lwarpmkconf}%
2340 }
2341
2342 \end{LWRwriteconf}

```

## 42.4 lwarp.css

`lwarp.css` (*file*) This is the base CSS layer used by `lwarp`.

This must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

2343 \begin{LWRwriteconf}
2344 \begin{filecontents*}[overwrite]{lwarp.css}
2345 /*
2346 CSS stylesheet for the LaTeX Lwarp package
2347 Copyright 2016-2026 Brian Dunn
2348 */
2349
2350
2351
2352
2353 /* Page layout */
2354
2355 @supports (display: grid) {
2356 body {
2357 overflow-y: hidden ;
2358 height: 100vh ;
2359 }

```

```
2360 }
2361
2362 @supports (display: grid) {
2363 div.homepagegrid {
2364 display: grid ;
2365 grid-template-areas:
2366 "header"
2367 "body"
2368 "footer" ;
2369 grid-template-columns: 1fr ;
2370 grid-template-rows:
2371 max-content
2372 max-content
2373 max-content ;
2374 max-height: 100vh ;
2375 overflow-y: auto ;
2376 }
2377 }
2378
2379
2380 @supports (display: grid) {
2381 div.pagegrid {
2382 display: grid ;
2383 grid-template-areas:
2384 "topnav topnav"
2385 "header header"
2386 "sidetoc body"
2387 "footer footer"
2388 "botnav botnav" ;
2389 grid-template-columns: minmax(15em,1fr) 4fr ;
2390 grid-template-rows:
2391 max-content
2392 max-content
2393 1fr
2394 max-content
2395 max-content ;
2396 max-height: 100vh ;
2397 overflow-y: none ;
2398 }
2399 }
2400
2401
2402
2403 div.sidetoccontainer {
2404 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2405 "Lucida Bright", Georgia, serif;
2406 margin: 0pt 0em 1ex 0pt ;
2407 border-right: 1px solid silver;
2408 border-bottom: 1px solid silver;
2409 background: #FAF7F4 ;
2410 font-size:.9em ;
2411 border-radius: 0px 0px 20px 0px ;
2412 /* room for border-right next to 80% main */
2413 float: left ;
2414 width: 19%;
2415 max-height: 100vh ;
2416 overflow-y: auto ;
2417 }
2418
2419 @supports (display: grid) {
```

```
2420 div.sidetoccontainer {
2421 grid-area: sidetoc ;
2422 float: none ;
2423 width: 100% ;
2424 overflow-y: auto ;
2425 }
2426 }
2427
2428 nav.sidetoc {
2429 }
2430
2431 div.sidetoccontents {
2432 width: 100% ;
2433 }
2434
2435
2436
2437
2438 nav.sidetoc p {
2439 line-height:1.2 ;
2440 margin: 1ex .5em 1ex .5em ;
2441 text-indent: 0 ;
2442 }
2443
2444 nav.sidetoc p a {color:black ; font-size: .7em ;}
2445
2446 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
2447 border-bottom: 1px solid silver ; }
2448
2449 nav.sidetoc a:hover {text-decoration: underline ; }
2450
2451
2452
2453
2454 main.bodycontainer {
2455 float: left ;
2456 width: 80% ;
2457 }
2458
2459 div.homepagegrid main.bodycontainer {
2460 float: none ;
2461 width: 100% ;
2462 }
2463
2464 @supports (display: grid) {
2465 main.bodycontainer {
2466 grid-area: body ;
2467 float: none ;
2468 width: 100% ;
2469 overflow-y: auto ;
2470 }
2471 }
2472
2473
2474 nav.topnavigation{
2475 grid-area: topnav ;
2476 text-align: left ;
2477 padding: 0.5ex 1em 0.5ex 1em ;
2478 /* margin: 2ex 0em 3ex 0em ; */
2479 margin: 0 ;
```

```
2480 border-bottom: 1px solid silver ;
2481 border-top: 1px solid silver ;
2482 clear:both ;
2483 }
2484
2485 nav.botnavigation{
2486 grid-area: botnav ;
2487 text-align: left ;
2488 padding: 0.5ex 1em 0.5ex 1em ;
2489 /* margin: 3ex 0em 2ex 0em ; */
2490 margin: 0 ;
2491 border-top: 1px solid silver ;
2492 border-bottom: 1px solid silver ;
2493 clear:both ;
2494 }
2495
2496
2497 header {
2498 grid-area: header ;
2499 line-height: 1.2 ;
2500 font-size: 1em ;
2501 border-bottom: 1px solid silver ;
2502 margin: 0px ;
2503 padding: 1ex 1em 1ex 1em ;
2504 text-align:left ;
2505 }
2506
2507
2508 footer {
2509 grid-area: footer ;
2510 font-size: .85em ;
2511 line-height: 1.2 ;
2512 margin-top: 1ex ;
2513 border-top: 1px solid silver ;
2514 padding: 1ex 1em 1ex 1em ;
2515 clear:both ;
2516 text-align:left ;
2517 }
2518
2519
2520
2521 /* a fix for older browsers: */
2522 header, section, footer, aside, nav, main,
2523 article, figure { display: block; }
2524
2525
2526 A:link {color:#000080 ; text-decoration: none ; }
2527 A:visited {color:#800000 ; }
2528 A:hover {color:#000080 ; text-decoration: underline ;}
2529 A:active {color:#800000 ; }
2530
2531 a.tocbook {display: inline-block ; margin-left: 0em ;
2532 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2533 a.tocpart {display: inline-block ; margin-left: 0em ;
2534 font-weight: bold ;}
2535 a.tocchapter {display: inline-block ; margin-left: 0em ;
2536 font-weight: bold ;}
2537 a.tocsection {display: inline-block ; margin-left: 1em ;
2538 text-indent: -.5em ; font-weight: bold ; }
2539 a.tocsubsection {display: inline-block ; margin-left: 2em ;
```

```

2540 text-indent: -.5em ; }
2541 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2542 text-indent: -.5em ; }
2543 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2544 text-indent: -.5em ; }
2545 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2546 text-indent: -.5em ; }
2547 a.tocfigure {margin-left: 0em}
2548 a.tocsubfigure {margin-left: 2em}
2549 a.tocatable {margin-left: 0em}
2550 a.tocsubtable {margin-left: 2em}
2551 a.toctheorem {margin-left: 0em}
2552 a.toclstlisting {margin-left: 0em}
2553
2554 body {
2555 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2556 "Lucida Bright", Georgia, serif;
2557 background: #FAF7F4 ;
2558 color: black ;
2559 margin: 0em ;
2560 padding: 0em ;
2561 font-size: 100% ;
2562 line-height: 1.2 ;
2563 }
2564
2565
2566 p {margin: 1.5ex 0em 1.5ex 0em ; text-indent: 0em ; }
2567 table p {margin: .5ex 0em .5ex 0em ; text-indent: 0em ; }
2568
2569 /* Holds a section number */
2570 span.sectionnumber { margin-right: 0em }
2571
2572 /* Inserted in front of index lines */
2573 span.indexitem {margin-left: 0em}
2574 span.indexsubitem {margin-left: 2em}
2575 span.indexsubsubitem {margin-left: 4em}
2576 div.indexheading {margin-top: 2ex ; font-weight: bold}
2577
2578 div.hidden, span.hidden { display: none ; }
2579
2580 kbd, span.texttt, p span.texttt {
2581 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2582 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2583 "Courier New", monospace;
2584 font-size: 100% ;
2585 }
2586
2587 pre { padding: 3pt ; }
2588
2589 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold ; }
2590
2591 span.textit, div.textit, table td.tditshape { font-style: italic ; }
2592
2593 table td.tdbfit { font-weight: bold ; font-style: italic }
2594
2595 span.textnormal, div.textnormal {
2596 font-weight: normal;
2597 font-style: normal;
2598 font-variant: normal;
2599 font-variant-numeric: normal ;

```

```
2600 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2601 "Lucida Bright", Georgia, serif;
2602 }
2603
2604 span.textmd, div.textmd { font-weight: normal; }
2605
2606 span.textup, div.textup {
2607 font-style: normal;
2608 font-variant: normal;
2609 font-variant-numeric: normal ;
2610 }
2611
2612
2613 /* For complex number i,j symbols */
2614 span.ijit {font-style: italic; font-variant: normal}
2615 span.ijup {font-style: normal; font-variant: normal}
2616
2617
2618 span.textsc, div.textsc {
2619 font-variant: small-caps;
2620 font-variant-numeric: oldstyle-nums ;
2621 }
2622
2623 span.textulc, div.textulc {
2624 font-variant: normal ;
2625 font-variant-numeric: normal ;
2626 }
2627
2628 span.textsl, div.textsl { font-style: oblique; }
2629
2630 span.textrm, div.textrm {
2631 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2632 "Lucida Bright", Georgia, serif;
2633 }
2634
2635 span.textsf, div.textsf {
2636 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2637 Geneva, Verdana, sans-serif ;
2638 }
2639
2640 /* nfssect-cfr lining figures */
2641 span.textln, div.textln {
2642 font-variant-numeric: lining-nums ;
2643 }
2644
2645 /* nfssect-cfr proportional figures */
2646 span.textp, div.textp {
2647 font-variant-numeric: proportional-nums ;
2648 }
2649
2650 /* nfssect-cfr tabular figures */
2651 span.textt, div.textt {
2652 font-variant-numeric: tabular-nums ;
2653 }
2654
2655 /* nfssect-cfr font weights */
2656 span.textdb, div.textdb {
2657 font-weight: 500 ;
2658 }
2659
```

```
2660 span.textsb, div.textsb {
2661 font-weight: 600 ;
2662 }
2663
2664 span.texteb, div.texteb {
2665 font-weight: 800 ;
2666 }
2667
2668 span.textub, div.textub {
2669 font-weight: 900 ;
2670 }
2671
2672 span.textlg, div.textlg {
2673 font-weight: 300 ;
2674 }
2675
2676 span.textel, div.textel {
2677 font-weight: 200 ;
2678 }
2679
2680 span.textul, div.textul {
2681 font-weight: 100 ;
2682 }
2683
2684
2685
2686 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2687
2688 span.underline {
2689 text-decoration: underline ;
2690 text-decoration-skip: auto ;
2691 }
2692
2693 span.overline {
2694 text-decoration: overline ;
2695 text-decoration-skip: auto ;
2696 }
2697
2698 div.hrle { border-top: 1px solid silver }
2699
2700
2701 /* for vertical text: */
2702 div.verticalrl { writing-mode: vertical-rl }
2703 div.horizontalrb { writing-mode: horizontal-tb }
2704
2705
2706 /* for diagbox */
2707 div.diagboxtitleN { border-bottom: 1px solid gray }
2708 div.diagboxtitleS { border-top: 1px solid gray }
2709
2710 div.diagboxE {
2711 padding-left: 2em ;
2712 text-align: right ;
2713 }
2714
2715 div.diagboxW {
2716 padding-right: 2em ;
2717 text-align: left ;
2718 }
2719
```

```
2720
2721
2722 /* For realscripts */
2723 .supsubscript {
2724 display: inline-block;
2725 text-align: left ;
2726 }
2727
2728 .supsubscript sup,
2729 .supsubscript sub {
2730 position: relative;
2731 display: block;
2732 font-size: .7em;
2733 line-height: 1;
2734 }
2735
2736 .supsubscript sup {
2737 top: .3em;
2738 }
2739
2740 .supsubscript sub {
2741 top: .3em;
2742 }
2743
2744 div.attribution p {
2745 text-align: right ;
2746 font-size: 80%
2747 margin: 1.5ex 0em 1.5ex 0em ;
2748 text-indent: 0em ;
2749 }
2750
2751 span.poemtitle {
2752 font-size: 120% ; font-weight: bold;
2753 }
2754
2755 pre.tabbing {
2756 font-family: "Linux Libertine Mono O", "Lucida Console",
2757 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2758 "Liberation Mono", "FreeMono", "Andale Mono",
2759 "Nimbus Mono L", "Courier New", monospace;
2760 }
2761
2762 blockquote {
2763 display: block ;
2764 margin-left: 2em ;
2765 margin-right: 2em ;
2766 }
2767
2768 /* quotchap is for the quotchap package */
2769 div.quotchap {
2770 display: block ;
2771 font-style: oblique ;
2772 overflow-x: auto ;
2773 margin-left: 2em ;
2774 margin-right: 2em ;
2775 }
2776
2777 blockquote p, div.quotchap p {
2778 line-height: 1.5;
2779 text-align: left ;
```

```
2780 font-size: .85em ;
2781 margin: 1.5ex 0em 1.5ex 0em ;
2782 text-indent: 0em ;
2783 }
2784
2785 /* qauthor is for the quotchap package */
2786 div.qauthor {
2787 display: block ;
2788 text-align: right ;
2789 margin-left: auto ;
2790 margin-right: 2em ;
2791 font-size: 80% ;
2792 font-variant: small-caps;
2793 }
2794
2795 div.qauthor p {
2796 text-align: right ;
2797 margin: 1.5ex 0em 1.5ex 0em ;
2798 text-indent: 0em ;
2799 }
2800
2801 div.epigraph, div.dictum {
2802 line-height: 1.2;
2803 text-align: left ;
2804 padding: 3ex 1em 0ex 1em ;
2805 /* margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2806 margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2807 /* margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2808 font-size: .85em ;
2809 max-width: 27em ;
2810 }
2811
2812 div.epigraphsource, div.dictumauthor {
2813 text-align:right ;
2814 margin-left:auto ;
2815 /* max-width: 50% ; */
2816 border-top: 1px solid #A0A0A0 ;
2817 padding-bottom: 3ex ;
2818 line-height: 1.2;
2819 }
2820
2821 div.epigraph p, div.dictum p {
2822 padding: .5ex ;
2823 margin: 0ex ;
2824 text-indent: 0em ;
2825 }
2826
2827 div.epigraphsource p, div.dictumauthor p {
2828 padding: .5ex 0ex 0ex 0ex ;
2829 margin: 0ex ;
2830 text-indent: 0em ;
2831 }
2832
2833 div.dictumauthor { font-style:italic }
2834
2835
2836 /* copyrightbox package: */
2837 div.copyrightbox { margin: .5ex .5em }
2838
2839 div.copyrightbox p {
```

```
2840 margin: 0px .5em ;
2841 padding: 0px ;
2842 text-indent: 0em ;
2843 }
2844
2845 div.copyrightboxnote {text-align: left ; font-size: 60%}
2846
2847
2848 /* lettrine package: */
2849 span.lettrine { font-size: 4ex ; float: left ; }
2850 span.lettrinetext { font-variant: small-caps ; }
2851
2852 /* ulem, soul, umoline packages: */
2853 span.uline {
2854 text-decoration: underline ;
2855 text-decoration-skip: auto ;
2856 }
2857
2858 span.uuline {
2859 text-decoration: underline ;
2860 text-decoration-skip: auto ;
2861 text-decoration-style: double ;
2862 }
2863
2864 span.uwave {
2865 text-decoration: underline ;
2866 text-decoration-skip: auto ;
2867 text-decoration-style: wavy ;
2868 }
2869
2870 span.sout {
2871 text-decoration: line-through ;
2872 }
2873
2874 span.oline {
2875 text-decoration: overline ;
2876 text-decoration-skip: auto ;
2877 }
2878
2879 span.xout {
2880 text-decoration: line-through ;
2881 }
2882
2883 span.dashuline {
2884 text-decoration: underline ;
2885 text-decoration-skip: auto ;
2886 text-decoration-style: dashed ;
2887 }
2888
2889 span.dotuline {
2890 text-decoration: underline ;
2891 text-decoration-skip: auto ;
2892 text-decoration-style: dotted ;
2893 }
2894
2895 span.letterspacing { letter-spacing: .2ex ; }
2896
2897 span.capsspacing {
2898 font-variant: small-caps ;
2899 letter-spacing: .1ex ;
```

```
2900 }
2901
2902 span.highlight { background: #F8E800 ; }
2903
2904
2905 /* keystroke package: */
2906 span.keystroke {
2907 border-style: outset ;
2908 padding: 0pt .5em 0pt .5em ;
2909 }
2910
2911
2912 html body {
2913 margin: 0 ;
2914 line-height: 1.2;
2915 }
2916
2917
2918 body div {
2919 margin: 0ex;
2920 }
2921
2922
2923 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2924 {
2925 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2926 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2927 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2928 "Times New Roman", serif;
2929 font-style: normal ;
2930 font-weight: bold ;
2931 text-align: left ;
2932 }
2933
2934 h1 { /* title of the entire website, used on each page */
2935 text-align: center ;
2936 font-size: 2.5em ;
2937 padding: .4ex 0em 0ex 0em ;
2938 }
2939
2940 div.book {
2941 text-align: center ;
2942 font-size: 2.325em ;
2943 padding: .4ex 0em 0ex 0em ;
2944 }
2945
2946 h2 { font-size: 2.25em }
2947 h3 { font-size: 2em }
2948 h4 { font-size: 1.75em }
2949 h5 { font-size: 1.5em }
2950 h6 { font-size: 1.25em }
2951 span.paragraph {font-size: 1em ; font-variant: normal ;
2952 margin-right: 1em ; }
2953 span.subparagraph {font-size: 1em ; font-variant: normal ;
2954 margin-right: 1em ; }
2955
2956 div.minisec {
2957 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2958 Geneva, Verdana, sans-serif ;
2959 font-style: normal ;
```

```
2960 font-weight: bold ;
2961 text-align: left ;
2962 }
2963
2964 h1 {
2965 margin: 0ex 0em 0ex 0em ;
2966 line-height: 1.3;
2967 text-align: center ;
2968 }
2969
2970 h2 {
2971 margin: 1ex 0em 1ex 0em ;
2972 line-height: 1.3;
2973 text-align: center ;
2974 }
2975
2976 h3 {
2977 margin: 3ex 0em 1ex 0em ;
2978 line-height: 1.3;
2979 }
2980
2981 h4 {
2982 margin: 3ex 0em 1ex 0em ;
2983 line-height: 1.3;
2984 }
2985
2986 h5 {
2987 margin: 3ex 0em 1ex 0em ;
2988 line-height: 1.3;
2989 }
2990
2991 h6 {
2992 margin: 3ex 0em 1ex 0em ;
2993 line-height: 1.3;
2994 }
2995
2996
2997 div.titlepage {
2998 text-align: center ;
2999 }
3000
3001 .footnotes {
3002 text-align: left ;
3003 font-size: .85em ;
3004 margin: 3ex 2em 0ex 2em ;
3005 border-top: 1px solid silver ;
3006 }
3007
3008 .marginpar, .marginparblock {
3009 max-width: 50%;
3010 float: right ;
3011 clear: both ;
3012 text-align: left ;
3013 margin: 1ex 0.5em 1ex 1em ;
3014 padding: 1ex 0.5em 1ex 0.5em ;
3015 font-size: 85% ;
3016 border-top: 1px solid silver ;
3017 border-bottom: 1px solid silver ;
3018 overflow-x: auto ;
3019 }
```

```
3020
3021 .marginpar br { margin-bottom: 2ex ; }
3022
3023 div.marginblock, div.marginparblock {
3024 max-width:50%;
3025 min-width: 10em; /* room for caption */
3026 float:right;
3027 text-align:left;
3028 margin: 1ex 0.5em 1ex 1em ;
3029 padding: 1ex 0.5em 1ex 0.5em ;
3030 overflow-x: auto;
3031 }
3032
3033 div.marginblock div.minipage,
3034 div.marginparblock div.minipage {
3035 display: inline-block ;
3036 margin: 0pt auto 0pt auto ;
3037 }
3038
3039 div.marginblock div.minipage p ,
3040 div.marginparblock div.minipage p
3041 { font-size: 85%}
3042
3043 div.marginblock br ,
3044 div.marginparblock br
3045 { margin-bottom: 2ex ; }
3046
3047 section.textbody div.footnotes{
3048 margin: 1ex 2em 2ex 2em ;
3049 border-bottom: 2px solid silver ;
3050 }
3051
3052 .footnoteheader {
3053 border-top: 2px solid silver ;
3054 margin-top: 3ex ;
3055 padding-top: 1ex ;
3056 font-weight: bold ;
3057 }
3058
3059 .mpfootnotes {
3060 text-align: left ;
3061 font-size: .85em ;
3062 margin-left: 1em ;
3063 border-top: 1px solid silver ;
3064 }
3065
3066 /* Remove footnote top border in the title page. */
3067 div.titlepage div.mpfootnotes {
3068 border-top: none ;
3069 }
3070
3071
3072
3073 ul, ol {
3074 margin: 1ex 1em 1ex 0em;
3075 line-height: 1.2;
3076 }
3077
3078 body dir, body menu {
3079 margin: 3ex 1em 3ex 0em;
```

```
3080 line-height: 1.2;
3081 }
3082
3083 li { margin: 0ex 0em 1ex 0em; }
3084
3085 li.p {
3086 display: inline ;
3087 margin: 1.5ex 0em 1.5ex 0em ;
3088 text-indent: 0em;
3089 }
3090
3091 html {
3092 margin: 0;
3093 padding: 0;
3094 }
3095
3096 .programlisting {
3097 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3098 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3099 "Courier New", monospace;
3100 margin: 1ex 0ex 1ex 0ex ;
3101 padding: .5ex 0pt .5ex 0pt ;
3102 overflow-x: auto;
3103 }
3104
3105 section.textbody>pre.programlisting {
3106 border-top: 1px solid silver ;
3107 border-bottom: 1px solid silver ;
3108 }
3109
3110
3111 div.displaymath {
3112 text-align: center ;
3113 }
3114
3115 div.displaymathnumbered {
3116 text-align: right ;
3117 margin-left: 5% ;
3118 margin-right: 5% ;
3119 min-width: 2.5in ;
3120 }
3121
3122 @media all and (min-width: 400px) {
3123 div.displaymathnumbered {
3124 margin-left: 10% ;
3125 margin-right: 10% ;
3126 }
3127 }
3128
3129 @media all and (min-width: 800px) {
3130 div.displaymathnumbered {
3131 margin-right: 20% ;
3132 }
3133 }
3134
3135 @media all and (min-width: 1200px) {
3136 div.displaymathnumbered {
3137 margin-right: 30% ;
3138 }
3139 }
```

```
3140
3141
3142 .inlineprogramlisting {
3143 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3144 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3145 "Courier New", monospace;
3146 overflow-x: auto;
3147 }
3148
3149 span.listinglabel {
3150 display: inline-block ;
3151 font-size: 70% ;
3152 width: 4em ;
3153 text-align: right ;
3154 margin-right: 2em ;
3155 }
3156
3157 div.abstract {
3158 margin: 2em 5% 2em 5% ;
3159 padding: 1ex 1em 1ex 1em ;
3160 /* font-weight: bold ; */
3161 font-size: 90% ;
3162 text-align: left ;
3163 }
3164
3165 div.abstract dl {line-height:1.5;}
3166 div.abstract dt {color:#304070;}
3167
3168 div.abstracttitle{
3169 font-family: "URW Classico", Optima, "Linux Biolinum O",
3170 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3171 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3172 font-weight:bold;
3173 font-size:1.25em;
3174 text-align: center ;
3175 }
3176
3177 span.abstracrunintitle{
3178 font-family: "URW Classico", Optima, "Linux Biolinum O",
3179 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3180 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3181 font-weight:bold;
3182 }
3183
3184
3185 .verbatim {
3186 overflow-x: auto ;
3187 }
3188
3189 .alltt {
3190 overflow-x: auto ;
3191 }
3192
3193
3194 .bverbatim {
3195 margin: 1ex 0pt 1ex 0pt ;
3196 padding: .5ex 0pt .5ex 0pt ;
3197 overflow-x: auto ;
3198 }
3199
```

```
3200 .lverbatim {
3201 margin: 1ex 0pt 1ex 0pt ;
3202 padding: .5ex 0pt .5ex 0pt ;
3203 overflow-x: auto ;
3204 }
3205
3206 .fancyvrb {
3207 margin: 3ex 0pt 3ex 0pt ;
3208 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3209 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3210 "Courier New", monospace;
3211 }
3212
3213 .fancyvrblabel {
3214 font-size: .85em ;
3215 text-align: center ;
3216 font-weight: bold ;
3217 margin-top: 1ex ;
3218 margin-bottom: 1ex ;
3219 }
3220
3221
3222 .verse {
3223 font-family: "Linux Libertine Mono O", "Lucida Console",
3224 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
3225 "Liberation Mono", "FreeMono", "Andale Mono",
3226 "Nimbus Mono L", "Courier New", monospace;
3227 margin-left: 1em ;
3228 }
3229
3230
3231 div.singlespace { line-height: 1.2 ; }
3232 div.onehalfspace { line-height: 1.5 ; }
3233 div.doublespace { line-height: 2 ; }
3234
3235
3236 /* Word processor format output: */
3237 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
3238 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
3239 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
3240
3241
3242
3243
3244 /* Minipage environments, vertically aligned to top, center, bottom: */
3245 .minipage, .fminipage, .fcolorminipage {
3246 /* display: inline-block ; */
3247 /* Mini pages which follow each other will be tiled. */
3248 text-align:left;
3249 margin: .25em .25em .25em .25em;
3250 padding: .25em .25em .25em .25em;
3251 display: inline-flex;
3252 flex-direction: column ;
3253 overflow: auto;
3254 }
3255
3256 .inlineminipage {
3257 display: inline-block ;
3258 text-align: left
3259 }
```

```
3260
3261 /* Paragraphs in the flexbox did not collapse their margins. */
3262 /* Have not yet researched this. */
3263 .minipage p {margin: .75ex 0em .75ex 0em ; text-indent: 0em ; }
3264
3265 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
3266 .fcolorbox .minipage, .fcolorboxBlock .minipage
3267 {border: none ; background: none;}
3268
3269 .fbox, .fboxBlock { border: 1px solid black ; padding: 4pt }
3270
3271 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
3272 .fminipage, .fcolorminipage
3273 {display: inline-block}
3274
3275 .shadowbox, .shabox {
3276 border: 1px solid black;
3277 box-shadow: 3px 3px 3px #808080 ;
3278 border-radius: 0px ;
3279 padding: .4ex .3em .4ex .3em ;
3280 margin: 0pt .3ex 0pt .3ex ;
3281 display: inline-block ;
3282 }
3283
3284 .doublebox {
3285 border: 3px double black;
3286 border-radius: 0px ;
3287 padding: .4ex .3em .4ex .3em ;
3288 margin: 0pt .3ex 0pt .3ex ;
3289 display: inline-block ;
3290 }
3291
3292 .ovalbox, .Ovalbox {
3293 border: 1px solid black;
3294 border-radius: 1ex ;
3295 padding: .4ex .3em .4ex .3em ;
3296 margin: 0pt .3ex 0pt .3ex ;
3297 display: inline-block ;
3298 }
3299
3300 .Ovalbox { border-width: 2px ; }
3301
3302 .framebox {
3303 border: 1px solid black;
3304 border-radius: 0px ;
3305 padding: .3ex .2em 0ex .2em ;
3306 margin: 0pt .1ex 0pt .1ex ;
3307 display: inline-block ;
3308 }
3309
3310
3311 /* mdframed, tcolorbox, shadebox packages */
3312 .mdframed, .tcolorbox, .shadebox {
3313 padding: 0ex ;
3314 margin: 2ex 0em 2ex 0em ;
3315 border: 1px solid black ;
3316 }
3317
3318 .tcolorbox {
3319 border-radius: 10pt ;
```

```
3320 margin: 2ex 1em 2ex 1em ;
3321 }
3322
3323 .mdframed p, .tcolorbox p {
3324 padding: 0ex .5em 0ex .5em ;
3325 margin: 1.5ex 0em 1.5ex 0em ;
3326 text-indent: 0em ;
3327 }
3328
3329 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3330
3331 .mdframedtitle, .tcolorboxtitle {
3332 padding: .5ex 0pt 0pt 0pt ;
3333 border-radius: 10pt 10pt 0pt 0pt ;
3334 display: block ;
3335 margin-bottom: 1ex ;
3336 border-bottom: 1px solid silver ;
3337 }
3338
3339 .tcolorboxsubtitle .tcolorbox {
3340 margin: 2ex 0em 2ex 0em ;
3341 border-radius: 0pt ;
3342 }
3343
3344 .mdframedsubtitle {
3345 display: block ;
3346 }
3347
3348 .mdframedsubsubtitle {
3349 display: block ;
3350 }
3351
3352 .mdtheorem {
3353 padding: 0ex .5em 0ex .5em ;
3354 margin: 3ex 5% 3ex 5% ;
3355 }
3356
3357
3358 /* framed package */
3359 .framed, pre.boxedverbatim, fcolorbox {
3360 margin: 3ex 0em 3ex 0em ;
3361 border: 1px solid black;
3362 border-radius: 0px ;
3363 padding: .3ex 1em 0ex 1em ;
3364 display: block ;
3365 }
3366
3367 .shaded {
3368 margin: 3ex 0em 3ex 0em ;
3369 padding: .3ex 1em .3ex 1em ;
3370 display: block ;
3371 }
3372
3373 .snugframed {
3374 margin: 3ex 0em 3ex 0em ;
3375 border: 1px solid black;
3376 border-radius: 0px ;
3377 display: block ;
3378 }
3379
```

```
3380 .framedleftbar {
3381 margin: 3ex 0em 3ex 0em ;
3382 border-left: 3pt solid black;
3383 border-radius: 0px ;
3384 padding: .3ex .2em .3ex 1em ;
3385 display: block ;
3386 }
3387
3388 .framedtitle {
3389 margin: 0em ;
3390 padding: 0em ;
3391 font-size: 130%
3392 }
3393
3394 .framedtitle p {
3395 padding: .3em ;
3396 margin: 1.5ex 0em 1.5ex 0em ;
3397 text-indent: 0em ;
3398 }
3399
3400
3401 /* For the niceframe package: */
3402
3403 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3404 padding: 1ex ;
3405 margin: 2ex auto ;
3406 border-radius: 2ex ;
3407 }
3408
3409 div.niceframe {
3410 border: 6px groove black ;
3411 }
3412
3413 div.curlyframe {
3414 border-left: 3px dotted black ;
3415 border-right: 3px dotted black ;
3416 border-radius: 6ex ;
3417 }
3418
3419 div.artdecoframe {
3420 border-left: 10px double black ;
3421 border-right: 10px double black ;
3422 border-radius: 6ex ;
3423 }
3424
3425 div.generalframe {
3426 border: 6px groove black ;
3427 }
3428
3429
3430 /* For beamerarticle: */
3431 div.beamerframe {
3432 margin: 3ex 1em 3ex 1em ;
3433 border: 1px solid gray;
3434 border-radius: 0px ;
3435 padding: .3ex 1em 0ex 1em ;
3436 display: block ;
3437 }
3438
3439
```

```
3440 dl {
3441 margin: 1ex 2em 1ex 0em;
3442 line-height: 1.3;
3443 }
3444
3445 li dl { margin-left: 2em }
3446
3447 dl dt {
3448 display: block ;
3449 float: left ;
3450 font-weight: bold;
3451 padding-right: 1em ;
3452 }
3453
3454 dl dd { display: block ; }
3455
3456 dl dd:after { content: "" ; display: block ; clear: both }
3457
3458 dl dd p {
3459 margin: 0ex 0em 1.5ex 0em ;
3460 text-indent: 0em ;
3461 }
3462
3463 dd ul, dd ol, dd dl {
3464 clear: both ;
3465 /* padding-top: 1ex ; */
3466 }
3467
3468
3469 nav {
3470 font-family: "URW Classico", Optima, "Linux Biolinum O",
3471 "DejaVu Sans", "Bitstream Vera Sans",
3472 Geneva, Verdana, sans-serif ;
3473 margin-bottom: 4ex ;
3474 }
3475
3476 nav p {
3477 line-height: 1.2 ;
3478 margin-top: .5ex ;
3479 margin-bottom: .5ex;
3480 font-size: .9em ;
3481 text-indent: 0em ;
3482 }
3483
3484
3485
3486 img, img.hyperimage, img.borderimage {
3487 max-width: 600px;
3488 border: 1px solid silver;
3489 box-shadow: 3px 3px 3px #808080 ;
3490 padding: .5% ;
3491 margin: .5% ;
3492 background: none ;
3493 }
3494
3495 img.inlineimage{
3496 padding: 0px ;
3497 box-shadow: none ;
3498 border: none ;
3499 background: none ;
```

```
3500 margin: 0px ;
3501 display: inline-block ;
3502 border-radius: 0px ;
3503 }
3504
3505 img.logoimage{
3506 max-width: 300px ;
3507 box-shadow: 3px 3px 3px #808080 ;
3508 border: 1px solid black ;
3509 background:none ;
3510 padding:0 ;
3511 margin:.5ex ;
3512 border-radius: 10px ;
3513 }
3514
3515
3516 .section {
3517 /*
3518 To have each section float relative to each other:
3519 */
3520 /*
3521 display: block ;
3522 float: left ;
3523 position: relative ;
3524 background: white ;
3525 border: 1px solid silver ;
3526 padding: .5em ;
3527 */
3528 margin: 0ex .5em 0ex .5em ;
3529 padding: 0 ;
3530 }
3531
3532
3533 figure {
3534 margin: 5ex auto 5ex auto ;
3535 padding: 1ex 1em 1ex 1em ;
3536 overflow-x: auto ;
3537 }
3538
3539
3540 /* To automatically center images in figures: */
3541 /*
3542 figure img.inlineimage {
3543 margin: 0ex auto 0ex auto ;
3544 display: block ;
3545 }
3546 */
3547
3548 /* To automatically center minipages in figures: */
3549 /*
3550 figure div.minipage, figure div.minipage div.minipage {
3551 margin: 1ex auto 1ex auto ;
3552 display: block ;
3553 }
3554 */
3555
3556 figure figure { margin: 0pt }
3557
3558 figure div.minipage p {
3559 font-size: 85% ;
```

```
3560 margin: 1.5ex 0em 1.5ex 0em ;
3561 text-indent: 0em ;
3562 }
3563
3564 figure.subfigure, figure.subtable {
3565 display: inline-block ; margin: 3ex 1em 3ex 1em ;
3566 }
3567
3568 div.figurecaption .minipage { margin:0 ; padding: 0 }
3569
3570 /* for subcaptions: */
3571 figure div.minipage div.figurecaption {
3572 max-width: 100% ; /* fallback if min() does not work */
3573 max-width: min(30em,100%)
3574 }
3575
3576 div.minipage figure { border: none ; box-shadow: none ; }
3577 div.minipage figure.table { margin: 0ex }
3578 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3579
3580 div.floatrow { text-align: center; }
3581
3582 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3583
3584 div.floatfoot { font-size: .85em ;
3585 border-top: 1px solid silver ; line-height: 1.2 ; }
3586
3587 /* Center if only one line, "start" align if more than one line: */
3588 div.figurecaption , .lstlistingtitle {
3589 font-size: .85em ;
3590 font-weight: bold ;
3591 text-align: start ;
3592 margin: 1ex auto;
3593 width: max-content;
3594 max-width: 100%;
3595 }
3596
3597 /* A marginblock is small, so always center and don't mess with the width. */
3598 div.marginblock div.figurecaption {
3599 width: 100% ;
3600 text-align: center ;
3601 }
3602
3603 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3604 border-bottom: none ; background: none ;
3605 }
3606
3607 div.nonfloatcaption {
3608 margin: 1ex auto 1ex auto ;
3609 font-size: .85em ;
3610 text-align: center ;
3611 font-weight: bold ;
3612 }
3613
3614 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3615 figure div.floatrow div.minipage div.figurecaption {
3616 border: none ;
3617 background: none ;
3618 }
3619
```

```
3620
3621 /* For packages such as float, rotfloat, and algorithm2e: */
3622
3623 figure.boxed, figure.boxruled {
3624 border: 1px solid black ;
3625 }
3626
3627 figure.ruled {
3628 border-top: 1px solid black ;
3629 border-bottom: 1px solid black ;
3630 border-left: 0px ;
3631 border-right: 0px ;
3632 border-radius: 0px ;
3633 background: none ;
3634 box-shadow: none ;
3635 }
3636
3637 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3638 border-top: 1px solid silver ;
3639 border-bottom: 1px solid silver ;
3640 }
3641
3642
3643 table {
3644 margin: 1ex auto 1ex auto ;
3645 border-collapse: separate ;
3646 border-spacing: 0px ;
3647 line-height: 1.3 ;
3648 }
3649
3650 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3651 margin-bottom: 0ex ; } /* for \hline */
3652
3653 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3654 margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3655
3656 td {padding: .5ex .5em .5ex .5em ;}
3657
3658 table td.tdl { text-align: left ; vertical-align: middle ; }
3659 table td.tdc { text-align: center ; vertical-align: middle ; }
3660 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3661 table td.tdbang { text-align: center ; vertical-align: middle ; }
3662 table td.tdr { text-align: right ; vertical-align: middle ; }
3663 table td.tdp { text-align: left ; vertical-align: bottom ; }
3664 table td.tdm { text-align: left ; vertical-align: middle ; }
3665 table td.tdb { text-align: left ; vertical-align: top ; }
3666
3667 table td.tvertbarl { border-left: 1px solid black }
3668 table td.tvertbarldouble { border-left: 4px double black }
3669 table td.tvertbarr { border-right: 1px solid black }
3670 table td.tvertbarrdouble { border-right: 4px double black }
3671
3672 table td.tvertbarldash { border-left: 1px dashed black }
3673 table td.tvertbarldoubledash { border-left: 2px dashed black }
3674 table td.tvertbarrdash { border-right: 1px dashed black }
3675 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3676
3677 table td.tdcenter { text-align: center}
3678 table td.tdleft { text-align: left}
3679 table td.tdright { text-align: right}
```

```
3680
3681
3682 /* for cmidrules: */
3683 table td.tdrule {
3684 border-top: 1px solid #A0A0A0 ;
3685 }
3686
3687 table td.tdrulel {
3688 border-top-left-radius:.5em ;
3689 border-top: 1px solid #A0A0A0 ;
3690 }
3691
3692 table td.tdruler {
3693 border-top-right-radius:.5em ;
3694 border-top: 1px solid #A0A0A0 ;
3695 }
3696
3697 table td.tdrulelr {
3698 border-top-left-radius:.5em ;
3699 border-top-right-radius:.5em ;
3700 border-top: 1px solid #A0A0A0 ;
3701 }
3702
3703
3704 /* Margins of paragraphs inside table cells: */
3705 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p {
3706 padding-top: 1ex ;
3707 padding-bottom: 1ex ;
3708 margin: 0ex ;
3709 text-indent: 0em ;
3710 }
3711 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p {
3712 padding-top: 1ex ;
3713 padding-bottom: 1ex ;
3714 margin: 0ex ;
3715 text-indent: 0em ;
3716 }
3717 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p {
3718 padding-top: 1ex ;
3719 padding-bottom: 1ex ;
3720 margin: 0ex ;
3721 text-indent: 0em ;
3722 }
3723
3724 td.tdp , td.tdprule , td.tdP , td.tdPrule
3725 { padding: 0ex .5em 0ex .5em ; }
3726 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3727 { padding: 0ex .5em 0ex .5em ; }
3728 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3729 { padding: 0ex .5em 0ex .5em ; }
3730
3731
3732 /* table notes: */
3733 .tnotes {
3734 margin: 0ex 5% 1ex 5% ;
3735 padding: 0.5ex 1em 0.5ex 1em;
3736 font-size:.80em;
3737 text-align: left ;
3738 }
3739
```

```
3740 .minipage .tnotes {
3741 margin: 0pt ;
3742 padding: 0pt ;
3743 }
3744
3745 .tnotes dl dt p {
3746 margin-bottom:0px;
3747 text-indent: 0em ;
3748 }
3749
3750 .tnoteitemheader {margin-right: 1em;}
3751
3752
3753 /* for colortbl and cell color */
3754 div.cellcolor {
3755 width: 100% ;
3756 padding: .5ex .5em .5ex .5em ;
3757 margin: -.5ex -.5em -.5ex -.5em ;
3758 }
3759
3760
3761 /* for lyluatex */
3762 span.lyluatex {
3763 display: inline-block ;
3764 }
3765
3766 div.lyluatex p span.lateximagesource img {
3767 display: block ;
3768 margin-top: 3ex ;
3769 margin-bottom: 3ex ;
3770 }
3771
3772
3773 /* for bigdelim */
3774 .ldelim, .rdelim { font-size: 200% }
3775
3776
3777 /* center, flushleft, flushright environments */
3778 div.center{text-align:center;}
3779 div.center table {margin-left:auto;margin-right:auto;}
3780 div.flushleft{text-align:left;}
3781 div.flushleft table {margin-left:0em ; margin-right:auto;}
3782 div.flushright{text-align:right;}
3783 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3784
3785
3786 /* Fancybox */
3787 div.Btrivlist table tr td {
3788 padding: .2ex 0em ;
3789 }
3790
3791
3792 /* program listing callouts: */
3793 span.callout {
3794 font-family: "DejaVu Sans", "Bitstream Vera Sans",
3795 Geneva, Verdana, sans-serif ;
3796 border-radius: .5em;
3797 background-color:black;
3798 color:white;
3799 padding:0px .25em 0px .25em;
```

```
3800 margin: 0 ;
3801 font-weight: bold;
3802 font-size:.72em ;
3803 }
3804
3805 div.programlisting pre.verbatim span.callout{
3806 font-size: .85em ;
3807 }
3808
3809 span.verbatim, span.verb {
3810 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3811 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3812 "Courier New", monospace;
3813 }
3814
3815
3816
3817 div.titlehead
3818 {
3819 text-align: left ;
3820 font-style: normal ;
3821 font-weight: normal ;
3822 font-style: normal ;
3823 font-size: .8em ;
3824 margin: 1ex 0em 1ex 0em ;
3825 }
3826
3827 div.subject
3828 {
3829 text-align: center ;
3830 font-style: normal ;
3831 font-weight: bold ;
3832 font-style: normal ;
3833 font-size: .8em ;
3834 margin: 1ex 0em 1ex 0em ;
3835 }
3836
3837 div.published
3838 {
3839 text-align: center ;
3840 font-variant: normal ;
3841 font-style: italic ;
3842 font-size: 1em ;
3843 margin: 1ex 0em 1ex 0em ;
3844 }
3845
3846 div.subtitle
3847 {
3848 text-align: center ;
3849 font-variant: normal ;
3850 font-style: italic ;
3851 font-size: 1.25em ;
3852 margin: 1ex 0em 1ex 0em ;
3853 }
3854
3855 div.subtitle p {
3856 margin: 1ex ;
3857 text-indent: 0em;
3858 }
3859
```

```
3860 div.author
3861 {
3862 text-align: center ;
3863 font-variant: normal ;
3864 font-style: normal ;
3865 font-size: 1em ;
3866 margin: 1ex 0em 1ex 0em ;
3867 }
3868
3869 div.oneauthor {
3870 display: inline-block ;
3871 margin: 0ex 1em 0ex 1em ;
3872 }
3873
3874 /*
3875 div.author table {
3876 margin: 1ex auto 0ex auto ;
3877 background: none ;
3878 }
3879
3880 div.author table tbody tr td { padding: .25ex ; }
3881 */
3882
3883 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3884
3885 div.titledate {
3886 text-align: center ;
3887 font-size: .85em ;
3888 font-style: italic;
3889 margin: 1ex 0em 1ex 0em ;
3890 }
3891
3892
3893
3894 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3895 a.linkhome { font-weight:bold ; font-size: 1em ;}
3896
3897
3898 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3899
3900 img.lateximage{
3901 padding: 0pt ;
3902 margin: 0pt ;
3903 box-shadow: none ;
3904 border: none ;
3905 background: none ;
3906 max-width: 100% ;
3907 border-radius: 0ex ;
3908 border: none ;
3909 }
3910
3911
3912
3913
3914 section.textbody { margin: 0ex 1em 0ex 1em ;}
3915
3916
3917 div.multicolshheading { -webkit-column-span: all;
3918 -moz-column-span: all; column-span: all; }
3919 div.multicols {
```

```
3920 -webkit-columns: 3 auto ;
3921 -moz-columns: 3 auto ;
3922 columns: 3 auto ;
3923 }
3924 div.multicols p {
3925 margin-top: 0ex ;
3926 text-indent: 0em ;
3927 }
3928
3929
3930 /* Used for xfrac and nicefrac: */
3931 span.numerator {
3932 font-size: 60% ;
3933 vertical-align: .4em ;
3934 }
3935
3936 span.denominator {
3937 font-size: 60%
3938 }
3939
3940
3941 /* Used for algorithm2e: */
3942 div.alg2evline{
3943 margin-left: 1em ;
3944 padding-left: 1em ;
3945 border-left: 1px solid black ;
3946 border-radius: 0px 0px 0px 1ex ;
3947 }
3948
3949 div.alg2evsline{
3950 margin-left: 1em ;
3951 padding-left: 1em ;
3952 border-left: 1px solid black ;
3953 }
3954
3955 div.alg2enoline{
3956 margin-left: 1em ;
3957 padding-left: 1em ;
3958 }
3959
3960 span.alg2elinenumber{
3961 margin-right: .5em ;
3962 font-size: 60% ;
3963 color: red ;
3964 }
3965
3966
3967 /* Used for algorithmicx: */
3968 span.floatright { float: right ; }
3969
3970
3971 /* keyfloat and tocdata: */
3972 .floatnotes {
3973 margin: 0ex 5% 0ex 5% ;
3974 padding: 0ex 1em 0ex 1em ;
3975 font-size: .80em ;
3976 text-align: left ;
3977 }
3978
3979 .authorartist{
```

```
3980 display:block ;
3981 font-size:.70em ;
3982 font-style: italic;
3983 }
3984
3985 nav .authorartist{ display:inline; }
3986
3987
3988
3989 /* Native LaTeX theorems: */
3990
3991 .theoremcontents {
3992 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3993 }
3994
3995 .theoremlabel {
3996 font-style: normal; font-weight: bold ; margin-right: .5em ;
3997 }
3998
3999
4000
4001 /* theorem, amsthm, and ntheorem packages */
4002
4003 span.theoremheader,
4004 span.theoremheaderplain,
4005 span.theoremheaderdefinition,
4006 span.theoremheaderbreak,
4007 span.theoremheadermarginbreak,
4008 span.theoremheaderchangebreak,
4009 span.theoremheaderchange,
4010 span.theoremheadermargin
4011 {
4012 font-style:normal ; font-weight: bold ; margin-right: 1em ;
4013 }
4014
4015 span.amsthmnameplain,
4016 span.amsthmnamedefinition,
4017 span.amsthmnumberplain,
4018 span.amsthmnumberdefinition
4019 {
4020 font-style:normal ; font-weight: bold ;
4021 }
4022
4023
4024 span.amsthmnameremark,
4025 span.amsthmnumberremark
4026 {font-style:italic ; font-weight: normal ; }
4027
4028
4029 span.amsthmnoteplain,
4030 span.amsthmnotedefinition
4031 {font-style:normal ;}
4032
4033
4034 span.theoremheaderremark,
4035 span.theoremheaderproof,
4036 span.amsthmproofname
4037 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
4038
4039 span.theoremheadersc
```

```
4040 {
4041 font-style:normal ;
4042 font-variant: small-caps ;
4043 font-weight: normal ;
4044 margin-right: 1em ;
4045 }
4046
4047 .theoremendmark {float:right}
4048
4049 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
4050 div.theorembodybreak, div.theorembodynonumberbreak,
4051 div.theorembodymarginbreak,
4052 div.theorembodychangebreak,
4053 div.theorembodychange,
4054 div.theorembodymargin
4055 {
4056 font-style:italic;
4057 margin-top: 3ex ; margin-bottom: 3ex ;
4058 }
4059
4060 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
4061 div.theorembodyplainupright, nonumberplainuprightsc,
4062 div.amsthmbodydefinition, div.amsthmbodyremark,
4063 div.amsthmproof
4064 {
4065 font-style: normal ;
4066 margin-top: 3ex ; margin-bottom: 3ex ;
4067 }
4068
4069 span.amsthmnoteremark {}
4070
4071
4072 /* thmbox */
4073
4074 .thmbox {
4075 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
4076 border: 1px solid gray ;
4077 padding: 1ex ;
4078 }
4079
4080 .thmboxtitle {
4081 font-style: normal; font-weight: bold ; margin-right: .5em ;
4082 border-bottom: 1px solid gray ;
4083 }
4084
4085 span.thmboxproofname, span.thmboxexemplename {
4086 font-weight: bold ;
4087 }
4088
4089 div.thmboxproof, div.thmboxexample {
4090 font-size: 0.85em ;
4091 margin: 2ex ;
4092 }
4093
4094 div.thmboxleftbar {
4095 border-left: 2px solid black ;
4096 padding-left: 1em ;
4097 }
4098
4099
```

```
4100
4101 /* For the backnaur package: */
4102 div.backnaur {
4103 display: block ;
4104 margin: 2ex 2em 2ex 2em ;
4105 }
4106
4107 div.backnaur p {
4108 margin: .25ex 0ex .25ex 0ex ;
4109 text-indent: 0em ;
4110 }
4111
4112 div.backnaurprod {
4113 display: inline-block ;
4114 min-width: 8em ;
4115 text-align:right ;
4116 }
4117
4118 div.backnaurdsc {
4119 display: inline-block ;
4120 }
4121
4122
4123 /* For the notes package: */
4124 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
4125 clear: both ;
4126 margin: 2ex 2em 2ex 2em ;
4127 border: 1px solid silver ;
4128 }
4129
4130 div.notesicon {
4131 float:left ;
4132 display: inline-block ;
4133 background: gold ;
4134 padding: 0ex 1em 0ex 1em ;
4135 margin-right: 1em ;
4136 font-weight: bold ;
4137 }
4138
4139 div.notescontents { font-style: italic }
4140
4141
4142 /* nolbreaks package: */
4143 span.nolbreaks { white-space: nowrap ; }
4144
4145
4146 /*
4147 For CSS LaTeX and related logos:
4148 Based on spacing demonstrated by the metafont package.
4149
4150 The subscripts are shrunk instead of lowered below the baseline,
4151 to avoid browser rendering errors with the line height in lists, etc.
4152 */
4153
4154 .latexlogofont {
4155 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
4156 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4157 font-variant: normal ;
4158 }
4159
```

```
4160 .latexlogo {
4161 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
4162 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4163 }
4164
4165 .latexlogosup {
4166 text-transform: uppercase;
4167 letter-spacing: .03em ;
4168 font-size: 0.7em;
4169 vertical-align: 0.25em;
4170 margin-left: -0.4em;
4171 margin-right: -0.15em;
4172 }
4173
4174 .latexlogosub {
4175 text-transform: uppercase;
4176 /* vertical-align: -0.27ex; */
4177 margin-left: -0.08em;
4178 margin-right: -0.07em;
4179 /* font-size: 1em; */
4180 font-size: .7em ;
4181 }
4182
4183 .latexlogotwoe {
4184 text-transform: none ;
4185 font-variant-numeric: oldstyle-nums ;
4186 }
4187
4188 .latexlogotwoesub {
4189 font-style:italic ;
4190 /* vertical-align: -0.27ex; */
4191 margin-left: -0.11em;
4192 margin-right: -0.1em;
4193 /* font-size: 1em; */
4194 font-size: .7em ;
4195 }
4196
4197 .xelatexlogo {
4198 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
4199 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4200 letter-spacing: .03em ;
4201 }
4202
4203 .xelatexlogosub {
4204 /* vertical-align: -0.27ex; */
4205 margin-left: -0.0667em;
4206 margin-right: -.05em;
4207 /* font-size: 1em; */
4208 font-size: .7em ;
4209 letter-spacing: .03em ;
4210 }
4211
4212 .amslogo {
4213 font-family: "TeXGyreChorus","URW Chancery L",
4214 "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
4215 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
4216 "Hoefler Text", Times, "Times New Roman", serif ;
4217 font-style: italic ;
4218 }
4219
```

```
4220 .lyxlogo {
4221 font-family: "URW Classico", Optima, "Linux Biolinum O",
4222 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
4223 Verdana, sans-serif ;
4224 }
4225
4226
4227 /* Only display top and bottom navigation if a small screen: */
4228 /* Hide the sidetoc if a small screen: */
4229 nav.topnavigation { display:none; }
4230 nav.botnavigation { display:none; }
4231
4232 /* Only display the sidetoc's webpage title if a small screen */
4233 span.sidetocthetitle { display: none }
4234
4235 @media screen and (max-width: 100em) {
4236 div.multicols {
4237 -webkit-columns: 2 auto ;
4238 -moz-columns: 2 auto ;
4239 columns: 2 auto ;
4240 }
4241 }
4242
4243 @media screen and (max-width: 50em) {
4244 div.pagegrid {
4245 display: grid ;
4246 grid-template-columns: 1fr ;
4247 grid-template-areas:
4248 "topnav"
4249 "header"
4250 "sidetoc"
4251 "body"
4252 "footer"
4253 "botnav" ;
4254 overflow-y: auto ;
4255 }
4256 div.sidetoccontainer {
4257 float: none ;
4258 width: 100% ;
4259 padding: 0 ;
4260 border-radius: 0 ;
4261 border-bottom: 1px solid black ;
4262 border-top: 1px solid black ;
4263 box-shadow: none ;
4264 }
4265 span.sidetocthetitle { display: inline }
4266 nav.topnavigation { display:block }
4267 nav.botnavigation { display:block }
4268 main.bodycontainer { width: 100% }
4269 .marginpar {
4270 max-width: 100%;
4271 float: none;
4272 display:block ;
4273 margin: 1ex 1em 1ex 1em ;
4274 }
4275 div.multicols {
4276 -webkit-columns: 1 auto ;
4277 -moz-columns: 1 auto ;
4278 columns: 1 auto ;
4279 }
```

```

4280 }
4281
4282 @media print {
4283 div.pagegrid {
4284 display: block ;
4285 max-height: 100% ;
4286 overflow-y: show ;
4287 }
4288 body {
4289 font-family: "Linux Libertine O",
4290 "DejaVu Serif", "Bitstream Vera Serif",
4291 "Liberation Serif", "Nimbus Roman No 9 L",
4292 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4293 }
4294 div.sidetoccontainer { display:none; }
4295 nav.topnavigation { display: none; }
4296 nav.botnavigation { display: none; }
4297 main.bodycontainer { width: 100% }
4298 }
4299
4300 @media handheld {
4301 div.pagegrid {
4302 display: block ;
4303 max-height: auto ;
4304 overflow-y: auto ;
4305 }
4306 div.sidetoccontainer { display:none; }
4307 nav.topnavigation { display:block }
4308 nav.botnavigation { display:block }
4309 main.bodycontainer { width: 100% }
4310 }
4311 \end{filecontents*}
4312 % \end{Verbatim}% for syntax highlighting
4313 \end{LWRwriteconf}

```

## 42.5 lwarp\_sagebrush.css

lwarp\_sagebrush.css (*file*) An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4314 \begin{LWRwriteconf}
4315 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4316 @import url("lwarp.css") ;
4317
4318
4319 A:link {color:#105030 ; text-decoration: none ; }
4320 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4321 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4322 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4323
4324
4325
4326 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4327 {
4328 font-family: "URW Classico", Optima, "Linux Biolinum O",
4329 "Linux Libertine O", "Liberation Serif",

```

```
4330 "Nimbus Roman No 9 L", "FreeSerif",
4331 "Hoefler Text", Times, "Times New Roman", serif;
4332 font-variant: small-caps ;
4333 font-weight: normal ;
4334 color: #304070 ;
4335 text-shadow: 2px 2px 3px #808080;
4336 }
4337
4338 h1 { /* title of the entire website, used on each page */
4339 font-variant: small-caps ;
4340 color: #304070 ;
4341 text-shadow: 2px 2px 3px #808080;
4342 background-color: #F7F7F0 ;
4343 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4344 }
4345
4346 h1 {
4347 border-bottom: 1px solid #304070;
4348 /* border-top: 2px solid #304070; */
4349 }
4350
4351 h2 {
4352 border-bottom: 1px solid #304070;
4353 /* border-top: 2px solid #304070; */
4354 background-color: #F7F7F0 ;
4355 background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4356 }
4357
4358
4359
4360 div.abstract {
4361 background: #f5f5eb ;
4362 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4363
4364 border: 1px solid silver;
4365 border-radius: 1em ;
4366 }
4367
4368 div.abstract dl {line-height:1.5;}
4369 div.abstract dt {color:#304070;}
4370
4371 div.abstracttitle{
4372 font-family: "URW Classico", Optima, "Linux Biolinum O",
4373 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4374 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4375 font-weight:bold;
4376 font-variant: small-caps ;
4377 font-size:1.5em;
4378 border-bottom: 1px solid silver ;
4379 color: #304070 ;
4380 text-align: center ;
4381 text-shadow: 1px 1px 2px #808080;
4382 }
4383
4384 span.abstracrunintitle{
4385 font-family: "URW Classico", Optima, "Linux Biolinum O",
4386 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4387 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4388 font-weight:bold;
4389 }
```

```
4390
4391
4392 div.epigraph, div.dictum {
4393 background: #f5f5eb ;
4394 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4395
4396 border: 1px solid silver ;
4397 border-radius: 1ex ;
4398 box-shadow: 3px 3px 3px #808080 ;
4399 }
4400
4401
4402 .example {
4403 background-color: #f5f5eb ;
4404 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4405 margin: 3ex 4em 2ex 4em ;
4406 }
4407
4408 div.exampletitle{
4409 font-family: "URW Classico", Optima, "Linux Biolinum O",
4410 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4411 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4412 font-weight:bold;
4413 font-variant: small-caps ;
4414 border-bottom: 1px solid silver ;
4415 color: #304070 ;
4416 text-align: center ;
4417 text-shadow: 1px 1px 2px #808080;
4418 }
4419
4420
4421 .sidebar {
4422 background-color: #f5f5eb ;
4423 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4424 margin: 3ex 4em 2ex 4em ;
4425 }
4426
4427 div.sidebar{
4428 font-family: "URW Classico", Optima, "Linux Biolinum O",
4429 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4430 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4431 font-weight:bold;
4432 font-variant: small-caps ;
4433 border-bottom: 1px solid silver ;
4434 color: #304070 ;
4435 text-align: center ;
4436 text-shadow: 1px 1px 2px #808080;
4437 }
4438
4439
4440 .fancyvrblabel {
4441 font-family: "URW Classico", Optima, "Linux Biolinum O",
4442 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4443 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4444 font-weight:bold;
4445 font-variant: small-caps ;
4446 font-size: 1.5em ;
4447 color: #304070 ;
4448 text-align: center ;
4449 text-shadow: 1px 1px 2px #808080;
```

```
4450 }
4451
4452 div.minipage {
4453 background-color: #eeeeee7 ;
4454 border: 1px solid silver ;
4455 border-radius: 1ex ;
4456 }
4457
4458 table div.minipage { background: none ; border: none ; }
4459
4460 div.framebox div.minipage {border:none ; background:none}
4461
4462 section.textbody > div.minipage {
4463 box-shadow: 3px 3px 3px #808080 ;
4464 }
4465
4466 div.fboxBlock div.minipage { box-shadow: none ; }
4467
4468 .framed .minipage , .framedleftbar .minipage {
4469 border: none ;
4470 background: none ;
4471 padding: 0ex ;
4472 margin: 0ex ;
4473 }
4474
4475 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4476
4477 div.marginblock div.minipage ,
4478 div.marginparblock div.minipage
4479 { border: none; }
4480
4481 figure , div.marginblock {
4482 background-color: #eeeeee7 ;
4483 border: 1px solid silver ;
4484 border-radius: 1ex ;
4485 box-shadow: 3px 3px 3px #808080 ;
4486 }
4487
4488 figure figure {
4489 border: 1px solid silver ;
4490 margin: 0em ;
4491 box-shadow: none ;
4492 }
4493
4494 /*
4495 div.figurecaption {
4496 border-top: 1px solid silver ;
4497 border-bottom: 1px solid silver ;
4498 background-color: #e8e8e8 ;
4499 }
4500 */
4501
4502
4503 div.table {
4504 box-shadow: 3px 3px 3px #808080 ;
4505 }
4506
4507 /*
4508 .tnotes {
4509 background: #e8e8e8;
```

```

4510 border: 1px solid silver;
4511 }
4512 */
4513
4514
4515 nav.topnavigation{
4516 background-color: #b0b8b0 ;
4517 background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4518 }
4519
4520 nav.botnavigation{
4521 background-color: #b0b8b0 ;
4522 background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4523 }
4524
4525
4526
4527 header{
4528 background-color: #F7F7F0 ;
4529 background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4530 }
4531
4532 footer{
4533 background-color: #F7F7F0 ;
4534 background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4535 }
4536
4537
4538
4539 div.sidetoccontainer {
4540 background-color: #F7F7F0 ;
4541 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4542 box-shadow: 3px 3px 3px #808080 ;
4543 }
4544
4545 div.sidetocitle {color: #304070 ; }
4546
4547 nav.sidetoc a:hover {
4548 color:#006000 ;
4549 text-decoration: none ;
4550 text-shadow:0px 0px 2px #a0a0a0;
4551 }
4552
4553
4554 @media screen and (max-width: 45em) {
4555 div.sidetoccontainer { border-radius: 0 ; }
4556 }
4557
4558
4559 \end{filecontents*}
4560 % \end{Verbatim}% for syntax highlighting
4561 \end{LWRwriteconf}

```

## 42.6 lwarp\_formal.css

`lwarp_formal.css` (*file*) An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4562 \begin{LWRwriteconf}
4563 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4564 @import url("lwarp.css") ;
4565
4566
4567
4568 A:link {color:#802020 ; text-decoration:none; }
4569 A:visited {color:#802020 ; text-shadow:none ;}
4570 A:hover {color:#400000 ; text-shadow:none ;}
4571 A:active {color:#C00000 ; text-shadow:none ;}
4572
4573
4574 body {
4575 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4576 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4577 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4578 "Times New Roman", serif;
4579 background: #fffcf5;
4580 }
4581
4582 span.textrm {
4583 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4584 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4585 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4586 "Times New Roman", serif;
4587 }
4588
4589 span.textsf {
4590 font-family: "DejaVu Sans", "Bitstream Vera Sans",
4591 Geneva, Verdana, sans-serif ;
4592 }
4593
4594
4595
4596 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4597 {
4598 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4599 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4600 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4601 "Times New Roman", serif;
4602 color: #800000 ;
4603 text-shadow: none ;
4604 }
4605
4606 h1, h2 {
4607 background-color: #fffcf5 ;
4608 background-image: none ;
4609 border-bottom: 1px solid #808080;
4610 /* border-top: 2px solid #808080; */
4611 }
4612
4613 div.abstracttitle {
4614 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4615 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4616 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4617 "Times New Roman", serif;
4618 color: black ;

```

```
4619 text-shadow: none ;
4620 }
4621
4622 span.abstractrunintitle {
4623 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4624 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4625 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4626 "Times New Roman", serif;
4627 color: black ;
4628 text-shadow: none ;
4629 }
4630
4631 div.abstract { font-size: 100% }
4632
4633 .sidebar {
4634 background: #fffcf5;
4635 background-image: none ;
4636 margin: 2em 5% 2em 5%;
4637 padding: 0.5em 1em;
4638 border: none ;
4639 border-top : 1px solid silver;
4640 border-bottom : 1px solid silver;
4641 font-size: 90% ;
4642 }
4643
4644 div.sidebartitle{
4645 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4646 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4647 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4648 "Times New Roman", serif;
4649 color: #800000 ;
4650 text-shadow: none ;
4651 border: none ;
4652 }
4653
4654 .example {
4655 background: #fffcf5;
4656 background-image: none ;
4657 margin: 2em 5% 2em 5%;
4658 padding: 0.5em 1em;
4659 border: none ;
4660 border-top : 1px solid silver;
4661 border-bottom : 1px solid silver;
4662 }
4663
4664 div.exampletitle{
4665 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4666 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4667 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4668 "Times New Roman", serif;
4669 color: #800000 ;
4670 text-shadow: none ;
4671 border: none ;
4672 }
4673
4674 div.fancyvrblabel{
4675 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4676 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4677 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4678 "Times New Roman", serif;
```

```
4679 color: #800000 ;
4680 text-shadow: none ;
4681 border: none ;
4682 }
4683
4684
4685
4686 figure {
4687 margin: 5ex 5% 5ex 5% ;
4688 padding: 1ex 1em 1ex 1em ;
4689 background-color: #fffcf5 ;
4690 overflow-x: auto ;
4691 border: none ;
4692 /* border-top: 1px solid silver; */
4693 /* border-bottom: 1px solid silver; */
4694 }
4695
4696
4697 div.figurecaption , .lstlisting {
4698 border: none ;
4699 /* border-top: 1px solid silver ; */
4700 /* border-bottom: 1px solid silver ; */
4701 background-color: #fffcf5 ;
4702 }
4703
4704 .tnotes {
4705 background: #fffcf5 ;
4706 border-top: 1px solid silver ;
4707 border-bottom: 1px solid silver ;
4708 }
4709
4710 .theorem {
4711 background: none ;
4712 }
4713
4714 .minipage {
4715 background-color: #fffcf5 ;
4716 border: none ;
4717 }
4718
4719 div.floatrow figure { border: none ; }
4720
4721 figure figure { border: none ; }
4722
4723
4724 nav.toc, nav.lof, nav.lot, nav.lol {
4725 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4726 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4727 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4728 "Times New Roman", serif;
4729 }
4730
4731 div.sidetoccontainer {
4732 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4733 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4734 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4735 "Times New Roman", serif;
4736 background-image: linear-gradient(to bottom, #fffcf5, #C0C0C0);
4737 }
4738
```

```

4739 div.sidetoctitle{
4740 color: #800000 ;
4741 }
4742
4743 header{
4744 background-color: #e0e0e0 ;
4745 background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4746 text-align:center ;
4747 }
4748
4749 footer{
4750 background-color: #e0e0e0 ;
4751 background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4752 padding: 2ex 1em 2ex 1em ;
4753 text-align:left ;
4754 }
4755
4756 nav.botnavigation {
4757 background: #dedcd5 ;
4758 border-top: 1px solid black ;
4759 }
4760 \end{filecontents*}
4761 % \end{Verbatim}% for syntax highlighting
4762 \end{LWRwriteconf}

```

## 42.7 sample\_project.css

sample\_project.css (*file*) The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4763 \begin{LWRwriteconf}
4764 \begin{filecontents*}[overwrite]{sample_project.css}
4765 /* (--- Start of sample_project.css ---) */
4766 /* (--- A sample project-specific CSS file for Lwarp ---) */
4767
4768 /* Uncomment one of the following: */
4769 @import url("lwarp.css") ;
4770 /* @import url("lwarp_formal.css") ; */
4771 /* @import url("lwarp_sagebrush.css") ; */
4772
4773 /* Project-specific CSS setting follow here. */
4774 /* . . . */
4775
4776 /* To use paragraph indents, uncomment the following: */
4777 /*
4778 body p {
4779 text-indent: 2em ;
4780 margin-bottom: 0ex ;
4781 margin-top: 0ex ;
4782 }
4783 */
4784
4785 /* (--- End of sample_project.css ---) */
4786 \end{filecontents*}
4787 % \end{Verbatim}% for syntax highlighting
4788 \end{LWRwriteconf}

```

## 42.8 lwarp.ist

lwarp.ist (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's \specialindex.

**Config file:**

```

4789 \begin{LWRwriteconf}
4790 \begin{filecontents*}[overwrite]{lwarp.ist}
4791 preamble
4792 "\begin{theindex}
4793 \providecommand*\lettergroupDefault[1]{}
4794 \providecommand*\lettergroup[1]{%
4795 \par\textbf{#1}\par
4796 \nopagebreak
4797 }
4798 "
4799 headings_flag 1
4800 heading_prefix "
4801 \lettergroup{"
4802 heading_suffix "}"
4803 delim_0 ", \hyperindexref{"
4804 delim_1 " ", \hyperindexref{"
4805 delim_2 " ", \hyperindexref{"
4806 delim_n "}, \hyperindexref{"
4807 delim_r "} -- \hyperindexref{"
4808 delim_t "}"
4809 page_compositor "."
4810 \end{filecontents*}
4811 % \end{Verbatim}% for syntax highlighting
4812 \end{LWRwriteconf}

```

## 42.9 lwarp.xdy

lwarp.xdy (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

**Config file:**

```

4813 \begin{LWRwriteconf}
4814 \begin{filecontents*}[overwrite]{lwarp.xdy}
4815 (require "tex/inputenc/latin.xdy")
4816 (merge-rule "\PS *" "Postscript")
4817 (require "texindy.xdy")
4818 (require "page-ranges.xdy")
4819 (require "book-order.xdy")
4820 (define-location-class "arabic-page-numbers"
4821 ("arabic-numbers") :min-range-length 1)
4822 (require "makeindex.xdy")
4823 (define-attributes (("hyperindexref")))
4824 (markup-locref :open "\hyperindexref{" :close "}")
4825 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")

```

```

4826 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4827 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4828 (define-location-class-order ("roman-page-numbers"
4829 "arabic-page-numbers"
4830 "alpha-page-numbers"
4831 "Roman-page-numbers"
4832 "Alpha-page-numbers"
4833 "see"
4834 "seealso"))
4835 \end{filecontents*}
4836 % \end{Verbatim}% for syntax highlighting
4837 \end{LWRwriteconf}

```

## 42.10 lwarp\_one\_limage.cmd

lwarp\_one\_limage.cmd (*file*) Used by lwarp to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

*MiKTeX* does not allow file lwarp\_one\_limage.cmd to be created directly by *lwarpmk*, so lwarp\_one\_limage.txt is created instead, then copied to lwarp\_one\_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

**Config file:**

```

4838 \begin{LWRwriteconf}
4839 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4840 \immediate\write\LWR@quickfile{%
4841 pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4842 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4843 }
4844 \immediate\write\LWR@quickfile{%
4845 pdfcrop --hires --margins \LWRopquote0 1 0 0\LWRopquote\space %
4846 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4847 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4848 }
4849 \immediate\write\LWR@quickfile{%
4850 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4851 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4852 }
4853 \immediate\write\LWR@quickfile{%
4854 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4855 }
4856 \immediate\write\LWR@quickfile{%
4857 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4858 }
4859 \immediate\write\LWR@quickfile{exit}
4860 \immediate\closeout\LWR@quickfile
4861 \end{LWRwriteconf}

```

## 42.11 lwarp\_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE, BRIAN DUNN.)

lwarp\_mathjax.txt (*file*) The default MATHJAX script used by lwarp when using MATHJAX. A recent version

of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow L<sup>A</sup>T<sub>E</sub>X to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the HTML pages, and defaults to `lwarp_mathjax.txt`. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

**custom script** To generate a custom script, such as to use a local repository, copy `lwarp_mathjax.txt` to a new file, make changes while keeping `lwarp`'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

**Config file:**

```

4862 \begin{LWRwriteconf}
4863 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4864 <script>
4865 // Lwarp MathJax emulation code
4866 //
4867 // Based on code by Davide P. Cervone.
4868 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4869 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4870 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4871 //
4872 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4873 //
4874 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4875 // subequations? is 0 usually, 1 if inside subequations.
4876 // section is a string printed as-is, or empty.
4877 // number is auto-incremented by MathJax between equations.
4878 //
4879 MathJax = {
4880 subequations: "0",
4881 section: "",
4882 loader: {
4883 load: ['[tex]/tagformat', '[tex]/textmacros'],
4884 },
4885 startup: {
4886 ready() {
4887 // These would be replaced by import commands if you wanted to make
4888 // a proper extension.
4889 const Configuration = MathJax._.input.tex.Configuration.Configuration;
4890 const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4891 const Macro = MathJax._.input.tex.Symbol.Macro;
4892 const TexError = MathJax._.input.tex.TexError.default;
4893 const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4894 const expandable = MathJax._.util.Options.expandable;
4895
4896 // Insert the replacement string into the TeX string, and check
4897 // that there haven't been too many macro substitutions (prevents
4898 // infinite loops).
4899 const useArgument = (parser, text) => {
4900 parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4901 parser.i = 0;
4902 if (++parser.macroCount > parser.configuration.options.maxMacros) {
4903 throw new TexError('MaxMacroSub1',
4904 'MathJax maximum macro substitution count exceeded; ' +
4905 'is there a recursive macro call?');
4906 }
4907 }
4908
4909 // Create the command map for:

```

```

4910 // \ifstar, \ifnextchar, \ifblank, \ifstrequal, \gsub, \seteqnumber
4911 new CommandMap('Lwarp-macros', {
4912 ifstar: 'IfstarFunction',
4913 ifnextchar: 'IfnextcharFunction',
4914 ifblank: 'IfblankFunction',
4915 ifstrequal: 'IfstrequalFunction',
4916 gsubstitute: 'GsubstituteFunction',
4917 seteqnumber: 'SeteqnumberFunction'
4918 }, {
4919 // This function implements an ifstar macro.
4920 IfstarFunction(parser, name) {
4921 const resultstar = parser.GetArgument(name);
4922 const resultnostar = parser.GetArgument(name);
4923 const star = parser.GetStar(); // true if there is a *
4924 useArgument(parser, star ? resultstar : resultnostar);
4925 },
4926
4927 // This function implements an ifnextchar macro.
4928 IfnextcharFunction(parser, name) {
4929 let whichchar = parser.GetArgument(name);
4930 if (whichchar.match(/^(?:0x[0-9A-F]+|[0-9]+)$/i)) {
4931 // $ syntax highlighting
4932 whichchar = String.fromCodePoint(parseInt(whichchar));
4933 }
4934 const resultnextchar = parser.GetArgument(name);
4935 const resultnotnextchar = parser.GetArgument(name);
4936 const gotchar = (parser.GetNext() === whichchar);
4937 useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4938 },
4939
4940 // This function implements an ifblank macro.
4941 IfblankFunction(parser, name) {
4942 const blankarg = parser.GetArgument(name);
4943 const resultblank = parser.GetArgument(name);
4944 const resultnotblank = parser.GetArgument(name);
4945 const isblank = (blankarg.trim() == "");
4946 useArgument(parser, isblank ? resultblank : resultnotblank);
4947 },
4948
4949 // This function implements an ifstrequal macro.
4950 IfstrequalFunction(parser, name) {
4951 const strequalfirst = parser.GetArgument(name);
4952 const strequalsecond = parser.GetArgument(name);
4953 const resultequal = parser.GetArgument(name);
4954 const resultnotequal = parser.GetArgument(name);
4955 const isequal = (strequalfirst == strequalsecond);
4956 useArgument(parser, isequal ? resultequal : resultnotequal);
4957 },
4958
4959 // This function implements a gsub macro.
4960 GsubstituteFunction(parser, name) {
4961 const gsubfirst = parser.GetArgument(name);
4962 const gsubsecond = parser.GetArgument(name);
4963 const gsubthird = parser.GetArgument(name);
4964 let gsubresult = gsubfirst.replace(gsubsecond, gsubthird);
4965 useArgument(parser, gsubresult);
4966 },
4967
4968 // This function modifies the equation numbers.
4969 SeteqnumberFunction(parser, name) {

```

```

4970 // Get the macro parameters
4971 const star = parser.GetStar(); // true if there is a *
4972 const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4973 const newsubequations = parser.GetArgument(name); // the subequations argument
4974 const neweqsection = parser.GetArgument(name); // the eq section argument
4975 const neweqnumber = parser.GetArgument(name); // the eq number argument
4976 MathJax.config.subequations=newsubequations; // a string with boolean meaning
4977 MathJax.config.section=neweqsection; // a string with numeric meaning
4978 parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4979 }
4980
4981 });
4982
4983 // Create the Lwarp-macros package
4984 Configuration.create('Lwarp-macros', {
4985 handler: {macro: ['Lwarp-macros']}
4986 });
4987
4988 MathJax.startup.defaultReady();
4989
4990 // For forward references:
4991 MathJax.startup.input[0].preFilters.add(({math}) => {
4992 if (math.inputData.recompile){
4993 MathJax.config.subequations = math.inputData.recompile.subequations;
4994 MathJax.config.section = math.inputData.recompile.section;
4995 }
4996 });
4997 MathJax.startup.input[0].postFilters.add(({math}) => {
4998 if (math.inputData.recompile){
4999 math.inputData.recompile.subequations = MathJax.config.subequations;
5000 math.inputData.recompile.section = MathJax.config.section;
5001 }
5002 });
5003
5004 // For \left, \right with unicode-math:
5005 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
5006 const {Symbol} = MathJax._.input.tex.Symbol;
5007 const {MapHandler} = MathJax._.input.tex.MapHandler;
5008 const delimiter = MapHandler.getMap('delimiter');
5009 delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
5010 delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
5011 delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));
5012 delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
5013 delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
5014 delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
5015 delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
5016 delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
5017 delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
5018 delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
5019 delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
5020 delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
5021 delimiter.add('\lLbrbrak', new Symbol('\lLbrbrak', '\u27EC'));
5022 delimiter.add('\rRbrbrak', new Symbol('\rRbrbrak', '\u27ED'));
5023 delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
5024 delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));
5025 delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
5026 delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
5027 delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
5028 delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
5029 delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));

```

```

5030 delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
5031 delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
5032 delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
5033 delimiter.add('\langedot', new Symbol('\langedot', '\u2991'));
5034 delimiter.add('\rangedot', new Symbol('\rangedot', '\u2992'));
5035 delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
5036 delimiter.add('\rparengtr', new Symbol('\rparengtr', '\u2994'));
5037 delimiter.add('\Lparengtr', new Symbol('\Lparengtr', '\u2995'));
5038 delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
5039 delimiter.add('\lblrbrak', new Symbol('\lblrbrak', '\u2997'));
5040 delimiter.add('\rblrbrak', new Symbol('\rblrbrak', '\u2998'));
5041 delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
5042 delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
5043 delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
5044 delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
5045 delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
5046 delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
5047 delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
5048 } // ready
5049 }, // startup
5050
5051 tex: {
5052 packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
5053 tags: "ams",
5054 tagformat: {
5055 number: function (n) {
5056 if(MathJax.config.subequations==0)
5057 return(MathJax.config.section + n);
5058 else
5059 return(MathJax.config.section + String.fromCharCode(96+n));
5060 },
5061 },
5062 }
5063 }
5064 </script>
5065
5066 <script
5067 id="MathJax-script"
5068 src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js"
5069 ></script>
5070 \end{filecontents*}
5071 % \end{Verbatim}% for syntax highlighting
5072 \end{LWRwriteconf}

```

## 42.12 lwarpmk.lua — lwarpmk option

**lwarpmk** (*Opt*) Creates a local copy of *lwarpmk*.

**lwarpmk** (*Prog*) Command-line utility to process *lwarp* files and images.

**parallel processing** lateximages and svg math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the wait command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

START /B /WAIT /BELOWNORMAL

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the `lwarpmk` option was given to `lwarp`.

```

5073 \begin{LWRcreatelwarpmk}

5074 \begin{filecontents*}[overwrite]{lwarpmk.lua}
5075 #!/usr/bin/env texlua
5076
5077 -- Copyright 2016-2026 Brian Dunn
5078
5079
5080 printversion = "v0.922"
5081 requiredconfversion = "2" -- also at *lwarpmk.conf
5082
5083 function printhelp ()
5084 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
5085 end
5086
5087
5088 function printusage ()
5089 --
5090 -- Print the usage of the lwarpmk command:
5091 --
5092 print ([[
5093
5094 lwarpmk print [-p project]: Compile the print version if necessary.
5095 lwarpmk print1 [-p project]: Forced single compile of the print version.
5096 lwarpmk printindex [-p project]: Process print indexes.
5097 lwarpmk printglossary [-p project]: Process the glossary for the print version.
5098 lwarpmk html [-p project]: Compile the HTML version if necessary.
5099 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
5100 lwarpmk htmlindex [-p project]: Process HTML indexes.
5101 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
5102 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
5103 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
5104 lwarpmk pdftohtml [-p project]:
5105 For use with latexmk or a Makefile:
5106 Converts project_html.pdf to project_html.html and individual HTML files.
5107 Finishes the HTML conversion even if there was a compile error.
5108 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
5109 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
5110 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
5111 *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
5112 *_html.pdf, *_html.html, *_html.sidetoc
5113 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
5114 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
5115 lwarpmk -v: Print the version number.
5116 lwarpmk -h: Print this help message.
5117 lwarpmk --help: Print this help message.
5118
5119]])
5120 -- printconf ()
5121 end
5122
5123
5124 function splitfilename (pathandfilename)
5125 --

```

```

5126 -- Separates out the path and extension from a filename.
5127 -- Returns path, filename with extension, and extension.
5128 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
5129 --
5130 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
5131 -- split_filename_in_to_path_filename_and_extension
5132 --
5133 if lfs.attributes(pathandfilename,"mode") == "directory" then
5134 local strPath = pathandfilename:gsub("[\\\/]$", "") -- $ (syntax highlighting)
5135 return strPath.."\\", "", ""
5136 end
5137 pathandfilename = pathandfilename.."."
5138 return pathandfilename:match("^(.-)([\\\/]-)%.(^[\\\/%.]-)%?.?$")
5139 end
5140
5141
5142 function splitfile (destfile,sourcefile)
5143 --
5144 -- Split one large sourcefile into a number of files,
5145 -- starting with destfile.
5146 -- The file is split at each occurrence of <!--|Start file|newfilename|*
5147 -- If lwarp is in use, sets usinglwarp.
5148 --
5149 usinglwarp = false ;
5150 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
5151 local sfile = io.open(sourcefile)
5152 io.output(destfile)
5153 for line in sfile:lines() do
5154 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
5155 if ((i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
5156 -- split the file
5157 io.output(newfilename) ;
5158 else
5159 if ((i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
5160 -- verified the use of \usepackage{lwarp}
5161 usinglwarp = true ;
5162 else
5163 -- not a splitpoint
5164 io.write (line .. "\n") ;
5165 end end
5166 end -- do
5167 io.close(sfile)
5168 if (usinglwarp == false) then
5169 print ("lwarpmk: ===")
5170 print ("lwarpmk: \\usepackage{lwarp} was not detected,")
5171 print ("lwarpmk: or option warpdisable was used.")
5172 print ("lwarpmk: The HTML output will not be correct,")
5173 print ("lwarpmk: and references may be undefined.")
5174 print ("lwarpmk: Ensured that \\usepackage{lwarp} is enabled,")
5175 print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
5176 print ("lwarpmk: ===")
5177 end
5178 end -- function
5179
5180
5181 function cvalueerror (line, linenum , cvalue)
5182 --
5183 -- Incorrect value, so print an error and exit.
5184 --
5185 print ("lwarpmk: ===")

```

```
5186 print ("lwarpmk: " .. linenum .. " : " .. line) ;
5187 print (
5188 "lwarpmk: incorrect variable value \"" .. cvalue ..
5189 "\"" in lwarpmk.conf.\n"
5190) ;
5191 print ("lwarpmk: ===")
5192 -- printconf () ;
5193 os.exit(1) ;
5194 end
5195
5196
5197 function printhowtorecompile ()
5198 -- Tells the user how to recompile to regenerate the configuration files.
5199 print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf")
5200 print ("lwarpmk: must be updated. To do so, recompile")
5201 print ("lwarpmk: " , sourcename.."tex")
5202 if (printlatexcmd == "") then
5203 print ("lwarpmk: using xe/lua/pdflatex,")
5204 else
5205 print ("lwarpmk: using the command:")
5206 print ("lwarpmk: " , printlatexcmd)
5207 end
5208 print ("lwarpmk: then use lwarpmk again.")
5209 end -- printhowtorecompile
5210
5211
5212 function ignoreconf ()
5213 -- Global argument index
5214 argindex = 2
5215 end
5216
5217 function loadconf ()
5218 --
5219 -- Load settings from the project's "lwarpmk.conf" file:
5220 --
5221 -- Default configuration filename:
5222 local conffile = "lwarpmk.conf"
5223 local confroot = "lwarpmk"
5224 -- Global argument index
5225 argindex = 2
5226 -- Optional configuration filename:
5227 if (arg[argindex] == "-p") then
5228 argindex = argindex + 1
5229 confroot = arg[argindex]
5230 conffile = confroot.."lwarpmkconf"
5231 argindex = argindex + 1
5232 end
5233 -- Additional defaults:
5234 confversion = "0"
5235 opsystem = "Unix"
5236 imagesdirectory = "lateximages"
5237 imagesname = "image-"
5238 latexmk = "false"
5239 printlatexcmd = ""
5240 HTMLlatexcmd = ""
5241 printindexcmd = ""
5242 HTMLindexcmd = ""
5243 latexmkindexcmd = ""
5244 -- to be removed:
5245 -- indexprog = "makeindex"
```

```

5246 -- makeindexstyle = "lwarp.ist"
5247 -- xindylanguage = "english"
5248 -- xindycodepage = "utf8"
5249 -- xindystyle = "lwarp.xdy"
5250 -- pdftotextenc = "UTF-8"
5251 glossarycmd = "makeglossaries"
5252 -- Verify the file exists:
5253 if (lfs.attributes(conffile,"mode")==nil) then
5254 -- file not exists
5255 print ("lwarpmk: ===")
5256 print ("lwarpmk: File \" .. conffile ..\" does not exist.")
5257 print ("lwarpmk: Move to the project's source directory,")
5258 print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
5259 print ("lwarpmk: then try using lwarpmk again.")
5260 if (arg[argindex] ~= nil) then
5261 print (
5262 "lwarpmk: (\" .. confroot ..
5263 "\" does not appear to be a project name.)"
5264)
5265 end
5266 print ("lwarpmk: ===")
5267 printhelp () ;
5268 os.exit(1) -- exit the entire lwarpmk script
5269 else -- file exists
5270 -- Read the file:
5271 print ("lwarpmk: Reading \" .. conffile ..\"")
5272 local cfile = io.open(conffile)
5273 -- Scan each line, parsing each line as: name = [[string]]
5274 local linenum = 0
5275 for line in cfile:lines() do -- scan lines
5276 linenum = linenum + 1
5277 i,j,cvarname,cvalue = string.find (line,"([%w-]*)%s*=%s*%[[%^%]]*%]");
5278 -- Error if incorrect enclosing characters:
5279 if (i == nil) then
5280 print ("lwarpmk: ===")
5281 print ("lwarpmk: \" .. linenum .. \" : \" .. line) ;
5282 print ("lwarpmk: Incorrect entry in \" .. conffile ..\".\n") ;
5283 print ("lwarpmk: ===")
5284 -- printconf () ;
5285 os.exit(1) ;
5286 end -- nil
5287 if (cvarname == "confversion") then
5288 confversion = cvalue
5289 elseif (cvarname == "opsystem") then
5290 -- Verify choice of opsystem:
5291 if ((cvalue == "Unix") or (cvalue == "Windows")) then
5292 opsystem = cvalue
5293 else
5294 cvalueerror (line, linenum , cvalue)
5295 end
5296 elseif (cvarname == "sourcename") then sourcename = cvalue
5297 elseif (cvarname == "homehtmlfilename") then homehtmlfilename = cvalue
5298 elseif (cvarname == "htmlfilename") then htmlfilename = cvalue
5299 elseif (cvarname == "imagesdirectory") then imagesdirectory = cvalue
5300 elseif (cvarname == "imagesname") then imagesname = cvalue
5301 elseif (cvarname == "latexmk") then latexmk = cvalue
5302 elseif (cvarname == "printlatexcmd") then printlatexcmd = cvalue
5303 elseif (cvarname == "HTMLlatexcmd") then HTMLlatexcmd = cvalue
5304 elseif (cvarname == "printindexcmd") then printindexcmd = cvalue
5305 elseif (cvarname == "HTMLindexcmd") then HTMLindexcmd = cvalue

```

```

5306 elseif (cvarname == "latexmkindexcmd") then latexmkindexcmd = cvalue
5307 elseif (cvarname == "glossarycmd") then glossarycmd = cvalue
5308 elseif (cvarname == "pdftotextenc") then pdftotextenc = cvalue
5309 else
5310 print ("lwarpmk: ===")
5311 print ("lwarpmk: " .. linenum .. " : " .. line) ;
5312 print (
5313 "lwarpmk: Incorrect variable name \"\" .. cvarname .. "\" in " ..
5314 conffile .. ".\n"
5315) ;
5316 print ("lwarpmk: ===")
5317 -- printconf () ;
5318 os.exit(1) ;
5319 end -- cvarname
5320 end -- do scan lines
5321 io.close(cfile)
5322 end -- file exists
5323 -- Error if sourcename is "lwarp".
5324 -- This could happen if a local copy of lwarp has recently been recompiled.
5325 if sourcename=="lwarp" then
5326 print ("lwarpmk: ===")
5327 print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5328 print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
5329 print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5330 print ("lwarpmk: In your project directory, recompile your project")
5331 print ("lwarpmk: using pdf/luaxelatex <projectname>.")
5332 print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
5333 print ("lwarpmk: and you may again use lwarpmk.")
5334 print ("lwarpmk: ===")
5335 os.exit(1)
5336 end -- sourcename of "lwarp"
5337 -- Select some operating-system commands:
5338 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
5339 rmname = "rm"
5340 mvname = "mv"
5341 cpname = "cp"
5342 touchnamepre = "touch"
5343 touchnamepost = ""
5344 newtouchname = "touch"
5345 dirslash = "/"
5346 opquote= "\""
5347 cmdgroupopenname = " ("
5348 cmdgroupclosename = ") "
5349 seqname = " && "
5350 bgname = " &"
5351 elseif opsystem=="Windows" then -- For Windows
5352 rmname = "DEL"
5353 mvname = "MOVE"
5354 cpname = "COPY"
5355 touchnamepre = "COPY /b"
5356 touchnamepost = "+,,"
5357 newtouchname = "echo empty >"
5358 dirslash = "\\"
5359 opquote= "\""
5360 cmdgroupopenname = ""
5361 cmdgroupclosename = ""
5362 seqname = " & "
5363 bgname = ""
5364 else
5365 print ("lwarpmk: ===")

```

```
5366 print ("lwarpmk: Select Unix or Windows for opsystem.")
5367 print ("lwarpmk: ===")
5368 os.exit(1)
5369 end --- for Windows
5370 -- Warning if the operating system does not appear to be correct,
5371 -- in case files were transferred to another system.
5372 if ((package.config:sub(1,1)) ~= dirsslash) then
5373 print ("lwarpmk: ===")
5374 print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system.")
5375 printhowtorecompile ()
5376 print ("lwarpmk: ===")
5377 os.exit(1)
5378 end
5379 -- Error if the configuration file's version is not current:
5380 if (confversion ~= requiredconfversion) then
5381 print ("lwarpmk: ===")
5382 printhowtorecompile ()
5383 print ("lwarpmk: ===")
5384 os.exit(1)
5385 end
5386 end -- loadconf
5387
5388
5389 function executecheckerror (executecommands , errormessage)
5390 --
5391 -- Execute an operating system call,
5392 -- and maybe exit with an error message.
5393 --
5394 local err
5395 err = os.execute (executecommands)
5396 if (err ~= 0) then
5397 print ("lwarpmk: ===")
5398 print ("lwarpmk: " .. errormessage)
5399 print ("lwarpmk: ===")
5400 os.exit(1)
5401 end
5402 end -- executecheckerror
5403
5404
5405 function refreshdate ()
5406 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
5407 end
5408
5409
5410
5411 function reruntoget (filesource)
5412 --
5413 -- Scan the LaTeX log file for the phrase "Rerun to get",
5414 -- indicating that the file should be compiled again.
5415 -- Return true if found.
5416 --
5417 local fsource = io.open(filesource)
5418 for line in fsource:lines() do
5419 if (string.find(line,"Rerun to get") ~= nil) then
5420 io.close(fsource)
5421 return true
5422 end -- if
5423 end -- do
5424 io.close(fsource)
5425 return false
```

```
5426 end
5427
5428
5429
5430 function onetime (latexcmd, fsuffix)
5431 --
5432 -- Compile one time, return true if should compile again.
5433 -- fsuffix is "" for print, "_html" for HTML output.
5434 --
5435 print("lwarpmk: Compiling with: " .. latexcmd)
5436 executecheckerror (
5437 latexcmd ,
5438 "Compile error."
5439)
5440 return (reruntoget(sourcename .. fsuffix .. ".log")) ;
5441 end
5442
5443
5444 function manytimes (latexcmd, fsuffix)
5445 --
5446 -- Compile up to five times.
5447 -- fsuffix is "" for print, "_html" for HTML output
5448 --
5449 if onetime(latexcmd, fsuffix) == true then
5450 if onetime(latexcmd, fsuffix) == true then
5451 if onetime(latexcmd, fsuffix) == true then
5452 if onetime(latexcmd, fsuffix) == true then
5453 if onetime(latexcmd, fsuffix) == true then
5454 end end end end end
5455 end
5456
5457
5458 function verifyfileexists (filename)
5459 --
5460 -- Exit if the given file does not exist.
5461 --
5462 if (lfs.attributes (filename , "modification") == nil) then
5463 print ("lwarpmk: ===")
5464 print ("lwarpmk: " .. filename .. " not found.") ;
5465 print ("lwarpmk: ===")
5466 os.exit (1) ;
5467 end
5468 end
5469
5470
5471
5472 function pdftohtml ()
5473 --
5474 -- Convert <project>_html.pdf into HTML files:
5475 --
5476 -- Convert to text:
5477 print ("lwarpmk: Converting " .. sourcename
5478 .. "_html.pdf to " .. sourcename .. "_html.html")
5479 err = os.execute("pdftotext -enc " .. pdftotextenc .. " -npgbrk -layout "
5480 .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5481 if (err ~= 0) then
5482 print ("lwarpmk: ===")
5483 print ("lwarpmk: Ensure that the Poppler utilities are installed.")
5484 print ("lwarpmk: See the Lwarp manual: `Installing additional utilities'.")
5485 print ("lwarpmk: ===")
```

```

5486 os.exit(1)
5487 end
5488 -- Split the result into individual HTML files:
5489 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5490 end
5491
5492
5493 function removeaux ()
5494 --
5495 -- Remove auxiliary files:
5496 -- All .aux files are removed since there may be many bbl*.aux files.
5497 -- Also removes sourcename_html.pdf, sourcename_html.html,
5498 -- and sourcename_html.sidetoc, plus comment_*.cut.
5499 --
5500 os.execute (rmname .. " *.aux " ..
5501 sourcename .. ".toc " .. sourcename .. "_html.toc " ..
5502 sourcename .. ".lof " .. sourcename .. "_html.lof " ..
5503 sourcename .. ".lot " .. sourcename .. "_html.lot " ..
5504 sourcename .. ".bbl " .. sourcename .. "_html.bbl " ..
5505 " *.idx " ..
5506 " *.ind " ..
5507 sourcename .. ".ps " .. sourcename .. "_html.ps " ..
5508 sourcename .. ".log " .. sourcename .. "_html.log " ..
5509 sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
5510 sourcename .. "_html.pdf " ..
5511 sourcename .. "_html.html " ..
5512 sourcename .. "_html.sidetoc " ..
5513 " *_html_inc.* " ..
5514 " comment_*.cut"
5515)
5516 end
5517
5518 function checkhtmlpdfexists ()
5519 --
5520 -- Error if the HTML document does not exist.
5521 -- The lateximages are drawn from the HTML PDF version of the document,
5522 -- so "lwarpmk html" must be done before "lwarpmk limages".
5523 --
5524 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5525 if (htmlpdffile == nil) then
5526 print ("")
5527 print ("lwarpmk: ===")
5528 print ("lwarpmk: The HTML version of the document does not exist.")
5529 print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5530 print ("lwarpmk: ===")
5531 os.exit(1)
5532 end
5533 io.close (htmlpdffile)
5534 end -- checkhtmlpdfexists
5535
5536
5537 function warnlimages ()
5538 --
5539 -- Warning of a missing <sourcename>-images.txt file:
5540 print ("lwarpmk: ===")
5541 print ("lwarpmk: \"\" .. sourcename .. "-images.txt\" does not exist.")
5542 print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5543 print ("lwarpmk: or the file has been deleted somehow.")
5544 print ("lwarpmk: Use \"lwarpmk html\" to recompile your project")
5545 print ("lwarpmk: and recreate \"\" .. sourcename .. "-images.txt\".")

```

```

5546 print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5547 print ("lwarpmk: then \"\" .. sourcename .. \"-images.txt\" will never exist, and")
5548 print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5549 print ("lwarpmk: ===")
5550 end -- warnlimages
5551
5552
5553 function warnlimagesrecompile ()
5554 -- Warning if must recompile before creating limages:
5555 print ("")
5556 print ("lwarpmk: ===")
5557 print ("lwarpmk: Cross-references are not yet correct.")
5558 print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5559 print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5560 print ("lwarpmk: ===")
5561 end --warnlimagesrecompile
5562
5563
5564 function checklimages ()
5565 --
5566 -- Check <sourcename>.txt to see if need to recompile first.
5567 -- If any entry has a page number of zero, then there were incorrect images.
5568 --
5569 print ("lwarpmk: Checking for a valid \" .. sourcename .. \"-images.txt file.")
5570 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5571 if (limagesfile == nil) then
5572 warnlimages ()
5573 os.exit(1)
5574 end
5575 -- Track warning to recompile if find a page 0
5576 local pagezerowarning = false
5577 -- Scan <sourcename>.txt
5578 for line in limagesfile:lines() do
5579 -- lwimgpage is the page number in the PDF which has the image
5580 -- lwimghash is true if this filename is a hash
5581 -- lwimgname is the lateximage filename root to assign for the image
5582 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5583 -- For each entry:
5584 if ((i~=nil)) then
5585 -- If the page number is 0, image references are incorrect
5586 -- and must recompile the source document:
5587 if (lwimgpage == "0") then
5588 pagezerowarning = true
5589 end
5590 end -- if i~=nil
5591 end -- do
5592 -- The last line should be |end|end|end|.
5593 -- If not, the compile must have aborted, and the images are incomplete.
5594 if (lwimgpage ~= "end") then
5595 warnlimagesrecompile()
5596 os.exit(1) ;
5597 end
5598 if (pagezerowarning) then
5599 warnlimagesrecompile()
5600 os.exit(1) ;
5601 end -- pagezerowarning
5602 end -- checklimages
5603
5604
5605 function createuniximage (lwimgfullname)

```

```

5606 --
5607 -- Create one lateximage for Unix / Linux / Mac OS.
5608 --
5609 executecheckerror (
5610 cmdgroupopenname ..
5611 "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5612 sourcename .. "_html.pdf" ..
5613 imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5614 seqname ..
5615 -- Crop the image:
5616 "pdfcrop --hires --margins \"0 1 0 0\" " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5617 lwimgpage .. ".pdf" ..
5618 imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5619 seqname ..
5620 -- Convert the image to svg:
5621 "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5622 imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5623 seqname ..
5624 -- Remove the temporary files:
5625 rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5626 rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5627 cmdgroupclosename .. " >/dev/null " .. bname
5628 ,
5629 "File error trying to convert " .. lwimgfullname
5630)
5631 -- Every 32 images, wait for completion at below normal priority,
5632 -- allowing other image tasks to catch up.
5633 numimageprocesses = numimageprocesses + 1
5634 if (numimageprocesses > 32) then
5635 numimageprocesses = 0
5636 print ("lwarpmk: waiting")
5637 executecheckerror ("wait" , "File error trying to wait.")
5638 end
5639 end -- createuniximage
5640
5641
5642 function createwindowsimage (lwimgfullname)
5643 --
5644 -- Create one lateximage for Windows.
5645 --
5646 -- Every 32 images, wait for completion at below normal priority,
5647 -- allowing other image tasks to catch up.
5648 numimageprocesses = numimageprocesses + 1
5649 if (numimageprocesses > 32) then
5650 numimageprocesses = 0
5651 thiswaitcommand = "/WAIT /BELOWNORMAL"
5652 print ("lwarpmk: waiting")
5653 else
5654 thiswaitcommand = ""
5655 end
5656 -- Execute the image generation command
5657 executecheckerror (
5658 "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5659 lwimgpage .. " " ..
5660 lwimgname .. " " ..
5661 lwimgname .. " " ..
5662 sourcename .. " <nul >nul"
5663 ,
5664 "File error trying to create image."
5665)

```

```

5666 end -- createwindowsimage
5667
5668
5669 function createonelateximage (line)
5670 --
5671 -- Given the next line of <sourcename>.txt, convert a single image.
5672 --
5673 -- lwimgpage is the page number in the PDF which has the image
5674 -- lwimghash is true if this filename is a hash
5675 -- lwimgname is the lateximage filename root to assign for the image
5676 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5677 -- For each entry:
5678 if (i~=nil) then
5679 -- Skip if the page number is 0:
5680 if (lwimgpage == "0") then
5681 pagezerowarning = true
5682 -- Skip if the page number is "end":
5683 else if (lwimgpage == "end") then
5684 else
5685 -- Skip is this image is hashed and already exists:
5686 local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5687 if (
5688 (lwimghash ~= "true") or
5689 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5690)
5691 then -- not hashed or not exists:
5692 -- Print the name of the file being generated:
5693 print ("lwarpmk: " .. lwimgname)
5694 -- Touch/create the dest so that only once instance tries to build it:
5695 executecheckerror (
5696 newtouchname .. " " .. lwimgfullname ,
5697 "File error trying to touch " .. lwimgfullname
5698)
5699 -- Separate out the image into its own single-page pdf:
5700 if opsystem=="Unix" then
5701 createuniximage (lwimgfullname)
5702 elseif opsystem=="Windows" then
5703 createwindowsimage (lwimgfullname)
5704 end
5705 end -- not hashed or not exists
5706 end -- not page "end"
5707 end -- not page 0
5708 end -- not nil
5709 end -- createonelateximage
5710
5711
5712 function createlateximages ()
5713 --
5714 -- Create lateximages based on <sourcename>-images.txt:
5715 --
5716 -- See if the document must be recompiled first:
5717 checklimages ()
5718 -- See if the HTML version exists:
5719 checkhtmlpdfexists ()
5720 -- Attempt to create the lateximages:
5721 print ("lwarpmk: Creating lateximages.")
5722 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5723 if (limagesfile == nil) then
5724 warnlimages ()
5725 os.exit(1)

```

```

5726 end
5727 -- Create the lateximages directory, ignore error if already exists
5728 err = os.execute("mkdir " .. imagesdirectory)
5729 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5730 if opsystem=="Windows" then
5731 executecheckerror (
5732 cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5733 "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5734)
5735 end -- create lwarp_one_limage.cmd
5736 -- Track the number of parallel processes
5737 numimageprocesses = 0
5738 -- Track warning to recompile if find a page 0
5739 pagezerowarning = false
5740 -- Scan <sourcename>.txt
5741 for line in limagesfile:lines() do
5742 createonelateximage (line)
5743 end -- do
5744 io.close(limagesfile)
5745 print ("lwarpmk limages: ===")
5746 print ("lwarpmk limages: Wait a moment for the images to complete")
5747 print ("lwarpmk limages: before reloading the page.")
5748 print ("lwarpmk limages: ===")
5749 print ("lwarpmk limages: Done.")
5750 if (pagezerowarning == true) then
5751 print ("lwarpmk limages: WARNING: Images will be incorrect.")
5752 print ("lwarpmk limages: Enter \"lwarpmk cleanlimages\", then")
5753 print ("lwarpmk limages: recompile the document one more time, then")
5754 print ("lwarpmk limages: repeat \"lwarpmk images\" again.")
5755 end -- pagezerowarning
5756 end -- function
5757
5758
5759 function convertstepstopdf ()
5760 --
5761 -- Converts EPS files to PDF files.
5762 -- The filenames are arg[argindex] and up.
5763 -- arg[1] is the command "epstopdf".
5764 --
5765 ignoreconf ()
5766 for i = argindex , #arg do
5767 if (lfs.attributes(arg[i],"mode")==nil) then
5768 print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5769 else
5770 print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5771 thispath, thisfilename, thisextension = splitfilename(arg[i])
5772 if (thispath == nil) then
5773 os.execute ("epstopdf " .. arg[i])
5774 else
5775 os.execute (
5776 "epstopdf " ..
5777 thispath .. thisfilename .. "." .. thisextension .. " " ..
5778 thispath .. thisfilename .. ".pdf"
5779)
5780 end
5781 end -- if
5782 end -- do
5783 end --function
5784
5785

```

```

5786 function convertpdfstosvg ()
5787 --
5788 -- Converts PDF files to SVG files.
5789 -- The filenames are arg[argindex] and up.
5790 -- arg[1] is the command "pdftosvg".
5791 --
5792 ignoreconf ()
5793 for i = argindex , #arg do
5794 if (lfs.attributes(arg[i],"mode")==nil) then
5795 print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5796 else
5797 print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5798 thispath, thisfilename, thisextension = splitfilename(arg[i])
5799 if (thispath == nil) then
5800 os.execute ("pdftocairo -svg " .. arg[i])
5801 else
5802 os.execute (
5803 "pdftocairo -svg " ..
5804 thispath .. thisfilename .. "." .. thisextension .. " " ..
5805 thispath .. thisfilename .. ".svg"
5806)
5807 end
5808 end -- if
5809 end -- do
5810 end --function
5811
5812
5813 -- Force an update and conclude processing:
5814 function updateanddone ()
5815 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5816 refreshdate ()
5817 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5818 print ("lwarpmk: Done.")
5819 end -- function
5820
5821
5822 -- Start of the main code: --
5823
5824
5825 -- lwarpmk --version :
5826
5827 if (arg[1] == "--version") then
5828 print ("lwarpmk: " .. printversion)
5829
5830 else -- not --version
5831
5832
5833 -- print intro:
5834
5835 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5836
5837
5838 -- lwarpmk print:
5839
5840 if arg[1] == "print" then
5841 loadconf ()
5842 if (latexmk == "true") then
5843 print ("lwarpmk: Compiling with: " .. printlatexcmd)
5844 executecheckerror (
5845 printlatexcmd ,

```

```
5846 "Compile error."
5847)
5848 print ("lwarpmk: Done.")
5849 else -- not latexmk
5850 verifyfileexists (sourcename .. ".tex") ;
5851 -- See if up to date:
5852 if (
5853 (lfs.attributes (sourcename .. ".pdf" , "modification") == nil) or
5854 (
5855 lfs.attributes (sourcename .. ".tex" , "modification") >
5856 lfs.attributes (sourcename .. ".pdf" , "modification")
5857)
5858) then
5859 -- Recompile if not yet up to date:
5860 manytimes(printlatexcmd, "")
5861 print ("lwarpmk: Done.") ;
5862 else
5863 print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5864 end
5865 end -- not latexmk
5866
5867
5868 -- lwarpmk print1:
5869
5870 elseif arg[1] == "print1" then
5871 loadconf ()
5872 verifyfileexists (sourcename .. ".tex") ;
5873 onetime(printlatexcmd, "")
5874 print ("lwarpmk: Done.") ;
5875
5876
5877 -- lwarpmk printindex:
5878 -- Compile the index then touch the source
5879 -- to trigger a recompile of the document:
5880
5881 elseif arg[1] == "printindex" then
5882 loadconf ()
5883 os.execute (printindexcmd)
5884 print ("lwarpmk: -----")
5885 updateanddone ()
5886
5887
5888 -- lwarpmk printglossary:
5889 -- Compile the glossary then touch the source
5890 -- to trigger a recompile of the document:
5891
5892 elseif arg[1] == "printglossary" then
5893 loadconf ()
5894 print ("lwarpmk: Processing the glossary.")
5895
5896 os.execute(glossarycmd .. " " .. sourcename)
5897 updateanddone ()
5898
5899
5900 -- lwarpmk html:
5901
5902 elseif arg[1] == "html" then
5903 loadconf ()
5904 if (latexmk == "true") then
5905 print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
```

```

5906 executecheckerror (
5907 HTMLlatexcmd ,
5908 "Compile error."
5909)
5910 pdftohtml ()
5911 print ("lwarpmk: Done.")
5912 else -- not latexmk
5913 verifyfileexists (sourcename .. ".tex") ;
5914 -- See if exists and is up to date:
5915 if (
5916 (lfs.attributes (homehtmlfilename .. ".html" , "modification") == nil) or
5917 (
5918 lfs.attributes (sourcename .. ".tex" , "modification") >
5919 lfs.attributes (homehtmlfilename .. ".html" , "modification")
5920)
5921) then
5922 -- Recompile if not yet up to date:
5923 manytimes(HTMLlatexcmd, "_html")
5924 pdftohtml ()
5925 print ("lwarpmk: Done.")
5926 else
5927 print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5928 end
5929 end -- not latexmk
5930
5931
5932 -- lwarpmk html1:
5933
5934 elseif arg[1] == "html1" then
5935 loadconf ()
5936 verifyfileexists (sourcename .. ".tex") ;
5937 onetime(HTMLlatexcmd, "_html")
5938 pdftohtml ()
5939 print ("lwarpmk: Done.")
5940
5941
5942 -- lwarpmk pdftohtml:
5943 elseif arg[1] == "pdftohtml" then
5944 loadconf ()
5945 pdftohtml ()
5946
5947
5948 -- lwarpmk htmlindex:
5949 -- Compile the index then touch the source
5950 -- to trigger a recompile of the document:
5951
5952 elseif arg[1] == "htmlindex" then
5953 loadconf ()
5954 os.execute (HTMLindexcmd)
5955 print ("lwarpmk: -----")
5956 updateanddone ()
5957
5958
5959 -- lwarpmk htmlglossary:
5960 -- Compile the glossary then touch the source
5961 -- to trigger a recompile of the document.
5962 -- The <sourcename>.xdy file is created by the glossaries package.
5963
5964 elseif arg[1] == "htmlglossary" then
5965 loadconf ()

```

```
5966 print ("lwarpmk: Processing the glossary.")
5967 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5968 updateanddone ()
5969
5970
5971 -- lwarpmk limages:
5972 -- Scan the <sourcename>.txt file to create lateximages.
5973
5974 elseif arg[1] == "limages" then
5975 loadconf ()
5976 print ("lwarpmk: Processing images.")
5977 createlateximages ()
5978 print ("lwarpmk: Done.")
5979
5980
5981 -- lwarpmk again:
5982 -- Touch the source to trigger a recompile.
5983
5984 elseif arg[1] == "again" then
5985 loadconf ()
5986 updateanddone ()
5987
5988
5989 -- lwarpmk clean:
5990 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5991
5992 elseif arg[1] == "clean" then
5993 loadconf ()
5994 removeaux ()
5995 print ("lwarpmk: Done.")
5996
5997
5998 -- lwarpmk cleanall
5999 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
6000 -- and also project.pdf, project.dvi, *.html
6001
6002 elseif arg[1] == "cleanall" then
6003 loadconf ()
6004 removeaux ()
6005 os.execute (rmname .. " " ..
6006 sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
6007 sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
6008 "*.html"
6009)
6010 print ("lwarpmk: Done.")
6011
6012
6013 -- lwarpmk cleanlimages
6014 -- Remove images from the imagesdirectory.
6015
6016 elseif arg[1] == "cleanlimages" then
6017 loadconf ()
6018 os.execute (rmname .. " " .. imagesdirectory .. dirslash .. "*")
6019 print ("lwarpmk: Done.")
6020
6021 -- lwarpmk epstopdf <list of file names>
6022 -- Convert EPS files to PDF using epstopdf
6023 elseif arg[1] == "epstopdf" then
6024 convertstepstopdf ()
6025 print ("lwarpmk: Done.")
```

```

6026
6027
6028 -- lwarpmk pdftosvg <list of file names>
6029 -- Convert PDF files to SVG using pdftocairo
6030 elseif arg[1] == "pdftosvg" then
6031 convertpdftosvg ()
6032 print ("lwarpmk: Done.")
6033
6034
6035 -- lwarpmk with no argument :
6036
6037 elseif (arg[1] == nil) then
6038 printhelp ()
6039
6040
6041 -- lwarpmk -v:
6042
6043 elseif (arg[1] == "-v") then
6044 -- The version number has already been printed
6045 -- by the lwarpmk intro.
6046
6047 -- lwarpmk -h or lwarpmk --help :
6048
6049 elseif (arg[1] == "-h") or (arg[1] == "--help") then
6050 printusage ()
6051
6052
6053 -- Unknown command:
6054
6055 else
6056 printhelp ()
6057 print ("\nlwarpmk: ***** Unknown command \""..arg[1].."\". *****\n")
6058 end
6059
6060 end -- not --version
6061 \end{filecontents*}
6062 % \end{Verbatim}% for syntax highlighting

6063 \end{LWRcreate\lwarpmk}

```

## 43 Stacks

**for HTML output:** 6064 \begin{warpHTML}



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new \section would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in \LWR@closedepthone, etc.

### 43.1 Assigning depths

initial depths for empty stack entries:

```
6065 \newcommand*{\LWR@depthnone}{-5}
```

All sectioning depths are deeper than LWR@depthfinished:

```
6066 \newcommand*{\LWR@depthfinished}{-4}
6067 \newcommand*{\LWR@depthbook}{-2}
6068 \newcommand*{\LWR@depthpart}{-1}
6069 \newcommand*{\LWR@depthchapter}{0}
6070 \newcommand*{\LWR@depthsection}{1}
6071 \newcommand*{\LWR@depthsubsection}{2}
6072 \newcommand*{\LWR@depthsubsubsection}{3}
6073 \newcommand*{\LWR@depthparagraph}{4}
6074 \newcommand*{\LWR@depthsubparagraph}{5}
```

Used by \itemize, \enumerate, \description:

```
6075 \newcommand*{\LWR@depthlist}{6}
```

Used by \item:

```
6076 \newcommand*{\LWR@depthlistitem}{7}
6077 \let\LWR@depthdescitem\LWR@depthlistitem
```

### 43.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to \pushclose and \popclose as well.

```
6078 \newcommand*{\LWR@closeone}{}% top of the stack
6079 \newcommand*{\LWR@closetwo}{}
6080 \newcommand*{\LWR@closethree}{}
6081 \newcommand*{\LWR@closefour}{}
6082 \newcommand*{\LWR@closefive}{}
6083 \newcommand*{\LWR@closesix}{}
6084 \newcommand*{\LWR@closeseven}{}
6085 \newcommand*{\LWR@closeeight}{}
6086 \newcommand*{\LWR@closenine}{}
6087 \newcommand*{\LWR@closeten}{}
6088 \newcommand*{\LWR@closeeleven}{}
6089 \newcommand*{\LWR@closetwelve}{}
6090 \newcommand*{\LWR@closethirteen}{}
6091 \newcommand*{\LWR@closefourteen}{}
6092 \newcommand*{\LWR@closefifteen}{}
6093 \newcommand*{\LWR@closesixteen}{}
6094 \newcommand*{\LWR@closeseventeen}{}
6095 \newcommand*{\LWR@closeeighteen}{}
6096 \newcommand*{\LWR@closenineteen}{}%
```

### 43.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```

\begin{itemize}
 \item{A}
 \begin{description}
 \item{B}
 \end{description}
\end{itemize}

```

---

```

6097 \newcommand*{\LWR@closedepthone}{\LWR@depthnone}% top of the stack
6098 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
6099 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
6100 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
6101 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}
6102 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
6103 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
6104 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
6105 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
6106 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
6107 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
6108 \newcommand*{\LWR@closedepthtwelve}{\LWR@depthnone}
6109 \newcommand*{\LWR@closedepththirteen}{\LWR@depthnone}
6110 \newcommand*{\LWR@closedepthfourteen}{\LWR@depthnone}
6111 \newcommand*{\LWR@closedepthfifteen}{\LWR@depthnone}
6112 \newcommand*{\LWR@closedepthsixteen}{\LWR@depthnone}
6113 \newcommand*{\LWR@closedepthseventeen}{\LWR@depthnone}
6114 \newcommand*{\LWR@closedeptheighteen}{\LWR@depthnone}
6115 \newcommand*{\LWR@closedepthnineteen}{\LWR@depthnone}

```

### 43.4 Pushing and popping the stack

`\LWR@pushclose {<sectiontype>}`

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```

6116 \NewDocumentCommand{\LWR@pushclose}{m}
6117 {%
6118 \global\let\LWR@closenineteen\LWR@closeeighteen%
6119 \global\let\LWR@closeeighteen\LWR@closeeseventeen%
6120 \global\let\LWR@closeeseventeen\LWR@closesixteen%
6121 \global\let\LWR@closesixteen\LWR@closefifteen%
6122 \global\let\LWR@closefifteen\LWR@closefourteen%
6123 \global\let\LWR@closefourteen\LWR@closethirteen%
6124 \global\let\LWR@closethirteen\LWR@closetwelve%
6125 \global\let\LWR@closetwelve\LWR@closeeleven%
6126 \global\let\LWR@closeeleven\LWR@closeten%
6127 \global\let\LWR@closeten\LWR@closenine%
6128 \global\let\LWR@closenine\LWR@closeeight%
6129 \global\let\LWR@closeeight\LWR@closeseven%

```

```

6130 \global\let\LWR@closeseven\LWR@closefix%
6131 \global\let\LWR@closefix\LWR@closefive%
6132 \global\let\LWR@closefive\LWR@closefour%
6133 \global\let\LWR@closefour\LWR@closethree%
6134 \global\let\LWR@closethree\LWR@closetwo%
6135 \global\let\LWR@closetwo\LWR@closeone%
6136 \global\csletcs{LWR@closeone}{LWR@printclose#1}%
6137 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
6138 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
6139 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
6140 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
6141 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
6142 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
6143 \global\let\LWR@closedepththirteen\LWR@closedepthtwelve%
6144 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
6145 \global\let\LWR@closedeptheleven\LWR@closedephten%
6146 \global\let\LWR@closedephten\LWR@closedepthnine%
6147 \global\let\LWR@closedepthnine\LWR@closedeptheight%
6148 \global\let\LWR@closedeptheight\LWR@closedepthseven%
6149 \global\let\LWR@closedepthseven\LWR@closedepthsix%
6150 \global\let\LWR@closedepthsix\LWR@closedepthfive%
6151 \global\let\LWR@closedepthfive\LWR@closedepthfour%
6152 \global\let\LWR@closedepthfour\LWR@closedepththree%
6153 \global\let\LWR@closedepththree\LWR@closedepthtwo%
6154 \global\let\LWR@closedepthtwo\LWR@closedepthone%
6155 \global\csletcs{LWR@closedepthone}{LWR@depth#1}%

```

Error if the deepest depth is no longer \LWR@depthnone, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

6156 \ifdefstring{\LWR@closedepthnineteen}{\LWR@depthnone}%
6157 {}%
6158 {%
6159 \PackageError{lwarp}%
6160 {The document is nested too deeply for Lwarp}%
6161 {PLEASE inform the Lwarp maintainer!}%
6162 }%
6163 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

6164 \newcommand*{\LWR@popclose}
6165 {%
6166 \global\let\LWR@closeone\LWR@closetwo%
6167 \global\let\LWR@closetwo\LWR@closethree%
6168 \global\let\LWR@closethree\LWR@closefour%
6169 \global\let\LWR@closefour\LWR@closefive%
6170 \global\let\LWR@closefive\LWR@closefix%
6171 \global\let\LWR@closefix\LWR@closeseven%
6172 \global\let\LWR@closeseven\LWR@closeeight%
6173 \global\let\LWR@closeeight\LWR@closenine%
6174 \global\let\LWR@closenine\LWR@closeten%
6175 \global\let\LWR@closeten\LWR@closeeleven%
6176 \global\let\LWR@closeeleven\LWR@closetwelve%
6177 \global\let\LWR@closetwelve\LWR@closethirteen%
6178 \global\let\LWR@closethirteen\LWR@closefourteen%
6179 \global\let\LWR@closefourteen\LWR@closefifteen%
6180 \global\let\LWR@closefifteen\LWR@closefixteen%
6181 \global\let\LWR@closefixteen\LWR@closeseventeen%

```

```

6182 \global\let\LWR@closeeventeen\LWR@closeeighteen%
6183 \global\let\LWR@closeeighteen\LWR@closeenineteen%
6184 \global\let\LWR@closedepthone\LWR@closedepthtwo%
6185 \global\let\LWR@closedepthtwo\LWR@closedepththree%
6186 \global\let\LWR@closedepththree\LWR@closedepthfour%
6187 \global\let\LWR@closedepthfour\LWR@closedepthfive%
6188 \global\let\LWR@closedepthfive\LWR@closedepthsix%
6189 \global\let\LWR@closedepthsix\LWR@closedepthseven%
6190 \global\let\LWR@closedepthseven\LWR@closedeptheight%
6191 \global\let\LWR@closedeptheight\LWR@closedepthnine%
6192 \global\let\LWR@closedepthnine\LWR@closedepthten%
6193 \global\let\LWR@closedepthten\LWR@closedeptheleven%
6194 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
6195 \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
6196 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
6197 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
6198 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
6199 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
6200 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
6201 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
6202 }

6203 \end{warpHTML}

```

## 44 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray`'s argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}
```

**for HTML output:** 6204 \begin{warpHTML}

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```

6205 \newbool{LWR@setexparray@doingparhooks}
6206
6207 \NewDocumentCommand{\LWR@setexparray}{m m m}{%

```

Temporarily disable paragraph handling during the assignment. This is not done in a group with global assignments because a table may be nested.

```

6208 \let\ifLWR@setexparray@doingparhooks\ifLWR@doingparhooks%
6209 \setbool{LWR@doingparhooks}{false}%
6210 \let\LWR@setexparray@par\par%
6211 \let\par\relax%

```

The name of the control sequence is the given name with the index appended.

```
6212 \xdef\LWR@thisexparrayname{#1#2}%
```

Locally assign the value to the control sequence:

```
6213 \ifstrempy{#3}%
6214 {\csdef{\LWR@thisexparrayname}{}}%
6215 {\csedef{\LWR@thisexparrayname}{#3}}%
```

Restore the paragraph handling:

```
6216 \let\ifLWR@doingparhooks\ifLWR@setexparray@doingparhooks%
6217 \let\par\LWR@setexparray@par%
6218 }
```

`\LWR@getexparray {<name>} {<index>}`

```
6219 \newcommand*{\LWR@getexparray}[2]{%
6220 \@nameuse{#1#2}}%
6221 }

6222 \end{warphTML}
```

## 45 Localizing catcodes

**for HTML & PRINT:** 6223 \begin{warppall}

 **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error  
Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
6224 \newcommand{\StartDefiningTabulars}{%
6225 \LWR@traceinfo{StartDefiningTabulars}%
6226 \warphTMLonly{\catcode`\&=\active}%
6227 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

```
6228 \newcommand{\StopDefiningTabulars}{%
6229 \LWR@traceinfo{StopDefiningTabulars}%
6230 \warphTMLonly{\catcode`\&=4}%
6231 }
```

`LWR@mathmacro (bool)` True if currently defining math macros. Used to disable svg math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```
6232 \newbool{LWR@mathmacro}
6233 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with \$ in it.

```
6234 \newcommand{\StartDefiningMath}{%
6235 \LWR@traceinfo{StartDefiningMath}%
6236 \warpHTMLonly{\catcode`\$=\active}%
6237 }
```

`\StopDefiningMath` Place after defining something with \$ in it.

```
6238 \newcommand{\StopDefiningMath}{%
6239 \LWR@traceinfo{StopDefiningMath}%
6240 \warpHTMLonly{\catcode`\$=3}% math shift
6241 }

6242 \end{warpall}
```

**for HTML output:** 6243 `\begin{warpHTML}`

A definition for & in case it is referred to after `\StartDefiningTabulars` but outside a tabular.

```
6244 \StartDefiningTabulars
6245 \protected\def&{%
6246 \PackageWarning{lwarp}{%
6247 An ampersand is being used inside a tabular\MessageBreak
6248 }%
6249 }%
6250 \StopDefiningTabulars

6251 \end{warpHTML}
```

## 46 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For MATHJAX, the inline math expression is usually printed for MATHJAX to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

---

```
\xpatchcmd{\macroname}
 {$math expression$}
 {\inlinemathother$math expression$\inlinemathnormal}
 {}
 {\typeout{Error patching macroname.}}
```

---

**for HTML & PRINT:** 6252 `\begin{warpall}`

`LWR@dynamicmath` (*bool*) True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
 Default: `false`

```
6253 \newbool{LWR@dynamicmath}
6254 \boolfalse{LWR@dynamicmath}
```

`\inlinemathother` Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
6255 \newcommand{\inlinemathother}{%
6256 \LWR@traceinfo{inlinemathother}%
6257 \booltrue{LWR@dynamicmath}%
6258 }
```

`\inlinemathnormal` Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```
6259 \newcommand{\inlinemathnormal}{%
6260 \LWR@traceinfo{inlinemathnormal}%
6261 \boolfalse{LWR@dynamicmath}%
6262 }

6263 \end{warpall}
```

## 47 HTML entities

for HTML output: 6264 `\begin{warpHTML}`

HTML Unicode entities:

```
6265 \let\LWR@origampersand\&
```

`\LWR@fontfortags` `{\langle macro name \rangle}{\langle argument \rangle}`

Forces roman TT font for HTML tags.

```
6266 \newrobustcmd*{\LWR@fontfortags}[2]{%
6267 \ifmode%
6268 \PackageError{lwarp}%
6269 {%
6270 An HTML tag was generated inside math.\MessageBreak
6271 This should never occur.\MessageBreak
6272 Something is broken in Lwarp.\MessageBreak
6273 Enter `h' for details%
6274 }%
6275 {(Using #1{#2}.)}%
6276 \else%
```

Used by `ltjtbook`, `platex`, and related.

```
6277 \ifdef{\romanencoding}%
6278 {%
6279 \romanencoding{\encodingdefault}%
6280 }%
6281 {%
```

Used by babel:

```

6282 \ifdef{\latintext}
6283 {\latintext}
6284 {\fontencoding\encodingdefault}%
6285 }%
6286 \LWR@print@normalfont%
6287 \LWR@origttfamily%
6288 \fi%
6289 }

```

`\HTMLentity {<entitytag>}`

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6290 \newcommand*{\HTMLentity}[1]{%
6291 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
6292 \begingroup%
6293 \LWR@hook@processingtags%
6294 \LWR@fontfortags{HTMLentity}{\detokenize{#1}}%
6295 \protect\LWR@origampersand\LWR@isolate{#1};%
6296 \endgroup%
6297 % \LWR@traceinfo{HTMLentity done}%
6298 }

```

`\HTMLunicode {<hex_unicode>}`

```

6299 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{x#1}}

```

`\&`

```

6300 \renewrobustcmd*{\&}{\HTMLentity{amp}}

```

`\textless`

```

6301 \let\LWR@origtextless\textless
6302 \renewrobustcmd*{\textless}{\HTMLentity{lt}}

```

`\textgreater`

```

6303 \let\LWR@origtextgreater\textgreater
6304 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}}

```

`\%`

```

6305 \let\LWR@origpercent\%
6306 \renewrobustcmd*{\%}{\HTMLentity{percnt}}

```

```

6307 \end{warpHTML}

```

## 48 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

**for HTML & PRINT:** 6308 `\begin{warpall}`

`\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

6309 `\providecommand*\BaseJobname{\jobname}`

`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

6310 `\providecommand*\HTMLFilename{}`

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section 7.6.1.

6311 `\providecommand*\HomeHTMLFilename{\BaseJobname}`

`\SetHTMLFileNumber` `{\langle number \rangle}`

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

6312 `\newcommand*\SetHTMLFileNumber[1]{%`  
 6313 `\setcounter{LWR@htmlfilenumber}{#1}%`  
 6314 `}`

`FileSectionNames` (*bool*) Selects how to create HTML file names.

Defaults to use section names in the filenames.

6315 `\newbool{FileSectionNames}`  
 6316 `\booltrue{FileSectionNames}`

6317 `\end{warpall}`

**for HTML output:** 6318 `\begin{warpHTML}`

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

6319 `\newcounter{LWR@HTMLpagenum}`  
 6320 `\setcounter{LWR@HTMLpagenum}{0}`

`LWR@htmlseqfilenumber` (*Ctr*) A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike `\LWR@htmlfilenumber`, this one is known to increment

by one for each file. This is used to generate previous /next links for each web page, via labels called \BaseJobname-autofile-\*, and the last page is also labelled \BaseJobname-autofile-last.

```
6321 \newcounter{LWR@htmlseqfilenumber}
6322 \setcounter{LWR@htmlseqfilenumber}{0}
```

**LWR@setseqfilelabel (*bool*)** At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
6323 \newbool{LWR@setseqfilelabel}
6324 \setbool{LWR@setseqfilelabel}{false}
```

**LWR@htmlfilenumber (*Ctr*)** Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use \SetHTMLFileName to create groups of numbered nodes.

```
6325 \newcounter{LWR@htmlfilenumber}
6326 \setcounter{LWR@htmlfilenumber}{0}
```

**\LWR@htmlsectionfilename {<*htmlfilenumber or name*>}**

Prints the filename for a given section: \HTMLFilename{ }filenumber/name.html

```
6327 \newcommand*{\LWR@htmlsectionfilename}[1]{%
6328 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
6329 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
6330 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
6331 % \LWR@traceinfo{about to assign temp}%
6332 \LWR@sanitize{#1}%
6333 \LWR@traceinfo{about to compare with ??}%
6334 \ifdefstring{\LWR@sanitized}{??}
6335 {\LWR@traceinfo{found ??}}%
6336 {\LWR@traceinfo{not found ??}}%
6337 \LWR@traceinfo{about to compare with zero or empty}%
6338 \ifbool{expr{
6339 test {\ifdefstring{\LWR@sanitized}{0}} or
6340 test {\ifdefstring{\LWR@sanitized}{}} or
6341 test {\ifdefstring{\LWR@sanitized}{??}}
6342 }}
6343 {%
6344 \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
6345 \HomeHTMLFilename.html%
6346 }%
```

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a trailing -0 to avoid colliding with the HTML filename index.html:

```
6347 {%
```

```

6348 \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
6349 \ifbool{expr{
6350 test{\ifdefvoid{\HTMLFilename}} and
6351 (
6352 test{\ifdefstring{\LWR@sanitized}{Index}} or
6353 test{\ifdefstring{\LWR@sanitized}{index}}
6354)
6355 }%
6356 {%
6357 \LWR@traceinfo{Adding a zero to the index filename.}%
6358 \LWR@sanitized-0.html%
6359 }%

```

Otherwise, create a filename with the chosen prefix:

```

6360 {%
6361 \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6362 }%
6363 }%
6364 \LWR@traceinfo{LWR@htmlsectionfilename Z}%
6365 \endgroup%
6366 }

```

`\LWR@htmlrefsectionfilename {<label>}`

Prints the filename for the given label

```

6367 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
6368 \LWR@traceinfo{LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

`\LWR@nullfonts` to allow math in a section name.

```

6369 \begin{group}%
6370 \LWR@nullfonts%
6371 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6372 \end{group}%
6373 \LWR@traceinfo{LWR@htmlrefsectionfilename: done}%
6374 }

6375 \end{warpHTML}

```

## 49 Homepage link

**for HTML & PRINT:** 6376 \begin{warpall}

`\linkhomename` Holds the default name for the home link.

```

6377 \newcommand{\linkhomename}{Home}

6378 \end{warpall}

```

**for HTML output:** 6379 \begin{warpHTML}

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
6380 \newcommand*{\LinkHome}{%
6381 \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{\linkhome}%
6382 }

6383 \end{warpHTML}
```

**for PRINT output:** 6384 \begin{warpprint}

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```
6385 \AtBeginDocument{
6386 \LWR@traceinfo{AtBeginDocument LinkHome}
6387 \ifundefined{hyperref}{
6388 \newcommand*{\LinkHome}{%
6389 \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
6390 }
6391 }{
6392 \newcommand*{\LinkHome}{%
6393 \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
6394 }
6395 }
6396 }
6397
6398 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

6399 \end{warpprint}
```

**for HTML output:** 6400 \begin{warpHTML}

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```
6401 \newcommand*{\LWR@topnavigation}{%
6402 \LWR@html@elementclassline{nav}{topnavigation}{\LinkHome}
6403 }
```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```
6404 \newcommand*{\LWR@botnavigation}{%
6405 \LWR@html@elementclassline{nav}{botnavigation}{\LinkHome}
6406 }

6407 \end{warpHTML}
```

## 50 Previous/next navigation links

**for HTML & PRINT:** 6408 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

```
6409 \newcommand*{\linkpreviousname}{Previous}
```

\linknextname What to call the link to the next web page.

```
6410 \newcommand*{\linknextname}{Next}
```

```
6411 \end{warpall}
```

**for PRINT output:** 6412 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

```
6413 \newcommand*{\LinkPrevious}{}%
```

\LinkNext Creates a link to the next web page if there is one.

```
6414 \newcommand*{\LinkNext}{}%
```

```
6415 \end{warpprint}
```

**for HTML output:** 6416 \begin{warphTML}

\LinkPrevious Creates a link to the previous web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\*

```
6417 \newcommand*{\LinkPrevious}{%
6418 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}}{}{}%
6419 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
6420 \LWR@subhyperrefclass{%
6421 \LWR@htmlrefsectionfilename{%
6422 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6423 }%
6424 }{\linkpreviousname}{linkhome}%
6425 }%
6426 }
```

\LinkNext Creates a link to the next web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\*  
and the last is the label \Basejobname-autofile-last

```
6427 \newcommand*{\LinkNext}{%
6428 \ifcsdef{r@\BaseJobname-autofile-last@lwarp}}{}%
6429 \edef\LWR@tempone{%
6430 \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}}%
6431 }%
```

```

6432 \edef\LWR@temptwo{%
6433 \LWR@htmlfileref{\BaseJobname-autofile-last}%
6434 }%
6435 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%
6436 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
6437 \LWR@subhyperrefclass{%
6438 \LWR@htmlrefsectionfilename{%
6439 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6440 }%
6441 }{\linknextname}{linkhome}%
6442 }%
6443 }{}%
6444 }

6445 \end{warpHTML}

```

## 51 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X nesting depth values for the stack levels. `\LWR@startpars` is used before printing the stack, so that `\LWRPrintStack` may be called from anywhere in the normal text flow.

**for HTML output:** 6446 \begin{warpHTML}

`\LWRPrintStack` Prints the closedepth stack.

```

6447 \newcommand*{\LWR@subprintstack}{
6448 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
6449 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
6450 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
6451 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\
6452 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\
6453 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\
6454 \LWR@closedepthnineteen\
6455 }
6456
6457 \newcommand*{\LWRPrintStack}{
6458 \LWR@startpars
6459 \LWR@subprintstack
6460 }

6461 \end{warpHTML}

```

**for PRINT output:** 6462 \begin{warpprint}

```

6463 \newcommand*{\LWRPrintStack}{}

6464 \end{warpprint}

```

## 52 Closing stack levels

**for HTML output:** 6465 \begin{warpHTML}

Close one nested level:

```
6466 \newcommand*{\LWR@closeoneprevious}{%
6467
6468 \LWR@closeone
6469
6470 \LWR@popclose
6471 }
```

`\LWR@closeprevious` {*<sectintype>*} Close everything up to the given depth:

```
6472 \newcommand*{\LWR@closeprevious}[1]{%
6473 \LWR@traceinfo{%
6474 \LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
6475 depths are \LWR@subprintstack%
6476 }%
```

Close any pending paragraph:

```
6477 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
6478 \whilebool{expr}{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{\LWR@depth#1}}}}%
6479 {%
6480 \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6481 \LWR@closeoneprevious%
6482 }%
6483 \ifbool{expr}{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}%
6484 {%
6485 \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6486 \LWR@closeoneprevious%
6487 }{%
6488 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
6489 }

6490 \end{warpHTML}
```

## 53 PDF pages and styles

**for HTML output:** 6491 \begin{warpHTML}

`\LWR@forcenewpage` New PDF page a before major environment.

This is used just before major environments, such as `verse`. Reduces the chance of an environment overflowing the HTML PDF output page.

```
6492 \newcommand{\LWR@forcenewpage}{%
6493 \LWR@traceinfo{\LWR@forcenewpage}%
6494 \ifinner\else%
6495 \LWR@traceinfo{\LWR@forcenewpage A}%
6496 \LWR@stoppars%
6497 \LWR@traceinfo{\LWR@forcenewpage B}%
6498 \LWR@maybe@orignewpage%
```

```

6499 \LWR@traceinfo{LWR@forcenewpage C}%
6500 \LWR@startpars%
6501 \fi%
6502 \LWR@traceinfo{LWR@forcenewpage done}%
6503 }

```

`\pagestyle`, etc. are nullified for HTML output.

`\pagestyle {<style>}`

```

6504 \renewcommand*{\pagestyle}[1]{}

```

`\thispagestyle {<style>}`

```

6505 \renewcommand*{\thispagestyle}[1]{}

```

`\markboth {<left>} {<right>}`

```

6506 \renewcommand*{\markboth}[2]{}

```

`\markright {<right>}`

```

6507 \renewcommand*{\markright}[1]{}

```

`\raggedbottom`

```

6508 \renewcommand*{\raggedbottom}{}

```

`\flushbottom`

```

6509 \renewcommand*{\flushbottom}{}

```

`\sloppy`

```

6510 \renewcommand*{\sloppy}{}

```

`\fussy`

```

6511 \renewcommand*{\fussy}{}

```

`\pagenumbering *{<commands>}`

```

6512 \RenewDocumentCommand{\pagenumbering}{s m}{}

```

```

6513 \end{warpHTML}

```

## 54 HTML tags, spans, divs, elements

**for HTML output:** 6514 `\begin{warpHTML}`

## 54.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```

6515 \newcommand*{\LWR@tagtitle}{h1}
6516 \newcommand*{\LWR@tagtitleend}/{h1}
6517 \newcommand*{\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl}
6518 \newcommand*{\LWR@tagbookend}/{div}
6519 \newcommand*{\LWR@tagpart}{h2}
6520 \newcommand*{\LWR@tagpartend}/{h2}
6521 \newcommand*{\LWR@tagchapter}{h3}
6522 \newcommand*{\LWR@tagchapterend}/{h3}
6523 \newcommand*{\LWR@tagsection}{h4}
6524 \newcommand*{\LWR@tagsectionend}/{h4}
6525 \newcommand*{\LWR@tagsubsection}{h5}
6526 \newcommand*{\LWR@tagsubsectionend}/{h5}
6527 \newcommand*{\LWR@tagsubsubsection}{h6}
6528 \newcommand*{\LWR@tagsubsubsectionend}/{h6}
6529 \newcommand*{\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl}
6530 \newcommand*{\LWR@tagparagraphend}/{span}
6531 \newcommand*{\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
6532 \newcommand*{\LWR@tagsubparagraphend}/{span}
6533
6534 \newcommand*{\LWR@tagregularparagraph}{p}

```

## 54.2 Hook while processing tags

`\LWR@hook@processingtags` This is used to disable special text processing while processing HTML tags. Special (Hook) [] processing includes that done by babel-french, luavina, xe<sub>l</sub>na.

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```

6535 \newcommand*{\LWR@hook@processingtags}{}

```

## 54.3 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdf<sub>l</sub>atex* and *xe<sub>l</sub>atex*.

(Emulates or patches code by DANIEL FLIPO.)

```

6536 \providecommand*{\LWR@FBcancel}{}
6537
6538 \AtBeginDocument{%
6539 \LWR@traceinfo{AtBeginDocument Babel French}

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```

6540 \@ifundefined{NoAutoSpacing}%
6541 {}%
6542 {%
6543 \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
6544 \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6545 }%
6546

```

```

6547 \@ifundefined{frenchbsetup}%
6548 {}%
6549 {%
6550 \frenchbsetup{FrenchFootnotes=false}%

6551 %
6552 \renewrobustcmd*{\FBcolonspace}{%
6553 \begingroup%
6554 \LWR@hook@processingtags%
6555 \LWR@origampersand{ }nbs; %
6556 \endgroup%
6557 }%
6558 \renewrobustcmd*{\FBthinspace}{%
6559 \begingroup%
6560 \LWR@hook@processingtags%
6561 \LWR@origampersand\LWR@origpound{ }x202f; % \,
6562 \endgroup%
6563 }%
6564 \renewrobustcmd*{\FBguillspace}{%
6565 \begingroup%
6566 \LWR@hook@processingtags%
6567 \LWR@origampersand{ }nbs; % ~, for \og xyz \fg{
6568 \endgroup%
6569 }%
6570 \DeclareDocumentCommand{\FBmedkern}{ }{%
6571 \begingroup%
6572 \LWR@hook@processingtags%
6573 \LWR@origampersand\LWR@origpound{ }x202f; % \,
6574 \endgroup%
6575 }%
6576 \DeclareDocumentCommand{\FBthickkern}{ }{%
6577 \begingroup%
6578 \LWR@hook@processingtags%
6579 \LWR@origampersand{ }nbs; % ~
6580 \endgroup%
6581 }%
6582 \renewrobustcmd*{~}{\HTMLentity{nbs}}% was overwritten by babel-french

6583 \ifdef{\FBtextellipsis}%
6584 {%
6585 \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6586 \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6587 }%
6588 {}
6589 }%
6590 }

```

## 54.4 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

6591 \newcommand*{\LWR@indentHTML}{%
6592 \LWR@orignewline\LWR@origrule{2em}{0pt}%
6593 }

```

`\LWR@indentHTMLtwo` Newline and indent the output HTML code.

```
6594 \newcommand*{\LWR@indentHTMLtwo}{%
6595 \LWR@orignewline\LWR@origrule{4em}{0pt}%
6596 }
```

## 54.5 HTML tags

`\LWR@htmltagc`  $\{\langle tag \rangle\}$  Break ligatures and use upright apostrophes in HTML tags.

`\protect` is in case the tag appears in TOC, LOF, LOT.

```
6597 \newcommand*{\LWR@htmltagc}[1]{%
6598 \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
6599 \begingroup%
6600 \LWR@hook@processingtags%
6601 \LWR@fontfortags{\LWR@htmltagc}{\detokenize{#1}}%
6602 \protect\LWR@origtextless%
6603 \LWR@traceinfo{\LWR@htmltagc B}%
6604 \LWR@isolate{#1}%
6605 \LWR@traceinfo{\LWR@htmltagc C}%
6606 \protect\LWR@origtextgreater%
6607 \endgroup%
6608 \LWR@traceinfo{\LWR@htmltagc done}%
6609 }
```

`\LWR@spanwarnformat`  $\{\langle object \rangle\}$

Warns if the given object is used inside a span.

```
6610 \newcommand*{\LWR@spanwarnformat}[1]{%
6611 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6612 \PackageWarning{\lwarp}{%
6613 A #1 is being used inside a span.\MessageBreak
6614 Formatting may be lost,%
6615 }%
6616 }{}%
6617 }
```

`\LWR@spanwarninvalid`  $\{\langle object \rangle\}$

Warns if the given object is used inside a span.

```
6618 \newcommand*{\LWR@spanwarninvalid}[1]{%
6619 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6620 \PackageWarning{\lwarp}{%
6621 A #1 is being used inside a span.\MessageBreak
6622 This generates invalid HTML,%
6623 }%
6624 }{}%
6625 }
```

`LWR@nestspan` (*env*) Disable minipage, \parbox, and HTML <div>s inside a <span>.



`\begin{\LWR@nestspan}` must follow the opening <span> tag to allow a paragraph to start if the span is at the beginning of a new paragraph.

⚠ `\end{LWR@nestspan}` must follow the `</span>` or a `<p>` may appear inside the span.

```

6626 \newcommand*{\LWR@nestspanitem}{%
6627 \if@newlist\else{
6628 \LWR@htmltagc{br /}%
6629 \LWR@orignewline%
6630 }\fi%
6631 \LWR@origitem%
6632 }
6633
6634 \newenvironment*{LWR@nestspan}
6635 {%
6636 \LWR@traceinfo{LWR@nestspan starting}%
6637 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6638 {%
6639 \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
6640 }%
6641 {% not in a lateximage
6642 \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
6643 \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

6644 \RenewDocumentEnvironment{minipage}{0{t} o 0{t} m}%
6645 {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6646 {}%
6647 \RenewDocumentEnvironment{BlockClass}{o D(){ } m}%
6648 {\LWR@spanwarnformat{multi-paragraph object}}%
6649 {}%
6650 \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){ } m}%
6651 {\LWR@spanwarnformat{multi-paragraph object}}%
6652 {}%
6653 \renewcommand{\BlockClassSingle}[2]{%
6654 {\LWR@spanwarnformat{multi-paragraph object}}%
6655 ##2%
6656 }%
6657 \renewcommand{\LWR@forcenewpage}{}%
6658 \renewcommand{\LWR@liststart}{\LetLtxMacro\item\LWR@nestspanitem}%
6659 \renewcommand{\LWR@listend}{\leavevmode}%
6660 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6661 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6662 }% not in a lateximage
6663 \LWR@traceinfo{LWR@nestspan starting: done}%
6664 }% starting env
6665 {% ending env
6666 \LWR@traceinfo{LWR@nestspan ending}%
6667 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6668 {%
6669 {\addtocounter{LWR@spandepth}{-1}}%
6670 \LWR@traceinfo{LWR@nestspan ending: done}%
6671 }

```

`\LWR@htmlspan {<tag>}{<text>}`

⚠ `\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6672 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6673 \LWR@ensuredoingapar%
6674 \LWR@htmltagc{#1}%
6675 \begin{LWR@nestspan}%
6676 #2%
6677 \LWR@htmltagc{/#1}%
6678 \end{LWR@nestspan}%
6679 }

```

`\LWR@htmlspanclass` [`<style>`] (`<aria role>`) [`<class>`] [`<text>`]

```

6680 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6681 \LWR@traceinfo{LWR@htmlspanclass #3}%
6682 \LWR@ensuredoingapar%
6683 \ifblank{#2}%
6684 {\LWR@subhtml@elementclass{span}[#1]{#3}}%
6685 {\LWR@subhtml@elementclass{span}[#1](#2){#3}}%
6686 \begin{LWR@nestspan}%
6687 #4%
6688 \LWR@htmltagc{/span}%
6689 \end{LWR@nestspan}%
6690 \LWR@traceinfo{LWR@htmlspanclass done}%
6691 }

```

`\LWR@htmltag` [`<tag>`]

Print an HTML tag: `<tag>`

```

6692 \newcommand*{\LWR@htmltag}[1]{%
6693 \LWR@htmltagc{#1}%
6694 }

```

## 54.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

```

\LWR@html@opencomment
\LWR@html@closecomment
6695 \newcommand*{\LWR@html@opencomment}{%
6696 % \LWR@traceinfo{LWR@html@opencomment}%
6697 \begin@group%
6698 \LWR@hook@processingtags%
6699 \LWR@font@for@tags{LWR@html@opencomment}{}%
6700 \LWR@print@box{\LWR@origtextless{!-\/-}%
6701 \end@group%
6702 }
6703
6704 \newcommand*{\LWR@html@closecomment}{%
6705 % \LWR@traceinfo{LWR@html@closecomment}%
6706 \begin@group%
6707 \LWR@hook@processingtags%
6708 \LWR@font@for@tags{LWR@html@closecomment}{}%
6709 \LWR@print@box{-\/-\LWR@origtextgreater}%
6710 \end@group%
6711 }

```

\LWR@htmlcomment {<comment>}

```

6712 \newcommand{\LWR@htmlcomment}[1]{%
6713 \ifmmode%
6714 \else%
6715 \LWR@htmlopencomment{}%
6716 {%
6717 \LWR@print@normalfont%
6718 \LWR@origttfamily% break ligatures
6719 #1%
6720 }%
6721 \LWR@htmlclosecomment{}%
6722 \fi%
6723 }
```

\LWR@htmlblockcomment {<comment>}

```

6724 \newcommand{\LWR@htmlblockcomment}[1]
6725 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}
```

\LWR@htmlblocktag {<tag>} print a stand-alone HTML tag

```

6726 \newcommand*\LWR@htmlblocktag}[1]{%
6727 \LWR@stoppars%
6728 \LWR@htmltag{#1}%
6729 \LWR@startpars%
6730 }
```

## 54.7 Div class and element class

\LWR@subhtmllementclass {<element>} [<style>] (<aria role>) {<class>}

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```

6731 \NewDocumentCommand{\LWR@subhtmllementclass}{m O{} D(){} m}{%
6732 \LWR@traceinfo{\LWR@subhtmllementclass !#1!#4!}%
6733 \ifblank{#2}%
6734 {% empty style
6735 \LWR@htmltag{%
6736 #1%
6737 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}% spaces
6738 \ifblank{#4}{\class=\textquotedbl#4\textquotedbl}% spaces
6739 }%
6740 }%
6741 {% non-empty style
6742 \LWR@htmltag{%
6743 #1\LWR@indentHTML%
6744 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6745 \ifblank{#4}{\class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6746 style=\textquotedbl#2\textquotedbl\LWR@orignewline%
6747 }%

```

```

6748 }%
6749 \LWR@traceinfo{LWR@subhtmllementclass done}%
6750 }

```

`\LWR@htmllementclass {<element>} [<style>] (<aria role>) {<class>}`

```

6751 \NewDocumentCommand{\LWR@htmllementclass}{m o D(){} m}{%
6752 \LWR@stoppars%
6753 \LWR@forceemptyline%
6754 \ifblank{#3}%
6755 {\LWR@subhtmllementclass{#1}[#2]{#4}}%
6756 {\LWR@subhtmllementclass{#1}[#2](#3){#4}}%
6757 \LWR@startpars%
6758 }

```

`\LWR@htmllementclassend {<element>} {<class>}`

```

6759 \newcommand*{\LWR@htmllementclassend}[2]{%
6760 \LWR@stoppars%
6761 \LWR@htmltag{/#1}%
6762 \ifbool{HTMLDebugComments}{%
6763 \ifblank{#2}%
6764 {\LWR@htmlcomment{End of #1}}%
6765 {\LWR@htmlcomment{End of #1 ``#2'}}%
6766 }{}%
6767 \LWR@startpars%
6768 }

```

`\LWR@htmldivclass [<style>] (<aria role>) {<class>}`

```

6769 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6770 \ifblank{#2}
6771 {\LWR@htmllementclass{div}[#1]{#3}}%
6772 {\LWR@htmllementclass{div}[#1](#2){#3}}%
6773 }

```

`\LWR@htmldivclassend {<class>}`

```

6774 \newcommand*{\LWR@htmldivclassend}[1]{%
6775 \LWR@htmllementclassend{div}{#1}%
6776 }

```

## 54.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

`\LWR@htmllementclassline {<element>} [<style>] {<class>} {<text>}`

```

6777 \NewDocumentCommand{\LWR@htmllementclassline}{m o m +m}{%
6778 \LWR@stoppars
6779 \LWR@forceemptyline%
6780 \LWR@subhtmllementclass{#1}[#2]{#3}%
6781 #4%
6782 \LWR@htmltag{/#1}
6783 \LWR@startpars
6784 }

```

## 54.9 HTML5 semantic elements

`\LWR@htmlElement {<element>}`

```
6785 \newcommand*\LWR@htmlElement}[1]{%
6786 \LWR@htmlBlocktag{#1}
6787 }
```

`\LWR@htmlElementend {<element>}`

```
6788 \newcommand*\LWR@htmlElementend}[1]{%
6789 \LWR@stoppars
6790 \LWR@htmltag{/#1}
6791 \LWR@startpars
6792 }
6793
6794 \end{warpHTML}
```

## 54.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with CSS.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section 98.

`BlockClass (env) [<style>] (<aria role>) {<class>}` High-level interface for <div> classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

**for HTML & PRINT:**

```
6795 \begin{warpall}
6796 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}
6797 \end{warpall}
```

**for HTML output:**

```
6798 \begin{warpHTML}
6799
6800 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o D(){} m}%
6801 {\LWR@htmldivclass[#1](#2){#3}}%
6802 {\LWR@htmldivclassend{#3}}
6803
6804 \LWR@formattedenv{BlockClass}
6805 \end{warpHTML}
```

`\BlockClassSingle {<class>} {<text>}` A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:**

```
6806 \begin{warpall}
6807 \newcommand*\BlockClassSingle[2]{#2}
6808 \end{warpall}
```

**for HTML output:**

```
6809 \begin{warpHTML}
6810 \newcommand*\LWR@HTML@BlockClassSingle[2]{%
6811 \LWR@htmlElementclassline{div}{#1}{#2}%
6812 }
```

```

6813
6814 \LWR@formatted{BlockClassSingle}
6815 \end{warpHTML}

```

`\InlineClass (<WP style>) [<style>] {<class>} {<text>}`

High-level interface for inline span classes.

`(<WP style>)` is css styling to add when formatting for a word processor import.

`[<style>]` is the css styling to add when not formatting for a word processor.

**for HTML & PRINT:**

```

6816 \begin{warpall}
6817 \NewDocumentCommand{\InlineClass}{D{()}{}}{ o m +m}{#4}%
6818 \end{warpall}

```

**for HTML output:**

```

6819 \begin{warpHTML}
6820 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}}{ o m +m}{%
6821 \LWR@traceinfo{\LWR@HTML@InlineClass #3}%
6822 \ifbool{FormatWP}{%
6823 \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}%
6824 \LWR@htmlspanclass[#1]{#3}{#4}%
6825 }{%
6826 \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}%
6827 \LWR@htmlspanclass[#2]{#3}{#4}%
6828 }%
6829 \LWR@traceinfo{\LWR@HTML@InlineClass: done}%
6830 }
6831
6832 \LWR@formatted{InlineClass}
6833 \end{warpHTML}

```

`LWR@BlockClassWP (env.) {<WPstyle>} {<HTMLstyle>} (<aria role>) {<class>}` Low-level interface for <div> classes with an automatic float ID. These are often used when `\ifbool{FormatWP}`.

The use of `\textquotedbl` instead of `"` provides improved compatibility with `xeCJK`.

**for HTML & PRINT:**

```

6834 \begin{warpall}
6835 \NewDocumentEnvironment{\LWR@BlockClassWP}{m m D(){} m}{%{}%
6836 \end{warpall}

```

**for HTML output:**

```

6837 \begin{warpHTML}
6838 \NewDocumentEnvironment{\LWR@HTML@LWR@BlockClassWP}{m m D(){} m}%
6839 {%
6840 \LWR@stoppars%
6841 \ifbool{FormatWP}%
6842 {%
6843 \addtocounter{\LWR@thisautoidWP}{1}%
6844
6845 \LWR@htmltag{%
6846 div class=\textquotedbl#4\textquotedbl\ % space
6847 id=\textquotedbl%
6848 \LWR@print@embox{autoidWP-\arabic{\LWR@thisautoidWP}}%
6849 \textquotedbl%
6850 \ifblank{#3}{%{ role=\textquotedbl#3\textquotedbl}%
6851 \ifblank{#1}{%{ style=\textquotedbl#1\textquotedbl}%
6852 }%
6853 }%
6854 }%
6855 \end{warpHTML}

```

```

6852 }% FormatWP
6853 {% not FormatWP
6854 \LWR@htmltag{%
6855 div class=\textquotedbl#4\textquotedbl%
6856 \ifblank{#3}{\{ role=\textquotedbl#3\textquotedbl}%
6857 \ifblank{#2}{\{ style=\textquotedbl#2\textquotedbl}%
6858 }%
6859 }% not FormatWP
6860 \LWR@startpars%
6861 }
6862 {\LWR@htmldivclassend{#4}}
6863
6864 \LWR@formattedenv{\LWR@BlockClassWP}
6865 \end{warpHTML}

```

## 54.11 Closing HTML tags

for HTML output: 6866 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6867 \newcommand*{\LWR@printclosebook}
6868 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6869 \newcommand*{\LWR@printclosepart}
6870 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6871 \newcommand*{\LWR@printclosechapter}
6872 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6873 \newcommand*{\LWR@printclosesection}
6874 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6875 \newcommand*{\LWR@printclosesubsection}
6876 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6877 \newcommand*{\LWR@printclosesubsubsection}
6878 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6879 \newcommand*{\LWR@printcloseparagraph}
6880 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6881 \newcommand*{\LWR@printclosesubparagraph}
6882 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6883 \newcommand*{\LWR@printcloselistitem}
6884 {\LWR@htmltag{/li}}
6885 \newcommand*{\LWR@printclosedescitem}
6886 {\LWR@htmltag{/dd}}
6887 \newcommand*{\LWR@printcloseitemize}
6888 {\LWR@htmltag{/ul}}
6889 \newcommand*{\LWR@printcloseenumerate}
6890 {\LWR@htmltag{/ol}}
6891 \newcommand*{\LWR@printclosedescription}
6892 {\LWR@htmltag{/dl}}
6893 \end{warpHTML}

```

## 55 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 56 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`LWR@doingstartpars`), tags are not generated until a L<sup>A</sup>T<sub>E</sub>X paragraph is being used (`LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to manage tag creation.

**for HTML output:** 6894 `\begin{warpHTML}`

`LWR@spandepth` (*Ctrl*) Do not create paragraph tags inside of an HTML span.

```
6895 \newcounter{LWR@spandepth}
6896 \setcounter{LWR@spandepth}{0}
6897 \newcounter{LWR@saved@spandepth}
6898 \setcounter{LWR@saved@spandepth}{0}
```

`LWR@doingparhooks` (*bool*) Tells whether the `lwarp` paragraph hooks are to be active.

```
6899 \newbool{LWR@doingparhooks}
6900 \boolfalse{LWR@doingparhooks}
```

`LWR@in@multirow@par` (*bool*) Tells whether to generate break instead of paragraph tags inside a `\multirow`.

```
6901 \newbool{LWR@in@multirow@par}
6902 \boolfalse{LWR@in@multirow@par}
```

`LWR@starting@fancybox` (*bool*) Suppresses `<br>` if beginning a `fancybox` environment.

```
6903 \newbool{LWR@starting@fancybox}
6904 \boolfalse{LWR@starting@fancybox}
```

`LWR@doingstartpars` (*bool*) Tells whether paragraphs may be generated.

```
6905 \newbool{LWR@doingstartpars}
6906 \boolfalse{LWR@doingstartpars}
```

`LWR@doingapar` (*bool*) Tells whether have actually generated and are currently processing paragraph text.

```
6907 \newbool{LWR@doingapar}
6908 \global\boolfalse{LWR@doingapar}
```

`LWR@saved@doingapar` (*bool*) Saves `LWR@doingapar` to be restored later. Used while adding to footnotes.

```
6909 \newbool{LWR@saved@doingapar}
6910 \global\boolfalse{LWR@saved@doingapar}
6911
6912 \newcommand*{\LWR@save@doingapar}
6913 {%
6914 \ifbool{LWR@doingapar}%
6915 {\booltrue{LWR@saved@doingapar}}%
```

```

6916 {\boolfalse{LWR@saved@doingapar}}}%
6917 }%
6918
6919 \newcommand*{\LWR@restore@doingapar}
6920 {%
6921 \ifbool{LWR@saved@doingapar}%
6922 {\global\booltrue{LWR@doingapar}}%
6923 {\global\boolfalse{LWR@doingapar}}%
6924 }%

```

`LWR@algocf@dopars` (*bool*) Tells whether `algorithm2e` has patched paragraph handling using `\everypar`. If so, the open paragraph tags are generated by `algorithm2e`'s `\algocf@everypar` instead of `\LWR@openparagraph`.

```

6925 \newbool{LWR@algocf@dopars}
6926 \boolfalse{LWR@algocf@dopars}

```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```

6927 \def\PN@parnotes@auto{%

```

`\LWR@ensuredoingapar` These were different in older versions of `lwarp`, but are now the same thing.  
`\LWR@openparagraph`

```

6928 \newcommand*{\LWR@openparagraph}
6929 {%

```

See if paragraph handling is enabled:

```

6930 \ifbool{expr{
6931 bool{LWR@doingparhooks} and
6932 bool{LWR@doingstartpars}
6933 }}%
6934 {% handling pars

```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```

6935 \ifbool{expr{
6936 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6937 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6938 }}% nested par tags?

```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```

6939 {}% no nested par tags

```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```

6940 {% yes nest par tags
6941 \ifbool{LWR@doingapar}{}%

```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

6942 \PN@parnotes@auto%

Set flag before creating the tag, so that the tag itself does not trigger a new paragraph:

6943 \global\booltrue{LWR@doingapar}%

The opening paragraph tag. Do not create tag if doing algorithm2e handling or inside a \multirow.

```

6944 \ifbool{LWR@algocf@dopars}{}%
6945 \ifbool{LWR@in@multirow@par}%
6946 {}%
6947 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
6948 }%
6949 }%
6950 }% end of yes nest par tags
6951 }% end of handling pars
6952 {}% not handling pars
6953 }
6954
6955 \let\LWR@ensuredoingapar\LWR@openparagraph

```

\LWR@closeparagraph@br Add an HTML break if in a span, and not in a lateximage, and not in tabular metadata. Factored from \LWR@closeparagraph.

```

6956 \newcommand*{\LWR@closeparagraph@br}
6957 {%
6958 \ifbool{expr{
6959 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6960 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6961 not bool {LWR@starting@fancybox} and
6962 not bool {LWR@intabularmetadata} or
6963 bool {LWR@in@multirow@par}
6964 }%
6965 {\unskip\LWR@htmltagc{br /}}%
6966 {}%
6967 }

```

\LWR@closeparagraph

```

6968 \newcommand*{\LWR@closeparagraph}
6969 {%
6970 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```

6971 \ifbool{LWR@doingparhooks}{%
6972 \ifbool{LWR@doingapar}%

```

If currently in paragraph mode:

```

6973 {}% handling pars

```

See if already started a lateximage or a <span>:

```

6974 \ifbool{expr{

```

```

6975 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6976 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} or
6977 bool{LWR@in@multirow@par}
6978 }%

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6979 {% no nested par tags
6980 \LWR@closeparagraph@br%
6981 }% no nested par tags

```

If have not already started a lateximage or a <span>:

```

6982 {% yes nest par tags

```

Print a closing tag.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```

6983 \@hspacer{\fill}% \hspace*{\fill}
6984 \leavevmode\LWR@orignewline%
6985 \LWR@htmltagc{/\LWR@tagregularparagraph}%

```

No longer doing a paragraph:

```

6986 \global\boolfalse{LWR@doingapar}%

```

Disable the special minipage & \hspace interaction until a new minipage is found:

```

6987 \global\boolfalse{LWR@minipagethispar}%

```

If parnotes is used, paragraph notes are inserted after ending the previous paragraph:

```

6988 \PN@parnotes@auto%

6989 }% end of yes nest par tags
6990 }% LWR@doingapar: end of handling pars

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6991 {% not LWR@doingapar: not handling pars
6992 \LWR@closeparagraph@br%
6993 }% not handling pars

```

In most cases, finish with a L<sup>A</sup>T<sub>E</sub>X \par, but in the case of paragraphs between lines in a tabular fetch the next token instead. Required for \multicolumn.

```

6994 \ifboolexpr{%
6995 not bool {LWR@doingapar} and
6996 test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6997 test {
6998 \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6999 } and
7000 bool {LWR@intabularmetadata} and
7001 not bool {LWR@tableparcell} and

```

```

7002 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
7003 }%
7004 {\LWR@getmynexttoken}%
7005 }%
7006 }% LWR@doingparhooks
7007 {}% not LWR@doingparhooks
7008 % Do not place anything here, due to the above \LWR@getmynexttoken.
7009 }

```

## 55.1 Paragraph Hooks

para/begin (*Hook*) []

```
7010 \AddToHook{para/begin}[lwarp]{\LWR@openparagraph}
```

para/end (*Hook*) []

```
7011 \AddToHook{para/end}[lwarp]{\LWR@closeparagraph}
```

```
7012 \end{warpHTML}
```

## 56 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 55 has the commands which actually generate the tags.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to generate the opening and closing paragraph tags.

**for HTML output:** 7013 \begin{warpHTML}

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```

7014 \newcommand*{\LWR@startpars}%
7015 {%

```

Ignore if inside a lateximage or <span>:

```

7016 \ifboolexpr{
7017 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
7018 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
7019 }%
7020 {}% nesting
7021 {}% not nesting

```

The L<sup>A</sup>T<sub>E</sub>X paragraph hook controls tag generation for the start and end of paragraphs.

See if currently handling HTML paragraphs:

```
7022 \ifboolexpr {bool{LWR@doingparhooks} and bool{LWR@doingstartpars}}%
```

If already in paragraph mode, do nothing.

```
7023 {}%
```

If not currently in paragraph mode:

```
7024 {\par}%
```

Are now handling paragraphs, but have not yet actually started one:

```
7025 \global\booltrue{LWR@doingstartpars}%
```

No <par> tag yet to undo:

```
7026 \global\boolfalse{LWR@doingapar}%
7027 }% not nesting
7028 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
7029 \newcommand*{\LWR@stoppars}%
7030 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
7031 \ifboolexpr{
7032 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
7033 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
7034 }%
7035 {}% nesting
7036 {% not nesting
```

See if currently handling HTML paragraphs:

```
7037 \ifboolexpr{bool{LWR@doingparhooks} and bool{LWR@doingapar}}%
```

if currently in an HTML paragraph:

```
7038 {%
```

Print a closing tag:

```
7039 \leavevmode\LWR@orignewline%
7040 \LWR@htmltagc{/\LWR@tagregularparagraph}%
7041 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
7042 \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & `\hspace` interaction until a new minipage is found:

```
7043 \global\boolfalse{LWR@minipagethispar}%
7044 }%
```

If was not in an HTML paragraph:

```
7045 {}%
```

No longer in paragraph mode:

```
7046 \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
7047 \global\boolfalse{LWR@doingapar}%
7048 }% not nesting
7049 }

7050 \end{warphTML}
```

## 57 Indentfirst

`indentfirst (Pkg)` `indentfirst` redefines `\@afterindentfalse` to be `\@afterindenttrue`. This is reversed `\AtBeginDocument` here.

**for HTML output:** 7051 `\begin{warphTML}`

```
7052 \AtBeginDocument{
7053 \LWR@traceinfo{AtBeginDocument indentfirst}
7054 \def\@afterindentfalse{\let\if@afterindent\iffalse}
7055 \@afterindentfalse
7056 }
7057 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

7058 \end{warphTML}
```

## 58 Page headers and footers

**for HTML & PRINT:** 7059 `\begin{warphall}`

In the following, `catcode` is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
7060 \newcommand{\LWR@firstpagetop}{} % for the home page alone
7061 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
7062 \newcommand{\LWR@pagetop}{} % for all other pages
7063 \newcommand{\LWR@pagebottom}{}

7064 \newcommand{\LWR@HTMLmeta}{}%
```

`\HTMLFirstPageTop` {*<text and logos>*}

```
7065 \newcommand{\HTMLFirstPageTop}[1]{%
7066 \renewcommand{\LWR@firstpagetop}{#1}%
7067 }
```

\HTMLFirstPageBottom {<*text and logos*>}

```
7068 \newcommand{\HTMLFirstPageBottom}[1]{%
7069 \renewcommand{\LWR@firstpagebottom}{#1}%
7070 }
```

\HTMLPageTop {<*text and logos*>}

```
7071 \newcommand{\HTMLPageTop}[1]{%
7072 \renewcommand{\LWR@pagetop}{#1}%
7073 }
```

\HTMLPageBottom {<*text and logos*>}

```
7074 \newcommand{\HTMLPageBottom}[1]{%
7075 \renewcommand{\LWR@pagebottom}{#1}%
7076 }
```

\HTMLMeta {<*name*>} {<*content*>}

Sets a custom meta tag for the following pages.

```
7077 \newcommand{\HTMLMeta}[2]{%
7078 \renewcommand{\LWR@HTMLmeta}{%
7079 \LWR@htmltag{%
7080 meta name=\LWR@orig@textquotedbl{ }#1\LWR@orig@textquotedbl\ % space
7081 content=\LWR@orig@textquotedbl{ }#2\LWR@orig@textquotedbl\ /%
7082 }\LWR@orig@newline%
7083 }{}{}%
7084 }
```

\HTMLAddMeta {<*name*>} {<*content*>}

Adds to the custom meta tags for the following pages.

```
7085 \newcommand{\HTMLAddMeta}[2]{%
7086 \apptocmd{\LWR@HTMLmeta}{%
7087 \LWR@htmltag{%
7088 meta name=\LWR@orig@textquotedbl{ }#1\LWR@orig@textquotedbl\ % space
7089 content=\LWR@orig@textquotedbl{ }#2\LWR@orig@textquotedbl\ /%
7090 }\LWR@orig@newline%
7091 }{}{}%
7092 }

7093 \end{warpall}
```

## 59 CSS

**for HTML output:** 7094 \begin{warpHTML}

\LWR@currentcss The CSS filename to use. This may be changed mid-document using \CSSFilename, allowing different CSS files to be used for different sections of the document.

```
7095 \newcommand*{\LWR@currentcss}{lwarp.css}
```

`\CSSFilename` {*<new-css-filename.css>*} Assigns the css file to be used by the following HTML pages.

```
7096 \newcommand*{\CSSFilename}[1]{%
7097 \renewcommand*{\LWR@currentcss}{#1}%
7098 \@onelevel@sanitize\LWR@currentcss%
7099 }
7100
7101 \end{warpHTML}
```

**for PRINT output:** 7102 \begin{warpprint}  
7103 \newcommand\*{\CSSFilename}[1]{  
7104 \end{warpprint}

## 60 MATHJAX script

**for HTML output:** 7105 \begin{warpHTML}  
Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
7106 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename` {*<filename>*} Assigns the MATHJAX script file to be used by the following HTML pages.

```
7107 \newcommand*{\MathJaxFilename}[1]{%
7108 \renewcommand*{\LWR@mathjaxfilename}{#1}%
7109 \@onelevel@sanitize\LWR@mathjaxfilename%
7110 }
7111
7112 \end{warpHTML}
```

**for PRINT output:** 7113 \begin{warpprint}  
7114 \newcommand\*{\MathJaxFilename}[1]{  
7115 \end{warpprint}

## 61 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT:** 7116 \begin{warpall}

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.  
Default: (

```
7117 \newcommand*{\AltTextOpen}{(}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: (

```
7118 \newcommand*{\AltTextClose}{})}
```

`\ImageAltText` The HTML alt tag for an image.

Default: image

```
7119 \newcommand*{\ImageAltText}{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.

Default: "math image"

```
7120 \newcommand*{\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
7121 \newcommand*{\LWR@ThisAltText}{}
```

`\ThisAltText` {<text>}

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `svg math`.

```
7122 \newcommand*{\ThisAltText}[1]{%
7123 \renewcommand{\LWR@ThisAltText}{#1}%
7124 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML alt tag for the images generated by many packages.

Default: "diagram"

```
7125 \newcommand*{\PackageDiagramAltText}{diagram}
```

New keys to be used for print mode if tagging is not enabled.

```
7126 \IfPackageLoadedTF{tagpdf-base}
7127 {}
7128 {
7129 \AtBeginDocument{
7130 \define@key{igraph}{alt}{\ThisAltText{#1}}
7131 \define@key{igraph}{actualtext}{\ThisAltText{#1}}
7132 \define@key{igraph}{artifact}[false]{}
7133
7134 \IfPackageLoadedTF{tikz}{
7135 \pgfkeys{/tikz/alt/.code={\ThisAltText{#1}}}
7136 \pgfkeys{/tikz/actualtext/.code={\ThisAltText{#1}}}
7137 \pgfkeys{/tikz/artifact/.is choice}
7138 \pgfkeys{/tikz/artifact/.default=true}
7139 \pgfkeys{/tikz/artifact/true/.code={}}
7140 \pgfkeys{/tikz/artifact/false/.code={}}
7141 }{}
7142 }
7143 }

7144 \end{warpall}
```

## 62 Title, HTML meta author, HTML meta description

**for HTML output:** 7145 \begin{warpHTML}

\title {<title>} Modified to remember \thetitle, which is used to set the HTML page titles.

```
7146 \let\LWR@origtitle\title
7147
7148 \renewcommand*{\title}[1]{%
7149 \LWR@origtitle{#1}%
7150 \begingroup%
7151 \renewcommand{\thanks}[1]{%
7152 \protected@xdef\thetitle{#1}%
7153 \endgroup%
7154 }
```

```
7155 \end{warpHTML}
```

**for HTML & PRINT:** 7156 \begin{warpall}

\HTMLTitle {<Titlename>} The Title to place into an HTML meta tag. The default is to use the document \title's setting.

```
7157 \providecommand{\thetitle}{\BaseJobname}
7158
7159 \newcommand{\theHTMLTitle}{\thetitle}
7160
7161 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

\HTMLAuthor {<authorname>} The author to place into an HTML meta tag. If none given, the default is \theauthor, which is empty unless the titling package is used.

```
7162 \providecommand{\theauthor}{}
7163
7164 \newcommand{\theHTMLAuthor}{\theauthor}
7165
7166 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using \HTMLAuthor, allowing different HTML authors to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

\HTMLDescription {<New html meta description.>} Assigns the HTML file's description meta tag.

```
7167 \newcommand{\LWR@currentHTMLDescription}{}
7168
7169 \newcommand{\HTMLDescription}[1]{%
7170 \LWR@currentHTMLDescription{#1}
7171 }
```

`\HTMLKeywords` {*<New html meta keywords.>*} Assigns the HTML file's keywords meta tag.

```

7172 \newcommand{\LWR@currentHTMLKeywords}{}
7173
7174 \newcommand{\HTMLKeywords}[1]{%
7175 \renewcommand{\LWR@currentHTMLKeywords}{#1}
7176 }
7177
7178 \end{warpall}

```

## 63 Footnotes

lwarp uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```

\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}

```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for MATHJAX, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading lwarp:

```

\providecommand{\footnotename}{something}
\usepackage{lwarp}

```

Similar for `sidenotes`. For `endnotes`:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc` stable option is emulated by lwarp.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short toc entry, and `\protect` the `\footnote`:

```

\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}

```

**memoir with footmisc** If using `memoir` class, with which lwarp preloads `footmisc`, the `stable` option must be declared before lwarp is loaded:

 **memoir**

```

\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
. . .

```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, as thanks in the titlepage, inside a `lateximage`, or during verbatim text. Each of these is handled differently.

### 63.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L<sup>A</sup>T<sub>E</sub>X box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page. Paragraph tags in footnotes are generated manually instead using the usual `lwarp` paragraph code.

See section 63.6 for the implementation.

### 63.2 Minipage footnotes

See section 63.7 for how minipage footnotes are gathered. See section 97.4 for how minipage footnotes are placed into the document.

### 63.3 Titlepage thanks

See section 72.7 for titlepage footnotes.

### 63.4 In a lateximage

Inside a `lateximage`, the footnote mark is generated by standard L<sup>A</sup>T<sub>E</sub>X handling, but the footnotes stored and later printed have HTML tags added, since these footnotes are printed outside the `lateximage`.

### 63.5 Verbatim footnotes

See section 272 for verbatim footnote handling. HTML tags are generated by a mix of `lwarp` paragraph handling and manual code.

### 63.6 Regular page footnote implementation

**for HTML & PRINT:** 7179 `\begin{warppall}`

`FootnoteDepth` (*Ctrl*) Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`.  
Default: 3

The default of 3 places footnotes before each \subsubsection or higher. See table 12 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

```
7180 \newcounter{FootnoteDepth}
7181 \setcounter{FootnoteDepth}{3}
```

`footnoteReset` (*Ctr*) If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the `footnote` or `footnote<suffix>` counters.

Default: 0

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
7182 \newcounter{footnoteReset}
7183 \setcounter{footnoteReset}{0}
```

```
7184 \end{warpall}
```

for HTML output: 7185 \begin{warpHTML}

Required for footnotes inside description or amstheorem square braces:

```
7186 \AtBeginDocument{
7187 \LWR@traceinfo{AtBeginDocument footnote}
7188 \robustify{\footnote}
7189 \robustify{\footnotemark}
7190 }
```

`\LWR@footnotebox` Patch L<sup>A</sup>T<sub>E</sub>X footnotes to use a new \box instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `lateximage`, which is on its own new page.

```
7191 \newbox\LWR@footnotebox
```

`LWR@spewingnotes` (*bool*) Used with the `footnote` package to suppress paragraph tags before and after `\spewnotes`.

```
7192 \newbool{LWR@spewingnotes}% For the footnote package.
```

Much of the following has unneeded print-mode formatting removed.

`\@makefn`text {<*text*>}

```
7193 \long\def\@makefn#1{\@thefnmark~{#1}}
```

`\@makefn`mark

```
7194 \def\@makefnmark{%
7195 \@thefnmark%
7196 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode minipage, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

```
\LWR@footnotetext {<text>} {<footnote box name>}
```

Factored to allow multiple footnote boxes for `manyfoot`.

```
7197 \long\def\LWR@footnotetext#1#2{%
7198 \LWR@traceinfo{LWR@footnotetext}%
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
7199 \LWR@newautopagelabel{page}%
```

Be sure a paragraph has started.

```
7200 \LWR@ensuredoingapar%
```

If a footnote is generated inside a span, when later printed the footnote itself will not be printed inside a span.

```
7201 \setcounter{LWR@saved@spandepth}{\value{LWR@spandepth}}%
7202 \setcounter{LWR@spandepth}{0}%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

```
7203 \begingroup%
7204 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
7205 \LWR@save@doingapar%
7206 \global\setbox\csname #2\endcsname=\vbox{%
7207 \unvbox\csname #2\endcsname%
```

Remember the footnote number for `\ref`:

```
7208 \def\@currentcounter{footnote}%
7209 \protected@edef\@currentlabel{%
7210 \csname p@footnote\endcsname\@thefnmark%
7211 }% @currentlabel
```

Open a group:

```
7212 \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
7213 \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a lateximage, because the footnote will be in HTML:

```
7214 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Inside the footnote, lwarp paragraph handling is not used, so the opening and closing paragraph tags are generated here. Use paragraph tags if in a tabular data cell or a lateximage.

```
7215 \ifbool{LWR@spewingnotes}{}{%
7216 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
7217 }%
```

Append the footnote to the list:

```
7218 \@makefnctext{#1}%
```

Closing paragraph tag:

```
7219 \ifbool{LWR@spewingnotes}{}{%
7220 \LWR@orignobreakspace\LWR@orignewline%
7221 \LWR@htmltagc{/\LWR@tagregularparagraph}%
7222 \LWR@orignewline%
7223 \global\boolfalse{LWR@doingapar}%
7224 }%
```

Close the group:

```
7225 \color@endgroup%
7226 }% vbox
7227 \setcounter{LWR@spandepth}{\value{LWR@saved@spandepth}}%
7228 \LWR@restore@doingapar%
7229 \endgroup%
7230 }%
```

```
\LWR@footnotetext {<text>}
```

```
7231 \long\def\LWR@footnotetext#1{%
7232 \LWR@@@footnotetext{#1}{\LWR@footnotebox}%
7233 }%
```

```
\@footnotetext {<text>}
```

```
7234 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 63.7 Minipage footnote implementation

Patch L<sup>A</sup>T<sub>E</sub>X minipage footnotes to use a new \box instead of an insert for lwarp minipage footnotes. This avoids having the original \mpfootins appear at the bottom of a lateximage, which is on its own new page.

```
7235 \newbox\LWR@mpfootnotes
```

`\@mpfootnotetext {<text>}`

```
7236 \long\def\@mpfootnotetext#1{%
7237 \LWR@traceinfo{\@mpfootnotetext}%
```

Start a paragraph if necessary.

```
7238 \LWR@ensuredoingapar%
7239 \LWR@save@doingapar%
```

If generating a footnote inside a span, the footnote will later be printed outside the span.

```
7240 \setcounter{LWR@sav@spandepth}{\value{LWR@spandepth}}%
7241 \setcounter{LWR@spandepth}{0}%
```

```
7242 \global\setbox\LWR@mpfootnotes\vbox{%
7243 \unvbox\LWR@mpfootnotes%
7244 \reset@font\footnotesize%
7245 \hsize\columnwidth%
7246 \@parboxrestore%
```

```
7247 \def\@currentcounter{mpfootnote}%
```

```
7248 \protected@edef\@currentlabel%
7249 {\csname p@mpfootnote\endcsname\@thefnmark}%
7250 \color@begingroup%
```

Inside the footnote, `lwarp` paragraph handling is not used, so the opening and closing paragraph tags are generated here. Add paragraph tag:

```
7251 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%

7252 \@makefnctext{%
7253 \ignorespaces#1%
7254 }%
```

Add the closing paragraph tag. Also disable automatic paragraph handling because the paragraph tags are generated by the footnote code.

```
7255 \LWR@orignobreakspace\LWR@orignewline%
7256 \LWR@htmltagc{/\LWR@tagregularparagraph}%
7257 \LWR@orignewline%
7258 \global\boolfalse{LWR@doingapar}%
```

```
7259 \color@endgroup%
7260 }% vbox
```

Outside the footnote, restore paragraph handling and span depth.

```
7261 \LWR@restore@doingapar%
7262 \setcounter{LWR@spandepth}{\value{LWR@sav@spandepth}}%
```

Paragraph handling:

```
7263 \LWR@ensuredoingapar%
```

```
7264 \LWR@traceinfo{@mpfootnotetext: done}%
7265 }
```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```
7266 \AtBeginDocument{
7267 \def\thempfootnote{\@alph\c@mpfootnote}
7268 }
```

## 63.8 Printing pending footnotes

`\LWR@@printpendingfootnotes` {*<footnote counter name>*}

```
7269 \newcommand*{\LWR@@printpendingfootnotes}[1]{%
7270 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
7271 \LWR@forcenewpage
7272 \begin{BlockClass}(note){footnotes}%
```

Create a new autopage in case citation back references occur inside the footnotes:

```
7273 \LWR@newautopagelabel{page}%

7274 \null
7275 \unvbox\csuse{LWR@#1box}
7276 \setbox\csuse{LWR@#1box}=\vbox{}
7277 \end{BlockClass}
7278 \ifltxcounter{#1Reset}{%
7279 \ifnumgreater{value{#1Reset}}{0}{%
7280 \setcounter{#1}{value{#1Reset}}%
7281 \addtocounter{#1}{-1}%
7282 }{}%
7283 }{}%
7284 \fi
7285 }
```

`\LWR@printpendingfootnotes` Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```
7286 \newcommand*{\LWR@printpendingfootnotes}{%
7287 \LWR@printpendingfootnotes{footnote}%
7288 }
```

`\LWR@maybeprintpendingfootnotes` {*<depth>*} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```
7289 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
7290 \ifboolexpr{
7291 not test{\ifnumcomp{#1}{>}{value{FootnoteDepth}} or
7292 bool{FormatEPUB} or
7293 bool{FormatWP}
7294 }%
7295 {\LWR@printpendingfootnotes}%
7296 {}%
7297 }
```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```

7298 \newcommand*{\LWR@printpendingmpfootnotes}{%
7299 \ifvoid\LWR@mpfootnotes\else
7300 \LWR@forcenewpage
7301 \begin{BlockClass}(note){footnotes}%
7302 \null
7303 \unvbox\LWR@mpfootnotes
7304 \setbox\LWR@mpfootnotes=\vbox{}
7305 \end{BlockClass}
7306 \fi
7307 }
```

`\LWR@nullifyfootnotes` Cancels footnotes, such as inside an HTML comment or a `\nameref`.

```

7308 \newcommand*{\LWR@nullifyfootnotes}{%
7309 \renewcommand{\footnote}[2][{}]{%
7310 \renewcommand{\footnotemark}[1][{}]{%
7311 }
7312 \end{warpHTML}}
```

## 64 Marginpars

`\marginpar` [*<left>*] [*<right>*] `\marginpar` may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [*<left>*] [*<right>*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

**for HTML output:** 7313 `\begin{warpHTML}`

`\marginpar` [*<left>*] [*<right>*]

```

7314 \renewcommand{\marginpar}[2][{}]{%
7315 \ifbool{FormatWP}%
7316 {%
7317 \begin{LWR@BlockClassWP}%
7318 {width:2in; float:right; margin:10pt}{(note){marginblock}}%
7319 #2
7320 \end{LWR@BlockClassWP}%
7321 }%
7322 {%
7323 \LWR@htmlspanclass(note){marginpar}{#2}%
7324 }%
7325 }
```

`\marginparBlock` [*<left>*] [*<right>*]

For use when the `\marginpar` will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

7326 \newcommand{\marginparBlock}[2][\%
7327 \LWR@stoppars%
7328 \ifbool{FormatWP}%
7329 {%
7330 \begin{LWR@BlockClassWP}%
7331 {width:2in; float:right; margin:10pt}}{%
7332 (note){marginblock}%
7333 #2
7334 \end{LWR@BlockClassWP}
7335 }%
7336 {%
7337 \begin{BlockClass}[width:2in; float:right; margin:10pt]%
7338 (note){marginparblock}%
7339 #2
7340 \end{BlockClass}
7341 }%
7342 \LWR@startpars%
7343 }
```

\reversemarginpar

```
7344 \renewcommand*{\reversemarginpar}{}%
```

\normalmarginpar

```
7345 \renewcommand*{\normalmarginpar}{}%
```

```
7346 \end{warppHTML}
```

**for PRINT output:** 7347 \begin{warpprint}

\marginparBlock [*<left>*] [*<right>*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
7348 \LetLtxMacro\marginparBlock\marginpar
```

```
7349 \end{warpprint}
```

## 65 Tracking internal cross references

Cross references are generated using the PDF file's page number during L<sup>A</sup>T<sub>E</sub>X compilation. Internal labels are generated which include these page numbers in the label.

\*\_html.aux (*file*) A new entry in the \*\_html.aux file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{<x>}{<y>}}
```

`LWR@currentautosecpage` (*Ctr*) Records the page number when the section was created. (If a math expression is included in the section name, and `svg math` is used, the corresponding `lateximage` will cause the page number to change by the time the following `autosec` label is created, thus the initial page number is recorded here.) `LWR@currentautosecfloatpage` is updated more often than `LWR@currentautosecpage`.

```
7350 \newcounter{LWR@currentautosecpage}
7351 \setcounter{LWR@currentautosecpage}{1}
```

`LWR@currentautosecfloatpage` (*Ctr*) The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than `LWR@currentautosecpage`, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as `\label`, citation backlinks, etc.

`\LWRsetnextfloat` is written with this and the `autoid` by the modified `\addcontentsline` just before each float's entry.

```
7352 \newcounter{LWR@currentautosecfloatpage}
7353 \setcounter{LWR@currentautosecfloatpage}{1}
```

`LWR@previousautopagelabel` (*Ctr*) Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
7354 \newcounter{LWR@previousautopagelabel}
7355 \setcounter{LWR@previousautopagelabel}{-1}
```

`\LWR@newautopagelabel`  $\{\langle\textit{pagenumber counter}\rangle\}$

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
7356 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
7357 \ifnumequal{\value{LWR@previousautopagelabel}}{\value{page}}{%
7358 {}}%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is `LWR@currentautosecpage`, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an `svg image`, such as `svg math`. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
7359 {%
7360 \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an `svg image`, define another label for the new page:

```
7361 \ifnumequal{\value{#1}}{\value{page}}{%
7362 {}}%
```

```
7363 {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
7364 \setcounter{LWR@previousautopagelabel}{\value{page}}%
7365 }%
7366 }
```

```
\LWR@null@newautopagelabel {\langle pagenumber counter \rangle}
```

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
7367 \newcommand*{\LWR@null@newautopagelabel}[1]{}
```

## 66 Splitting HTML files

- Files are split according to FileDepth and CombineHigherDepths.
- Filenames are sanitized by \LWR@filenamenoblanks.
- \LWR@newhtmlfile finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 7368 \begin{warpall}

FileDepth (*Ctrl*) {\langle *section depth* \rangle} determines how deeply to break into new HTML files, similar to tocdepth. The default of -5 produces one large HTML file.

```
7369 \newcounter{FileDepth}
7370 \setcounter{FileDepth}{-5}
```

CombineHigherDepths (*bool*) Combile higher-level sections together into one file?

```
7371 \newbool{CombineHigherDepths}
7372 \booltrue{CombineHigherDepths}
```

\FilenameLimit Maximum length of the generated filenames.

```
7373 \newcommand*{\FilenameLimit}{80}

7374 \end{warpall}
```

**for HTML output:** 7375 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

```
7376 \AtBeginDocument{
7377 \LWR@traceinfo{AtBeginDocument file names}
7378 \ifbool{FileSectionNames}%
7379 {\newcommand*{\LWR@thisfilename}{\HomeHTMLFilename}}
7380 {\newcommand*{\LWR@thisfilename}{0}}
7381 }
```

\LWR@thisnewfilename The filename being sanitized.

```
7382 \newcommand*{\LWR@thisnewfilename}{}
```

\LWR@simplifiname \*{<*expression*>} Simplify \LWR@thisnewfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
7383 \NewDocumentCommand{\LWR@simplifiname}{s m}{%
7384 \IfBooleanTF{#1}{%
7385 \StrSubstitute{\LWR@thisnewfilename}%
7386 {\detokenize{#2}}%
7387 {\detokenize{-}}[\LWR@thisnewfilename]%
7388 }{%
7389 \StrSubstitute{\LWR@thisnewfilename}%
7390 {#2}%
7391 {\detokenize{-}}[\LWR@thisnewfilename]%
7392 }
7393 }
```

\LWR@simplifycustom User-defined filename simplifications. Redefine with \newcommand.

```
7394 \newcommand*{\LWR@simplifycustom}{}
```

\FilenameSimplify \*{<*phrase*>} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```
7395 \NewDocumentCommand{\FilenameSimplify}{s m}{%
7396 \IfBooleanTF{#1}{%
7397 \appto{\LWR@simplifycustom}{%
7398 \LWR@simplifiname*{#2}%
7399 }%
7400 }{%
7401 \appto{\LWR@simplifycustom}{%
7402 \LWR@simplifiname{#2}%
7403 }%
7404 }%
7405 }
```

\LWR@avoiddupfilenames Instructions for how to avoid duplicate filenames. This is used in a warning in \LWR@filenamenoblanks, and in an error in \LWR@newhtmlfile.

```
7406 \newcommand*{\LWR@avoiddupfilenames}{%
7407 To avoid duplicate filenames, use the optional\MessageBreak
7408 short Table of Contents entry:\MessageBreak
7409 \space\space\protect\section[Unique name, no math]{Name with math}%
7410 \MessageBreak
7411 or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
7412 \space\space%
7413 \protect\section{\MessageBreak
7414 \space\space\space\space\protect\texorpdfstring\MessageBreak
7415 \space\space\space\space\space\space%
7416 {Name with math}{Unique name, no math}\MessageBreak
7417 \space\space}
7418 }
```

`\LWR@filenamenoblanks {<filename>}`

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```
7419 \newcommand*{\LWR@filenamenoblanks}[1]{%
7420 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
7421 \LWR@nullfonts%
7422 \renewcommand*{\LWR@htmltagc}[1]{}%
```

```
7423 \edef\LWR@thisnewfilename{#1}%
```

Replaces common macros with hyphens. (& is done by `\LWR@nullfonts`.)

```
7424 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
7425 \LWR@simplifname{_}
7426 \LWR@simplifname{\#}
7427 \LWR@simplifname{\textbackslash}
7428 \LWR@simplifname{\protect}
7429 \LWR@simplifname{\ }
7430 \LWR@simplifname{\textless}
7431 \LWR@simplifname{\textgreater}
```

```
7432 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```
7433 \ifbool{FileSectionNames}{%
7434 \IfSubStr{\LWR@thisnewfilename}{\LWR@dollar}{%
7435 \PackageWarning{lwarp}
7436 {%
7437 This section name:\MessageBreak
7438 \space\space``\detokenize\expandafter{#1}''\MessageBreak
7439 at the line number listed below,\MessageBreak
7440 is using $dollar-delimited math$,
7441 which generates\MessageBreak
7442 complicated file names. It is better to use\MessageBreak
7443 \space\space%
7444 \protect\section{Name with \protect\(\parenthesis math\protect\)}%
7445 \MessageBreak
7446 The math then will be removed from the file name.\MessageBreak
7447 \MessageBreak
7448 \LWR@avoiddupfilenames%
7449 \MessageBreak
7450 This section is found before or%
7451 }
7452 }{%
7453 }
```

```
7454 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename!}%
7455 \fullexpandarg%
```

Convert spaces into hyphens:

```
7456 \LWR@simplifiname*{ }
```

Convert punctuation into hyphens:

```
7457 \LWR@simplifiname*{*}
7458 \LWR@simplifiname*{(}
7459 \LWR@simplifiname*{)}
7460 \LWR@simplifiname*{.}
7461 \LWR@simplifiname*{!}
7462 \LWR@simplifiname*{,}
7463 \LWR@simplifiname*{' }
7464 \LWR@simplifiname*{+}
7465 \LWR@simplifiname*{/}
7466 \LWR@simplifiname*{:}
7467 \LWR@simplifiname*{;}
7468 \LWR@simplifiname*{=}
7469 \LWR@simplifiname*{?}
7470 \LWR@simplifiname*{@}
7471 \LWR@simplifiname*{^}
7472 \LWR@simplifiname*{&}
7473 \LWR@simplifiname*{"}
7474 \LWR@simplifiname*{<}
7475 \LWR@simplifiname*{>}
```

```
7476 \LWR@simplifiname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
7477 \StrSubstitute{\LWR@thisnewfilename}%
7478 {\LWRleftbrace}{\LWR@thisnewfilename}%
7479 \StrSubstitute{\LWR@thisnewfilename}%
7480 {\LWRrightbrace}{\LWR@thisnewfilename}%
```

```
7481 \LWR@simplifiname{\LWRpercent}
7482 \LWR@simplifiname{\LWRdollar}
```

```
7483 \LWR@simplifiname*{|}
7484 \LWR@simplifiname*{^}
7485 \LWR@simplifiname*{~}
7486 \LWR@simplifiname*{[}
7487 \LWR@simplifiname*{]}
7488 \LWR@simplifiname*{`}
```

Convert short words:

```
7489 \LWR@simplifiname*{-s-}
7490 \LWR@simplifiname*{-S-}
7491 \LWR@simplifiname*{-a-}
7492 \LWR@simplifiname*{-A-}
7493 \LWR@simplifiname*{-an-}
7494 \LWR@simplifiname*{-AN-}
7495 \LWR@simplifiname*{-to-}
7496 \LWR@simplifiname*{-TO-}
7497 \LWR@simplifiname*{-by-}
7498 \LWR@simplifiname*{-BY-}
7499 \LWR@simplifiname*{-of-}
```

```

7500 \LWR@simplifiname*{-OF-}
7501 \LWR@simplifiname*{-and-}
7502 \LWR@simplifiname*{-AND-}
7503 \LWR@simplifiname*{-for-}
7504 \LWR@simplifiname*{-FOR-}
7505 \LWR@simplifiname*{-the-}
7506 \LWR@simplifiname*{-THE-}

7507 \LWR@simplifiname*{-nolimits-}
7508 \LWR@simplifiname*{-begingroup-}
7509 \LWR@simplifiname*{-endgroup-}

```

Convert custom words:

```
7510 \LWR@simplifycustom%
```

If PDF L<sup>A</sup>T<sub>E</sub>X and not utf8 encoding, don't try to convert emdash, endash:

```

7511 \ifPDFTeX% pdflatex or dvi latex
7512 \ifdefstring{\inputencodingname}{utf8}{%
7513 \LWR@simplifiname*{-}
7514 % emdash
7515 \LWR@simplifiname*{-}
7516 % endash
7517 }{}%
7518 \else% not PDFTeX
7519 \LWR@simplifiname*{-}
7520 \LWR@simplifiname*{-}
7521 \fi%

```

Convert multiple hyphens:

```

7522 \LWR@simplifiname*{-----}
7523 \LWR@simplifiname*{----}
7524 \LWR@simplifiname*{---}
7525 \LWR@simplifiname*{--}

```

If starts with a dash, remove the leading dash:

```

7526 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7527 \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7528 }{}%

```

If ends with a dash, remove the trailing dash:

```

7529 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7530 \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7531 }{}%

```

Limits the length of the filename:

```
7532 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```

7533 \global\let\LWR@thisfilename\LWR@thisnewfilename%
7534 \endgroup%
7535 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
7536 }

```

## 66.1 Sanitizing expressions for HTML

Math expressions are converted to `lateximages`, and some math environments may contain `&`, `<`, or `>`, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

`\LWR@replacestrings {<search>} {<replace>}`

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```

7537 \bgroup
7538 \catcode`\!=3 \catcode`\?=3
7539
7540 \long\gdef\LWR@replacestrings@addto#1#2{%
7541 \expandafter\def\expandafter#1\expandafter{#1#2}%
7542 }
7543
7544 \gdef\LWR@replacestrings#1#2{%
7545 \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
7546 \long\def\LWR@replacestringsB##1#1{%
7547 \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{#2##1}%
7548 \expandafter\LWR@replacestringsB\fi%
7549 }%
7550 \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajník
7551 \long\def\LWR@replacestringsA##1?{%
7552 \def\tmpb{##1}%
7553 }\expandafter\LWR@replacestringsA\tmpb%
7554 }
7555 \egroup

```

`LWR@HTMLsanitize@tmpb@enable` Allow to disable sanitization while inside a `lateximage`, or while using `minted`.  
 (*bool*) HTML sanitization was occurring too early, and `minted` would then colorize the  
 sanitized results, breaking the HTML entities in `lwarp`'s HTML output.

```

7556 \newbool{LWR@HTMLsanitize@tmpb@enable}
7557 \booltrue{LWR@HTMLsanitize@tmpb@enable}

```

`LWR@HTMLsanitize@tmpb@removebackslash`  
 (*bool*) Allow to enable/disable sanitization of the macros `\%`, `\#`, `\%`. This is usually  
 enabled to allow the user to enter these macros in URLs, for example, but is disabled  
 for ALT tags and `MATHJAX` output where the literal `LATEX` source must be preserved.

```

7558 \newbool{LWR@HTMLsanitize@tmpb@removebackslash}
7559 \booltrue{LWR@HTMLsanitize@tmpb@removebackslash}

```

`LWR@MathJax@silentquotes` If true, double quotes (`\"` and `\"`) are removed (used for `mathspec`). This unfortu-  
 (*bool*) nately includes double quotes used inside `\text` with `MATHJAX`. If false, double  
 quotes are escaped.

```

7560 \newbool{LWR@MathJax@silentquotes}
7561 \boolfalse{LWR@MathJax@silentquotes}

```

`\LWR@eolspace` The end of line character generated by detokenizing `\<space>` when at the end of a line.

```
7562 \expandafter\def\expandafter\LWR@eolspace\expandafter{\detokenize{\
7563 }}% there is a trailing space in the previous line
```

`\LWR@HTMLsanitize@tmpb` Sanitizes HTML for `\tmpb`. These characters may be interpreted by the browser, causing false HTML code.

To allow sanitization, expand anything `\detokenized` before assigning to `\tmpb`.

```
7564 \catcode`\&=12
7565 \newcommand*{\LWR@HTMLsanitize@tmpb}{%
7566 \ifbool{\LWR@HTMLsanitize@tmpb@enable}%
7567 {%
```

HTML entities:

At the end of a line, `\<space>` is turned in to an end of line character, which is now converted to a regular `\<space>`.

```
7568 \expandafter\LWR@replacestrings\expandafter{\LWR@eolspace}{\ }%
```

`&amp;` must be first because `&` is used for `lt`, `gt`, etc.

```
7569 \LWR@replacestrings{&}{&}}% Must be before the following:
7570 \LWR@replacestrings{<}{<}}%
7571 \LWR@replacestrings{>}{>}}%
7572 \LWR@replacestrings{'}{'}}%
7573 \LWR@replacestrings`{`}}%
7574 \LWR@replacestrings[_]{\detokenize[_]}}%
```

Neutralize `\%`, `\#`, `\&` in case used by the author.

`\@tempa` is built to be

---

```
\LWR@replacestrings{\#}{#}
```

---

and similar for `%` and `&`.

```
7575 \ifbool{\LWR@HTMLsanitize@tmpb@removebackslash}%
7576 {%
7577 \def\@tempa{\LWR@replacestrings}%
7578 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\detokenize{\#}}}%
7579 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRhash}}%
7580 \@tempa%
7581 \def\@tempa{\LWR@replacestrings}%
7582 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\detokenize{\%}}}%
7583 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRpercent}}%
7584 \@tempa%
7585 \def\@tempa{\LWR@replacestrings}%
7586 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\detokenize{\&}}}%
7587 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRamp}}%
7588 \@tempa%
7589 }%
7590 }
```

The quotes occasionally causes problems. For MathJax, also allow neutralization of \ and the " character.

```

7591 \ifbool{LWR@MathJax@silentquotes}
7592 {%
7593 \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{}%
7594 \LWR@replacestrings{""}{}%
7595 }%
7596 {%
7597 \LWR@replacestrings{""}{"}%
7598 }%
7599 }% sanitizing enabled
7600 {}% sanitizing not enabled
7601 }
7602 \catcode`\&=4

```

`\LWR@HTMLsanitize@use@tmpb`  $\langle text \rangle$

Sanitizes via `\LWR@HTMLsanitize@tmpb` and then immediately uses the result.

```

7603 \newcommand{\LWR@HTMLsanitize@use@tmpb}[1]{%
7604 \ifbool{LWR@HTMLsanitize@tmpb@enable}%
7605 {%
7606 \def\tmpb{#1}%
7607 \LWR@HTMLsanitize@tmpb%
7608 \tmpb%
7609 }%
7610 {#1}%
7611 }

```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitizedetokenized`, `\LWR@HTMLsanitizeexpanded`, or `\CustomizeMathJax`.

```

7612 \catcode`\#=12
7613 \newcommand{\LWR@subHTMLsanitize}{%
7614 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7615 \LWR@HTMLsanitize@tmpb%

```

MATHJAX allows expressions to be defined with `\newcommand`. These expressions would appear with `##` for each argument, and each must be changed to a single `#`. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```

7616 \LWR@replacestrings{##}{#}%
7617 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7618 }
7619 \catcode`\#=6

```

`\LWR@HTMLsanitizedetokenized`  $\langle \textit{detokenized text} \rangle$

Prints the sanitized text, already detokenized.

```

7620 \newrobustcmd{\LWR@HTMLsanitizedetokenized}[1]{%
7621 \LWR@traceinfo{\LWR@HTMLsanitizedetokenized !#1!}%

```

Cancel French **babel** character handling, and fully expand the strings:

```

7622 \begingroup%
7623 \LWR@hook@processingtags%
7624 \edef\LWR@strresult{#1}%
7625 \LWR@subHTMLsanitize%
7626 \LWR@strresult%
7627 \endgroup%
7628 \LWR@traceinfo{LWR@HTMLsanitize done}%
7629 }

```

`\LWR@HTMLsanitizeexpanded`  $\{\langle text \rangle\}$

This version must be given the detokenized and expanded text. This is only used for adding math to MATHJAX expressions or `lateximage alt` tags.

```

7630 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
7631 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
7632 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
7633 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7634
7635 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
7636 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
7637 \edef\LWR@endrightbrace{end\LWRrightbrace}
7638 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7639
7640 \newrobustcmd{\LWR@HTMLsanitizeexpanded}[1]{%

```

Cancel French `babel` character handling, and fully expand the strings:

```

7641 \begingroup%
7642 \LWR@hook@processingtags%
7643 \edef\LWR@strresult{#1}%

```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```

7644 \protect\StrSubstitute{\LWR@strresult}%
7645 {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
7646 \protect\StrSubstitute{\LWR@strresult}%
7647 {\LWR@endspacerightbrace}{\LWR@endrightbrace}[\LWR@strresult]%
7648
7648 \LWR@subHTMLsanitize%
7649 \LWR@strresult%
7650 \endgroup%
7651 }

```

## 66.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```

7652 \newcommand*{\LWR@customizedMathJax}{}

```

`LWR@warnedcustomizemathjax` Used to issue only one warning about using a `\CustomizeMathJax` per macro.  
(*bool*)

```

7653 \newbool{LWR@warnedcustomizemathjax}
7654 \boolfalse{LWR@warnedcustomizemathjax}

```

`\LWR@subcustomizedmathjax` {*macro definition*}

```

7655 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7656 \begin{group}
7657 \LWR@hook@processingtags%
7658 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
7659 \edef\LWR@strresult{\detokenize{#1}}%
7660 \LWR@subHTMLsanitize%
7661 \xdef\LWR@customizedMathJax{%
7662 \LWR@customizedMathJax%
7663 \LWR@strresult%
7664 }%
7665 \end{group}%
7666 }
7667 \@onlypreamble\LWR@subcustomizedmathjax

```

`\CustomizeMathJax` {*macro definition*}

A warning is issued if a very long argument is given.

```

7668 \newcommand*{\CustomizeMathJax}[1]{%
7669 \ifbool{LWR@warnedcustomizemathjax}{}{%
7670 \StrLen{\detokenize{#1}}[\LWR@tempone]%
7671 \ifnumgreater{\LWR@tempone}{350}{%
7672 \AtEndDocument{%
7673 \PackageNoteNoLine{lwarp}{%
7674 To ensure faster MathJax compilation, place each\MessageBreak
7675 custom macro in its own \protect\CustomizeMathJax.\MessageBreak
7676 See the Lwarp documentation regarding customizing\MessageBreak
7677 MathJax%
7678 }%
7679 }%
7680 \booltrue{LWR@warnedcustomizemathjax}%
7681 }{}%
7682 }%
7683 \appto\LWR@customizedMathJax{\LWRbackslash}%
7684 \LWR@subcustomizedmathjax{#1}%
7685 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
7686 }
7687 \@onlypreamble\CustomizeMathJax

```

`\LWR@infoprocessingmathjax` {*package name*}

```

7688 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7689 \typeout{---}
7690 \typeout{Package lwarp: Processing MathJax customizations for #1.}
7691 \typeout{\space\space This may take a moment.}
7692 \typeout{---}
7693 }

```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L<sup>A</sup>T<sub>E</sub>X math is generated inside the HTML comment.



`\footnotemark`

For other math environments, the `\footnotemark/\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L<sup>A</sup>T<sub>E</sub>X in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L<sup>A</sup>T<sub>E</sub>X.

```

7694 \providecommand{\footnotename}{footnote}
7695
7696 % due to warpMathJax:
7697 \end{warpHTML}
7698
7699 \begin{warpMathJax}
7700 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7701 \LWRbackslash(%
7702 \LWRbackslash{}newcommand%
7703 \{\LWRbackslash{}\footnotename\}%
7704 \{\footnotename\}%
7705 \LWRbackslash)\par%
7706 }
7707 \end{warpMathJax}

```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```

7708 \begin{warpMathJax}
7709 \CustomizeMathJax{\def\LWRfootnote{1}}
7710 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{\{}^{\mathrm{#1}}\}}
7711 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{\{}^{\mathrm{#1}}\}}

```

`\hspace` is modified to accept and ignore a star:

```

7712 \CustomizeMathJax{\let\LWRorighspace\hspace}
7713 \CustomizeMathJax{\renewcommand{\hspace}[1]{\ifstar\LWRorighspace\LWRorighspace}}

```

Various other customizations:

```

7714 \CustomizeMathJax{\newcommand{\TextOrMath}[2]{#2}}
7715 \CustomizeMathJax{\newcommand{\mathnormal}[1]{\mathrm{#1}}}
7716 \CustomizeMathJax{\newcommand{\ensuremath}[1]{#1}}
7717 \CustomizeMathJax{% absorb two optional arguments
7718 \newcommand{\LWRframebox}[2][\fbox]{#2}
7719 \newcommand{\framebox}[1][\LWRframebox]
7720 }
7721 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7722 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7723 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7724 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7725 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7726 \CustomizeMathJax{\newcommand{\number}[1]{}}
7727 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \\\}}
7728 \CustomizeMathJax{\newcommand{\cline}[1]{}}
7729 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7730 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

7731 \CustomizeMathJax{\newcommand{\protect}{}}
7732 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
7733 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
7734 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][{}]}
7735 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][{}]{\LWRabsorboption}}
7736 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7737 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7738 \CustomizeMathJax{\let\delcode\mathcode}
7739 \CustomizeMathJax{\let\delimiter\mathchar}

```

Some text symbols missing from MATHJAX:

```

7740 \CustomizeMathJax{\def\oe{\unicode{x0153}}}
7741 \CustomizeMathJax{\def\OE{\unicode{x0152}}}
7742 \CustomizeMathJax{\def\ae{\unicode{x00E6}}}
7743 \CustomizeMathJax{\def\AE{\unicode{x00C6}}}
7744 \CustomizeMathJax{\def\aa{\unicode{x00E5}}}
7745 \CustomizeMathJax{\def\AA{\unicode{x00C5}}}
7746 \CustomizeMathJax{\def\o{\unicode{x00F8}}}
7747 \CustomizeMathJax{\def\O{\unicode{x00D8}}}
7748 \CustomizeMathJax{\def\l{\unicode{x0142}}}
7749 \CustomizeMathJax{\def\L{\unicode{x0141}}}
7750 \CustomizeMathJax{\def\ss{\unicode{x00DF}}}
7751 \CustomizeMathJax{\def\SS{\unicode{x1E9E}}}
7752 \CustomizeMathJax{\def\dag{\unicode{x2020}}}
7753 \CustomizeMathJax{\def\ddag{\unicode{x2021}}}
7754 \CustomizeMathJax{\def\P{\unicode{x00B6}}}
7755 \CustomizeMathJax{\def\copyright{\unicode{x00A9}}}
7756 \CustomizeMathJax{\def\pounds{\unicode{x00A3}}}
7757 \end{warpMathJax}
7758
7759
7760 \begin{warpHTML}% due to warpMathJax

```

`\LWR@customizeMathJax` Prints MATHJAX commands to the HTML output.

```

7761 \newcommand{\LWR@customizeMathJax}{%
7762 \ifbool{mathjax}{

7763 \LWR@stoppars
7764 \LWR@htmlcomment{MathJax customizations:}

7765 \LWR@htmlclass{div data-nosnippet}[display:none]}
7766 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7767 {
7768 \LWR@print@ttfamily
7769 \LWR@customizedMathJax
7770 }
7771 \LWR@htmlclassend{div}{}
7772 }{}
7773 }

7774 \end{warpHTML}

```

**for PRINT output:** 7775 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
7776 \newcommand*\CustomizeMathJax[1]{}
```

\FilenameSimplify \*{\langle*expression*\rangle}

```
7777 \NewDocumentCommand{\FilenameSimplify}{s m}{}

7778 \end{warpprint}
```

**for HTML output:** 7779 \begin{warppHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```
7780 \newcommand*\LWR@createfooter{%
7781 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%
7782 \ifdefempty{\LWR@firstpagebottom}{%
7783 \LWR@htmlElement{footer}
7784 }
7785 \LWR@firstpagebottom
7786 }
7787 \LWR@htmlElementend{footer}
7788 }%
7789 }{%
7790 \ifdefempty{\LWR@pagebottom}{%
7791 \LWR@htmlElement{footer}
7792 }
7793 \LWR@pagebottom
7794 }
7795 \LWR@htmlElementend{footer}
7796 }%
7797 }%
7798 }
```

\LWR@newhtmlfile {\langle*section name*\rangle}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and css are, then adds navigation, side toc, header, and starts the text body.

```
7799 \newcommand*\LWR@newhtmlfile[1]{
7800 \LWR@traceinfo{LWR@newhtmlfile}
```

At the bottom of the ending file:

```
7801 \LWR@htmlElementclassend{section}{textbody}
7802 \LWR@htmlElementclassend{main}{bodycontainer}
7803
7804 \LWR@printpendingfootnotes
7805
```

No footer between files if EPUB:

```
7806 \ifbool{FormatEpub}{%}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7807 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7808 {}
7809 {\ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
7810 \LWR@stoppars
7811 \LWR@htmltag{/div}\LWR@htmlcomment{ grid }\LWR@orignewline% grid
7812 \LWR@htmltag{/body}\LWR@orignewline
7813 \LWR@htmltag{/html}\LWR@orignewline
7814 \LWR@traceinfo{LWR@newhtmlfile: about to LWR@orignewpage}
7815 \LWR@maybe@orignewpage
```

```
7816 \addtocounter{LWR@htmlfilenumber}{1}%
7817 \addtocounter{LWR@htmlseqfilenumber}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
7818 \ifbool{FileSectionNames}%
7819 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7820 \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7821 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique. If the filename is unique, create an empty macro using the hashed name, to be used to test for additional duplicates in the future. The first time a duplicate is found, a warning is issued and this macro then contains a 1. For further duplicates of the same name, no additional warning is issued.

```
7822 \ifcsundef\LWR@filename\LWR@hashedname}{%
7823 \csdef\LWR@filename\LWR@hashedname}{}%
7824 }{%
```

If the filename is not unique, create a warning if the first duplicate, and modify the filename by appending a unique file number.

```
7825 \ifcsempy\LWR@filename\LWR@hashedname}%
7826 {% first instance
7827 \PackageWarning{lwarp}
7828 {%
7829 The section name:\MessageBreak
7830 ``#1'',\MessageBreak
7831 at the line number listed below,\MessageBreak
```

```

7832 generates the filename\MessageBreak
7833 ``\LWR@thisfilename'',\MessageBreak
7834 which appears to be a duplicate. There is a\MessageBreak
7835 previous section with an identical or similar name.\MessageBreak
7836 A unique file number has been appended to the file name\MessageBreak
7837 of this and any further similar files.\MessageBreak
7838 This number may change as sections are added/removed,\MessageBreak
7839 and obsolete HTML files may result.\MessageBreak
7840 To remove these files, use lwarpmk cleanall.\MessageBreak
7841 (While generating file names, Lwarp sanitizes math,\MessageBreak
7842 most symbols, and a few common short words,\MessageBreak
7843 and this may cause a conflict.)\MessageBreak
7844 \LWR@avoiddupfilenames%
7845 }%
7846 \csdef{LWR@filename\LWR@hashedname}{1}%
7847 }% first instance
7848 {}% repeated instances
7849 \edef\LWR@thisfilename{\LWR@thisfilename-\arabic{LWR@htmlseqfilenumber}}%
7850 }%
7851 }%

```

If using file numbers instead of names, the name is set to the next file number.

```
7852 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7853 \LWR@traceinfo{LWR@newhtmlfile: about to print start file}%
```

\LWR@nullfonts to allow math in a section name.

```

7854 \begingroup%
7855 \LWR@nullfonts%
7856 \LWR@htmlblockcomment{%
7857 |Start file|}%
7858 \LWR@htmlsectionfilename{\LWR@thisfilename}|}%
7859 }
7860 \endgroup%

```

At the top of the starting file:

```

7861 \LWR@stoppars
7862

```

Start a new file with the given section name:

```

7863 \LWR@filestart[#1]
7864

```

Track the PDF page numbers of the HTML output. This is updated more frequently than `LWR@currentautosecpage`.

```

7865 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7866 \LWR@newautopagelabel{LWR@currentautosecfloatpage}%

```

```
7867 \LWR@htmldivclass{pagegrid}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7868 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7869 {}
7870 {\LWR@topnavigation}
7871
```

No header if between files if formatting for an EPUB or word processor:

```
7872 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7873 {}
7874 {
7875 \ifdefempty{\LWR@pagetop}{}{
7876 \LWR@htmlElement{header}
7877
7878 \LWR@pagetop
7879
7880 \LWR@htmlElementend{header}
7881 }
7882 }
7883
```

No sideroc if formatting for an EPUB or word processor:

```
7884 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7885 {}
7886 {\LWR@sidetoc}
7887
```

Start of the <textbody>:

```
7888 \LWR@htmlElementclass{main}{bodycontainer}
7889 \LWR@htmlElementclass{section}{textbody}
```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
7890 \boolfalse{\LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
7891 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7892 {}%
7893 {%
7894 \ifcvoid{thetitle}{}{%
7895 \LWR@printthetitle%
7896 }%
7897 }%
```

Keep paragraph tags disabled for now:

```
7898 \LWR@stoppars
7899
```

If using MATHJAX, print the customizations here.

```
7900 \LWR@customizeMathJax
```

```

7901 \LWR@traceinfo{LWR@newhtmlfile: done}
7902 }

7903 \end{warpHTML}

```

## 67 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by CSS, so the emulated code has much less work to do than the print versions.

 **Unicode accents in filenames** Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdf<sub>l</sub>atex* to generate characters and *pdf<sub>t</sub>otext* to read them. If extra symbols appear in the text, it may be that *pdf<sub>l</sub>atex* is actually producing a symbol over or under a character, resulting in *pdf<sub>t</sub>otext* picking up the accent symbol separately.

X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X directly support accented section and file names, but it may be necessary to use L<sup>A</sup>T<sub>E</sub>X accents instead of native Unicode accents. L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

**for HTML output:** 7904 \begin{warpHTML}

### 67.1 User-level starred section commands

`\ForceHTMLPage` For HTML output, forces the next section to be on its own HTML page, if FileDepth allows, even if starred. For use with `\printindex` and others which generate a starred section which should be on its own HTML page. Also see `\ForceHTMLTOC`.

For print output, no effect.

```

7905 \newbool{LWR@forcinghtmlpage}
7906 \boolfalse{LWR@forcinghtmlpage}
7907
7908 \newcommand*{\ForceHTMLPage}{%
7909 \global\booltrue{LWR@forcinghtmlpage}%
7910 }

```

`\ForceHTMLTOC` For HTML output, forces the next section to have a TOC entry, even if starred. For use with `\printindex` and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with `\tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```

7911 \newbool{LWR@forcinghtmltoc}
7912 \boolfalse{LWR@forcinghtmltoc}
7913
7914 \newcommand*{\ForceHTMLTOC}{%
7915 \global\booltrue{LWR@forcinghtmltoc}%
7916 }

```

```
7917 \end{warpHTML}
```

**for PRINT output:**

```
7918 \begin{warpprint}
7919 \newcommand*{\ForceHTMLPage}{}
7920 \newcommand*{\ForceHTMLTOC}{}
7921 \end{warpprint}
```

**for HTML output:**

```
7922 \begin{warpHTML}
```

## 67.2 Book class commands

`\mainmatter` Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.



```
7923 \newbool{LWR@mainmatter}
7924 \DeclareDocumentCommand{\mainmatter}{}{}%
7925 \booltrue{LWR@mainmatter}%
7926 }
```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```
7927 \DeclareDocumentCommand{\frontmatter}{}{}%
7928 \boolfalse{LWR@mainmatter}%
7929 }
```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```
7930 \DeclareDocumentCommand{\backmatter}{}{}%
7931 \boolfalse{LWR@mainmatter}
7932 }
```

## 67.3 Sectioning support macros

`\LWR@sectionnumber`  $\{\langle section type \rangle\}$

Typeset a section number and its trailing space with CSS formatting:

```
7933 \newcommand*{\LWR@sectionnumber}[1]{%
7934 \InlineClass{sectionnumber}{#1}%
7935 }
```

`autosec` A tag used by the TOC and index.

`\LWR@createautosec`  $\{\langle section type \rangle\}$

Create an autosection tag.

The use of `\textquotedbl` instead of `"` provides improved compatibility with Xe<sub>La</sub>TeX.

```
7936 \newcommand*{\LWR@createautosec}[1]{%
```

```

7937 \LWR@htmltag{%
7938 #1 % space
7939 id=\textquotedbl\LWR@print@mbbox{autosec-\arabic{page}}\textquotedbl%
7940 }%
7941 }

```

`\LWR@pushoneclose {<sectiontype>}` Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

 `\LWR@stoppars` must be executed first.

```

7942 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7943 \LWR@traceinfo{\LWR@pushoneclose #1}%
7944 \LWR@pushclose{#1}%
7945 }

```

`\LWR@startnewdepth {<sectiontype>}`

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 `\LWR@stoppars` must be executed first.

```

7946 \NewDocumentCommand{\LWR@startnewdepth}{m}{%

```

Close any stacked sections up to this new one.

```

7947 \LWR@closeprevious{#1}%

```

Push a new section depth:

```

7948 \LWR@pushoneclose{#1}%
7949 }

```

`LWR@prevFileDepth (Ctr)` Remembers the previous `LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```

7950 \newcounter{LWR@prevFileDepth}
7951 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}

```

`\@secntformat {<sectiontype>}`

```

7952 \def\@secntformat#1{\csname the#1\endcsname\quad}

```

`\simplechapterdelim` Used by `tocbibind` and `anonchap`.

```

7953 \newcommand*\simplechapterdelim{}

```

`\@chapcntformat {<sectiontype>}`

\let to `\@secntformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```

7954 \let\@chapcntformat\@secntformat

```

`\@partcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@seccntformat` by default, but may be redefined by `ctex`.

```
7955 \let\@partcntformat\@seccntformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
7956 \newcommand*\@partnameformat{\LWR@isolate{\partname}~}%
```

`\LWR@printchaptername` Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt`\* classes.

```
7957 \newcommand*\LWR@printchaptername{%
7958 \ifdefvoid{\chaptername}\{\chaptername~}%
7959 }
```

`\LWR@section` \* [*TOC name*]  $\{\langle name \rangle\} \{\langle sectiontype \rangle\}$

The common actions for the high-level sectioning commands.

```
7960 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7961 \IfValueTF{#2}%
7962 {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
7963 {\LWR@traceinfo{\LWR@section: starting #4 #3}}%
}
```

Warn if starting a section inside a `<span>`:

```
7964 \LWR@spanwarninvalid{section}%

7965 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7966 \LWR@stoppars%
7967 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7968 \global\boolfalse{\LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for **appendix**.

Generate a new  $\text{\LaTeX}$  page so that toc and index page number points to the section:

```
7969 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
7970 \IfBooleanT{#1}\LWR@traceinfo{\LWR@section: starred}%
7971 \ifbool{\LWR@forcinghtmlpage}\LWR@traceinfo{\LWR@section: forcinghtmlpage}\{\}%
7972 \ifthenelse{%
7973 \(%
7974 \(\NOT\equal{#1}\{\BooleanTrue\}\)\OR%
7975 \(\cnttest{\@nameuse{\LWR@depth#4}}{=}\{\LWR@depthpart\}\)\OR%
7976 \(\boolean{\LWR@forcinghtmlpage}\)\)%
7977 \)%
```

```

7978 \AND%
7979 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
7980 \AND%
7981 \(%
7982 \NOT\boolean{CombineHigherDepths}\OR%
7983 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7984 \)%
7985 \AND%

7986 \(% phantomsection
7987 \NOT\isempty{#3}%
7988 \OR%
7989 \(\NOT\equal{#1}{\BooleanTrue}\)%
7990 \)%
7991 }%

```

If so: start a new HTML file:

```

7992 {% new file
7993 \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```

7994 \IfNoValueTF{#2}%

```

If no optional entry

```

7995 {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7996 {\LWR@newhtmlfile{#2}}%
7997 }% new file

```

Else: No new HTML file:

```

7998 {% not new file

```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

7999 \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
8000 \LWR@stoppars%
8001 \LWR@maybe@orignewpage%
8002 }% not new file

8003 %
8004 % Remember this section's name for \cs{nameref}:
8005 % \begin{macrocode}
8006 \IfValueT{#3}{%
8007 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
8008 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
8009 }%

```

Print an opening comment with the level and the name; ex: “section” “Introduction”  
Footnotes may be used in section names, which would also appear in the HTML

section opening comments, so the short toc entry is used if possible, and a limited opening comment is made if the sectional unit is starred.

Avoid extra <par> tag:

```
8010 \LWR@stoppars%
```

Form a sectioning comment:

```
8011 \begingroup%
8012 \LWR@nullfonts%
8013 \LWR@nullifyfootnotes%
8014 \LWR@htmlcomment{%
8015 \LWR@orignewline%
8016 \IfValueTF{#2}%
8017 {..... #4 #2}%
8018 {..... #4 #3}%
8019 \LWR@orignewline%
8020 }%
8021 \LWR@orignewline%
8022 \ifbool{HTMLDebugComments}%
8023 {%
8024 \IfBooleanTF{#1}% starred
8025 {%
8026 \IfNoValueTF{#2}% short TOC
8027 {\LWR@htmlcomment{Opening #4* ``#3'}}}%
8028 {\LWR@htmlcomment{Opening #4* ``#2'}}}%
8029 }%
8030 {%
8031 \IfNoValueTF{#2}% short TOC
8032 {\LWR@htmlcomment{Opening #4 ``#3'}}}%
8033 {\LWR@htmlcomment{Opening #4 ``#2'}}}%
8034 }%
8035 \LWR@orignewline%
8036 }%
8037 }%
8038 \endgroup%
```

For inline sections paragraph and subparagraph, start a new paragraph now:

```
8039 \ifthenelse{%
8040 \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
8041 }%
8042 {\LWR@startpars}%
8043 }%
```

Create the opening tag with an autosec:

```
8044 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
8045 \LWR@createautosec{\@nameuse{LWR>tag#4}}%
```

```
8046 \setcounter{LWR@currentautosecpage}{\value{page}}%
```

Check if starred:

```
8047 \IfBooleanTF{#1}%
8048 {%
8049 \LWR@traceinfo{LWR@section: starred}%
```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

8050 \ifbool{LWR@forcinghtmltoc}%
8051 {%
8052 \addcontentsline{toc}{#4}{%
8053 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
8054 }%
8055 }%
8056 {}%
8057 }% starred

```

Not starred, so step counter and add to toc:

```

8058 {% not starred

```

Only add a numbered TOC entry if section number is not too deep:

```

8059 \ifthenelse{%
8060 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
8061 }%
8062 {% if secnumdepth

```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```

8063 \LWR@traceinfo{LWR@section: about to test main matter}%
8064 \ifbool{LWR@mainmatter}%
8065 {%
8066 \LWR@traceinfo{LWR@section: yes mainmatter}%
8067 \refstepcounter{#4}%

```

Add main matter numbered TOC entry with the TOC name or the regular name:

```

8068 \LWR@traceinfo{LWR@section: about to addcontentsline}%
8069 \addcontentsline{toc}{#4}%
8070 {%
8071 \protect\numberline{%
8072 \@nameuse{pre#4name}%
8073 \@nameuse{the#4}%
8074 \@nameuse{post#4name}%
8075 }%
8076 {%
8077 \ignorespaces%
8078 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
8079 }%
8080 }%
8081 \LWR@traceinfo{LWR@section: finished addcontentsline}%
8082 }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

8083 {% not main matter
8084 \LWR@traceinfo{LWR@section: no main matter}%
8085 \addcontentsline{toc}{#4}{%
8086 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
8087 }%
8088 }% end of not main matter
8089 }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered toc entry:

```
8090 {%
8091 \addcontentsline{toc}{#4}{%
8092 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
8093 }%
8094 }%
```

For part, print “Part”:

```
8095 \ifbool{LWR@mainmatter}%
8096 {%
8097 \ifthenelse{%
8098 \(\cnttest{\@nameuse{LWR@depth#4}}{<=}%
8099 {\value{secnumdepth}}\)\ AND%
8100 \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
8101 }%
8102 {\@partnameformat}%
8103 {}%
```

Print the section number:

```
8104 \LWR@traceinfo{LWR@section: about to print section number}%
8105 \ifthenelse{%
8106 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
8107 }%
8108 {%
8109 \ifstrequal{#4}{part}%
8110 {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
8111 {%
8112 \ifstrequal{#4}{chapter}%
8113 {%
8114 \LWR@printchaptername%
8115 \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
8116 }%
8117 {\protect\LWR@sectionnumber{\@secCNTformat{#4}}}%
8118 }%
8119 }%
8120 {}%
8121 \LWR@traceinfo{LWR@section: finished print section number}%
8122 }{}%
8123 }% not starred
```

Print the section name:

```
8124 \LWR@traceinfo{LWR@section: about to print the section name}%
8125 \LWR@isolate{#3}%
```

Close the heading tag, such as /H2:

```
8126 \LWR@traceinfo{LWR@section: about to close the heading tag}%
8127 \LWR@htmltag{\@nameuse{LWR@tag#4end}}%
8128 \LWR@orignewline%
```

Generate a L<sup>A</sup>T<sub>E</sub>X label.

Track the PDF page numbers of the HTML output. A new autpage label may be generated for LWR@currentautosecpage for the start of the section, and

also for the current page if it is different due to an svg image in the section name. Also, the final page after the section has been created is updated in LWR@currentautosecfloatpage.

```
8129 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
8130 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
8131 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%
```

If this is the first section found in this file, create a label for previous/next links:

```
8132 \ifbool{LWR@setseqfilelabel}{}{%
8133 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
8134 \booltrue{LWR@setseqfilelabel}%
8135 }%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
8136 \ifthenelse{%
8137 \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
8138 }%
8139 {\LWR@startpars}%
8140 {}%
```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a \part\* to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a \listoftables was tested in the middle of the document. The \chapter\* for the list was not allowing a new HTML page for the section following it while CombineHigherDepths was true.

```
8141 \ifthenelse{%
8142 \NOT\equal{#1}{\BooleanTrue}\OR%
8143 \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
8144 }%
8145 {% not starred
8146 \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
8147 }% not starred
8148 {}%
```

Reset to defaults if not a phantomsection:

```
8149 \ifstrempy{#3}%
8150 {}%
8151 {%
8152 \global\boolfalse{LWR@forcinghtmlpage}%
8153 \global\boolfalse{LWR@forcinghtmltoc}%
8154 }%
8155 %
8156 \LWR@traceinfo{LWR@section: done}%
8157 }
```

## 67.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```
8158 \providecommand*\prebookname{}
8159 \providecommand*\postbookname{}
```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

```
8160 \providecommand*\prepartname{}
8161 \providecommand*\postpartname{}
```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postchaptername`

```
8162 \providecommand*\prechaptername{}
8163 \providecommand*\postchaptername{}
```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.

`\postsectionname`

```
8164 \providecommand*\presectionname{}
8165 \let\postsectionname\presectionname
8166
8167 \let\presubsectionname\presectionname
8168 \let\postsubsectionname\postsectionname
8169
8170 \let\presubsubsectionname\presectionname
8171 \let\postsubsubsectionname\postsectionname
8172
8173 \let\preparagraphe\presectionname
8174 \let\postparagraphe\postsectionname
8175
8176 \let\presubparagraphe\presectionname
8177 \let\postsubparagraphe\postsectionname
```

## 67.5 \section and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

`\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
8178 \newcommand{\part@preamble}{}% for koma-script
8179
8180 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
8181 \LWR@section{#1}{#3}{#6}{part}%
8182
8183 \part@preamble% for koma-script
8184 \renewcommand{\part@preamble}{}%
8185 }
```

`\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
8186 \let\@printcites\relax% for quotchap package
8187
8188 \newcommand{\chapter@preamble}{}% for koma-script
8189
8190 \ifundefined{chapter}
8191 {}
8192 {%
8193 \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
8194 \LWR@section{#1}{#3}{#6}{chapter}%
8195
8196 \@printcites% for quotchap package
8197
8198 \chapter@preamble% for koma-script
8199 \renewcommand{\chapter@preamble}{}%
8200 }
8201 }
```

`\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
8202 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
8203 \LWR@section{#1}{#3}{#6}{section}%
8204 }
```

`\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
8205 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
8206 \LWR@section{#1}{#3}{#6}{subsection}%
8207 }
```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
8208 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
8209 \LWR@section{#1}{#3}{#6}{subsubsection}%
8210 }
```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
8211 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
8212 \LWR@section{#1}{#3}{#6}{paragraph}%
8213 }
```

`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
8214 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
8215 \LWR@section{#1}{#3}{#6}{subparagraph}%
8216 }
```

```
8217 \end{warpHTML}
```

## 68 Starting a new file

**for HTML & PRINT:** 8218 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```
8219 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
8220
8221 \newcommand*{\HTMLLanguage}[1]{%
8222 \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
8223 }
```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```
8224 \ifPDFTeX% pdflatex or dvi latex
8225 \ifdefstring{\inputencodingname}{utf8}{%
8226 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
8227 }{%
8228 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
8229 }%
8230 \else%
8231 \ifpTeX
8232 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
8233 \else
8234 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
8235 \fi%
8236 \fi%
```

\HTMLTitleBeforeSection Sets the HTML page's meta title tag to show the website title before the section name.

```
8237 \newcommand*{\HTMLTitleBeforeSection}{%
8238 \def\theHTMLTitleSection{%
8239 \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
8240 }%
8241 }
```

\HTMLTitleAfterSection Sets the HTML page's meta title tag to show the section name before the website title.

```
8242 \newcommand*{\HTMLTitleAfterSection}{%
8243 \def\theHTMLTitleSection{%
8244 \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
8245 }%
8246 }
```

\theHTMLTitleSection Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
8247 \HTMLTitleBeforeSection
```

\theHTMLSection The section name is passed to \LWR@filestart, which then sets \theHTMLSection for use inside \theHTMLTitleSection to create an HTML meta title tag.

```
8248 \newcommand*{\theHTMLSection}{}
```

```
8249 \end{warppall}
```

**for HTML output:** 8250 \begin{warppHTML}

\LWR@filestart [*<section name>*]      Creates the opening HTML tags.

```
8251 \newcommand*{\LWR@filestart}[1][{}]{%
8252 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
8253 \begingroup%
8254 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
8255 \edef\theHTMLSection{#1}%
```

Remove extra material:

```
8256 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
8257 \StrSubstitute{\theHTMLSection}%
8258 {\detokenize{----}}{\detokenize{-}}[\theHTMLSection]%
8259 \StrSubstitute{\theHTMLSection}%
8260 {\detokenize{----}}{\detokenize{-}}[\theHTMLSection]%
8261 \StrSubstitute{\theHTMLSection}%
8262 {\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
8263 \StrSubstitute{\theHTMLSection}%
8264 {\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
8265 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
8266 \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
8267 }{%}
```

Create the page's HTML header:

```
8268 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: \LWR@orig@textquotedbl is used here because \textquotedbl is nullified by \LWR@nullfonts while starting the new file.

```
8269 \LWR@htmltag{%
8270 html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
8271 }\LWR@orignewline
```

Start of the meta data:

```
8272 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
8273 \LWR@htmltag{%
8274 meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /\%
8275 }\LWR@orignewline
```

Author:

```
8276 \ifthenelse{\equal{\theHTMLAuthor}}{%
8277 {}%
8278 {%
8279 \LWR@htmltag{%
8280 meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
8281 content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /\%
8282 }\LWR@orignewline%
8283 }%
```

lwarp is the generator:

```
8284 \LWR@htmltag{%
8285 meta % space
8286 name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
8287 content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /\%
8288 }\LWR@orignewline%
```

If there is a description, add it now:

```
8289 \ifdefempty{\LWR@currentHTMLDescription}}{%
8290 \LWR@htmltag{%
8291 meta name=%
8292 \LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
8293 content=%
8294 \LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /\%
8295 }\LWR@orignewline
8296 }%
```

If there are keywords, add it now:

```
8297 \ifdefempty{\LWR@currentHTMLKeywords}}{%
8298 \LWR@htmltag{%
8299 meta name=%
8300 \LWR@orig@textquotedbl{}keywords\LWR@orig@textquotedbl\ % space
8301 content=%
8302 \LWR@orig@textquotedbl\LWR@currentHTMLKeywords\LWR@orig@textquotedbl\ /\%
8303 }\LWR@orignewline
8304 }%
```

Mobile-friendly viewport:

```
8305 \LWR@htmltag{%
8306 meta % space
8307 name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
8308 content=%
8309 \LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /\%
8310 }\LWR@orignewline
```

Custom HTML meta tags:

```
8311 \LWR@HTMLmeta
```

The page's title, if there is one. A section name is also added if given.

```

8312 \ifthenelse{\equal{\theHTMLTitle}{}}%
8313 {}%
8314 {%
8315 \LWR@htmltag{title}%
8316 \ifdefempty{\theHTMLSection}%
8317 {\theHTMLTitle}%
8318 {\theHTMLTitleSection}%
8319 \LWR@htmltag{/title}\LWR@orignewline%
8320 }%

```

The page's stylesheet:

```

8321 \LWR@htmltag{%
8322 link % space
8323 rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
8324 type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
8325 href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
8326 }%
8327 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

8328 \ifbool{mathjax}%
8329 {%
8330 \begingroup%
8331 \LWR@restoreoriglists%
8332 \boolfalse{LWR@verbtags}%
8333 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%

8334 \IfFileExists{\LWR@mathjaxfilename}%
8335 {\verbatiminput{\LWR@mathjaxfilename}}%
8336 {%
8337 \PackageError{lwarp}%
8338 {%
8339 \protect\MathJaxFilename\space specified the file\MessageBreak
8340 \space\space\LWR@mathjaxfilename\MessageBreak
8341 which does not exist%
8342 }%
8343 {Specify an existing file, or remove \protect\MathJaxFilename.}%
8344 }%

8345 \endgroup%
8346 \LWR@stoppars%
8347 }% end of mathjax
8348 {}%

```

End of the header:

```

8349 \LWR@htmltag{/head}\LWR@orignewline

```

Start of the body:

```

8350 \LWR@htmltag{body}\LWR@orignewline

```

```

8351 \endgroup%
8352 \LWR@traceinfo{LWR@filestart: done}%
8353 }

8354 \end{warpHTML}

```

## 69 Starting HTML output

**for HTML output:** 8355 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```

8356 \catcode`\$=\active
8357 \newcommand*{\LWR@LwarpStart}
8358 {%
8359 \LWR@traceinfo{LWR@lwarpStart}

```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```

8360 \ifbool{FormatWP}{%
8361 \setcounter{FileDepth}{-5}%
8362 \boolfalse{HTMLDebugComments}%
8363 }{}

```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```

8364 \edef\LWR@strresult{\HomeHTMLFilename}
8365 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
8366 \edef\LWR@strresult{\HTMLFilename}
8367 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}

```

Force onecolumn and empty page style:

```

8368 \LWR@origonecolumn%
8369 \LWR@origpagestyle{empty}%

```

No black box for overfull lines:

```

8370 \overfullrule=0pt

```

Reduce chance of line overflow when HTML tags are added:

```

8371 \LWR@print@footnotesize%

```

In PDF output, don't allow line breaks to interfere with HTML tags:

```

8372 \LWR@print@raggedright%
8373 \LetLtxMacro{\}\{\LWR@endofline}%

```

Spread the lines for *pdf<sub>totext</sub>* to read them well:

```

8374 \linespread{1.3}%

```

For *pdftotext* to reliably identify paragraph splits:

```
8375 \setlength{\parindent}{0pt}
8376 \setlength{\parskip}{2ex}
```

For the lateximage record file:

```
8377 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
8378 \setlength{\belowcaptionskip}{0ex}
8379 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
8380 \renewcommand{\ps@plain}{}%
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
8381 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
8382 \global\booltrue{LWR@doingparhooks}
8383 \global\boolfalse{LWR@doingapar}
8384 \global\boolfalse{LWR@doingstartpars}
```

\color@endgroup's \endgraf was conflicting with lwarp's paragraph handling.

```
8385 \let\color@endgroup\endgroup
```

Document and page settings:

```
8386 \mainmatter
8387 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
8388 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
8389 \LWR@filestart%
```

Tell *lwarpmk* that the lwarp package is in use. This allows *lwarpmk* to warn if usepackage{lwarp} was somehow disabled.

```
8390 \begingroup%
8391 \LWR@nullfonts%
8392 \LWR@htmlblockcomment{%
8393 |Using lwarp|}%
8394 \LWR@htmlsectionfilename{\LWR@thisfilename}|}%
8395 }
8396 \endgroup%
```

```
8397 \LWR@htmldivclass{homepagegrid}%
```

```

8398 \LWR@traceinfo{\LWR@lwarpStart: Generating first header.}
8399 \ifdefempty{\LWR@firstpagetop}{\}%
8400 \LWR@stoppars%
8401 \LWR@htmltag{header}%
8402 \LWR@startpars%
8403 \LWR@firstpagetop%
8404 \LWR@stoppars%
8405 \LWR@htmltag{/header}\LWR@orignewline%
8406 }%

```

```

8407 \LWR@htmlelementclass{main}{bodycontainer}
8408 \LWR@traceinfo{\LWR@lwarpStart: Generating textbody.}
8409 \LWR@htmlelementclass{section}{textbody}

```

Create a label for previous/next links, and remember it has been done:

```

8410 \booltrue{\LWR@setseqfilelabel}%
8411 \label{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}

```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\text{\LaTeX}$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

8412 \LWR@patchlists

```

Ensure that math mode is active to call `lwarp`'s patches:

```

8413 \catcode`\$=\active

```

Required for `\nameref` to work with SVG math:

```

8414 \immediate\write\@mainaux{\catcode`\string\$\active}%
8415 \LetLtxMacro\LWR@syntaxhighlightone$% balance for editor syntax highlighting

```

Allow HTML paragraphs to begin:

```

8416 \LWR@startpars

```

If using `MATHJAX`, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```

8417 \ifbool{mathjax}{
8418 \typeout{---}
8419 \typeout{Package lwarp:}
8420 \typeout{Processing MathJax customizations for the first HTML page.}
8421 \typeout{Later HTML pages will take the same amount of time.}
8422 \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
8423 }{}
8424
8425 \LWR@customizeMathJax
8426
8427 \ifbool{mathjax}{
8428 \typeout{Done.}
8429 \typeout{---}
8430 }{}

```

First autopage label in case a figure occurs early before the first section: A new autopage label may be generated for `LWR@currentautosecpage` for the start of the

section, and also for the current page if it is different due to an svg image in the section name. Also, the final page after the section has been created is updated in LWR@currentautosecfloatpage.

```
8431 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
8432 \LWR@newautopagelabel{LWR@currentautosecpage}%

8433 \LWR@traceinfo{LWR@lwarpStart: done}
8434 }
8435 \catcode`\$=3% math shift until lwarp starts

8436 \end{warpHTML}
```

## 70 Ending HTML output

**for HTML output:** 8437 \begin{warpHTML}

\LWR@requesttoc {<*boolean*>} {<*suffix*>} Requests that a TOC, LOF, or LOTbe generated.

```
8438 \newcommand*{\LWR@requesttoc}[2]{%
8439 \ifbool{#1}
8440 {
8441 \expandafter\newwrite\@nameuse{tf@#2}
8442 \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
8443 }{}
8444 }
```

\LWR@LwarpEnd Final stop of all HTML output:

```
8445 \newcommand*{\LWR@LwarpEnd}
8446 {
8447 \LWR@stoppars
8448 \LWR@closeprevious{finished}
```

At the bottom of the ending file:

Print any pending footnotes:

```
8449 \LWR@printpendingfootnotes
```

Close the textbody.

(The \LWR@originobreakspace is in case no autopage is required for the label, which would not print anything, and something must be printed before the new-line.)

```
8450 \label{\BaseJobname-autofile-last}\LWR@originobreakspace\LWR@originewline
```

```
8451 \LWR@htmlelementclassend{section}{textbody}
8452 \LWR@htmlelementclassend{main}{bodycontainer}
```

Create the footer if not EPUB

```
8453 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

Presumably has a table-of-contents.

8459 \LWR@stoppars% final stop of all paragraphs

```
8460 \LWR@htmltag{div}\LWR@htmlcomment{ grid }\LWR@orignewline% grid
8461 \LWR@htmltag{/body}\LWR@orignewline
8462 \LWR@htmltag{/html}\LWR@orignewline
```

```
8463 \LWR@maybe@orignewpage
8464 }
```

For the newer kernel hooks, see `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

This is where warnings of duplicate labels would appear.

No duplicate labels, so safe to create images.

```

8471 \immediate\write\LRW@lateximagesfile{%
8472 |end|end|end|}%
8473 }%
8474 \fi
8475 \fi\fi
8476 }
8477 }% newer kernel
8478 {% older kernel
8479 \xpatchcmd{\enddocument}
8480 {%
8481 \if@tempswa
8482 \@latex@warning@no@line{Label(s) may have changed.
8483 Rerun to get cross-references right}%

```

```

8484 \fi
8485 }
8486 {%
8487 \if@tempswa
8488 \@latex@warning@no@line{Label(s) may have changed.
8489 Rerun to get cross-references right}%
8490 \else

```

No duplicate labels, so safe to create images.

```

8491 \immediate\write\LWR@lateximagesfile{%
8492 |end|end|end|}%
8493 }%
8494 \fi
8495 }
8496 {}
8497 {
8498 \AtEndDocument{
8499 \PackageWarningNoLine{lwarp}
8500 {%
8501 Could not patch \protect\enddocument.\MessageBreak
8502 If labels have changed, be sure to recompile before\MessageBreak
8503 creating lateximages with\MessageBreak
8504 \space\space lwarpmk limages,\MessageBreak
8505 or the images may be corrupt%
8506 }
8507 }
8508 }
8509 }% older kernel

```

## 71 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

`shipout/background (Hook)` [] Nullified.

`shipout/foreground (Hook)` [] Nullified.

```

8510 \ifdef{\RemoveFromHook}{
8511 \AfterEndPreamble{
8512 \IfHookEmptyTF{shipout/background}{}{
8513 \PackageInfo{lwarp}{Removing background hook}
8514 \RemoveFromHook{shipout/background}[*]
8515 }
8516 \IfHookEmptyTF{shipout/foreground}{}{
8517 \PackageInfo{lwarp}{Removing foreground hook}
8518 \RemoveFromHook{shipout/foreground}[*]
8519 }
8520 }
8521 }{}

8522 \end{warpHTML}

```

## 72 Title page

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

 **load order**

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 72.8.

**affiliation** lwarp provides for the \author macro an additional \affiliation macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using titlingpage's \theauthor in the main text.

**reusing titlepage information** The titling package maintains the definitions of \thetitle, \theauthor, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the \thanks and \affiliation removed, and for \author the \and is replaced to generate a simple inline list of authors separated by commas. Note: \theauthor does not work well with authblk unless the traditional L<sup>A</sup>T<sub>E</sub>X syntax is used.

 **\theauthor, authblk**

**custom titlepages** \printtitle, \printauthor, etc., are provided for use inside a custom titlepage or titlingpage environment, and these retain the \thanks and \affiliation.

**\printthanks** \printthanks has been added to force the printing of thanks inside a titlingpage environment when \maketitle is not used.

 **\thanks** Inside a \titlepage or \titlingpage environment, use \thanks instead of \footnote for acknowledgements, etc.

### 72.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

**\author**  $\{\langle author \rangle\}$  While using \maketitle and print mode, the author is treated as a single-column tabular and the \and feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

**\and**

```
\author{Name \ Affiliation \and Second Name \ Second Affiliation}
```

For HTML, the entire author block is placed inside a <div> of class author, and each individual author is inside a <div> of class oneauthor.

**\@title** \@title, \@author, and \@date store the values as originally assigned, including any \thanks, \and, or \affiliation. These are low-level macros intended to be used by other macros only inside a titlepage or titlingpage, and are used by \maketitle. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side <div>s of class oneauthor, all of which are combined into one <div> of class author.

**\@author**

**\@date**

**\printtitle** \printtitle, etc. are user-level macros intended to be used in custom titlepage or titlingpage environments in cases where \maketitle is not desired. These commands preserve the \thanks, etc., and should not be used in the main text.

**\printauthor**

**\printdate**

`\thetitle` `\thetitle`, `\theauthor`, and `\thedata` are available if `\titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
 \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

⚠ **`\theauthor`, `authblk`** `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L<sup>A</sup>T<sub>E</sub>X syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.

⚠ **affiliations** After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

**`\affiliation`** A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

## 72.2 `\if@titlepage`

**for HTML & PRINT:** 8523 `\begin{warppall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
8524 \ifcvoid{@titlepagefalse}{
8525 \newif\if@titlepage
8526 \@titlepagefalse
8527 }{}
```

```
8528 \end{warppall}
```

## 72.3 Changes for `\affiliation`

`\affiliation` `{<text>}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 8529 `\begin{warppall}`  
8530 `\providerobustcmd{\affiliation}[1]{}`  
8531 `\end{warppall}`

**for PRINT output:** 8532 `\begin{warpprint}`

```

8533 \AtBeginEnvironment{titlepage}{
8534 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
8535 }
8536
8537 \AtBeginDocument{
8538 \LWR@traceinfo{AtBeginDocument titling}
8539 \IfPackageLoadedTF{titling}{
8540 \AtBeginEnvironment{titlingpage}{
8541 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
8542 }
8543 }{}% titling loaded
8544 }% AtBeginDocument

8545 \end{warpprint}

```

**for HTML output:** 8546 \begin{warpHTML}

`titlepage` (*env.*) Sets up a <div> of class `titlepage`. Provided even for memoir class, since it is used by `\maketitle`.

```

8547 \DeclareDocumentEnvironment{titlepage}{}
8548 {%
8549 \renewrobustcmd{\affiliation}[1]{\ \InlineClass{affiliation}{##1}}%
8550 \LWR@printpendingfootnotes
8551 \LWR@forcenewpage
8552 \BlockClass{titlepage}
8553 }
8554 {
8555 \endBlockClass
8556 \LWR@printpendingfootnotes
8557 }

8558 \end{warpHTML}

```

## 72.4 Printing the thanks

`\printthanks` Forces the `\thanks` to be printed. This is necessary in a `titlingpage` environment when `\maketitle` was not used.

**for PRINT output:** 8559 \begin{warpprint}  
8560 \newcommand\*{\printthanks}{\@thanks}  
8561 \end{warpprint}

**for HTML output:** 8562 \begin{warpHTML}  
8563 \newcommand\*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}  
8564 \end{warpHTML}

## 72.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a `titlepage` or a `titlingpage` in HTML:

**for HTML output:** 8565 \begin{warpHTML}

\printtitle

```
8566 \newcommand*{\printtitle}
8567 {%
8568 \LWR@stoppars%
8569 \LWR@htmltag{\LWR@tagtitle}%
8570 \@title%
8571 \LWR@htmltag{\LWR@tagtitleend}%
8572 \LWR@startpars%
8573 }
```

\LWR@printthetitle A private version which prints the title without footnotes, used to title each HTML page.

```
8574 \newcommand*{\LWR@printthetitle}
8575 {%
8576 \LWR@stoppars%
8577 \LWR@htmltag{\LWR@tagtitle}%
8578 \thetitle%
8579 \LWR@htmltag{\LWR@tagtitleend}%
8580 \LWR@startpars%
8581 }
```

\printauthor HTML version.

```
8582 \newcommand*{\printauthor}{
```

The entire author block is contained in a <div> named author:

```
8583 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
8584 \renewcommand{\and}{%
8585 \end{BlockClass}
8586 \begin{BlockClass}{oneauthor}
8587 }
```

Individual authors are contained in a <div> named oneauthor:

```
8588 \begin{BlockClass}{oneauthor}
8589 \@author
8590 \end{BlockClass}
8591 \end{BlockClass}
8592 }
```

\printdate

```
8593 \newcommand*{\printdate}{%
8594 \begin{BlockClass}{titledate}
8595 \@date
8596 \end{BlockClass}
8597 }
```

```
8598 \end{warpHTML}
```

## 72.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

**for PRINT output:** 8599 \begin{warpprint}

\printtitle

8600 \newcommand\*{\printtitle}{\Huge\@title}}

\printauthor Print mode.

8601 \newcommand\*{\printauthor}

8602 {\large\begin{tabular}[t]{c}\@author\end{tabular}}}

\printdate

8603 \newcommand\*{\printdate}{\small\textit{\@date}}}

8604 \end{warpprint}

## 72.7 \maketitle for HTML output

An HTML <div> of class titlepage is used.

\thanks are a form of footnotes used in the title page. See section 63 for other kinds of footnotes.

See \thanksmarkseries{series}, below, to set the style of the footnote marks.

**for HTML output:** 8605 \begin{warppHTML}

8606 \IfClassLoadedTF{memoir}

8607 {

8608 \newcommand{\LWR@setfootnoteseries}{%

8609 \renewcommand\thefootnote{\@arabic\c@footnote}}%

8610 }

8611 }{% not memoir

8612 \if@titlepage

8613 \newcommand{\LWR@setfootnoteseries}{%

8614 \renewcommand\thefootnote{\@arabic\c@footnote}}%

8615 }

8616 \else

8617 \newcommand{\LWR@setfootnoteseries}{%

8618 \renewcommand\thefootnote{\@fnsymbol\c@footnote}}%

8619 }

8620 \fi

8621 }{% not memoir

\LWR@maketitlesetup Patches \thanks macros.

8622 \newcommand\*{\LWR@maketitlesetup}{%

Redefine the footnote mark:

```
8623 \LWR@setfootnoteseries%
8624 \def\@makefnmark{%
8625 \thefootnote%
8626 }
```

$\thefootnote \Rightarrow \nameuse{arabic}{footnote}$ , or  
 $\thefootnote \Rightarrow \nameuse{fnsymbol}{footnote}$

Redefine the footnote text:

```
8627 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8628 \@thefnmark~%
```

$\makethanksmark \Rightarrow \thanksfootmark \Rightarrow \tamark \Rightarrow$   
 $\@thefnmark \Rightarrow \itshape a \text{ (or similar)}$

Print the text:

```
8629 {##1}%
8630 }%
8631 }
```

$\@fnsymbol \{ \langle counter \rangle \}$

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used  $\backslash|$  which was not being seen by *pdftotext*.

```
8632 \def\LWR@HTML@fnsymbol#1{%
8633 \ifcase#1\or * \or
8634 \HTMLentity{dagger} \or
8635 \HTMLentity{Dagger} \or
8636 \HTMLentity{sect} \or
8637 \HTMLentity{para} \or
8638 \HTMLunicode{2016} \or
8639 ** \or
8640 \HTMLentity{dagger} \HTMLentity{dagger} \or
8641 \HTMLentity{Dagger} \HTMLentity{Dagger} \else
8642 \@ctrerr \fi%
8643 }
8644 \LWR@formatted{fnsymbol}
```

$\backslash maketitle$  HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

The name  $\backslash LWR@maketitle$  is used to preserve its definition in case a later package overwrites  $\backslash maketitle$ .

```
8645 \newcommand*{\LWR@maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
8646 \begin{titlepage}
```

Set up special patches:

```
8647 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8648 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8649 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```
8650 \end{titlepage}
8651 \setcounter{footnote}{0}%
8652 \global\let\thanks\relax
8653 \global\let\maketitle\relax
8654 \global\let\@maketitle\relax
8655 \global\let\@thanks\@empty
8656 \global\let\@author\@empty
8657 \global\let\@date\@empty
8658 \global\let\@title\@empty
8659 \global\let\title\relax
8660 \global\let\author\relax
8661 \global\let\date\relax
8662 \global\let\and\relax
8663 }
8664
8665 \LetLtxMacro\maketitle\LWR@maketitle
```

\@maketitle HTML mode. Typesets the title, etc.:

```
8666 \providecommand*\@maketitle{}
8667 \renewrobustcmd*\@maketitle{%
8668 \LWR@stoppars%
8669 \LWR@htmltag{\LWR@tagtitle}%
8670 \@title%
8671 \LWR@htmltag{\LWR@tagtitleend}%
8672 \LWR@startpars%
8673 \begin{BlockClass}{author}%
```

For IEEEtran class:

```
8674 \renewcommand*\cr{}%
8675 \renewcommand*\crr{}%
8676 \renewcommand*\noalign{}%

8677 \renewcommand{\and}{%
8678 \end{BlockClass}%
8679 \begin{BlockClass}{oneauthor}%
8680 }%
8681 \begin{BlockClass}{oneauthor}%
```

```

8682 \@author%
8683 \end{BlockClass}%
8684 \end{BlockClass}%
8685 \begin{BlockClass}{titledate}%
8686 \@date%
8687 \end{BlockClass}%
8688 }

```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
8689 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
8690 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
8691 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8692 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8693 \LWR@stoppars\@thanks\LWR@startpars
8694 }
```

```
8695 \end{warppHTML}
```

## 72.8 `\published` and `\subtitle`

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the titling package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warppall`.

**for HTML & PRINT:** 8696 `\begin{warppall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```

8697 \newcommand*{\AddSubtitlePublished}{%
8698 \IfPackageLoadedTF{titling}{% yes titling package
8699 \newcommand{\@published}{}%
8700 \newcommand{\published}[1]{\gdef\@published{##1}}%

```

```

8701 \renewcommand*{\maketitlehooka}{\printpublished}%
8702 \newcommand*{\printpublished}{%
8703 \warpprintonly{\begin{center}\unskip}%
8704 \begin{BlockClass}{published}%
8705 \warpprintonly{\large\itshape}%
8706 \@published%
8707 \end{BlockClass}%
8708 \warpprintonly{\end{center}}%
8709 }%
8710 \newcommand{\@subtitle}{}%
8711 \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
8712 \renewcommand*{\maketitlehookb}{\printsubtitle}%
8713 \newcommand*{\printsubtitle}{%
8714 \warpprintonly{\begin{center}\unskip}%
8715 \begin{BlockClass}{subtitle}%
8716 \warpprintonly{\Large\itshape}%
8717 \@subtitle%
8718 \end{BlockClass}%
8719 \warpprintonly{\end{center}}%
8720 }%
8721 }% yes titling package
8722 {% no titling package

8723 \def\@published{}%
8724 \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
8725 \DeclareDocumentCommand{\printpublished}{}{}%
8726 \def\@subtitle{}%
8727 \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
8728 \DeclareDocumentCommand{\printsubtitle}{}{}%
8729 }% no titling package
8730 }% \AddSubtitlePublished

8731 \end{warppall}

```

## 73 Abstract

The following code replaces the L<sup>A</sup>T<sub>E</sub>X default, and will itself be replaced later if the abstract package is loaded.

**for HTML output:** 8732 \begin{warppHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the babel package.

```
8733 \providecommand*{\abstractname}{Abstract}
```

Some classes allow an optional name, so it is allowed here.

abstract (*env.*)

```

8734 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
8735 {
8736 \LWR@forcenewpage

```

```

8737 \BlockClass{abstract}
8738 \BlockClassSingle{abstracttitle}{#1}
8739 }
8740 {
8741 \endBlockClass
8742 }

8743 \end{warpHTML}

```

## 74 Quote and verse

### 74.1 Attributions

`\attribution {<name>}`

For use with quote, quotation, verse:

Ex: "A quotation." `\attribution{\textsc{Author Name}\\\textsl{Book Title}}`

**for HTML & PRINT:**

```

8744 \begin{warpall}
8745 \newcommand{\attribution}[1]{
8746 \begin{flushright}
8747 \unskip
8748 #1
8749 \end{flushright}%
8750 }
8751 \end{warpall}

```

**for HTML output:**

```

8752 \begin{warpHTML}
8753 \newcommand{\LWR@HTML@attribution}[1]{%
8754 \LWR@stoppars%
8755 \begin{BlockClass}{attribution}
8756 #1
8757 \end{BlockClass}
8758 \LWR@startpars%
8759 }
8760 \LWR@formatted{attribution}
8761 \end{warpHTML}

```

### 74.2 Quotes, quotations

**for HTML output:** 8762 `\begin{warpHTML}`

`quote (env.)`

```

8763 \newenvironment*{\LWR@HTML@quote}
8764 {
8765 \LWR@forcenewpage
8766 \LWR@htmlblocktag{blockquote}
8767 }
8768 {\LWR@htmlblocktag{/blockquote}}
8769
8770 \LWR@formattedenv{quote}

```

quotation (*env.*)

```

8771 \newenvironment*{LWR@HTML@quotation}
8772 {
8773 \LWR@forcenewpage
8774 \LWR@htmlblocktag{blockquote}
8775 }
8776 {\LWR@htmlblocktag{/blockquote}}
8777
8778 \LWR@formattedenv{quotation}

8779 \end{warpHTML}

```

### 74.3 Verse

When using verse or memoir, always place a `\\` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\vleftskip` (*Len*) These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTML\vleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any verse environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ spacing Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which

⚠ verse margin case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

#### 74.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

for HTML output: 8780 `\begin{warpHTML}`

verse (*env.*)

```

8781 \newenvironment{LWR@HTML@verse}
8782 {\let\\newline% lwarp
8783 \list{}{\itemsep \z@
8784 \itemindent -1.5em%
8785 \listparindent\itemindent
8786 \rightmargin \leftmargin}

```

```

8787 \advance\leftmargin 1.5em}%
8788 \item\relax}
8789 {\endlist}
8790
8791 \LWR@formattedenv{verse}

8792 \end{warpHTML}

```

**for HTML & PRINT:** 8793 \begin{warpall}

### 74.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\leftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

`\HTMLvleftskip` (*Len*) Sets `\vleftskip` inside a verse environment in HTML.

```

8794 \newlength{\HTMLvleftskip}
8795 \setlength{\HTMLvleftskip}{1em}

```

`\HTMLleftmargini` (*Len*) Sets `\leftmargini` inside a verse environment in HTML.

```

8796 \newlength{\HTMLleftmargini}
8797 \setlength{\HTMLleftmargini}{4.5em}

```

```

8798 \end{warpall}

```

## 75 Verbatim and tabbing

**for HTML & PRINT:** 8799 \begin{warpall}

`\VerbatimHTMLWidth` (*Len*) Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```

8800 \newlength{\VerbatimHTMLWidth}
8801 \setlength{\VerbatimHTMLWidth}{4in}
8802 \end{warpall}

```

**for HTML output:** 8803 \begin{warpHTML}

`\@setupverbvisibleospace` For  $\text{\LaTeX}$  or  $\text{\LuaTeX}$ , the default visible space was drawn in PDF, but not a text character which could be copied to HTML.

```

8804 \ifxetexorluatex
8805
8806 \newcommand*{\LWR@HTML@@setupverbvisibleospace}{\let\xobeysp\textvisibleospace}
8807
8808 \LWR@formatted{@setupverbvisibleospace}
8809
8810 \fi

```

`LWR@verbtags` (*bool*) Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head, during `\LWR@filestart`, or during MATHJAX. Verbatim tags are also disabled separately inside an HTML span.

```
8811 \newbool{LWR@verbtags}
8812 \booltrue{LWR@verbtags}
```

`\verb` Patched to encapsulate the verbatim text inside span with a class of `verb`.

```
8813 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8814
8815 \def\LWR@verb@egroup@endspan{%
8816 \LWR@orig@verb@egroup%
8817 \ifbool{LWR@verbtags}%
8818 {\LWR@htmltag{/span}}%
8819 {}%
8820 \endgroup%
8821 }

8822 \xpretocmd{\verb}
8823 {%
8824 \begingroup%
8825 \ifbool{LWR@verbtags}%
8826 {\LWR@htmltag{span class=\textquotedbl{}verb\textquotedbl{}}}%
8827 {}%
8828 \let\verb@egroup\LWR@verb@egroup@endspan%
8829 }
8830 {}
8831 {\LWR@patcherror{LaTeX}{verb}}}
```

`\LWR@atbeginverbatim` [*1: style*] [*2: class*]

Encloses a verbatim environment with the given css class.

The use of `\textquotedbl` instead of `"` improves compatibility with `xeCJK`.

```
8832 \newcommand*{\LWR@atbeginverbatim}[2][]
8833 {%
```

Stop generating HTML paragraph tags:

```
8834 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8835 \setlength{\parskip}{0ex}%
8836 \setlength{\topsep}{0pt}%
8837 \setlength{\partopsep}{0pt}%
```

Inside the verbatim, temporarily prevent underfull `\hbox` warnings.

```
8838 \hbadness=10000\relax%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script, or inside a `<span>`.

```

8839 \ifbool{LWR@verbtags}%
8840 {%
8841 \ifnumcomp{\value{LWR@spandepth}}{=}{0}{%
8842 \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8843 \ifthenelse{\equal{#1}{}}{ style=\textquotedbl#1\textquotedbl}%
8844 }%
8845 \par%
8846 }%
8847 {% in a span
8848 \LWR@spanwarnformat{verbatim}%
8849 }%
8850 }{%}%

```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```

8851 \begingroup%

8852 \LWR@print@normalfont%
8853 \LWR@origttfamily%

```

If not inside a `lateximage`, use a small font to avoid line overflow.

```

8854 \ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}{%
8855 {\LWR@print@scriptsize}%
8856 }{%}%

```

Since inside a `<pre>`, restore the original list processing:

```

8857 \LWR@restoreoriglists%

```

Turn off `babel-french` extra space before punctuation:

```

8858 \LWR@hook@processingtags%

```

Do not produce HTML tags for `\hspace` inside a verse par. Restore plain `LATEX` `\hspace` functionality:

```

8859 \let\hspace\LWR@print@hspace%

```

Do not produce HTML tags for `\nbsp`.

```

8860 \boolfalse{LWR@HTMLsanitize@nobreakspace}%
8861 }

```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```

8862 \newcommand*{\LWR@afterendverbatim}{%
8863 \endgroup%
8864 \par%

```

At the end of the environment, close the pre:

```

8865 \ifboolexpr{
8866 bool{LWR@verbtags} and
8867 test {\ifnumcomp{\value{LWR@spandepth}}{=}{0}}
8868 }{%

```

```

8869 {%
8870 \noindent\LWR@htmltag{/pre}\par% pre
8871 }{%

```

Resume regular paragraph handling:

```

8872 \LWR@startpars%
8873 }

```

`\verbatiminput {<filename>}`

Patch `\verbatiminput` to add HTML tags:

```

8874 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8875 \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{}%
8876 \LWR@atbeginverbatim{Verbatim}%
8877 \LWR@print@verbatim@input{#1}{#2}%
8878 \LWR@afterendverbatim%
8879 }
8880
8881 \LWR@formatted{verbatim@input}

```

`verbatim (env)`

```

8882 \AfterEndPreamble{
8883 \LWR@traceinfo{Patching verbatim.}
8884 \AtBeginEnvironment{verbatim}{%
8885 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8886 {}%
8887 {%
8888 \LWR@forcenewpage%
8889 \LWR@atbeginverbatim{verbatim}%
8890 }%
8891 }
8892 \AfterEndEnvironment{verbatim}{%
8893 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8894 {}%
8895 {%
8896 \LWR@afterendverbatim%
8897 }%
8898 }
8899 %
8900 \AtBeginEnvironment{verbatim*}{%
8901 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8902 {}%
8903 {%
8904 \LWR@forcenewpage%
8905 \LWR@atbeginverbatim{verbatim}%
8906 }%
8907 }
8908 \AfterEndEnvironment{verbatim*}{%
8909 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8910 {}%
8911 {%
8912 \LWR@afterendverbatim%
8913 }%
8914 }
8915 }

```

tabbing (*env*) The tabbing environment works, except that svg math and lateximages do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a lateximage environment, which will render the entire environment as a single svg image.

```

8916 \newenvironment*{LWR@HTML@tabbing}
8917 {%
8918 \LWR@forcenewpage%
8919 \LWR@atbeginverbatim{tabbing}%
8920 \let\enskip\LWR@print@enskip%
8921 \let\quad\LWR@print@quad%
8922 \let\qquad\LWR@print@qquad%
8923 \LetLtxMacro~\LWR@origtilde%
8924 \LetLtxMacro\nobreakspace\LWR@orignobreakspace%
8925 \let\,\LWR@origcomma%
8926 \let\thinspace\LWR@print@thinspace%
8927 \let\negthinspace\LWR@print@negthinspace%
8928 \LWR@print@tabbing%
8929 }
8930 {%
8931 \endLWR@print@tabbing%
8932 \LWR@afterendverbatim%
8933 }
8934
8935 \LWR@formattedenv{tabbing}

8936 \end{warpHTML}

```

## 76 Theorems

`\newtheorem {<text>} [<counter>] — or — [<oldname>] {<text>}`

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a <div> of class theoremcontents.
- The label for each theorem is placed inside a <span> of class theoremlabel.
- The contents are placed inside a <div> of class theoremcontents.

**for HTML output:** 8937 \begin{warpHTML}

`\@thm {<counter name>} {<text>}`

Recent L<sup>A</sup>T<sub>E</sub>X kernels use `\@kernel@refstepcounter` which does not include `cleveref` changes. Revert to `\stepcounter` instead. (Print-mode `hyperref` changes do not matter for HTML.)

```

8938 \TestVerifyCommands
8939
8940 \IfVerifyCommand[lwarp][latex]{\@thm}
8941 {C35B697D8E37A052BF513D51C8660A87}% LaTeX kernel definition
8942 {}{}

```

```

8943
8944 \IfVerifyCommand[lwarp][latex]{\@thm}
8945 {2624BDB5B96C45756978B3D393430088}% amsthm definition
8946 {}{}
8947
8948 \IfVerifyCommandPassed
8949 {}
8950 {\VERCMDWarning{lwarp}{latex}{\@thm}}
8951
8952 \def\@thm#1#2{%
8953 % \@kernel@refstepcounter{#1}%
8954 \refstepcounter{#1}% lwarp
8955 \@ifnextchar[{\@ythm{#1}{#2}}{\@xthm{#1}{#2}}%
8956 }

```

`\@begintheorem {<name>} {<number>}`

```

8957 \renewcommand{\@begintheorem}[2]{%
8958 \LWR@forcenewpage

8959 \LWR@printpendingfootnotes% lwarp

8960 \BlockClass{theoremcontents}
8961 \trivlist
8962 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape%
8963 }

```

`\@opargbegintheorem {<name>} {<number>} {<oparg>}`

L<sup>A</sup>T<sub>E</sub>X defines this, but amsthm \relaxes it, so it will not be defined if amsthm is loaded before lwarp.

```

8964 \ifundef{\@opargbegintheorem}{}{
8965 \renewcommand{\@opargbegintheorem}[3]{%
8966 \LWR@forcenewpage
8967 \BlockClass{theoremcontents}
8968 \trivlist
8969 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape%
8970 }
8971 }

```

`\@endtheorem`

```

8972 \renewcommand*{\@endtheorem}{%
8973 \endtrivlist

8974 \LWR@printpendingfootnotes% lwarp

8975 \endBlockClass% theoremcontents
8976 }

8977 \end{warpHTML}

```

## 77 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard  $\text{\LaTeX}$  environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The  $\text{\LaTeX}$  source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

**empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```
begin{itemize}
item \mbox{}
 \begin{itemize}
...
 \end{itemize}
item \
 \begin{itemize}
...
 \end{itemize}
```

---

### 77.1 List environment

**for HTML output:** 8978 `\begin{warphTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
8979 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `itemize`, `enumerate`, `description`, or `hanginglist` from package `hang`.

```
8980 \newcommand*{\LWR@printopenlist}{%
8981 ul % space
8982 class=\textquotedbl{}list\textquotedbl{} % space
8983 style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8984 }
```

`\makelabel` While inside a list environment, `lwarp` nullifies a number of  $\text{\TeX}$  horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

 **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

`\@mklab` Removes PDF spacing.

```
8985 \AtBeginDocument{
8986 \LWR@traceinfo{AtBeginDocument makelabel}
```

```

8987 \def\@mklab#1{%
8988 % \hfil %
8989 #1}
8990 \let\makelabel\@mklab
8991 }

```

`\@donoparitem` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```

8992 \def\@donoparitem{%
8993 \@noparitemfalse
8994 % \global\setbox\@labels\hbox{\hskip -\leftmargin
8995 % \unhbox\@labels
8996 % \hskip \leftmargin}%
8997 % \if@minipage\else
8998 % \@tempskipa\lastskip
8999 % \vskip -\lastskip
9000 % \advance\@tempskipa\@outerparskip
9001 % \advance\@tempskipa -\parskip
9002 % \vskip\@tempskipa
9003 % \fi
9004 }

```

`\LWR@makelabeltag` Used to add <dt> for descriptions. Empty for other list types.

```

9005 \newcommand*\LWR@makelabeltag{}

```

`\@item` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```

9006 \def\LWR@HTML@item[#1]{%
9007 \LWR@traceinfo{item}%
9008 \if@noparitem
9009 \@donoparitem
9010 \else
9011 % \if@inlabel
9012 % \indent
9013 % \fi
9014 \ifhmode
9015 % \unskip\unskip
9016 \fi
9017 \if@newlist
9018 \if@nobreak
9019 \@nbitem
9020 \else
9021 % \addpenalty\@beginparpenalty
9022 % \addvspace\@topsep
9023 % \addvspace{-\parskip}%
9024 \fi
9025 \else
9026 % \addpenalty\@itempenalty
9027 % \addvspace\itemsep
9028 \fi
9029 \global\@inlabeltrue
9030 \fi
9031 % \everypar{%
9032 % \@minipagefalse
9033 % \global\@newlistfalse

```

```

9034 % \if@inlabel
9035 % \global\@inlabelfalse

9036 % {\setbox\z@\lastbox
9037 % \ifvoid\z@
9038 % \kern-\itemindent
9039 % \fi}%

9040 % \box\@labels
9041 % \penalty\z@
9042 % \fi

9043 % \if@nobreak
9044 % \@nobreakfalse
9045 % \clubpenalty \@M
9046 % \else
9047 % \clubpenalty \@clubpenalty
9048 % \everypar{}\%
9049 % \fi}%

9050 \if@noitemarg
9051 \@noitemargfalse
9052 \if@nmbrlist

9053 \refstepcounter\@listctr
9054 \fi
9055 \fi

```

If not empty, print the label with the class listmarker:

```

9056 \ifbool{expr{
9057 test {\ifblank{#1}} or
9058 (
9059 test {\ifstrequal{#1}{\@itemlabel}} and
9060 test {\ifdefempty{\@itemlabel}}
9061)
9062 }%
9063 {}%
9064 {%
9065 \ifdefempty{\LWR@makelabeltag}{\LWR@htmltag{\LWR@makelabeltag}}%
9066 \InlineClass{listmarker}{\makelabel{#1}}%
9067 \ifdefempty{\LWR@makelabeltag}{\LWR@htmltag{\LWR@makelabeltag}} % extra space
9068 }%
9069 % \sbox\@tempboxa{\makelabel{#1}}%
9070 % \global\setbox\@labels\hbox{%
9071 % \unhbox\@labels
9072 % \hskip \itemindent
9073 % \hskip -\labelwidth
9074 % \hskip -\labelsep
9075 % \ifdim \wd\@tempboxa >\labelwidth
9076 % \box\@tempboxa

9077 % \else
9078 % \hbox to\labelwidth {\unhbox\@tempboxa}%
9079 % \fi
9080 % \hskip \labelsep}%
9081 \ignorespaces%
9082 }

```

\@nbitem

```
9083 \def\@nbitem{%
9084 % \@tempskipa\@outerparskip
9085 % \advance\@tempskipa -\parskip
9086 % \addvspace\@tempskipa
9087 }
```

\LWR@listitem [*<label>*]

Handles \item inside a list, itemize, or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```
9088 \newcommand*\LWR@listitem{%
9089 \LWR@stoppars%
9090 \LWR@startnewdepth{listitem}%
9091 \LWR@htmltag{li}%
9092 \LWR@orignewline%
9093 \LWR@startpars%
9094 \LWR@ensuredoingapar%
9095 \LWR@origitem%
9096 }
```

\LWR@nulllistfills Nullifies various TeX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```
9097 \newcommand*\LWR@nulllistfills{%
9098 \renewcommand*\hss{%}%
9099 \renewcommand*\llap[1]{##1}%
9100 \renewcommand*\rlap[1]{##1}%
9101 \renewcommand*\hfil{%}%
9102 \renewcommand*\hfilneg{%}%
9103 \renewcommand*\hfill{%}%
9104 }
```

list (*env.*) {*<label>*} {*<commands>*}

```
9105 \newcommand*\LWR@liststart{%
9106 \LWR@traceinfo{LWR@liststart}%
9107 \LWR@stoppars%
9108 \LWR@pushoneclose{list}%
9109 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
9110 \LWR@startpars%
9111 \setlength{\topsep}{0pt}%
9112 \setlength{\partopsep}{0pt}%
9113 \setlength{\itemsep}{0pt}%
9114 \setlength{\parsep}{0pt}%
9115 \setlength{\leftmargin}{0pt}%
9116 \setlength{\rightmargin}{0pt}%
9117 \setlength{\listparindent}{0pt}%
9118 \setlength{\itemindent}{0pt}%
9119 \setlength{\labelsep}{1em}%
9120 \LWR@nulllistfills%
9121 }
```

```

9122 \newcommand*{\LWR@listend}{%
9123 \LWR@traceinfo{\LWR@listend}%
9124 \LWR@stoppars%
9125 \LWR@closeprevious{list}%
9126 \LWR@startpars%
9127 }

```

## 77.2 Itemize

`\LWR@itemizeitem` [*<label>*]

Handles `\item` inside an itemize or enumerate.

The optional argument is passed to `\LWR@origitem`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

9128 \newcommand*{\LWR@itemizeitem}{%
9129 \LWR@stoppars%
9130 \LWR@startnewdepth{listitem}%
9131 \LWR@htmltag{li}%
9132 \LWR@orignewline%
9133 \LWR@startpars%
9134 \LWR@ensuredoingapar%
9135 \LWR@origitem%
9136 }

```

`itemize (env)` [*<options>*]

```

9137 \newcommand*{\LWR@itemizestart}{%
9138 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
9139 \renewcommand*{\LWR@printopenlist}{%
9140 ul % space
9141 class=\textquotedbl{}itemize\textquotedbl{} % space
9142 style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl{}%
9143 }%
9144 \LetLtxMacro\item\LWR@itemizeitem%
9145 \LWR@nulllistfills%
9146 }

```

## 77.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

`enumerate (env)` [*<options>*]

```

9147 \newcommand*{\LWR@enumeratestart}{%
9148 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
9149 \renewcommand*{\LWR@printopenlist}{%
9150 ul % space
9151 class=\textquotedbl{}enumerate\textquotedbl{} % space
9152 style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl{}%
9153 }%
9154 \LetLtxMacro\item\LWR@itemizeitem%

```

```

9155 \LWR@nulllistfills%
9156 }

```

## 77.4 Description

`\LWR@descitem` [*<label>*] Handles an `\item` inside a description.

```

9157 \newcommand*{\LWR@descitem}[1][{}]{%
9158 \LWR@stoppars%
9159 \LWR@setlatestname{#1}%
9160 \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```

9161 \begingroup%
9162 \renewcommand*{\LWR@makelabeltag}{dt}%
9163 \RenewDocumentCommand{\hspace}{s m}{}%
9164 \LWR@origitem[#1]%
9165 \endgroup%

```

Allow `\item` without an argument:

```

9166 \leavevmode%

9167 \LWR@orignewline%
9168 \LWR@htmltag{dd}%
9169 \LWR@startpars%
9170 }

```

`description` (*env*) [*<options>*]

Footnotes are modified to correctly parse optional arguments.

```

9171 \newcommand*{\LWR@descriptionstart}{%
9172 \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}
9173 \renewcommand*{\LWR@printopenlist}{%
9174 dl % space
9175 class=\textquotedbl{}description\textquotedbl{} % space
9176 }
9177 \LetLtxMacro\item\LWR@descitem%
9178 \LWR@nulllistfills%
9179 }

```

## 77.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

9180 \newcommand*{\LWR@patchlists}{%

```

```

9181 \LetLtxMacro\item\LWR@listitem%
9182 \LetLtxMacro\@item\LWR@HTML@item%
9183 \renewcommand*{\@trivlist}{%
9184 \LWR@traceinfo{@trivlist start}%
9185 \LWR@liststart%
9186 \LWR@orig@trivlist%
9187 \LWR@traceinfo{@trivlist done}%
9188 }%
9189 \renewcommand*{\trivlist}{%
9190 \LWR@traceinfo{trivlist}%
9191 \LWR@origtrivlist%
9192 }%
9193 \renewcommand*{\endtrivlist}{%
9194 \LWR@traceinfo{endtrivlist start}%
9195 \LWR@origendtrivlist\LWR@listend%
9196 \LWR@traceinfo{endtrivlist done}%
9197 }%
9198 \renewcommand*{\itemize}{%
9199 \LWR@itemizestart\LWR@origitemize%
9200 }%
9201 \renewcommand*{\enumerate}{%
9202 \LWR@enumeratestart\LWR@origenumerate%
9203 }%
9204 \renewcommand*{\description}{%
9205 \LWR@descriptionstart\LWR@origdescription%
9206 }%
9207 }

```

`\LWR@restoreoriglists` Restores the original trivlist environment.

```

9208 \newcommand*{\LWR@restoreoriglists}{%
9209 \LWR@traceinfo{\LWR@restoreoriglists}%
9210 \LetLtxMacro\item\LWR@origitem%
9211 \LetLtxMacro\@item\LWR@orig@item%
9212 \let\@trivlist\LWR@orig@trivlist%
9213 \let\trivlist\LWR@origtrivlist%
9214 \let\endtrivlist\LWR@origendtrivlist%
9215 \LetLtxMacro\itemize\LWR@origitemize%
9216 \LetLtxMacro\enditemize\LWR@endorigitemize%
9217 \LetLtxMacro\enumerate\LWR@origenumerate%
9218 \LetLtxMacro\endenumerate\LWR@endorigenumerate%
9219 \LetLtxMacro\description\LWR@origdescription%
9220 \LetLtxMacro\enddescription\LWR@endorigdescription%
9221 \let\@mklab\LWR@orig@mklab%
9222 \let\makelabel\LWR@origmakelabel%
9223 \let\@donoparitem\LWR@orig@donoparitem%
9224 \let\@nbitem\LWR@orig@nbitem%
9225 }

9226 \end{warphTML}

```

## 78 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the  $\text{\LaTeX}$  core and the various tabular-related packages.

## 78.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

### Defining macros and environments:

⚠ Misplaced alignment  
tab character &

⚠ floatrow

⚠ tabular inside another  
environment

- When defining environments or macros which include tabular and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
```

```
<define macros or environments using tabular and &
here>
```

```
\StopDefiningTabulars
```

This includes before and after defining any macro which used \ttabbox from floatrow.

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a
definition)
```

```
\newenvironment{outerenvironment}
```

```
{
```

```
 \tabular{cc}
```

```
 left & right \\\
```

```
}
```

```
{
```

```
 \TabularMacro\ResumeTabular
```

```
 left & right \\\
```

```
 \endtabular
```

```
}
```

```
\StopDefiningTabulars
```

For developers:

- To automate the use of \StartDefiningTabulars and \EndDefiningTabulars, these macros may be embedded inside an HTML environment definition to automatically change the catcode of & before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
 . . .
 \otherenvironmentname [<args>] {<args>} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
 \StartDefiningTabulars
 \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
 . . .
 \endotherenvironmentname % for example
 \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

#### Cell contents:

##### ⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \
```

#### Column specifiers:

##### ⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with `lwarp`. Instead, each cell must specify math mode individually.

##### @ and !

- Only one each of @ and ! is used at each column, and they are used in that order.

##### \multirow

- In `\multirow` cells, the print version may have extra instances of <, >, @, and ! cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

##### ⚠ \newcolumntype

- If `\newcolumntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumntype`.

##### font and alignment

- `lwarp` detects each of the following, and sets HTML CSS appropriately:
  - `>\centering\arraybackslash`
  - `>\raggedright\arraybackslash`
  - `>\raggedleft\arraybackslash`
  - `>\itshape`
  - `>\bfseries`
  - `>\bfseries\itshape`

These may be used with `\newcolumntype`, such as:

```
\newcolumntype{P}[1]{>\centering\arraybackslash}p{#1}}
```

#### Rules:

##### vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

**width and trim**

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

**combined rules**

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change

```
This & That \endhead
```

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

**Other:**

- `tabularx` ignores the width, but `X` columns do produce paragraph columns or multicolumns.

**longtable headings**

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

**S columns**

- For `S` columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{ }` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
```

```
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In  $\text{\LaTeX}$ , a tabular may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warpprint` environment.

for HTML output: `9227 \begin{warppHTML}`

## 78.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

### 78.2.1 `arydshln`

Emulated by the original  $\text{\LaTeX}$  non-dashed versions.

⚠ `\warpprintonly`  
⚠ Misplaced `\noalign`

⚠ `S` columns

⚠ tabular inside a `<span>`

```

9228 \LetLtxMacro\hdashline\hline
9229 \LetLtxMacro\cdashline\cline
9230 \LetLtxMacro\firsthdashline\hline
9231 \LetLtxMacro\lasthdashline\hline

```

### 78.3 Token lookahead

Used by `\LWR@futurenonSPACElet` to look at the next token.

`\LWR@mynexttoken`

```

9232 \newcommand\LWR@mynexttoken\relax

```

`\LWR@futurenonSPACElet` `\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futurenonSPACElet` does the same, but ignores intervening spaces and paragraphs.

Based on the `booktabs` style:

```

9233 \def\LWR@futurenonSPACElet#1{\def\LWR@cs{#1}%
9234 \afterassignment\LWR@fnslone\let\nexttoken= }
9235
9236 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
9237
9238 \def\LWR@fnsltwo{%
9239 \expandafter\ifx\LWR@cs\@sptoken%
9240 \let\next=\LWR@fnslthree%
9241 \else%
9242 \expandafter\ifx\LWR@cs\par%
9243 \let\next=\LWR@fnslthree%
9244 \else%
9245 \let\next=\nexttoken%
9246 \fi%
9247 \fi\next}
9248
9249 \def\LWR@fnslthree{\afterassignment\LWR@fnslone\let\next= }

```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```

9250 \newcommand*\LWR@getmynexttoken{%
9251 \LWR@traceinfo{\LWR@getmynexttoken}%

```



Nothing must follow this next line:

```

9252 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@tabledatacolumnTag
9253 }

```

### 78.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox`'s `\defcounter` and `lwarp`'s new `\defaddtocounter` are used.

`LWR@startedrow` (*bool*) True if should print a row tag before this column.

```
9254 \newbool{LWR@startedrow}
9255 \boolfalse{LWR@startedrow}
```

LWR@tabularcelladded (*bool*) True if have added a data cell for this position.

```
9256 \newbool{LWR@tabularcelladded}
9257 \boolfalse{LWR@tabularcelladded}
```

LWR@hlines (*Ctr*) Number of \hlines or \midrules above the next row.

```
9258 \newcounter{LWR@hlines}
```

LWR@hdashedlines (*Ctr*) Number of \arydshln dashed lines above the next row.

```
9259 \newcounter{LWR@hdashedlines}
```

LWR@doingtbrule (*bool*) True if the next row will have a top/bottom rule above it.

```
9260 \newbool{LWR@doingtbrule}
9261 \boolfalse{LWR@doingtbrule}
```

LWR@doingcmidrule (*bool*) True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

```
9262 \newbool{LWR@doingcmidrule}
9263 \boolfalse{LWR@doingcmidrule}
```

LWR@tableparcell (*bool*) True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
9264 \newbool{LWR@tableparcell}
```

LWR@skippingmrowcell (*bool*) True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
9265 \newbool{LWR@skippingmrowcell}
```

LWR@skippingmcolrowcell (*bool*) True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.

```
9266 \newbool{LWR@skippingmcolrowcell}
```

LWR@usedmultirow (*bool*) Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
9267 \newbool{LWR@usedmultirow}
```

LWR@foundmrowcell (*bool*) Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
9268 \newbool{LWR@foundmrowcell}
```

LWR@skipatbang (*bool*) True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

```
9269 \newbool{LWR@skipatbang}
```

`LWR@emptyatbang` (*bool*) True if finishing a row and should print empty @ or ! column table data cells.

9270 \newbool{LWR@emptyatbang}

`LWR@intabularmetadata` (*bool*) True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.

9271 \newbool{LWR@intabularmetadata}

9272 \boolfalse{LWR@intabularmetadata}

`LWR@exitingtabular` (*bool*) When \end is found, turns off the next opening data tag.

9273 \newbool{LWR@exitingtabular}

`LWR@tabularmutemods` (*bool*) Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate \bottomrules.

9274 \newbool{LWR@tabularmutemods}

`LWR@tabularfinalrow` (*bool*) Used to set aria-hidden if adding a final row for the purpose of adding the bottom border.

9275 \newbool{LWR@tabularfinalrow}

`LWR@validtablecol` (*bool*) True if found a valid table column type.

9276 \newbool{LWR@validtablecol}

`LWR@opttablecol` (*bool*) True if found a table column optional argument.

9277 \newbool{LWR@opttablecol}

Used to add a style to a table data cell:

9278 \newbool{LWR@tdhavecellstyle}

`LWR@tabularDepth` (*Ctr*) Tracks whether & is being used inside a tabular.

9279 \newcounter{LWR@tabulardepth}

9280 \setcounter{LWR@tabulardepth}{0}

`LWR@tabularpardepth` (*Ctr*) Tracks whether should look ahead at the next token when encountering a \par while processing tabular contents.

When `LWR@tabularpardepth` is deeper than `LWR@tabulardepth` then `lwarp` has started looking at the contents of the tabular, and thus any \pars encountered must be followed by another token lookahead.

9281 \newcounter{LWR@tabularpardepth}

9282 \setcounter{LWR@tabularpardepth}{0}

9283 \newcommand\*{\LWR@colsresult}{}%temp storage for column format results

9284 \newcommand\*{\LWR@pposition}{}%

9285 \newcommand\*{\LWR@pleft}{}%

9286 \newcommand\*{\LWR@pright}{}%

`LWR@tablecolspec` Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting `@` and `!` columns.

Will contain a string such as `llrrccpc`, exactly one letter per  $\text{\LaTeX}$  table column, without `@`, `!`, `>`, `<`, or the vertical bar.

`\LWR@strresult` Holds the result of `Str` functions.

```
9287 \providecommand*\LWR@strresult{}
```

```
9288 \providecommand*\LWR@strresulttwo{}
```

`\LWR@origcolspec` Holds the original column specs given to `tabular`.

```
9289 \newcommand*\LWR@origcolspec{}
```

`LWR@tablecolspecwidth (Ctr)` Holds the number of tokens in the table columns specification.

This includes one for each `@`, `!`, `<`, `>` column, and also one for each of the parameters of `p`, `@`, `!`, `<`, `>` columns, and three for each `D` column.

(This is not the total # of  $\text{\LaTeX}$  columns in the table.)

```
9290 \newcounter{LWR@tablecolspecwidth}
```

`LWR@tablecolspecindex (Ctr)` While parsing the  $\text{\LaTeX}$  table column specification, starts at 1 and is incremented per token of the specification.

```
9291 \newcounter{LWR@tablecolspecindex}
```

`LWR@tableLaTeXcolindex (Ctr)` While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```
9292 \newcounter{LWR@tableLaTeXcolindex}
```

`LWR@tabletotalLaTeXcols (Ctr)` While parsing a table column specification, begins at 0 and increments by 1 per  $\text{\LaTeX}$  table column. Eventually holds the final number of  $\text{\LaTeX}$  table columns in each row, not counting `@` and `!` columns. (In `HTML`, `@` and `!` cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
9293 \newcounter{LWR@tabletotalLaTeXcols}
```

`LWR@tabletotalLaTeXcolsnext (Ctr)` Holds the next  $\text{\LaTeX}$  table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
9294 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

`LWR@colatspec` A data array of specifications for `@` columns. The leftmost's index is `leftedge`, the others are counter values. See section 44.

`LWR@colbangspec` A data array of specifications for `!` columns. The leftmost's index is `leftedge`, the others are counter values. See section 44.

`LWR@colbeforespec` A data array of specifications for `>` columns.

`LWR@colafterspec` A data array of specifications for `<` columns.

LWR@colbarspec A data array of specifications for vertical rules.

LWR@coladdclass A data array of extra css class, as set by >.

LWR@cellcolordepth (*Ctr*) Counts how many cell color <div>s were added to the current tabular data cell.

```
9295 \newcounter{LWR@cellcolordepth}
```

### 78.4.1 Multicolumn variables

```
9296 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
9297 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
9298 \newcounter{LWR@mcolvertbarsl}
9299 \newcounter{LWR@mcolvertbarsr}
9300 \newcounter{LWR@mcolvertbarsldash}
9301 \newcounter{LWR@mcolvertbarsrdash}
9302 \newbool{LWR@mcolvertbaronleft}
```

### 78.4.2 Longtable variables

LWR@starredlongtable (*bool*) Per the caption package, step the counter if longtable\*.

```
9303 \newbool{LWR@starredlongtable}
9304 \boolfalse{LWR@starredlongtable}
```

### 78.4.3 Midrule variables

LWR@midrulecounter (*Ctr*) Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
9305 \newcounter{LWR@midrulecounter}
```

## 78.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860>

\LWR@instertatbangcols

```
9306 \newcommand*{\LWR@insertatbangcols}{%
9307 \ifbool{LWR@skipatbang}%
9308 {%
9309 {%
9310 \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
9311 \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
9312 }%
9313 }
```

`\LWR@closetabledatacell` If `LWR@skippingmrowcell` or `LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

9314 \newcommand*{\LWR@closetabledatacell}{%
9315 \booltrue{LWR@intabularmetadata}%
9316 \ifbool{LWR@exitingtabular}%
9317 {%

9318 \LWR@stoppars%
9319 }%
9320 {% not exiting tabular
9321 \ifbool{bool{LWR@skippingmrowcell} or bool{LWR@skippingmcolrowcell}}%
9322 {%

9323 \LWR@stoppars%

```

If not skipping a `\multicolumnrow` cell, insert the @ and ! columns after this non-existent column.

```

9324 \ifbool{LWR@skippingmcolrowcell}%
9325 {}%
9326 {\LWR@insertatbangcols}%
9327 }%
9328 {% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

9329 \unskip%
9330 \ifbool{bool{LWR@tabularmutemods} or
9331 bool{LWR@skipatbang} or
9332 bool{LWR@emptyatbang}}%
9333 {}%
9334 {\LWR@getexparray{LWR@colafterspec}%
9335 {\arabic{LWR@tableLaTeXcolindex}}}%
9336 }%
9337 \LWR@getexparray{LWR@colafterspec}%
9338 {\arabic{LWR@tableLaTeXcolindex}}%
9339 }%

```

Close paragraphs:

```

9340 \LWR@stoppars%
9341 \boolfalse{LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

9342 \whilebool{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{%
9343 \LWR@htmltag{/div}\LWR@orignewline%
9344 \defaddtocounter{LWR@cellcolordepth}{-1}%
9345 }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

9346 \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%

```

```

9347 \global\booltrue{LWR@tabularcelladded}%
9348 \LWR@insertatbangcols%
9349 }% not skipping mrowcell
9350 }% not exiting tabular
9351 \boolfalse{LWR@skippingmrowcell}%
9352 \boolfalse{LWR@skippingmcolrowcell}%
9353 \boolfalse{LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

9354 \def\LWR@cellHTMLcolor{}%
9355 \def\LWR@columnHTMLcolor{}%
9356 \defcounter{LWR@cellcolordepth}{0}%
9357 }

```

When not used inside a tabular, & performs its original function as recorded here ( with catcode 4 ).

```

9358 \let\LWR@origampmacro&

9359 \end{warpHTML}

```

### 78.5.1 Handling &

for HTML output: 9360 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```

9361 \newcommand*{\LWR@tabularampersand}{%
9362 \LWR@traceinfo{LWR@tabularampersand}%
9363 \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
9364 {%

```

If not skipping a multirow cell, close the current data cell.

```

9365 \unskip%
9366 \LWR@closetabledatacell%

```

Move to the next column.

```

9367 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```

9368 \global\boolfalse{LWR@tabularcelladded}%

```

Look at the next token to decide multi or single column data tag.

```

9369 \LWR@getmynexttoken%
9370 }%

```

If not inside a tabular, performs the original action:

```
9371 {%
9372 \LWR@origampmacro%
9373 }%
9374 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

## 78.6 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
9375 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
9376 \ifboolexpr{%
9377 not bool {LWR@exitingtabular} or%
9378 bool{LWR@doingtbrule} or%
9379 bool{LWR@doingcmidrule} or%
9380 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9381 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9382 bool{LWR@startedrow}%
9383 }{%
```

Temporarily turn off `LWR@exitingtabular` so that table data tags will still be generated.

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```
9384 \ifbool{LWR@exitingtabular}{%
9385 \booltrue{LWR@tabularmutemods}%
9386 }{%
9387 \boolfalse{LWR@tabularmutemods}%
9388 }%
```

Locally reenable the table data tags until finished with the final row:

```
9389 \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
9390 \whileboolexpr{%
```

```

9391 test {
9392 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9393 {\value{LWR@tabletotalLaTeXcols}}
9394 } or %
9395 (%
9396 bool{LWR@intabularmetadata} and%
9397 not bool{LWR@tabularcelladded} and%
9398 test {
9399 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
9400 {\value{LWR@tabletotalLaTeXcols}}
9401 }%
9402)%
9403 }%
9404 {%
9405 \LWR@tabulatedatasinglecolumn%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

9406 \LWR@closetabledatacell%
9407 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
9408 \global\boolfalse{LWR@tabularcelladded}%
9409 \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

9410 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9411 {\value{LWR@tabletotalLaTeXcols}}%
9412 {\LWR@getmynexttoken}%
9413 }%
9414 }%

```

Reenable the original `LWR@exitingtabular` to close the entire table:

```

9415 \ifbool{LWR@tabularmutemods}{%
9416 \booltrue{LWR@exitingtabular}%
9417 }{%
9418 \boolfalse{LWR@exitingtabular}%
9419 }%
9420 \boolfalse{LWR@tabularmutemods}%

9421 \boolfalse{LWR@emptyatbang}%
9422 }{% ifboolexpr
9423 }

```

## 78.7 Handling \\

Inside `tabular`, `\\` is redefined to `\LWR@tabularendofline`

Throws away options `\\[dim]` or `\\*`

`\LWR@tabularendofline`

```

9424 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%

```

Finish the row:

```

9425 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9426 {\value{LWR@tabletotalLaTeXcols}}%
9427 {\LWR@tabularfinishrow}%
9428 {\LWR@closetabledatacell}%
9429 \LWR@htmltag{/tr}\LWR@orignewline%

```

xcolor row color support:

```

9430 \@rowcolors%

```

No longer inside a data cell:

```

9431 \booltrue{LWR@intabularmetadata}%

```

Not yet started a table row:

```

9432 \boolfalse{LWR@startedrow}%

```

Additional setup:

```

9433 \defcounter{LWR@hlines}{0}%
9434 \defcounter{LWR@hdashedlines}{0}%
9435 \boolfalse{LWR@doingtbrule}%
9436 \boolfalse{LWR@doingcmidrule}%
9437 \LWR@clearmidrules%

```

```

9438 \def\LWR@rowHTMLcolor{}%

```

Start at first column:

```

9439 \defcounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```

9440 \global\boolfalse{LWR@tabularcelladded}%

```

Allow T<sub>E</sub>X to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```

9441 \LWR@stoppars%
9442 \LWR@forceemptyline%

```

Look at the next token to decide between single column data tag or a special case:

```

9443 \LWR@getmynexttoken%
9444 }

```

## 78.8 Looking ahead in the column specifications

`\LWR@columnspeclookahead {<offset>}`

Looks offset tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The `w` column alignment will be seen as a single unit such as `{c}`.

```

9445 \newcommand*{\LWR@columnspeclookahead}[1]{%
9446 \setcounter{LWR@tempcountone}{\value{LWR@tablecolspecindex}}%
9447 \addtocounter{LWR@tempcountone}{#1}%
9448 \fullexpandarg%
9449 \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%

```

Get the contents of the first group in \LWR@strresulttwo:

```

9450 \exploregroups%
9451 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
9452 \noexploregroups%
9453 }

```

## 78.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```

9454 \newcommand*{\LWR@colparameter}{}

```

\LWR@parseatcolumn {*<this column type>*}

Handles @{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```

9455 \newcommand*{\LWR@parseatcolumn}[1]{%

```

Move to the next token after the '@':

```

9456 \LWR@traceinfo{at column}%
9457 \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

9458 \LWR@traceinfo{about to read the next token:}%
9459 \expandarg%
9460 \StrChar{\LWR@origcolspec}%
9461 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
9462 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

9463 \LWR@traceinfo{have now read the next token}%
9464 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9465 {% left edge of the table:
9466 \LWR@traceinfo{at the left edge}%
9467 \LWR@setexparray{LWR@colatspec}%
9468 {leftedge}%
9469 {\expandafter\@firstofone\LWR@colparameter}%
9470 \LWR@traceinfo{at the left edge: %
9471 \LWR@getexparray{LWR@colatspec}{leftedge}}%
9472 }%
9473 {% not at the left edge:
9474 \LWR@traceinfo{not at the left edge}%
9475 \LWR@setexparray{LWR@colatspec}%
9476 {\arabic{LWR@tabletotalLaTeXcols}}%

```

```

9477 {\expandafter\@firstofone\LWR@colparameter}%
9478 \LWR@traceinfo{at \arabic{LWR@tabletotalLaTeXcols}%
9479 : % space
9480 \LWR@getexpparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcols}}}%
9481 }%
9482 \let\LWR@colparameter\relax%
9483 \booltrue{LWR@validtablecol}%
9484 }

```

`\LWR@parsebangcolumn` {<*this column type*>} Handles !{text} columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9485 \newcommand*{\LWR@parsebangcolumn}[1]{%

```

Move to the next token after the '':

```

9486 \LWR@traceinfo{bang column}%
9487 \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```

9488 \LWR@traceinfo{about to read the next token:}%
9489 \expandarg%
9490 \StrChar{\LWR@origcolspec}%
9491 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
9492 \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9493 \LWR@traceinfo{have now read the next token}%
9494 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9495 {% left edge of the table:
9496 \LWR@traceinfo{at the left edge}%
9497 \LWR@setexpparray{LWR@colbangspec}%
9498 {\leftedge}%
9499 {\expandafter\@firstofone\LWR@colparameter}%
9500 }%
9501 {% not at the left edge:
9502 \LWR@traceinfo{not at the left edge}%
9503 \LWR@setexpparray{LWR@colbangspec}%
9504 {\arabic{LWR@tabletotalLaTeXcols}}%
9505 {\expandafter\@firstofone\LWR@colparameter}%
9506 \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
9507 }%
9508 \let\LWR@colparameter\relax%
9509 \booltrue{LWR@validtablecol}%
9510 }

```

`\LWR@checkbeforeaddclass` {<*compared csname*>} {<*css class to add*>}

```

9511 \newcommand*{\LWR@checkbeforeaddclass}[2]{%
9512 \ifcsstrequal{LWR@tempone}{#1}%
9513 {%
9514 \LWR@setexpparray{LWR@coladdclass}%
9515 {\arabic{LWR@tabletotalLaTeXcolsnext}}%
9516 { #2}% space is intentional
9517 }%

```

9518 }

`\LWR@checkmathcolpar` Error if using math in column parameters.

```

9519 \newcommand*{\LWR@checkmathcolpar}{%
9520 \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWRdollar}%
9521 {%
9522 \PackageError{lwarp}%
9523 {%
9524 Lwarp does not support `\$' in column specifiers.\MessageBreak
9525 Specify `\$' math for each cell in the column.\MessageBreak
9526 Enter 'h' for more info%
9527 }%
9528 {%
9529 For example, replace `>{\$}c<{\$}' with `c', and then\MessageBreak
9530 use `\$cell contents\$' for each cell in the column.%
9531 }%
9532 }{}%
9533 }
```

`\LWR@parsebeforecolumn` {<*this column type*>}

Handles >{text} columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9534 \newcommand*{\LWR@parsebeforecolumn}[1]{%
```

Move to the next token after the '>':

```

9535 \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9536 \expandarg%
9537 \StrChar{\LWR@origcolspec}%
9538 {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9539 \fullexpandarg%
```

Error if using >{<}, which is not supported by lwarp.

```

9540 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9541 \LWR@setexparray{\LWR@colbeforespec}%
9542 {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
9543 {\expandafter\@firstofone\LWR@colparameter}%
9544 %
9545 \edef\LWR@tempone{\expandafter\@firstofone\LWR@colparameter}%
```

If detect >{\centering\arraybackslash} or related, add a css class.

```

9546 \LWR@checkbeforeaddclass{\LWR@detect@centeringarraybackslash}{tdcenter}
9547 \LWR@checkbeforeaddclass{\LWR@detect@raggedrightarraybackslash}{tdleft}
9548 \LWR@checkbeforeaddclass{\LWR@detect@raggedleftarraybackslash}{tdright}
9549 \LWR@checkbeforeaddclass{\LWR@detect@itshape}{tditshape}
```

```

9550 \LWR@checkbeforeaddclass{LWR@detect@bfseries}{tdbfseries}
9551 \LWR@checkbeforeaddclass{LWR@detect@bfit}{tdbfit}

9552 \let\LWR@colparameter\relax%
9553 \booltrue{LWR@validtablecol}%
9554 }

```

`\LWR@parseaftercolumn` {<*this column type*>}

Handles <{text}> columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9555 \newcommand*{\LWR@parseaftercolumn}[1]{%

```

Move to the next token after the '<':

```

9556 \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token, expanding once into `\LWR@colparameter`:

```

9557 \expandarg%
9558 \StrChar{\LWR@origcolspec}%
9559 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
9560 \fullexpandarg%

```

Error if using >{<}, which is not supported by `lwarp`.

```

9561 \LWR@checkmathcolpar%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9562 \LWR@setexparray{LWR@colafterspec}%
9563 {\arabic{LWR@tabletotalLaTeXcols}}%
9564 {\expandafter\@firstofone\LWR@colparameter}%
9565 \let\LWR@colparameter\relax%
9566 \booltrue{LWR@validtablecol}%
9567 }

```

`\LWR@parsebarcolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9568 \newcommand*{\LWR@parsebarcolumn}[1]{%
9569 \LWR@traceinfo{LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

9570 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9571 {% left edge of the table:
9572 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9573 \ifdefstring{\LWR@tempone}{tvertbarl}%
9574 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
9575 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
9576 }%

```

```

9577 {% not at the left edge:
9578 \edef\LWR@tempone{%
9579 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9580 }%
9581 \ifdefstring{\LWR@tempone}{tvertbarr}%
9582 {%
9583 \LWR@setexparray{LWR@colbarspec}%
9584 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
9585 }%
9586 {%
9587 \LWR@setexparray{LWR@colbarspec}%
9588 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}%
9589 }%
9590 }%
9591 \booltrue{LWR@validtablecol}%
9592 }

```

`\LWR@parsecoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9593 \newcommand*{\LWR@parsecoloncolumn}[1]{%
9594 \LWR@traceinfo{LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

9595 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9596 {% left edge of the table:
9597 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9598 \ifdefstring{\LWR@tempone}{tvertbarldash}%
9599 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
9600 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
9601 }%
9602 {% not at the left edge:
9603 \edef\LWR@tempone{%
9604 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9605 }%
9606 \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9607 {\LWR@setexparray{LWR@colbarspec}%
9608 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
9609 {\LWR@setexparray{LWR@colbarspec}%
9610 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
9611 }%
9612 \booltrue{LWR@validtablecol}%
9613 }

```

`\LWR@parsesemicoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

The arguments to the column type are absorbed by `\LWR@columntype<char>`, defined by `\LWR@modifycolumntype`.

```

9614 \newcommand*{\LWR@parsesemicoloncolumn}[1]{%

```

Treat ; as a : column:

```
9615 \LWR@parsecoloncolumn{}%
9616 }
```

## 78.10 Parsing common column types

`\LWR@parsenormalcolumn` {*<this column type>*}

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

`\newcolumn` type definitions use `\LWR@parsenormalcolumn`, so an HTML and print version are given so that they may work inside a `lateximage`.

The arguments to the column type are absorbed by `\LWR@column` type `<char>`, defined by `\LWR@modifycolumn` type.

```
9617 \newcommand*{\LWR@HTML\LWR@parsenormalcolumn}[1]{%
9618 \defaddtocounter{\LWR@tabletotalLaTeXcols}{1}%
9619 \defaddtocounter{\LWR@tabletotalLaTeXcolsnext}{1}%

9620 \LWR@setexparray{\LWR@tablecolspec}{\arabic{\LWR@tabletotalLaTeXcols}}{#1}%

9621 \LWR@traceinfo{normal column \arabic{\LWR@tabletotalLaTeXcols}: #1}%
9622 \LWR@setexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}}%
9623 \LWR@setexparray{\LWR@colbangspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}}%
9624 \LWR@setexparray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}}%
9625 \LWR@setexparray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}}%
9626 \LWR@setexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}}%
9627 \LWR@setexparray{\LWR@coladdclass}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}}%
9628 \booltrue{\LWR@validtablecol}%
9629 }
9630
9631 \newcommand*{\LWR@print\LWR@parsenormalcolumn}[1]{}
9632
9633 \LWR@formatted{\LWR@parsenormalcolumn}
```

## 78.11 Parsing ‘w’ columns

W and w columns are handled via array with `\HTMLnewcolumn` type.

## 78.12 Parsing ‘\*’ columns

`\LWR@parsestarcolumn` {*<this column type>*} Star columns should already have been expanded, so this should never be used.

The arguments to the column type are absorbed by `\LWR@column` type `<char>`, defined by `\LWR@modifycolumn` type.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9634 \newcommand*{\LWR@parsestarcolumn}[1]{}%
```

Table 13: Tabular baseline

| l | p   | m   | b   | r |
|---|-----|-----|-----|---|
|   |     |     | bot |   |
|   |     | mid | bot |   |
| l | par | mid | bot | r |
|   | par | mid |     |   |
|   | par |     |     |   |

### 78.13 Expanding the star column specifications

`\LWR@expandpreamble`  $\{\langle tabular preamble \rangle\}$

From array `\@mkpream`.

The resulting expanded preamble is stored in `\the\@temptokena`. Assign as:

```
\edef\destination{\the\@temptokena}
```

```
9635 \newcommand*\LWR@expandpreamble}[1]{%
9636 \edef\@tempa{\@temptokena={#1}}%
9637 \@tempa%
9638 \@tempswattrue%
9639 \@whilesw\if@tempswa\fi{%
9640 \@tempswafalse\the\NC@list%
9641 }%
9642 }
```

### 78.14 Parsing the column specifications

#### tabular baselines

HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 13 shows the L<sup>A</sup>T<sub>E</sub>X results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

`\LWR@modifycolumnmtype`  $\{\langle 1: column type letter \rangle\} \{\langle 2: number args to ignore \rangle\} \{\langle 3: csname of the cell action \rangle\} \{\langle 4: csname of the multicolumn print type action \rangle\} \{\langle 5: csname of the multicolumn print data action \rangle\}$

Add HTML functionality to an existing print version column type.

```
9643 \newcommand*\LWR@modifycolumnmtype}[5]{%
9644 \LWR@traceinfo{\LWR@modifycolumnmtype !#1!#2!#3!#4!#5!}%
9645 \LWR@traceinfo{\LWR@modifycolumnmtype #1}%
9646 \edef\@tempa{%
9647 \noexpand\csdef{\LWR@columnmtype@#1}{%
9648 \noexpand\@nameuse{#3}{#1}%
9649 \noexpand\defaddtocounter{\LWR@tablecolspecindex}{#2}%
9650 }
```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<columntype>`.

- 
- l, r, c:** Converted to table cells without paragraph tags.  
 Uses `css vertical-align:middle` so that top or bottom-aligned cells may go above or below this cell.
- p:** Converted to table cells with paragraph tags. Ref: Table 13,  $\text{\LaTeX}$  places the top line of a parbox aligned with the rest of the text line, so `css vertical-align:bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate  $\text{\LaTeX}$  baselines.
- m:** With paragraph tags, `css vertical-align:middle`.
- b:** With paragraph tags, `css vertical-align:top` so that the bottom of the text is closest to the middle of the text line.
- w and W:** Converted to `l`, `c`, or `r`. No paragraph tags.
- P, M, B:** Horizontally-centered versions.
- S:** Treated as '`c`'. Ignores optional argument. From the `siunitx` package.
- D:** Treated as '`c`'. From the `dcolumn` package.
- @, !, >, <:** One each, in that order.
- |:** Vertical rule.
- Unknown:** Converted to '`l`'.
- \newcolumntype:** Expands to its replacement text.
- \HTMLnewcolumntype:** Provides simplified replacement text for HTML.
-

Table 15: HTML column type internal macros

---

**<coltype>:** The single-letter column type, such as c or X.

**Created by \LWR@modifycolumnntype:** Used by lwarp to add HTML functionality to each built-in column type.

**\LWR@columnntype@<coltype>:** Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolspecindex.

**\LWR@columnntype@mctype@<coltype>:** Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

**\LWR@columnntype@mcdata@<coltype>:** Generates the \multicolumn HTML cell data. Calls \LWR@printmccoldata@normal or related.

**Created by \newcolumnntype:** From array.

**\NC@find@<coltype>:** Internally used to parse the column specifier.

**\NC@rewrite@<coltype>:** Stores the print-mode replacement text.

**Created by \HTMLnewcolumnntype:** From lwarp.

**\LWR@print@NC@rewrite@<coltype>:** Copied from \NC@rewrite@<type>.

**\LWR@HTML@NC@rewrite@<coltype>:** Stores the HTML-mode replacement text.

**\NC@rewrite@<coltype>:** Redefined to use the print or HTML version.

---

```

9650 }%
9651 \noexpand\csdef{LWR@columnntype@mctype@#1}{%
9652 \noexpand\@nameuse{#4}{#1}%
9653 }%
9654 \noexpand\csdef{LWR@columnntype@mcdata@#1}{%
9655 \noexpand\@nameuse{#5}{#2}%
9656 }%
9657 }%
9658 \@tempa%
9659 \LWR@traceinfo{LWR@modifycolumnntype done}%
9660 }

9661 \LWR@modifycolumnntype{l}{0}{LWR@parsenormalcolumn}
9662 {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9663
9664 \LWR@modifycolumnntype{c}{0}{LWR@parsenormalcolumn}
9665 {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9666
9667 \LWR@modifycolumnntype{r}{0}{LWR@parsenormalcolumn}
9668 {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}

9669 \LWR@modifycolumnntype{e}{0}{LWR@parseatcolumn}
9670 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9671
9672 \LWR@modifycolumnntype{!}{0}{LWR@parsebangcolumn}
9673 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9674
9675 \LWR@modifycolumnntype{>}{0}{LWR@parsebeforecolumn}

```

```

9676 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9677
9678 \LWR@modifycolumnntype{<}{0}{LWR@parseaftercolumn}
9679 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9680
9681 \LWR@modifycolumnntype{|}{0}{LWR@parsebarcolumn}
9682 {LWR@printmccoltype@vertbar}{LWR@printmccoldata@skip}
9683
9684 \LWR@modifycolumnntype{:}{0}{LWR@parsecoloncolumn}
9685 {LWR@printmccoltype@colon}{LWR@printmccoldata@skip}
9686
9687 \LWR@modifycolumnntype{;}{1}{LWR@parsesemicoloncolumn}
9688 {LWR@printmccoltype@semicolon}{LWR@printmccoldata@skip}

9689 \LWR@modifycolumnntype{p}{1}{LWR@parsenormalcolumn}
9690 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9691
9692 \LWR@modifycolumnntype{m}{1}{LWR@parsenormalcolumn}
9693 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9694
9695 \LWR@modifycolumnntype{b}{1}{LWR@parsenormalcolumn}
9696 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}

```

A star column:

```

9697 \LWR@modifycolumnntype{*}{2}{LWR@parsestarcolumn}
9698 {LWR@printmccoltype@ignore}{LWR@printmccoldata@skip}

```

`\HTMLnewcolumnntype {<col type>} [<num args>] [<optional arg>] {<replacement text>}`

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@<columnntype>}[<num args>]
{ \NC@find <replacement text> }
\LWR@formatted{NC@rewrite@<columnntype>}

```

```

9699 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{%
9700 \IfValueTF{#3}
9701 {
9702 \expandafter\newcommand\expandafter*%
9703 \csname LWR@HTML@NC@rewrite@#1\endcsname[#2][#3]{\NC@find #4}%
9704 \LWR@formatted{NC@rewrite@#1}%
9705 }
9706 {
9707 \expandafter\newcommand\expandafter*%
9708 \csname LWR@HTML@NC@rewrite@#1\endcsname[#2]{\NC@find #4}%
9709 \LWR@formatted{NC@rewrite@#1}%
9710 }
9711 }

9712 \end{warphTML}

```

**for PRINT output:** 9713 \begin{warpprint}

```
9714 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{{}
```

```
9715 \end{warpprint}
```

**for HTML output:** 9716 \begin{warppHTML}

```
\LWR@parsetablecols {<colspecs>}
```

Scans the column specification left to right.

Builds \LWR@tablecolspec with the final specification, one L<sup>A</sup>T<sub>E</sub>X column per entry. The final number of L<sup>A</sup>T<sub>E</sub>X columns in each row is stored in LWR@tabletotalLaTeXcols, which is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```
9717 \newcommand*{\LWR@parsetablecols}[1]{%
9718 \LWR@traceinfo{\LWR@parsetablecols}%
```

Remember the original supplied column spec:

```
9719 \renewcommand*{\LWR@origcolspec}{#1}%
```

Remove spaces:

```
9720 \expandarg%
9721 \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]%
```

Expand any star columns:

```
9722 \LWR@expandpreamble{\LWR@origcolspec}%
9723 \edef\LWR@origcolspec{\the\@temptokena}%
```

The parsed column spec data array, LWR@tablecolspec, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
9724 \defcounter{\LWR@tabletotalLaTeXcols}{0}%
9725 \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}%
9726 \LWR@setexparray{\LWR@colatspec}{leftedge}{}%
9727 \LWR@setexparray{\LWR@colatspec}{1}{}%
9728 \LWR@setexparray{\LWR@colatspec}{2}{}%
9729 \LWR@setexparray{\LWR@colatspec}{3}{}%
9730 \LWR@setexparray{\LWR@colbangspec}{leftedge}{}%
9731 \LWR@setexparray{\LWR@colbangspec}{1}{}%
9732 \LWR@setexparray{\LWR@colbangspec}{2}{}%
9733 \LWR@setexparray{\LWR@colbangspec}{3}{}%
9734 \LWR@setexparray{\LWR@colbeforespec}{1}{}%
9735 \LWR@setexparray{\LWR@colbeforespec}{2}{}%
9736 \LWR@setexparray{\LWR@colbeforespec}{3}{}%
9737 \LWR@setexparray{\LWR@colafterspec}{1}{}%
9738 \LWR@setexparray{\LWR@colafterspec}{2}{}%
9739 \LWR@setexparray{\LWR@colafterspec}{3}{}%
9740 \LWR@setexparray{\LWR@colbarspec}{leftedge}{}%
9741 \LWR@setexparray{\LWR@colbarspec}{1}{}%
9742 \LWR@setexparray{\LWR@colbarspec}{2}{}%
```

```

9743 \LWR@setexparray{\LWR@colbarspec}{3}{}%
9744 \LWR@setexparray{\LWR@coladdclass}{1}{}%
9745 \LWR@setexparray{\LWR@coladdclass}{2}{}%
9746 \LWR@setexparray{\LWR@coladdclass}{3}{}%

```

Starting at the first column specification:

```

9747 \defcounter{\LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into \LWR@strresult, and remember the number of characters in the column specification:

```

9748 \expandarg%
9749 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9750 \fullexpandarg%
9751 \LWR@traceinfo{original column spec length: \LWR@strresult}%
9752 \defcounter{\LWR@tablecolspecwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```

9753 \boolfalse{\LWR@opttablecol}%

```

Scan through the column specifications:

```

9754 \whilebool{expr}%
9755 not test{%
9756 \ifnumcomp{\value{\LWR@tablecolspecindex}}{>}%
9757 {\value{\LWR@tablecolspecwidth}}%
9758 }%
9759 }%
9760 {%

```

Place the next single-character column type into \LWR@strresult:

```

9761 \expandarg%
9762 \StrChar{\LWR@origcolspec}{\arabic{\LWR@tablecolspecindex}}[\LWR@strresult]%
9763 \LWR@traceinfo{position \arabic{\LWR@tablecolspecindex}: \LWR@strresult}%
9764 \fullexpandarg%

```

Not yet found a valid column type:

```

9765 \boolfalse{\LWR@validtablecol}%

```

Skip over any optional arguments, such as siunitx S column:

```

9766 \IfStrEq{\LWR@strresult}[]{\booltrue{\LWR@opttablecol}}{%

```

Throw away anything found inside the optional argument:

```

9767 \ifbool{\LWR@opttablecol}%
9768 {}% inside an optional argument
9769 {% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

9770 \ifcsdef{\LWR@coltype@{\LWR@strresult}}%
9771 {\csuse{\LWR@coltype@{\LWR@strresult}}}%
9772 {}%

```

If an unknown column type, use l:

```

9773 \ifbool{LWR@validtablecol}{}{%
9774 \LWR@traceinfo{invalid column type: \LWR@strresult}%
9775 \LWR@parsenormalcolumn{l}%
9776 }%
9777 }% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```

9778 \IfStrEq{\LWR@strresult}{\boolfalse{LWR@opttablecol}}{}%

```

Move to the next character:

```

9779 \defaddtocounter{LWR@tablecolspecindex}{1}%
9780 }% whiledo
9781 }%

```

## 78.15 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some colortbl macros which might appear between table cells. If colortbl is loaded, these macros will be replaced with functional versions.

For each of the HTML colors below, the text for the HTML color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```

9782 \ifundefined{rownum}{\newcount\rownum}{}

```

`\@rowcolors` Emulated in case xcolor is not used.

```

9783 \newcommand*{\@rowcolors}{}

```

`\@rowc@lors` Emulated in case xcolor is not used.

```

9784 \newcommand*{\@rowc@lors}{}

```

`\LWR@xcolorrowHTMLcolor` Emulated xcolor row color.

```

9785 \newcommand*{\LWR@xcolorrowHTMLcolor}{}

```

`\LWR@columnHTMLcolor` HTMLstyle code for the column color.

```

9786 \def\LWR@columnHTMLcolor{}

```

`\LWR@rowHTMLcolor` HTMLstyle code for the row color.

```

9787 \def\LWR@rowHTMLcolor{}

```

`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

```
9788 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

```
9789 \newcommand*\LWR@ruleHTMLcolor{}
```

`\rowcolor` [*<model>*] {<color>} [*<left overhang>*] [*<right overhang>*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
9790 \newcommand*\rowcolor{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*<model>*] {<color>}

`\arrayrulecolornexttoken` [*<model>*] {<color>}

Print versions for use outside and inside a tabular:

```
9791 \newcommand{\arrayrulecolor}[2][named]{}
```

```
9792 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*<model>*] {<color>}

`\doublerulesepcolornexttoken` [*<model>*] {<color>}

Print versions for use inside and outside a tabular:

```
9793 \newcommand{\doublerulesepcolor}[2][named]{}
```

```
9794 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 78.16 Starting a new row

`\LWR@maybenewtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
9795 \newcommand*\LWR@maybenewtablerow{
```

```
9796 {%
```

```
9797 \ifbool{\LWR@startedrow}%
```

```
9798 {}% started the row
```

```
9799 {}% not started the row
```

Pre-compute the `aria-hidden` attribute, used to hide from screen readers the final row if it is only used to create the bottom border:

```
9800 \ifbool{\LWR@tabularfinalrow}%
```

```
9801 {%
```

```
9802 \renewcommand*\LWR@tempone%
```

```
9803 { aria-hidden=\textquotedbl{}true\textquotedbl}%
```

```
9804 }%
```

```
9805 {%
```

```
9806 \renewcommand*\LWR@tempone{}%
```

```
9807 }%
```

Start a new row if doing \hline:

```

9808 \ifboolexpr{%
9809 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9810 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}}%
9811 }%
9812 {%
9813 \LWR@htmltag{%
9814 tr %
9815 class=\textquotedbl{}hline\textquotedbl%
9816 \LWR@tempone% aria-hidden
9817 }%
9818 \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9819 \booltrue{LWR@startedrow}%
9820 \booltrue{LWR@intabularmetadata}%
9821 }%

```

If not doing \hline, start a row if doing a top or bottom rule:

```

9822 {% not doing hline
9823 \ifbool{LWR@doingtbrule}%
9824 {%
9825 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9826 \LWR@htmltag{%
9827 tr %
9828 class=\textquotedbl{}tbrule\textquotedbl%
9829 \LWR@tempone% aria-hidden
9830 }%
9831 }{%
9832 \LWR@htmltag{%
9833 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9834 style=\textquotedbl{}border-top: 1px solid % space
9835 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9836 \LWR@tempone% aria-hidden
9837 }%
9838 }%
9839 }%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9840 \booltrue{LWR@startedrow}%
9841 \booltrue{LWR@intabularmetadata}%
9842 }%
9843 {%

```

If not the final row, start a new row:

```

9844 \ifbool{LWR@tabularfinalrow}%
9845 {%
9846 {%
9847 \LWR@htmltag{tr}\LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9848 \booltrue{LWR@startedrow}%
9849 \booltrue{LWR@intabularmetadata}%
9850 }%
9851 }%
9852 }% end of not doing hline
9853 }% end of not started the row
9854 }

```

## 78.17 Printing vertical bar tags

`\LWR@printbartag {<index>}`

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

9855 \newcommand*{\LWR@printbartag}[1]{%
9856 \LWR@traceinfo{LWR@printbartag !#1!}%
9857 \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9858 {}% muting or empty
9859 {% not muting
9860 \edef\LWR@tempone{\LWR@gettexpparray{LWR@colbarspec}{#1}}%
9861 \ifdefempty{\LWR@tempone}{{\LWR@tempone}%
9862 }% not muting
9863 \LWR@traceinfo{LWR@printbartag done}%
9864 }

```

## 78.18 Printing @ or ! tags

`\LWR@printatbang {<at — or — bang>} {<index>}`

```

9865 \newcommand*{\LWR@printatbang}[2]{%

```

Fetch the column at or bang spec:

```

9866 \xdef\LWR@atbangspec{\LWR@gettexpparray{LWR@col#1spec}{#2}}%
9867 \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9868 \ifdefempty{\LWR@atbangspec}%
9869 {}%
9870 {% not empty
9871 \LWR@htmltag{%
9872 td class=\textquotedbl{}td#1%
9873 \LWR@subaddcmidruletrim{}{}%
9874 \LWR@printbartag{#2}%
9875 \textquotedbl{}%
9876 \LWR@tdstartstyles%
9877 \LWR@addcmidrulewidth%
9878 \LWR@addcdashline%
9879 \LWR@addtabularrulecolors%
9880 \LWR@tdendstyles%
9881 }%

```

Create an empty cell if muting for the \bottomrule:

```

9882 \ifbool{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}{%
9883 {}%
9884 {LWR@atbangspec}%
9885 %
9886 LWR@htmltag{/td}LWR@orignewline%
9887 \global\booltrue{LWR@tabularcelladded}%
9888 }% not empty
9889 }%

```

\LWR@addleftmostbartag

```

9890 \newcommand*{LWR@addleftmostbartag}{%
9891 \ifnumcomp{value{LWR@tableLaTeXcolindex}}{=}{1}{%
9892 LWR@printbartag{leftedge}%
9893 }{%
9894 }

```

\LWR@tabularleftedge

```

9895 \newcommand*{LWR@tabularleftedge}{%
9896 \ifnumcomp{value{LWR@tableLaTeXcolindex}}{=}{1}{%
9897 {%
9898 LWR@printatbang{at}{leftedge}%
9899 LWR@printatbang{bang}{leftedge}%
9900 }% left edge
9901 {}% not left edge
9902 }

```

## 78.19 Cell opening tag

\LWR@thiscolspec Temporary storage.

```

9903 \newcommand*{LWR@thiscolspec}{}

```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```

9904 \newcommand*{LWR@tabledatasinglecolumntag}{%
9905 {%
9906 LWR@traceinfo{LWR@tabledatasinglecolumntag}%
9907 LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one, or have found the end of the tabular, or if are inside a \multirow:

```

9908 \ifbool{bool{
9909 bool{LWR@intabularmetadata}
9910 and not bool{LWR@exitingtabular}
9911 and not bool{LWR@in@multirow@par}
9912 }}{%
9913 {% making a tabular data cell

```

Print the @ and ! contents before first column:

```

9914 LWR@tabularleftedge%

```

Fetch the current column's alignment character into \LWR@strresult:

```
9915 \xdef\LWR@strresult{%
9916 \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9917 }%
```

Print the start of a new table data cell:

```
9918 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: about to print td tag}%
9919 \LWR@htmltag{%
9920 td class=\textquotedbl{}td%
```

Append this column's spec:

```
9921 \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9922 \LWR@addcmidruletrim%
9923 \LWR@addleftmostbartag%
9924 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9925 \LWR@getexparray{\LWR@coladdclass}%
9926 {\arabic{\LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9927 \textquotedbl{}%
```

Add styles for rules, alignment:

```
9928 \LWR@tdstartstyles%
9929 \LWR@addcmidrulewidth%
9930 \LWR@addcdashline%

9931 \xdef\LWR@thiscolspec{%
9932 \LWR@getexparray{\LWR@tablecolspec}%
9933 {\arabic{\LWR@tableLaTeXcolindex}}%
9934 }%
9935 \LWR@addformatwpaignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
9936 \LWR@addtabulararrowcolor%
9937 \LWR@addtabularrulecolors%

9938 \LWR@tdendstyles%
9939 }% HTML td
9940 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```
9941 \ifboolexpr{%
9942 test{ \ifdefstring{\LWR@strresult}{p} } or
```

```

9943 test{ \ifdefstring{\LWR@strresult}{m} } or
9944 test{ \ifdefstring{\LWR@strresult}{b} }
9945 }%
9946 {% allow pars
9947 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: about to LWR@startpars}%
9948 \booltrue{\LWR@tableparcell}%
9949 \LWR@startpars%
9950 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: done with LWR@startpars}%
9951 }% allow pars
9952 }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

9953 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9954 {%
9955 {%
9956 \LWR@getexparray{\LWR@colbefore spec}{\arabic{\LWR@tableLaTeXcolindex}}%
9957 }%
9958 \boolfalse{\LWR@intabularmetadata}%
9959 }% making a tabular data cell
9960 }% not making a tabular data cell
9961 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: done}%
9962 }%

```

## 78.20 Midrules

**LWR@midrules** LWR@midrules is a data array (section 44) of columns each containing a non-zero width if a midrule should be created for this column.

**LWR@trimlrules** LWR@trimlrules is a data array (section 44) of columns containing l if a midrule should be left trimmed for each column.

**LWR@trimrrules** LWR@trimrrules is a data array (section 44) of columns containing r if a midrule should be right trimmed for each column.

**LWR@cdashlines** LWR@cdashlines is a data array (section 44) of columns each containing a Y if an arydshln package "cdashed line" should be created for this column.

**\LWR@heavyrulewidth** (*Len*) The default width of the rule.

```

9963 \newlength{\LWR@heavyrulewidth}
9964 \setlength{\LWR@heavyrulewidth}{.08em}

```

**\LWR@lightrulewidth** (*Len*) The default width of the rule.

```

9965 \newlength{\LWR@lightrulewidth}
9966 \setlength{\LWR@lightrulewidth}{.05em}

```

**\LWR@cmidrulewidth** (*Len*) The default width of the rule.

```

9967 \newlength{\LWR@cmidrulewidth}
9968 \setlength{\LWR@cmidrulewidth}{.03em}

```

**\LWR@thiscmidrulewidth** (*Len*) The width of the next rule, defaulting to \LWR@cmidrulewidth.

If not \LWR@cmidrulewidth, a style will be used to generate the custom width.

Assigned from the LWR@midrules array.

```
9969 \newlength{\LWR@thiscmidrulewidth}
9970 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\`.

Clears all LWR@midrules and LWR@trimrules markers for this line.

```
9971 \newcommand*\LWR@clearmidrules{
9972 {%
9973 \defcounter{LWR@midrulecounter}{1}%
9974 \whileboolexpr{%
9975 not test{%
9976 \ifnumcomp{\value{LWR@midrulecounter}}{>}%
9977 {\value{LWR@tablettotalLaTeXcols}}%
9978 }%
9979 }%
9980 {%
9981 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{\0pt}%
9982 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9983 \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
9984 \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9985 \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9986 \defaddtocounter{LWR@midrulecounter}{1}%
9987 }%
9988 }
```

`\LWR@subcmidrule`  $\langle width \rangle$   $\langle trim \rangle$   $\langle leftcolumn \rangle$   $\langle rightcolumn \rangle$

Marks LWR@midrules data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
9989 \newcommand*\LWR@subcmidrule[4]{%
9990 \defcounter{LWR@midrulecounter}{#3}%
9991 \whileboolexpr{%
9992 not test {%
9993 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
9994 }%
9995 }%
9996 {%
9997 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9998 \defaddtocounter{LWR@midrulecounter}{1}%
9999 }% whiledo
10000 \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{}%
10001 \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{}%
10002 \booltrue{LWR@doingcmidrule}%
10003 }
```

`\LWR@docmidrule`  $[\langle width \rangle]$   $(\langle trim \rangle)$   $\langle leftcolumn-rightcolumn \rangle$

Marks LWR@midrules array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```

10004 \NewDocumentCommand{\LWR@docmidrule}
10005 {O{\LWR@cmidrulewidth} D{}} >{\SplitArgument{1}{-}}m}
10006 {\LWR@subcmidrule{#1}{#2}{#3}}

```

`\LWR@subcdashline {<leftcolumn>} {<rightcolumn>}`

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```

10007 \newcommand*{\LWR@subcdashline}[2]{%
10008 \defcounter{\LWR@midrulecounter}{#1}%
10009 \whileboolexpr{%
10010 not test {%
10011 \ifnumcomp{\value{\LWR@midrulecounter}}{>}{#2}%
10012 }%
10013 }%
10014 {%
10015 \LWR@setexparray{\LWR@cdashlines}{\arabic{\LWR@midrulecounter}}{Y}%
10016 \defaddtocounter{\LWR@midrulecounter}{1}%
10017 }% whiledo
10018 \booltrue{\LWR@doingcmidrule}%
10019 }

```

`\LWR@docdashline {<leftcolumn-rightcolumn>}`

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```

10020 \NewDocumentCommand{\LWR@docdashline}{>{\SplitArgument{1}{-}}m}%
10021 {%
10022 \LWR@subcdashline#1%
10023 }

```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```

10024 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}

```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```

10025 \newcommand*{\LWR@tdaddstyle}{%
10026 \ifbool{\LWR@tdhavecellstyle}%
10027 {; }%
10028 { style=\textquotedbl}%
10029 \booltrue{\LWR@tdhavecellstyle}%
10030 }

```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```

10031 \newcommand*{\LWR@tdendstyles}{%
10032 \ifbool{\LWR@tdhavecellstyle}%
10033 {%
10034 \textquotedbl%
10035 \boolfalse{\LWR@tdhavecellstyle}%
10036 }{%
10037 }

```

`\LWR@subaddcmidruletrim`  $\{\langle lefttrim \rangle\} \{\langle righttrim \rangle\}$  Adds a `\cmidrule` with optional trim.

```

10038 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
10039 \setlength{\LWR@templengthone}{%
10040 \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
10041 }%
10042 \ifdimcomp{\LWR@templengthone}{>}{0pt}%
10043 {%

```

Print the class with left and right trim letters appended:

```

10044 \space tdrule#1#2%

```

Remember the width of the rule:

```

10045 \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
10046 }%
10047 {%
10048 \setlength{\LWR@thiscmidrulewidth}{0pt}%
10049 }%
10050 }

```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

10051 \newcommand*{\LWR@addcmidruletrim}{%
10052 \LWR@subaddcmidruletrim%
10053 {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
10054 {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
10055 }

```

`\LWR@addrulewidth`  $\{\langle thiswidth \rangle\} \{\langle defaultwidth \rangle\}$

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

10056 \newcommand{\LWR@addrulewidth}[2]{%

```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

10057 \ifboolexpr{%
10058 test{\ifdimcomp{#1}{=}{0pt}} or
10059 (
10060 (test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP})
10061 and (test {\ifdefvoid{\LWR@ruleHTMLcolor}})
10062)
10063 }%
10064 {}% default width and color
10065 {% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```

10066 \LWR@forceminwidth{#1}%

```

Begin adding another style:

```
10067 \LWR@tdaddstyle%
```

The style itself:

```
10068 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
10069 \ifdefvoid{\LWR@ruleHTMLcolor}{%
10070 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
10071 {\LWR@origpound{ }A0A0A0}%
10072 {% lightrule or heavier
10073 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
10074 {\LWR@origpound{ }808080}%
10075 {black}%
10076 }% lightrule or heavier
10077 }{%
10078 \LWR@origpound\LWR@ruleHTMLcolor%
10079 }%
10080 }% custom width and/or color
10081 }
```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
10082 \newcommand{\LWR@addcmidrulewidth}{%
10083 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
10084 }
```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
10085 \newcommand{\LWR@addcdashline}{%
10086 \edef\LWR@tempone{%
10087 \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
10088 }%
10089 \ifdefstring{\LWR@tempone}{Y}{%
10090 \LWR@tdaddstyle%
10091 border-top: 1pt dashed %
10092 \ifdefvoid{\LWR@ruleHTMLcolor}%
10093 {black}%
10094 {\LWR@origpound\LWR@ruleHTMLcolor}%
10095 }{%
10096 }
```

`\LWR@WPcell` {<text-align>}{<vertical-align>}

```
10097 \newcommand*\LWR@WPcell}[2]{%
10098 \LWR@tdaddstyle%
10099 \LWR@print@embox{text-align:#1}; \LWR@print@embox{vertical-align:#2}%
10100 }
```

`\LWR@addformatwpalignment` {<colspec>}

If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

10101 \newcommand*{\LWR@addformatwpalignment}[1]{%
10102 \ifbool{FormatWP}{%
10103 \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{%
10104 \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{%
10105 \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{%
10106 \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{%
10107 \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{%
10108 \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{%
10109 }{%
10110 }
```

## 78.21 Cell colors

`\LWR@addtabularrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each `tabular`.

```

10111 \newcommand*{\LWR@addtabularrowcolor}{%
10112 \ifbool{LWR@tabularmutemods}{%
10113 \ifdefvoid{\LWR@rowHTMLcolor}{%
10114 \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
10115 {% xcolor row color
10116 \LWR@tdaddstyle%
10117 background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
10118 }%
10119 }%
10120 {% explicit row color
10121 \LWR@tdaddstyle%
10122 background:\LWR@origpound\LWR@rowHTMLcolor%
10123 }%
10124 }%
10125 }
```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```

10126 \newcommand*{\LWR@addtabularhrulecolor}{%
```

If either form of horizontal rule is requested:

```

10127 \ifbool{expr}%
10128 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
10129 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
10130 bool{LWR@doingtbrule}%
10131 }{%
```

If there is a no custom color:

```

10132 \ifdefvoid{\LWR@ruleHTMLcolor}%
10133 {%
10134 \ifnumcomp{\value{LWR@hlines}}{>}{1}%
10135 {%
10136 \LWR@tdaddstyle%
10137 border-top: 4px double%
10138 }% else
```

```

10139 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
10140 {%
10141 \LWR@tdaddstyle%
10142 border-top: 2px dashed%
10143 }{% else
10144 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
10145 {%
10146 \LWR@tdaddstyle%
10147 border-top: 1px dashed%
10148 }}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

10149 }%

```

If there is a custom color:

```

10150 {%
10151 \ifnumcomp{\value{LWR@hlines}}{>}{1}%
10152 {%
10153 \LWR@tdaddstyle%
10154 border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
10155 }{% else
10156 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
10157 {%
10158 \LWR@tdaddstyle%
10159 border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
10160 }{% else
10161 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
10162 {%
10163 \LWR@tdaddstyle%
10164 border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
10165 }{% else
10166 \LWR@tdaddstyle%
10167 border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
10168 }}}%
10169 }%
10170 }{%
10171 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

10172 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

10173 \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

10174 \ifbool{LWR@tabularmutemods}{}{%

```

If at the leftmost cell, possibly add a leftmost vertical rule:

```

10175 \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%

```

Fetch the left edge's vertical bar specification:

```
10176 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
10177 \ifdefstring{\LWR@tempone}{tvertbarl}{%
10178 \LWR@tdaddstyle%
10179 border-left: 1px solid % space
10180 \LWR@vertruleHTMLcolor%
10181 }{%
10182 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
10183 \LWR@tdaddstyle%
10184 border-left: 4px double % space
10185 \LWR@vertruleHTMLcolor%
10186 }{%
10187 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
10188 \LWR@tdaddstyle%
10189 border-left: 1px dashed % space
10190 \LWR@vertruleHTMLcolor%
10191 }{%
10192 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
10193 \LWR@tdaddstyle%
10194 border-left: 2px dashed % space
10195 \LWR@vertruleHTMLcolor%
10196 }{%
10197 }{%
```

Possibly add a right vertical rule for this cell:

```
10198 \edef\LWR@tempone{%
10199 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tableLaTeXcolindex}}%
10200 }%
10201 \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
10202 \LWR@tdaddstyle%
10203 border-right: 1px solid \LWR@vertruleHTMLcolor%
10204 }{%
10205 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
10206 \LWR@tdaddstyle%
10207 border-right: 4px double \LWR@vertruleHTMLcolor%
10208 }{%
10209 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
10210 \LWR@tdaddstyle%
10211 border-right: 1px dashed \LWR@vertruleHTMLcolor%
10212 }{%
10213 \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
10214 \LWR@tdaddstyle%
10215 border-right: 2px dashed \LWR@vertruleHTMLcolor%
10216 }{%
10217 }%
10218 }
```

`\LWR@subaddtabularcellcolor` {<*html color*>}

```
10219 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
10220 \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
```

```

10221 style=\textquotedbl{}%
10222 background:\LWR@origpound{}{}#1 %
10223 \textquotedbl\ %
10224 }% space
10225 \defaddtocounter{LWR@cellcolordepth}{1}%
10226 }

```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

10227 \newcommand*{\LWR@addtabularcellcolor}{%
10228 \ifdefvoid{\LWR@cellHTMLcolor}%
10229 {%
10230 \ifdefvoid{\LWR@rowHTMLcolor}%
10231 {%
10232 \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
10233 {%
10234 \ifdefvoid{\LWR@columnHTMLcolor}%
10235 {}%
10236 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}}%
10237 }%
10238 {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}}%
10239 }%
10240 {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}}%
10241 }%
10242 {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}}%
10243 }

```

## 78.22 Multicolumns

### 78.22.1 Parsing multicolumns

`\LWR@printmccoltype@normal`  $\{\langle col\ type\rangle\}$

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```

10244 \newcommand*{\LWR@printmccoltype@normal}[1]{%
10245 #1%
10246 \boolfalse{LWR@mcolvertbaronleft}%
10247 }

```

`\LWR@printmccoltype@ignore`  $\{\langle col\ type\rangle\}$

This type does not print a multi-column data cell.

```

10248 \newcommand*{\LWR@printmccoltype@ignore}[1]{%

```

`\LWR@printmccoltype@vertbar`  $\{\langle col\ type\rangle\}$

Adds a left or right vertical bar.

```

10249 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
10250 \ifbool{LWR@mcolvertbaronleft}%
10251 {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
10252 {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
10253 }

```

`\LWR@printmccoltype@colon`  $\{\langle col\ type\rangle\}$

Adds a left or right vertical bar.

```
10254 \newcommand*{\LWR@printmccoltype@colon}[1]{%
10255 \ifbool{\LWR@mcolvertbaronleft}%
10256 {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
10257 {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
10258 }
```

`\LWR@printmccoltype@semicolon`  $\{\langle col\ type\rangle\}$

Adds a left or right vertical bar.

```
10259 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon
```

`\LWR@printmccoltype`  $\{\langle colspec\rangle\}$  Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

`\LWR@columnntype@mctype@<type>` is defined by `\LWR@modifycolumnntype`.

```
10260 \newcommand*{\LWR@printmccoltype}[1]{%
10261 \LWR@traceinfo{\lwr@printmccoltype -#1-}%
```

Get one token of the column spec:

```
10262 \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
```

Detokenize to avoid problems with special characters:

```
10263 \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```
10264 \ifcsdef{\LWR@columnntype@mctype@\LWR@strresult}%
10265 {\csuse{\LWR@columnntype@mctype@\LWR@strresult}}%
10266 {\boolfalse{\LWR@mcolvertbaronleft}}%
10267 \LWR@traceinfo{\lwr@printmccoltype done}%
10268 }
```

`\LWR@printmccoldata@other`  $\{\langle num\ args\ to\ skip\rangle\}\{\langle entire\ colspec\rangle\}$

For @, !, >, <, print the next token without paragraph tags:

```
10269 \newcommand*{\LWR@printmccoldata@other}[2]{%
10270 \defaddtocounter{\LWR@tablemulticolspos}{1}%
10271 \StrChar{#2}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
10272 \LWR@strresult%
```

A valid column data type was found:

```
10273 \booltrue{\LWR@validtablecol}%
10274 }
```

\LWR@printmccoldata@skip {<num args to skip>} {<entire colspec>}

Nothing to print for this column type.

```
10275 \newcommand*{\LWR@printmccoldata@skip}[2]{%
10276 \defaddtocounter{\LWR@tablemulticolspos}{#1}%
```

A valid column data type was found:

```
10277 \booltrue{\LWR@validtablecol}%
10278 }
```

For \LWR@printmccoldata@...>, {<num args to skip>} is provided by \LWR@columnntype@mcddata@<coltype> when it was defined by \LWR@modifycolumnntype. \entire colspec is provided by \LWR@printmccoldata when it uses \LWR@columnntype@mcddata@<coltype>.

\LWR@printmccoldata@normal {<num args to skip>} {<entire colspec>}

```
10279 \newcommand*{\LWR@printmccoldata@normal}[2]{%
10280 \LWR@multicoltext%
10281 \defaddtocounter{\LWR@tablemulticolspos}{#1}%
10282 }
```

\LWR@printmccoldata@paragraph {<num args to skip>} {<entire colspec>}

```
10283 \newcommand*{\LWR@printmccoldata@paragraph}[2]{%
10284 \LWR@startpars%
10285 \LWR@multicoltext%
10286 \defaddtocounter{\LWR@tablemulticolspos}{#1}%
10287 \LWR@stoppars%
10288 }
```

\LWR@printmccoldata {<entire colspec>}

Print the data for any valid column type found.

```
10289 \newcommand*{\LWR@printmccoldata}[1]{%
10290 \LWR@traceinfo{\lwr@printmccoldata -#1}%
```

Not yet found a valid column type:

```
10291 \boolfalse{\LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
10292 \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
10293 \edef\LWR@printmccoldataatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
10294 \ifcsdef{\LWR@columnntype@mcddata@\LWR@printmccoldataatoken}%
10295 {\csuse{\LWR@columnntype@mcddata@\LWR@printmccoldataatoken}{#1}}%
10296 {}%
```

If an unknown column type, print the text:

```
10297 \ifbool{LWR@validtablecol}{\LWR@multicoltext{}}%
```

Tracing:

```
10298 \LWR@traceinfo{lwr@printmccoldata done}%
10299 }
```

```
\parsemulticolumnalignment {\langle 1: colspec \rangle} {\langle 2: printresults cname \rangle}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```
10300 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
10301 \defcounter{LWR@tablemulticolspos}{1}%
10302 \StrLen{#1}[\LWR@strresult]%
10303 \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
10304 \whilebool{expr}%
10305 not test {%
10306 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
10307 {\value{LWR@tablemulticolwidth}}%
10308 }%
10309 }%
10310 {%
```

Execute the assigned print function for each token in the column spec:

```
10311 \csuse{#2}{#1}%
```

Move to the next token in the column spec:

```
10312 \defaddtocounter{LWR@tablemulticolspos}{1}%
10313 }%
10314 }
```

### 78.22.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
10315 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
10316 \ifbool{LWR@tabularmutemods}{\LWR@}%
```

Left side:

```
10317 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
10318 \LWR@tdaddstyle%
10319 border-left: 1px solid \LWR@vertruleHTMLcolor%
```

```

10320 }{}%
10321 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
10322 \LWR@tdaddstyle%
10323 border-left: 4px double \LWR@vertruleHTMLcolor%
10324 }{}%
10325 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
10326 \LWR@tdaddstyle%
10327 border-left: 1px dashed \LWR@vertruleHTMLcolor%
10328 }{}%
10329 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
10330 \LWR@tdaddstyle%
10331 border-left: 2px dashed \LWR@vertruleHTMLcolor%
10332 }{}%

```

Right side:

```

10333 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
10334 \LWR@tdaddstyle%
10335 border-right: 1px solid \LWR@vertruleHTMLcolor%
10336 }{}%
10337 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
10338 \LWR@tdaddstyle%
10339 border-right: 4px double \LWR@vertruleHTMLcolor%
10340 }{}%
10341 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
10342 \LWR@tdaddstyle%
10343 border-right: 1px dashed \LWR@vertruleHTMLcolor%
10344 }{}%
10345 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
10346 \LWR@tdaddstyle%
10347 border-right: 2px dashed \LWR@vertruleHTMLcolor%
10348 }{}%
10349 }%
10350 }

```

```
10351 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```
10352 \newcounter{LWR@lastmulticolumn}

```

```

\LWR@domulticolumn [\langle 1: vpos \rangle] [\langle 2: #rows \rangle] {\langle 3: numLaTeXcols \rangle} {\langle 4: numHTMLcols \rangle} {\langle 5: colspec \rangle}
{\langle 6: text \rangle}

```

```

10353 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
10354 \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and when used remember that a valid column type was found:

```

10355 \renewcommand{\LWR@multicoltext}{%
10356 #6%
10357 \booltrue{LWR@validtablecol}%
10358 }%

```

Expand the preamble and save it.

```

10359 \LWR@expandpreamble{#5}%
10360 \edef\LWR@origmccolspec{\the\@temptokena}%

```

Compute the rightmost column to be included. This is used to create the right trim.

```

10361 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
10362 \defaddtocounter{LWR@lastmulticolumn}{#3}%
10363 \defaddtocounter{LWR@lastmulticolumn}{-1}%

```

Row processing:

```

10364 \LWR@maybenewtablerow%

```

Begin the opening table data tag:

```

10365 \LWR@htmltag{%
10366 td colspan=\textquotedbl#4\textquotedbl\ %

10367 \IfValueT{#2}{ % rows?
10368 rowspan=\textquotedbl#2\textquotedbl\ %
10369 }%

10370 class=\textquotedbl{}\td%

```

Print the column type and vertical bars:

```

10371 \defcounter{LWR@mcolvertbarsl}{0}%
10372 \defcounter{LWR@mcolvertbarsr}{0}%
10373 \defcounter{LWR@mcolvertbarsldash}{0}%
10374 \defcounter{LWR@mcolvertbarsrdash}{0}%
10375 \booltrue{LWR@mcolvertbaronleft}%
10376 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoltype}%

```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```

10377 \LWR@subaddcmidruletrim%
10378 {%
10379 \LWR@getexparray{LWR@trimlrules}%
10380 {\arabic{LWR@tableLaTeXcolindex}}%
10381 }%
10382 {%
10383 \LWR@getexparray{LWR@trimrrules}%
10384 {\arabic{LWR@lastmulticolumn}}%
10385 }%

```

Also add vertical bar class.

```

10386 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
10387 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%
10388 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
10389 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
10390 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%
10391 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{
10392 { tvertbarldoubledash}{}%

```

```

10393 \ifnumcomp{\value{LWR@mclovertbarsrdash}}{=}{1}{ tvertbarrdash}{}%
10394 \ifnumcomp{\value{LWR@mclovertbarsrdash}}{>}{1}%
10395 { tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

10396 \textquotedbl{}%

10397 \LWR@tdstartstyles%

```

Style for vertical position:

```

10398 \IfValueT{#1}{% vpos?
10399 \ifstrequal{#1}{b}%
10400 {%
10401 \LWR@tdaddstyle%
10402 \LWR@print@mbbox{vertical-align:bottom}%
10403 }{%
10404 \ifstrequal{#1}{t}%
10405 {%
10406 \LWR@tdaddstyle%
10407 \LWR@print@mbbox{vertical-align:top}%
10408 }{%
10409 }% vpos?

```

Style for row colors:

```

10410 \LWR@addtabularrowcolor%

```

Other styles:

```

10411 \LWR@addcmidrulewidth%
10412 \LWR@addcdashline%
10413 \LWR@addtabularhrulecolor%
10414 \LWR@addmulticolvertrulecolor%
10415 \LWR@addformatwpalignment{\LWR@origmccolspec}%
10416 \LWR@tdendstyles%
10417 }% end of the opening table data tag
10418 \boolfalse{LWR@intabularmetadata}%
10419 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoldata}%
10420 }

```

### 78.22.3 Multicolumn

`\LWR@htmlmulticolumn {<numcols>}{<alignment>}{<text>}`

```

10421 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
10422 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

10423 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```

10424 \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%

```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
10425 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
10426 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
10427 \booltrue{LWR@skipatbang}%
10428 }
```

#### 78.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
10429 \providecommand*{\LTcaptype}{table}
```

```
\LWR@longtabledatacaptiontag * [\<toc entry>] {\<caption>}
```

```
10430 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
10431 {%
```

Remember the latest name for \nameref:

```
10432 \IfValueTF{#2}{% optional given?
10433 \ifblank{#2}% optional empty?
10434 {\LWR@setlatestname{#3}}% empty
10435 {\LWR@setlatestname{#2}}% given and non-empty
10436 }% optional given
10437 {\LWR@setlatestname{#3}}% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
10438 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
10439 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
10440 {\arabic{LWR@tabhtmlcoltotal}}%
10441 {p}%
10442 {% \LWR@domulticolumn
10443 \IfBooleanTF{#1}% star?
```

Star version, show a caption but do not make a LOT entry:

```
10444 {% yes star
10445 \LWR@figcaption%
10446 \LWR@isolate{#3}%
10447 \endLWR@figcaption%
10448 }%
10449 {% No star:
```

Not the star version:

Don't step the counter if \caption[] {A caption.}

```

10450 \ifbool{LWR@starredlongtable}%
10451 {%
10452 \ifblank{#2}% TOC entry
10453 {%
10454 {%
10455 \refstepcounter{\LTcapttype}%
10456 \protected@edef\@currentlabel{%
10457 \@nameuse{p@\LTcapttype}\@nameuse{the\LTcapttype}%
10458 }%
10459 }%
10460 }{%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

10461 \LWR@figcaption%
10462 \LWR@isolate{\@nameuse{fnum@\LTcapttype}}}%
10463 \CaptionSeparator%
10464 \LWR@isolate{#3}%
10465 \endLWR@figcaption%

```

See if an optional caption was given:

```

10466 \ifblank{#2}% TOC entry empty

```

if the optional caption was given, but empty, do not form a TOC entry

```

10467 {%

```

If the optional caption was given, but might only be []:

```

10468 {% TOC entry not empty
10469 \IfNoValueTF{#2}% No TOC entry?

```

The optional caption is []:

```

10470 {% No TOC entry
10471 \addcontentsline%
10472 {\@nameuse{ext@\LTcapttype}}%
10473 {\LTcapttype}%
10474 {%
10475 \protect\numberline%
10476 {\LWR@isolate{\@nameuse{p@\LTcapttype}}\@nameuse{the\LTcapttype}}%
10477 {\ignorespaces \LWR@isolate{#3}\protect\relax}%
10478 }%
10479 }% end of No TOC entry

```

The optional caption has text enclosed:

```

10480 {% yes TOC entry
10481 \addcontentsline%
10482 {\@nameuse{ext@\LTcapttype}}%
10483 {\LTcapttype}%
10484 {%
10485 \protect\numberline%
10486 {\LWR@isolate{\@nameuse{p@\LTcapttype}}\@nameuse{the\LTcapttype}}%

```

```

10487 {\ignorespaces \LWR@isolate{#2}\protect\relax}%
10488 }%
10489 }% end of yes TOC entry
10490 }% end of TOC entry not empty
10491 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

10492 \booltrue{LWR@skipatbang}%
10493 }% end of \LWR@domulticolumn
10494 \defaddtocounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
10495 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}
10496
10497 }

```

### 78.22.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L<sup>A</sup>T<sub>E</sub>X \multicolumn command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

10498 \newcounter{LWR@tabhtmlcolindex}
10499 \newcounter{LWR@tabhtmlcolend}
10500 \newcounter{LWR@tabhtmlcoltotal}

```

\LWR@subtabularhtmlcolumns {<index>}

Factored from \LWR@tabularhtmlcolumns, which follows.

```

10501 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```

10502 \edef\LWR@atbangspec{\LWR@getexparray{LWR@colatspec}{#1}}%

```

If the @ specification is not empty, add to the count:

```

10503 \ifdefempty{\LWR@atbangspec}%
10504 {}%
10505 {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%

```

Likewise for the ! columns:

```

10506 \edef\LWR@atbangspec{\LWR@getexparray{LWR@colbangspec}{#1}}%
10507 \ifdefempty{\LWR@atbangspec}%
10508 {}%
10509 {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
10510 }

```

`\LWR@tabularhtmlcolumns`  $\{\langle\textit{starting L\TeX column}\rangle\} \{\langle\textit{number L\TeX columns}\rangle\}$

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter `LWR@tabhtmlcoltotal`.

```
10511 \newcommand*\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
10512 \defcounter{LWR@tabhtmlcolindex}{#1}%
10513 \defcounter{LWR@tabhtmlcoltotal}{#2}%
10514 \defcounter{LWR@tabhtmlcolend}{#1}%
10515 \defaddtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
10516 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
10517 \LWR@subtabularhtmlcolumns{leftedge}%
10518 }{ }%
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
10519 \whileboolexpr{%
10520 test {%
10521 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}%
10522 }%
10523 }%
10524 {%
10525 \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}%
10526 \defaddtocounter{LWR@tabhtmlcolindex}{1}%
10527 }% whiledo
10528 }

10529 \end{warpHTML}
```

## 78.23 Multirow if not loaded

A default defintion in case `multirow` is not loaded. This is used during table parsing.

```
10530 \begin{warpHTML}
10531 \newcommand{\multirow}[2][c]{}
10532 \end{warpHTML}
```

## 78.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `lateximage`.

See section 439 for the HTML versions.

**for HTML & PRINT:** 10533 \begin{warpall}

`\multicolumnrow`  $\{\langle 1:cols \rangle\} \{\langle 2:halign \rangle\} [\langle 3:vpos \rangle] \{\langle 4:numrows \rangle\} [\langle 5:bigstruts \rangle] \{\langle 6:width \rangle\} [\langle 7:fixup \rangle] \{\langle 8:text \rangle\}$

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:

<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
10534 \AtBeginDocument{
10535 \LWR@traceinfo{AtBeginDocument multirowcolumn}
```

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
10536 \@ifundefined{@xmultirow}
10537 {
10538 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10539 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10540 {}%
10541 }% no version of multirow was loaded
10542 {% \@xmultirow defined, so some version of multirow was loaded
```

`\IfPackageLoadedTF{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```
10543 \IfPackageLoadedTF{multirow}{% v2.0 or newer
10544 \IfPackageAtLeastTF{multirow}{2016/09/01}% 2016/09/27 for v2.0
10545 {% v2.0+:
10546 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10547 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10548 {\multicolumn{#1}{#2}{\@xmultirow[#3]{#4}{#5}{#6}{#7}{#8}}}%
10549 }
10550 {% loaded but older, probably not executed:
10551 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10552 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10553 {\multicolumn{#1}{#2}{\@xmultirow{#4}{#5}{#6}{#7}{#8}}}%
10554 }
10555 }% packagedloaded{multirow}
```

If not `\IfPackageLoadedTF{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```
10556 {% v1.6 or older did not \ProvidePackage
10557 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10558 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10559 {\multicolumn{#1}{#2}{\@xmultirow{#4}{#5}{#6}{#7}{#8}}}%
10560 }
10561
10562 }% \@ifundefined{@xmultirow}
10563
10564 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
10565
```

```
10566 }% AtBeginDocument
```

```
10567 \end{warpall}
```

## 78.25 Utility macros inside a table

**for HTML output:** 10568 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
10569 \newcommand*{\LWR@donothing}{}%
```

In case `array` is not loaded:

```
10570 \let\firstline\relax
10571 \let\lasthline\relax
10572 \newcommand*{\firstline}{}
10573 \newcommand*{\lasthline}{}%
```

In case `bigdelim` is not loaded:

```
10574 \newcommand*{\ldelim}{}
10575 \newcommand*{\rdelim}{}%
```

```
10576 \end{warpHTML}
```

## 78.26 Special-case tabular markers

**for HTML & PRINT:** 10577 \begin{warpall}

`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section [8.10.1](#).

```
10578 \newcommand*{\TabularMacro}{}%
```

```
10579 \end{warpall}
```

`\ResumeTabular` Used to resume tabular entries after resuming an environment.



### tabular inside another environment

When creating a new environment which contains a tabular environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\\
}
{
 \TabularMacro\ResumeTabular
 left & right \\\
 \endtabular
}
\StopDefiningTabulars

```

**for HTML output:** 10580 \begin{warphTML}

```

10581 \newcommand*{\ResumeTabular}{%
10582 \boolfalse{LWR@exitingtabular}%
10583 \boolfalse{LWR@tabularmutemods}%
10584 \boolfalse{LWR@tabularfinalrow}%
10585 \LWR@getmynexttoken%
10586 }

10587 \end{warphTML}

```

**for PRINT output:** 10588 \begin{warpprint}

```

10589 \newcommand*{\ResumeTabular}{}

10590 \end{warpprint}

```

## 78.27 Checking for a new table cell

**for HTML output:** 10591 \begin{warphTML}

`\LWR@tabledatacolumnntag` Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```

10592 \newcommand*{\LWR@tabledatacolumnntag}%
10593 {%
10594 \LWR@traceinfo{LWR@tabledatacolumnntag}%

```

`\show\LWR@mynexttoken` to see what tokens to look for

If not any of the below, start a new table cell:

```

10595 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnntag%

```

If find `\end`, exit the tabular:

```

10596 \ifdefequal{\LWR@mynexttoken}{\end}%
10597 {%
10598 \booltrue{LWR@tabularfinalrow}%
10599 \booltrue{LWR@exitingtabular}%
10600 }{}%

```

longtable can have a caption in a cell

```
10601 \ifdefequal{\LWR@mynexttoken}{\caption}%
10602 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

Look for other things which would not start a table cell:

```
10603 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
10604 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
10605 \ifdefequal{\LWR@mynexttoken}{\multirow}%
10606 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
10607 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
10608 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
10609 \ifdefequal{\LWR@mynexttoken}{\noalign}%
10610 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
10611 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
10612 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
10613 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
10614 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10615 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
10616 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10617 \ifdefequal{\LWR@mynexttoken}{\hline}%
10618 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10619 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
10620 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10621 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
10622 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10623 \ifdefequal{\LWR@mynexttoken}{\toprule}%
10624 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10625 \ifdefequal{\LWR@mynexttoken}{\midrule}%
10626 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10627 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
10628 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10629 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
10630 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10631 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
10632 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```
10633 \ifdefequal{\LWR@mynexttoken}{\cline}%
10634 {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```

10635 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10636 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10637 \ifdefequal{\LWR@mynexttoken}{\hhline}%
10638 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10639 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10640 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10641 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10642 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10643 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10644 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10645 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10646 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10647 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10648 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10649 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10650 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10651 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10652 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

For arydshln:

```

10653 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10654 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10655 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10656 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10657 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
10658 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10659 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
10660 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

10661 \ifdefequal{\LWR@mynexttoken}{\par}%
10662 {%
10663 \global\let\LWR@mynextaction\LWR@donothing%
10664 }{%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```

10665 \LWR@traceinfo{\LWR@tabledatacolumnstag: done, about to do \LWR@mynextaction}%
10666 \LWR@mynextaction%
10667 }

```

```
10668 \end{warpHTML}
```

## 78.28 \mrowcell

**for HTML & PRINT:** 10669 \begin{warpall}

 **multirow cells** \mrowcell The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
10670 \newcommand*\mrowcell{}
```

```
10671 \end{warpall}
```

## 78.29 \mcolrowcell

**for HTML & PRINT:** 10672 \begin{warpall}

 **multirow cells** \mcolrowcell The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.

```
10673 \newcommand*\mcolrowcell{}
```

```
10674 \end{warpall}
```

## 78.30 HTML tabular environment

**for HTML output:** 10675 \begin{warpHTML}

These are default definitions in case booktabs is not loaded, and are not expected to be used, but must exist as placeholders. memoir may have already loaded booktabs.

```
10676 \providecommand*\toprule[1][\hline]
10677 \providecommand*\midrule[1][\hline]
10678 \providecommand*\cmidrule{\cline}
10679 \providecommand*\bottomrule[1][\hline]
10680 \providecommand*\addlinespace[1][{}
10681 \providecommand*\morecmidrules{}
10682 \providecommand*\specialrule[3][\hline]
```

\noalign {<text>} Redefined for use inside tabular.

```
10683 \LetLtxMacro\LWR@orignoalign\noalign
10684
10685 \newcommand{\LWR@tabularnoalign}[1]{%
10686 \advance\rownum\m@ne%
10687 \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
10688 \renewcommand*\LWR@xcolorrowHTMLcolor{}%
10689 \multicolumn{value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\\
10690 \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
10691 % \@rowc@lors%
10692 \LWR@getmynexttoken%
10693 }
```

`\LWR@HTMLhline` The definition of `\hline` depends on whether `tabs` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

10694 \AtBeginDocument{
10695 \LWR@traceinfo{AtBeginDocument lwarp-tabs}
10696
10697 \IfPackageLoadedTF{lwarp-tabs}
10698 {
10699 \newcommand*\LWR@HTMLhline}[1][{}]{%
10700 \ifbool{FormatWP}%
10701 {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10702 {\defaddtocounter{LWR@hlines}{1}}}%
10703 \LWR@getmynexttoken}%
10704 }
10705 {
10706 \newcommand*\LWR@HTMLhline}{%
10707 \ifbool{FormatWP}%
10708 {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10709 {\defaddtocounter{LWR@hlines}{1}}}%
10710 \LWR@getmynexttoken}%
10711 }
10712
10713 }% AtBeginDocument

```

`\LWR@HTMLcline` `{<columns>}`

```

10714 \NewDocumentCommand{\LWR@HTMLcline}{m}%
10715 {%
10716 \LWR@docmidrule{#1}%
10717 \LWR@maybenewtablerow%
10718 \LWR@getmynexttoken%
10719 }%

```

`\LWR@tabular@warpprintonly` `{<contents>}`

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

10720 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10721 \ifbool{warpingprint}{#1}}{%
10722 \LWR@getmynexttoken%
10723 }

```

`\LWR@nullifyNoAutoSpacing` For `babel-french`, turn off auto spacing at the start of the `tabular`, then nullify the autospacing commands inside the `tabular`, since they were not compatible with the `tabular` parsing code for each cell, which uses `xstring`.

```

10724 \AtBeginDocument{
10725 \LWR@traceinfo{AtBeginDocument NoAutoSpacing}
10726 \ifundefined{NoAutoSpacing}%
10727 {% no babel-french
10728 \newcommand*\LWR@nullifyNoAutoSpacing{}%
10729 }% no babel-french
10730 {% yes babel-french
10731 \newcommand*\LWR@nullifyNoAutoSpacing}{%
10732 \NoAutoSpacing%
10733 \renewcommand*\NoAutoSpacing{}%

```

```

10734 \renewcommand*{\LWR@FBcancel}{}%
10735 }
10736 }% yes babel-french
10737 }% AtBeginDocument

```

`tabular (env) <direction> [<verticalposition>] [<colspecs>]`

The `<direction>` is from `plext` for Japanese documents, and is ignored.

```

10738 \StartDefiningTabulars
10739
10740 \NewDocumentCommand{\LWR@HTML@etabular}{d<> o m}
10741 {%
10742 \LWR@traceinfo{\LWR@HTML@etabular started}%

```

 **<table> inside <span>** In L<sup>A</sup>T<sub>E</sub>X, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. Since there may be several nested `<span>`s, with an unknown number of other objects between, it is hard to undo all these `<span>`s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a `<span>`. Furthermore, in the HTML output, the entire `<table>` is placed on a single line of HTML code, since the line breaking commands are neutralized inside a `<span>`. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `<span>` to print-only.

```

10743 \LWR@spanwarnformat{tabular}%
10744 \addtocounter{\LWR@tabulardepth}{1}%

```

Not yet started a table row:

```

10745 \boolfalse{\LWR@startedrow}%

```

Not yet doing any rules:

```

10746 \defcounter{\LWR@hlines}{0}%
10747 \defcounter{\LWR@hdashedlines}{0}%
10748 \boolfalse{\LWR@doingtbrule}%
10749 \boolfalse{\LWR@doingcmidrule}%

```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the `tabular` parsing code.

```

10750 \LWR@nullifyNoAutoSpacing%

```

Have not yet found the end of `tabular` command. Unmute the `@` and `!` columns.

```

10751 \boolfalse{\LWR@exitingtabular}%
10752 \boolfalse{\LWR@tabularmutemods}%

```

Not adding final row for the lower border:

```

10753 \boolfalse{\LWR@tabularfinalrow}%

```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```

10754 \boolfalse{\LWR@usedmultirow}%
10755 \boolfalse{\LWR@foundmrowcell}%

```

In case of nesting:

```
10756 \renewcommand*{\LWR@multicoltext}{}%
10757 \booltrue{\LWR@intabularmetadata}%
```

New PDF page, unless in a \multirow:

```
10758 \ifbool{\LWR@in@multirow@par}%
10759 {\leavevmode\LWR@orignewline}%
10760 {\LWR@forcenewpage}%
```

In case of nesting, locally no longer in a \multirow:

```
10761 \boolfalse{\LWR@in@multirow@par}%
```

Create the table tag:

```
10762 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
10763 \LWR@parsetablecols{#3}%
```

Table col spec is: \LWR@tablecolspec which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
10764 \LWR@stoppars%
```

Without at least one header cell, some screen readers think that the table is just for page layout, and do not read it as data. Add a hidden row with a single non-empty header cell to tell the screen readers that this is a table of data for the user.

```
10765 \LWR@htmltag{tr style=\textquotedbl{}display:none\textquotedbl}%
10766 \LWR@htmltag{th}.\LWR@htmltag{/th}%
10767 \LWR@htmltag{/tr}%
10768 \LWR@orignewline%
10769 \LWR@forceemptyline%
```

Track column #:

```
10770 \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10771 \global\boolfalse{\LWR@tabularcelladded}%
```

Start looking for midrules:

```
10772 \LWR@clearmidrules%
```

\\ becomes a macro to end the table row:

```
10773 \LetLtxMacro{\\}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
10774 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```

10775 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
10776 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
10777 \def\LWR@columnHTMLcolor{}%
10778 \def\LWR@rowHTMLcolor{}%
10779 \def\LWR@cellHTMLcolor{}%
10780 \@rowcolors%

```

The vertical rules are set to the color active at the start of the tabular. `\arrayrulecolor` will then affect horizontal rules inside the tabular, but not the vertical rules.

```

10781 \ifdefvoid{\LWR@ruleHTMLcolor}%
10782 {\edef\LWR@vertruleHTMLcolor{black}}%
10783 {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%

```

Tracking the depth of cell color <div>:

```

10784 \defcounter{LWR@cellcolordepth}{0}%

```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tabs` package.

```

10785 \LWR@traceinfo{LWR@HTML@tabular: redefining macros}%
10786 \LetLtxMacro\noalign\LWR@tabularnoalign%
10787 \LetLtxMacro\hline\LWR@HTMLhline%
10788 \LetLtxMacro\cline\LWR@HTMLcline%

10789 \DeclareDocumentCommand{\hdashline}{o}{%
10790 \ifbool{FormatWP}%
10791 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10792 {\defaddtocounter{LWR@hdashedlines}{1}}%
10793 \LWR@getmynexttoken%
10794 }%

10795 \DeclareDocumentCommand{\cdashline}{m}{%
10796 \LWR@docdashline{##1}\LWR@getmynexttoken%
10797 }%

10798 \DeclareDocumentCommand{\firstdashline}{o}{%
10799 \ifbool{FormatWP}%
10800 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10801 {\defaddtocounter{LWR@hdashedlines}{1}}%
10802 \LWR@getmynexttoken%
10803 }%

10804 \DeclareDocumentCommand{\lastdashline}{o}{%
10805 \ifbool{FormatWP}%
10806 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10807 {\defaddtocounter{LWR@hdashedlines}{1}}%
10808 \LWR@getmynexttoken%
10809 }%

```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

10810 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10811 \renewcommand*\mrowcell{%
10812 \LWR@maybenewtablerow%
10813 \LWR@tabularleftedge%
10814 \booltrue{\LWR@skippingmrowcell}%
10815 \booltrue{\LWR@foundmrowcell}%
10816 }%
10817 \renewcommand*\mcolrowcell{%
10818 \LWR@maybenewtablerow%
10819 \booltrue{\LWR@skippingmcolrowcell}%
10820 \booltrue{\LWR@foundmrowcell}%
10821 }%
10822 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%
```

Reset for new processing:

```

10823 \boolfalse{\LWR@tableparcell}%
10824 \boolfalse{\LWR@skippingmrowcell}%
10825 \boolfalse{\LWR@skippingmcolrowcell}%
10826 \boolfalse{\LWR@skipatbang}%
10827 \boolfalse{\LWR@emptyatbang}%

```

Set & for its special meaning inside the tabular:

```

10828 \StartDefiningTabulars%
10829 \protected\gdef&{\LWR@tabularampersand}%

```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

10830 \booltrue{\LWR@forceminipagefullwidth}%

```

Nest one level deeper of tabular paragraph handling:

```

10831 \addtocounter{\LWR@tabularpardepth}{1}%

```

Look ahead for a possible table data cell:

```

10832 \LWR@traceinfo{\LWR@HTML@tabular: about to \LWR@getmynexttoken}%
10833 \LWR@getmynexttoken%
10834 }%

```

Ending the environment:

```

10835 \newcommand*\LWR@HTML@endtabular%
10836 {%
10837 \LWR@traceinfo{\LWR@HTML@endtabular}%

```

Unnest one level of tabular paragraph handling:

```

10838 \addtocounter{\LWR@tabularpardepth}{-1}%

```

Finish a row which is not yet done:

```

10839 \ifboolexpr{%

```

```

10840 test {%
10841 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
10842 {\value{LWR@tabletotalLaTeXcols}}
10843 } or %
10844 (%
10845 bool{LWR@intabularmetadata} and%
10846 not bool{LWR@tabularcelladded} and%
10847 test {%
10848 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10849 {\value{LWR@tabletotalLaTeXcols}}%
10850 }%
10851)%
10852 }%
10853 {%

10854 \booltrue{LWR@tabularfinalrow}%
10855 \LWR@tabularfinishrow%
10856 \boolfalse{LWR@tabularfinalrow}%
10857 }%
10858 {%
10859 \LWR@closetabledatacell%
10860 }%
10861 \ifbool{LWR@startedrow}%
10862 {\LWR@htmltag{/tr}\LWR@orignewline}%
10863 {}%

```

xcolor row color support:

```

10864 \@rowc@lors%

10865 \LWR@htmlblocktag{/table}%
10866 \boolfalse{LWR@intabularmetadata}%

```

Unnest one level of tabular:

```

10867 \addtocounter{LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

10868 \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10869 \protected\gdef&{\LWR@origampmacro}%
10870 \StopDefiningTabulars%
10871 }{%

```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```

10872 \ifbool{LWR@usedmultirow}{%
10873 \ifbool{LWR@foundmrowcell}%
10874 {\relax}%
10875 {%
10876 \PackageError{lwarp}%
10877 {%
10878 When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
10879 or the bigdelim package, \MessageBreak
10880 place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10881 in empty cells which are to be skipped.\MessageBreak
10882 See the Lwarp package documentation:\MessageBreak

```

```

10883 "Special cases and limitations" -> "Tabular"
10884 }%
10885 {%
10886 See the Lwarp package documentation:\MessageBreak
10887 "Special cases and limitations" -> "Tabular".
10888 }%
10889 }%
10890 }{}%

10891 \LWR@traceinfo{LWR@HTML@endtabular finished}%
10892 }
10893
10894 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
10895
10896 \StopDefiningTabulars

```

siunitx may redefine tabular, so set the following later:

```

10897 \AtBeginDocument{
10898 \LWR@traceinfo{AtBeginDocument tabular}
10899 \LetLtxMacro\LWR@origendtabular\endtabular
10900 \csletcs{LWR@origendtabular*}{endtabular*}
10901 \LWR@formatted{@tabular}
10902 \LWR@formatted{endtabular}
10903 \LWR@formatted{endtabular*}
10904 }

10905 \end{warpHTML}

```

## 79 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

*\*\_html.aux (file)* A new entry in *\*\_html.aux* is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{<section name>}{<filename>}{<imagedepth>}{<imagenumber>}}

```

Table 16 shows the data structures related to cross-referencing.

**for HTML output:** 10906 \begin{warpHTML}

### 79.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```

10907 \def\@currentlabelname{\linkhomename}%

```

Table 16: Cross-referencing data structures

| Original L <sup>A</sup> T <sub>E</sub> X:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (print and HTML) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <p><b>\refstepcounter:</b> Steps the counter, sets \currentcounter, \currentlabel.</p> <p><b>\currentcounter:</b> Counter type &lt;ctr&gt;, such as “section”.</p> <p><b>\currentlabel:</b> \p@&lt;ctr&gt;\the&lt;ctr&gt; Updated by \refstepcounter.</p> <p><b>\label:</b> Writes to the .aux file:<br/> <code>\newlabel{&lt;label&gt;}{\currentlabel}{\thepage}{name}{Href}{}</code></p> <p><b>\newlabel:</b> When the .aux file is read, sets \r@&lt;label&gt;.</p> <p><b>\r@&lt;label&gt;:</b> Set to: {\currentlabel}{\thepage}{name}{Href}{}</p> <p><b>\ref:</b> Returns the first part of \r@&lt;label&gt;.</p> <p><b>\pageref:</b> Returns the second part of \r@&lt;label&gt;.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
| Added by lwarp:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (HTML only)      |
| <p><b>\label:</b> Adds HTML tags (section 79.3), and two more .aux entries (section 79.2), for \r@&lt;label&gt;@lwarp and \r@&lt;label&gt;@lwarp@image. (nameref changes to \ref, etc. are undone \AtBeginDocument.)</p> <p><b>\newlabel:</b> {Href} is changed to {&lt;jobname&gt;-autopage-#}, or the label entered by the user. When the .aux file is read, used to set \r@&lt;label&gt;, and then \r@&lt;label&gt;@lwarp, and \r@&lt;label&gt;@lwarp@image.</p> <p><b>\r@&lt;label&gt;@lwarp:</b> Set to {{nameref}{pageref}{fileref}}{}}{}}:</p> <p><b>\LWR@nameref:</b> The section or object name for this label.</p> <p><b>\LWR@currentautosecpageref:</b> The LWR@currentautosecpage for this label.</p> <p><b>\LWR@htmlfileref:</b> The filenumber or name for this label.</p> <p><b>\r@&lt;label&gt;@lwarp@image:</b> Set to {{depth}{number}}{}}{}}{}}:</p> <p><b>\LWR@lateximagedepthref:</b> The lateximagedepth for this label.</p> <p><b>\LWR@lateximagenumberref:</b> The lateximagenumber for this label.</p> <p><b>\nameref:</b> Emulated from hyperref for lwarp. See section 79.4.</p> <p><b>\ref and \nameref:</b> Adds HTML tags. See section 79.4.</p> |                  |
| Added by amsmath:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (print and HTML) |
| <p><b>\label:</b> Execution is delayed until the math environment is completed.</p> <p><b>\ltx@label:</b> L<sup>A</sup>T<sub>E</sub>X \label, (HTML: patched by lwarp,) later patched by cleveref.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |
| Added by cleveref:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (print and HTML) |
| <p><b>\refstepcounter:</b> Added: sets \cref@currentlabel.</p> <p><b>\cref@currentlabel:</b> {&lt;type&gt;=&lt;ctr&gt; unless an alias is used):<br/> <code>[&lt;type&gt;][\arabic{&lt;ctr&gt;}][&lt;parent ctrs&gt;]{\p@&lt;ctr&gt;\the&lt;ctr&gt;}</code><br/> Also see section 63.6 for use with footnotes.</p> <p><b>\label:</b> Also writes to the .aux file:<br/> <code>\newlabel{&lt;label&gt;@cref}{\cref@currentlabel}{\thepage}}{}}{}}</code></p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@&lt;label&gt;@cref.</p> <p><b>\r@&lt;label&gt;@cref:</b> Set to: {\cref@currentlabel}{\thepage}}{}}{}}</p> <p><b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.</p> <p><b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for references to this counter type.</p>                                                                                                                                                                                                                                                                                              |                  |
| Additionally patched by lwarp:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (HTML only)      |
| <p><b>\cref, etc.:</b> Modified for lwarp. See section 209.</p> <p><b>\label inside math:</b> See section 86.6.1.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| <b>Footnotes:</b> See \noteentry in section 63.6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |

`\LWR@stripperperiod {<text>} [⟨.⟩]`

Removes a trailing period.

```
10908 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname {<object name>}`

Removes `\label`, strips any final period, and remembers the result.

```
10909 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period.  
See `getttitlestring`.

```
10910 \GetTitleStringExpand{#1}%
10911 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
10912 \edef\@currentlabelname{%
10913 \expandafter\LWR@stripperperiod\@currentlabelname%
10914 \ltx@empty.\ltx@empty\@nil%
10915 }%
10916 }
```

## 79.2 New lwarp labels.

`*_html.aux (file)` New entries in `*_html.aux` are used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarp}{<section name>}{<auto page ref>}{<file name>}{}}
\newlabel{<labelname>@lwarp@image}{<imagedepth>}{<imagenumber>}{}}{}}
```

The  $\LaTeX$  kernel reserves the fifth argument of `\r@<label>` for future use. Therefore, `lwarp` adds two `*_html.aux` entries, one with three and another with two arguments, to write a total of five argument without colliding with the reserved argument.

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref {<args list>} {<selector>} {<label>}`

`\@setref` without the `\null (\hbox)`, and without the warning messages. Each caused problems with `lwarp` references. The regular reference will still cause the warning.

```
10917 \def\LWR@setref#1#2#3{%
10918 \ifx#1\relax%
10919 ??%
10920 \else%
10921 \expandafter#2#1%
10922 \fi}
```

`\LWR@nameref {<label>}` Returns the section name for this label:

```

10923 \newcommand*{\LWR@nameref}[1]{%
10924 \begingroup%
10925 \LWR@nullifyfootnotes%
10926 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffive{#1}%
10927 \endgroup%
10928 }

```

`\LWR@currentautosecpageref {<label>}` Returns the `LWR@currentautosecpage` for this label:

```

10929 \newcommand*{\LWR@currentautosecpageref}[1]{%
10930 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffive{#1}%
10931 }

```

`\LWR@htmlfileref {<label>}` Returns the file number or name for this label:

```

10932 \newcommand*{\LWR@htmlfileref}[1]{%
10933 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffive{#1}%
10934 }

```

`\LWR@lateximagedepthref {<label>}` Returns the `lateximagedepth` for this label. This determines if the HTML link will be to a `lateximage` or just a text link.

```

10935 \newcommand*{\LWR@lateximagedepthref}[1]{%
10936 \expandafter\LWR@setref\csname r@#1@lwarp@image\endcsname\LWR@firstoffive{#1}%
10937 }

```

`\LWR@lateximagenumberref {<label>}` Returns the `lateximagenumber` for this label:

```

10938 \newcommand*{\LWR@lateximagenumberref}[1]{%
10939 \expandafter\LWR@setref\csname r@#1@lwarp@image\endcsname\LWR@secondoffive{#1}%
10940 }

```

`\LWR@write@lwarplabel {<label>}` Sanitize the name and then creates the label:

```

10941 \newcommand*{\LWR@write@lwarplabel}[1]{%
10942 \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
10943 \LWR@setlatestname{\@currentlabelname}%
10944 \@bsphack%
10945 \protected@write\@auxout{%
10946 {%
10947 \string\newlabel{#1@lwarp}{%
10948 {\@currentlabelname}%
10949 {\theLWR@currentautosecpage}%
10950 {%
10951 \ifbool{FileSectionNames}%
10952 {\LWR@thisfilename}%
10953 {\arabic{LWR@htmlfilenumber}}%
10954 }%
10955 {}%
10956 {}%
10957 }%
10958 }%
10959 \protected@write\@auxout{%
10960 {%
10961 \string\newlabel{#1@lwarp@image}{%
10962 {\arabic{LWR@lateximagedepth}}%

```

```

10963 {\arabic{LWR@lateximagenumber}}}%
10964 {}%
10965 {}%
10966 {}%
10967 }%
10968 }%
10969 \@esphack%
10970 }

```

### 79.3 Labels

**LWR@linkdepth** (*Ctr*) Do not nest HTML links. Count of how many levels deep are attempted. Only create the link if starting at depth 0.

```

10971 \newcounter{LWR@linkdepth}
10972 \setcounter{LWR@linkdepth}{0}

```

**\LWR@label@subcreatetag** Creates the tag from \LWR@sanitized.

LWR@linkdepth is controlled by \LWR@label@createtag, below.

```

10973 \newcommand*{\LWR@label@subcreatetag}{%
10974 \LWR@htmltag{a \LWR@print@mbbox{id=\textquotedbl\LWR@sanitized\textquotedbl}}}%
10975 \LWR@htmltag{/a}%
10976 }

```

**\LWR@label@inmathcomment**

```

10977 \newcommand*{\LWR@label@inmathcomment}{%
10978 \ifbool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
10979 {%

```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a \mbox field:

```

10980 \mbox{%

```

Shift the label over to the right side of the environment to avoid over-printing the math:

```

10981 \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}}{\hspace*{\totwidth@}}{}%

```

Temporarily end the HTML comment, insert the L<sup>A</sup>T<sub>E</sub>X & HTML label, then resume the HTML comment. \@firstofone is required to remove extra braces introduced by the amsmath package.)

```

10982 \LWR@htmlclosecomment%
10983 \LWR@label@subcreatetag%
10984 \LWR@htmlopencomment%
10985 }% \mbox
10986 }% mathjax
10987 {%
10988 \LWR@label@subcreatetag%
10989 }%
10990 }

```

`\LWR@label@createtag {<label>}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```
10991 \newcommand*{\LWR@label@createtag}[1]{%
10992 \LWR@traceinfo{\LWR@label@createtag !#1!}%
```

Create an HTML id tag unless are inside a `lateximage`, since it would appear in the image, or already inside an HTML link, which cannot be nested.

```
10993 \ifbool{expr{
10994 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}}
10995 or
10996 test {\ifnumcomp{\value{\LWR@linkdepth}}{>}{0}}
10997 }} nested HTML link tags?
10998 {%
10999 {% not lateximage or HTML link
11000 \addtocounter{\LWR@linkdepth}{1}%
```

If not doing a `lateximage`, create an HTML ID tag.

```
11001 \LWR@sanitize{#1}%
11002 \ifbool{\LWR@insidemathcomment}%
11003 {% inside HTML math comment
11004 \LWR@label@inmathcomment%
11005 }% inside HTML math comment
11006 {% not inside HTML math comment
11007 \ifbool{\LWR@doingstartpars}%
11008 {% pars allowed
11009 \ifbool{\LWR@doingapar}%
11010 {% par started
11011 \LWR@label@subcreatetag%
11012 }% par started
11013 {% par not started
11014 \LWR@stoppars%
11015 \LWR@label@subcreatetag%
11016 \LWR@startpars%
11017 }% par not started
11018 }% pars allowed
11019 {% pars not allowed
11020 \LWR@label@subcreatetag%
11021 }% pars not allowed
11022 }% not inside HTML math comment
11023 \addtocounter{\LWR@linkdepth}{-1}%
11024 {% not lateximage or HTML link
11025 }
```

`\LWR@new@label {<label>}`

`\label` during HTML output when not in `svg math` mode, removing extra spaces around the label, as done by a regular  $\text{\LaTeX}$  `\label`.

This is also used during a `lateximage`, including `svg math`, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a `lateximage`.

`cleveref` later encases this to add its own cross-referencing.

`\nameref` patches are undone `\AtBeginDocument`.

```
11026 \newcommand*{\LWR@new@label}[1]{%
11027 \LWR@traceinfo{\LWR@new@label: starting}%
11028 \LWR@traceinfo{\LWR@new@label: !#1!}%
11029 % \@bsphack%
```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by `cleveref`:

```
11030 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, section name, `LWR@htmlfilenumber`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```
11031 \LWR@traceinfo{%
11032 LWR@new@label: filesectionnames is %
11033 \ifbool{FileSectionNames}{true}{false}%
11034 }%
11035 \LWR@traceinfo{%
11036 LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
11037 }%
11038 \LWR@traceinfo{%
11039 LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
11040 }%
11041 \LWR@write@lwarplabel{#1}%
11042 \LWR@label@createtag{#1}%
11043 % \@esphack%
11044 \LWR@traceinfo{\LWR@new@label: done}%
11045 }
```

## 79.4 References

`\LWR@addlinktitle`

```
11046 \newcommand*{\LWR@addlinktitle}{%
11047 \ifdefvoid{\LWR@ThisAltText}{ }{ % space
11048 title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
11049 \gdef\LWR@ThisAltText}%
11050 }%
11051 }
```

`\LWR@startref {<label>}` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

```
11052 \newcommand*{\LWR@startref}[1]
11053 {%
11054 \LWR@sanitize{#1}%
11055 \LWR@traceinfo{\LWR@startref A: !#1!}%
```

Create the filename part of the link:

```
11056 \LWR@htmltag%
11057 {%
11058 a href=\textquotedbl
11059 \LWR@traceinfo{\LWR@startref B}%
```

```

11060 \LWR@print@mbx{\LWR@htmlrefsectionfilename{#1}}%
11061 \LWR@traceinfo{\LWR@startref C}%
11062 \LWR@origpound%

```

Create the destination id:

See if `LWR@lateximagedepth` is unknown:

```

11063 \LWR@traceinfo{\LWR@startref D: !#1!}%
11064 \ifcsundef{r@#1@lwarp}%

```

“??” if `LWR@lateximagedepth` is unknown, so create a link with an unknown destination:

```

11065 {%
11066 \LWR@traceinfo{\LWR@startref D0: ??}%
11067 ??%
11068 }%

```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

(Using `xifthen \ifthenelse` here failed in some cases, but `etoolbox \ifnumgreater` works.)

```

11069 {%
11070 \ifnumgreater{\LWR@lateximagedepthref{#1}}{0}%
11071 {%
11072 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
11073 }%
11074 {%
11075 \LWR@traceinfo{\LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

11076 \LWR@print@mbx{\LWR@sanitized}%
11077 }%
11078 }%
11079 \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```

11080 \textquotedbl%

```

Maybe add a title:

```

11081 \LWR@addlinktitle%
11082 }%
11083 \LWR@traceinfo{\LWR@startref F}%
11084 }

```

`\LWR@subnewref {<label>} {<label or sub@label>}`

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

11085 \NewDocumentCommand{\LWR@subnewref}{m m}{%
11086 \LWR@traceinfo{\LWR@subnewref #1 #2}%
11087 \ifnumcomp{\value{\LWR@linkdepth}}{>}{0}%
11088 {}%
11089 {%
11090 \addtocounter{\LWR@linkdepth}{1}%
11091 \LWR@startref{#1}%
11092 \LWR@print@ref{#2}%
11093 \LWR@htmltag{/a}%
11094 \addtocounter{\LWR@linkdepth}{-1}%
11095 }%
11096 }

```

`\ref * {<label>}`

`\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref * {<label>}` Create an internal document reference link, or without a link if starred per `\hyperref`.

The HTML version:

```

11097 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
11098 \LWR@traceinfo{\LWR@HTML@ref !#2!}%
11099 \IfBooleanTF{#1}%
11100 {\LWR@print@ref{#2}}%
11101 {\LWR@subnewref{#2}{#2}}%
11102 }
11103
11104 \AtBeginDocument{% **8*
11105 \LWR@traceinfo{\AtBeginDocument ref}
11106 \LWR@formatted{ref}
11107 }
11108
11109 \NewDocumentCommand{\LWR@HTML@Ref}{s m}{%
11110 \LWR@traceinfo{\LWR@HTML@Ref !#2!}%
11111 \IfBooleanTF{#1}%
11112 {\LWR@print@Ref{#2}}%
11113 {\LWR@subnewref{#2}{#2}}%
11114 }
11115
11116 \AtBeginDocument{% **8*
11117 \LWR@formatted{Ref}
11118 }

```

`\LWR@refwithsection * {<label>}`

Creates a reference, printing the section number as the text. Used for back references.

```

11119 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
11120 \LWR@traceinfo{\LWR@refwithsection !#2!}%

```

If starred, just use the text without a hyperlink:

```

11121 \IfBooleanTF{#1}%
11122 {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%

```

If not starred: Check for a reference to the start of the document. (Generated by backref.

```

11123 {% not starred
11124 \ifstrequal{#2}{Doc-Start}%
11125 {%
11126 \LWR@startref{\BaseJobname-autopage-1}%
11127 *%
11128 \LWR@htmltag{/a}%
11129 }%
11130 {% not Doc-Start

```

Open the reference:

```

11131 \ifnumcomp{\value{LWR@linkdepth}}{>}{0}%
11132 }%
11133 {% not nested
11134 \addtocounter{LWR@linkdepth}{1}%
11135 \LWR@startref{#2}%

```

Add the text of the link.

Check for and handle an undefined reference:

```

11136 \edef\@tempa{\LWR@currentautosecpageref{#2}}%
11137 \ifdefstring{\@tempa}{??}%
11138 {??}%

```

For a defined reference:

```

11139 {% not ??

```

Set \@tempa to \r@<label>, which is {section number}{page number}{name}{Href}{\}.

```

11140 \edef\@tempa{\csexpandonce{r@\BaseJobname-autopage-\@tempa}}%
11141 \expandafter\LWR@edeffirstoffive\@tempa%

```

Check the section number alone:

If the reference has no section number print an asterisk:

```

11142 \expandafter\ifblank\expandafter{\@tempa}%
11143 {*}%

```

If there is a section number, print it:

```

11144 {%
11145 \LWR@print@ref{%
11146 \BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
11147 }%
11148 }%
11149 {% not ??

```

Close the reference:

```

11150 \LWR@htmltag{/a}%
11151 \addtocounter{LWR@linkdepth}{-1}%
11152 {% not nested

```

```

11153 }% not Doc-Start
11154 }% not starred
11155 }

```

For MATHJAX:

```

11156 \CustomizeMathJax{\let\LWRref\ref}
11157 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

`\pagerefPageFor` Text for page references.

```

11158 \newcommand*{\pagerefPageFor}{see }

```

`\pageref * {<label>}` Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```

11159 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
11160 \IfBooleanTF{#1}%
11161 {(\pagerefPageFor\LWR@print@ref{#2})}%
11162 {(\cpageref{#2})}%
11163 }

```

`\nameref {<label>}`

`nameref` may have already defined `\nameref`. Redefine it here.

```

11164 \providecommand{\nameref}[1]{%
11165
11166 \renewrobustcmd*{\nameref}[1]{%
11167 \LWR@traceinfo{nameref}%
11168 \ifnumcomp{\value{LWR@linkdepth}}{>}{0}%
11169 {}%
11170 {%
11171 \addtocounter{LWR@linkdepth}{1}%
11172 \LWR@startref{#1}%
11173 \LWR@traceinfo{nameref B}%
11174 \LWR@nameref{#1}%
11175 \LWR@traceinfo{nameref C}%
11176 \LWR@htmltag{/a}%
11177 \addtocounter{LWR@linkdepth}{-1}%
11178 }%
11179 \LWR@traceinfo{nameref: done}%
11180 }

```

`\Nameref {<label>}` In print, adds the page number. In HTML, does not.

Overwrites `nameref` definition if already defined.

```

11181 \LetLtxMacro\Nameref\nameref

```

`\NR@getttitle {<text>}` From `nameref`, used by caption.

```

11182 \def\NR@getttitle#1{%
11183 \GetTitleString{#1}%
11184 \let\@currentlabelname\GetTitleStringResult%
11185 }

```

## 79.5 Hyper-references



Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

`hyperref` (*Pkg*)



Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
11186 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
11187 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support `backref`.

```
11188 \AtBeginDocument{
11189 \LWR@traceinfo{AtBeginDocument \@currentHref}
11190 \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
11191 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
11192 \newcommand*{\LWR@linkcatcodes}{%
11193 \catcode`\#=12%
11194 \catcode`\%=12%
11195 \catcode`\&=12%
11196 \catcode`\~=12%
11197 \catcode`_ =12%}
```

For `babel-french`:

```
11198 \LWR@hook@processingtags%
11199 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
11200 \newcommand*{\LWR@linkmediacatcodes}{%
11201 \catcode`\#=12%
11202 \catcode`\%=12%
11203 % \catcode`\&=12% left alone for splitting flash variables
11204 \catcode`\~=12%
11205 \catcode`_ =12%}
```

For `babel-french`:

```
11206 \LWR@hook@processingtags%
11207 }
```

`\LWR@subhyperref`  $\{\langle URL \rangle\}$

Starts a link for \LWR@hrefb. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```

11208 \NewDocumentCommand{\LWR@subhyperref}{m}{%
11209 \LWR@traceinfo{\LWR@subhyperref !#1!}%
11210 \edef\tmpb{\detokenize\expandafter{#1}}%
11211 \LWR@HTMLsanitize@tmpb%
11212 \LWR@htmltag{%
11213 a href=\textquotedbl\tmpb\textquotedbl\ % space
11214 \LWR@addlinktitle % space
11215 target=\textquotedbl_{ }blank\textquotedbl\ % space
11216 }%
11217 }
```

\LWR@subhyperreftext@sanitized {<text>}

Finishes the hyperref for \LWR@hrefb. Catcodes must have been restored already. To be used after \LWR@subhyperref, and after its group has been closed.

```

11218 \newcommand{\LWR@subhyperreftext@sanitized}[1]{%
11219 \edef\tmpb{#1}%
11220 \LWR@HTMLsanitize@tmpb%
11221 \tmpb%
11222 \LWR@htmltag{/a}%
11223 \LWR@ensuredoingapar%
11224 \addtocounter{\LWR@linkdepth}{-1}%
11225 }
```

\LWR@subhyperreftext@unsanitized {<text>}

Finishes the hyperref for \LWR@hrefb. Catcodes must have been restored already. To be used after \LWR@subhyperref, and after its group has been closed.

```

11226 \newcommand{\LWR@subhyperreftext@unsanitized}[1]{%
11227 #1%
11228 \LWR@htmltag{/a}%
11229 \LWR@ensuredoingapar%
11230 \addtocounter{\LWR@linkdepth}{-1}%
11231 }
```

\LWR@subhyperrefclass {<URL>}{<text>}{<htmlclass>}

```

11232 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
11233 \ifnumcomp{\value{\LWR@linkdepth}}{>}{0}%
11234 }{%
11235 {%
11236 \addtocounter{\LWR@linkdepth}{1}%
11237 \LWR@htmltag{%
11238 a % space
11239 href=\textquotedbl\beginngroup\@sanitize#1\endgroup\textquotedbl\ % space
11240 class=\textquotedbl#3\textquotedbl\ % space
11241 \LWR@addlinktitle % space
11242 }\LWR@orignewline%
11243 #2%
11244 \LWR@htmltag{/a}%
11245 \addtocounter{\LWR@linkdepth}{-1}%

```

```

11246 \LWR@ensuredoingapar%
11247 }%
11248 }

```

`\LWR@href` [*options*] {*URL*} {*text*}

Create a link with accompanying text. The accompanying text is sanitized for HTML.

```

11249 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
11250 \ifnumcomp{\value{LWR@linkdepth}}{>}{0}%
11251 {%
11252 \endgroup%
11253 \let\LWR@tempnext\@gobble%
11254 }%
11255 {%
11256 \addtocounter{LWR@linkdepth}{1}%
11257 \LWR@ensuredoingapar%
11258 \LWR@subhyperref{#2}%
11259 \endgroup% restore catcodes

```

If use `\LWR@subhyperref{text@sanitized}` here, some forms of text may not expand correctly, and thus break. `\LWR@subhyperref{text@sanitized}` takes the following text as an argument.

```

11260 \let\LWR@tempnext\LWR@subhyperref{text@unsanitized} takes the following text as an argument
11261 }%
11262 \LWR@tempnext%
11263 }
11264
11265 \newrobustcmd*{\LWR@href}{%
11266 \begingroup%
11267 \LWR@linkcatcodes%
11268 \LWR@hrefb%
11269 }

```

A version which sanitizes both the URL and the text. Used by `\LWR@url`.

```

11270 \DeclareDocumentCommand{\LWR@hrefb@sanitized}{O{} m}{%
11271 \ifnumcomp{\value{LWR@linkdepth}}{>}{0}%
11272 {%
11273 \endgroup%
11274 \let\LWR@tempnext\@gobble%
11275 }%
11276 {%
11277 \addtocounter{LWR@linkdepth}{1}%
11278 \LWR@ensuredoingapar%
11279 \LWR@subhyperref{#2}%
11280 \endgroup% restore catcodes

```

Used by `\LWR@url` to sanitize the text argument before printing.

```

11281 \let\LWR@tempnext\LWR@subhyperref{text@sanitized} takes the following text as an argument
11282 }%
11283 \LWR@tempnext%
11284 }
11285
11286 \newrobustcmd*{\LWR@href@sanitized}{%

```

```

11287 \begingroup%
11288 \LWR@linkcatcodes%
11289 \LWR@hrefb@sanitized%
11290 }

```

`\LWR@href@partsanitized` [*options*] {*URL*} {*text*}

Create a link with accompanying text. The accompanying text is not sanitized, for use internally with algorithmically derived tags.

```

11291 \DeclareDocumentCommand{\LWR@hrefb@partsanitized}{O{} m}{%
11292 \ifnumcomp{\value{\LWR@linkdepth}}{>}{0}%
11293 {%
11294 \endgroup%
11295 \let\LWR@tempnext\@gobble%
11296 }%
11297 {%
11298 \addtocounter{\LWR@linkdepth}{1}%
11299 \LWR@ensuredoingapar%
11300 \LWR@subhyperref{#2}%
11301 \endgroup% restore catcodes
11302 \let\LWR@tempnext\LWR@subhyperreftext@unsanitized% takes the following text as an argument
11303 }%
11304 \LWR@tempnext%
11305 }
11306
11307 \newrobustcmd*{\LWR@href@partsanitized}{%
11308 \begingroup%
11309 \LWR@linkcatcodes%
11310 \LWR@hrefb@partsanitized%
11311 }

```

`\LWR@nolinkurl` {*URL*}

Print the name of the link without creating the link:

```

11312 \newcommand*{\LWR@nolinkurlb}[1]{%
11313 \LWR@ensuredoingapar%
11314 \edef\tmpb{#1}%
11315 \LWR@HTMLsanitize@tmpb%
11316 \tmpb%
11317 \endgroup%
11318 }
11319
11320 \newrobustcmd*{\LWR@nolinkurl}{%
11321 \begingroup%
11322 \LWR@linkcatcodes%
11323 \LWR@nolinkurlb%
11324 }

```

`\LWR@url` {*URL*}

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@url` here and also redefined by `lwarp-url`.

```

11325 \DeclareDocumentCommand{\LWR@urlb}{m}{%

```

```

11326 \LWR@ensuredoingapar%
11327 \LWR@href@sanitized{#1}{#1}%
11328 \endgroup%
11329 }
11330
11331 \newrobustcmd*{\LWR@url}{%
11332 \begingroup%
11333 \LWR@linkcatcodes%
11334 \LWR@urlb%
11335 }

```

`\LWR@subinlineimage {<1: <alt> tag>} {<2: class>} {<3: filename>} {<4: extension>} {<5: css style>} {<6: aria role>}`

Creates the HTML tag for the image. Factored from lateximage.

To allow sanitization of the alt tag, if the alt tag is detokenized then it must also be expanded before being used here.

```

11336 \newcommand*{\LWR@subinlineimage}[6]{%
11337 \begingroup%
11338 \boolfalse{\LWR@HTMLsanitize@tmpb@removebackslash}%
11339 \ifblank{#6}% ARIA role
11340 {\renewcommand*{\LWR@tempone}{}}%
11341 {\renewcommand*{\LWR@tempone}{role=\textquotedbl#6\textquotedbl\LWR@indentHTML}}%
11342 \ifblank{#1}% alt text
11343 {% alt is file name
11344 \LWR@htmltag{img \LWR@indentHTML
11345 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
11346 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
11347 \LWR@tempone
11348 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
11349 class=\textquotedbl#2\textquotedbl \LWR@orignewline
11350 }%
11351 }%
11352 {% alt is as given
11353 \def\tmpb{#1}%
11354 \LWR@HTMLsanitize@tmpb%
11355 \LWR@htmltag{img \LWR@indentHTML
11356 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
11357 alt=\textquotedbl\tmpb\textquotedbl \LWR@indentHTML
11358 \LWR@tempone
11359 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
11360 class=\textquotedbl#2\textquotedbl \LWR@orignewline
11361 }%
11362 }%
11363 \endgroup%
11364 }

11365 \end{warpHTML}

```

Table 17: Float data structures

---

For each `<type>` of float (figure, table, etc.) there exists the following:

---

**counter `<type>`:** A counter called `<type>`, such as figure, table.

**`\<type>name`:** Name. `\figurename` prints “Figure”, etc.

**`\ext@<type>`:** File extension. `\ext@figure` prints “lof”, etc.

**`\fps@<type>`:** Placement.

**`\the<type>`:** Number. `\thetable` prints the number of the table, etc.

**`\p@<type>`:** Parent’s number. Prints the number of the [within] figure, etc.

**`\fnum@<type>`:** Prints the figure number for the caption.  
`\<type>name \the<type>`, “Figure 123”.

**`\<type>`:** Starts the float environment. `\figure` or `\begin{figure}`

**`\end<type>`:** Ends the float environment. `\endfigure` or `\end{figure}`

**`\tf@<ext>`:** The L<sup>A</sup>T<sub>E</sub>X file identifier for the output file.

**`LWR@have<type>`:** A boolean remembering whether a `\listof` was requested for a float of this type.

**File with extension `lo<f, t, a-z>`:** An output file containing the commands to build the `\listof<type>` “table-of-contents” structure.

**Cross-referencing names:** For `cleveref`’s `\cref` and related, `\crefname` and `\Crefname` assign human-readable names for references to this float type.

---

## 80 Floats

Floats are supported, although partially through emulation.

Table 17 shows the data structure associated with each `<type>` of float.

### 80.1 Float environment

**for HTML output:** 11366 `\begin{warpHTML}`

`\LWR@floatbegin {<type>} [<placement>]` Begins a `\newfloat` environment.

11367 `\NewDocumentCommand{\LWR@floatbegin}{m o}{%`

Warn if starting a float inside a `<span>`:

11368 `\LWR@spanwarninvalid{float}%`

11369 `\ifbool{FormatWP}{\newline}{}%`

11370 `\LWR@stoppars%`

There is a new float, so increment the unique float counter:

```
11371 \addtocounter{LWR@thisautoid}{1}%
11372 \booltrue{LWR@freezethisautoid}%

11373 \begingroup%
```

Settings while inside the environment:

```
11374 \LWR@print@raggedright%
```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the float package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```
11375 \LWR@htmltag{%
11376 figure id=\textquotedbl%
11377 \LWR@print@boxed{autoid-\arabic{LWR@thisautoid}}}%
11378 \textquotedbl\ % space
11379 class=\textquotedbl#1 \@nameuse{LWR@floatstyle@#1}\textquotedbl%
11380 }%
11381 \ifbool{FormatWP}{%
11382 \LWR@orignewline%
11383 \LWR@BlockClassWP{#1}{wp#1}%
11384 }{%}
```

Update the caption type:

```
11385 \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
11386 \LWR@startpars%
11387 \ifbool{expr{bool{FormatWP} and bool{WPMarkFloats}}}{%
11388
11389 === begin #1 ===
11390
11391 }{%}
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
11392 }
```

For koma-script. The following does not work for tables.

```
11393 \AtBeginDocument{
11394 \LWR@traceinfo{AtBeginDocument tocbasic}
11395
11396 \IfPackageLoadedTF{tocbasic}{
11397
11398 \appto\figure@atbegin{%
11399 \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
11400 }
11401
11402 }{%} tocbasic
11403
11404 }% AtBeginDocument
```

`\@xfloat` Support packages which create floats directly.  
`\@xdblfloat` Look for `\centering`, etc using `\LWR@floatalignment`.

```

11405 \AtBeginDocument{
11406 \LWR@traceinfo{AtBeginDocument \@xfloat}
11407 \def\@xfloat #1[#2]{%
11408 \LWR@floatbegin{#1}[#2]
11409 \LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment%
11410 }
11411 \def\@xdblfloat #1[#2]{%
11412 \LWR@floatbegin{#1}[#2]
11413 \LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment%
11414 }
11415 }
```

`\LWR@floatend` Ends a `\newfloat` environment.

```

11416 \newcommand*{\LWR@floatend}{%
```

If saw a `\centering`, finish the center environment:

```

11417 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

11418 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
11419 === end ===
11420 }{%
11421 }{%
11422 }{%
11423 \LWR@stoppars%
```

Close an HTML figure tag:

```

11424 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
11425 \LWR@html\elementend{figure}%
11426 \endgroup%
11427 \boolfalse{LWR@freezethisautoid}%
11428 \LWR@startpars%
11429 \ifbool{FormatWP}{\newline}{}%
11430 }
```

`\end@float` Support packages which create floats directly.  
`\end@dblfloat`

```

11431 \AtBeginDocument{
11432 \let\end@float\LWR@floatend
11433 \let\end@dblfloat\LWR@floatend
11434 }
```

## 80.2 Float tracking

`LWR@thisautoid` (*Ctr*) A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```

11435 \newcounter{LWR@thisautoid}
```

`LWR@thisautoidWP` (*Ctrl*) A sequential counter for all word processor conversion `<div>`s. This is used to convince LIBREOFFICE to form a frame around this element.

```
11436 \newcounter{LWR@thisautoidWP}
```

`LWR@freezethisautoid` (*bool*) Prevents multiple increments of `\LWR@thisautoid` inside a float.

```
11437 \newbool{LWR@freezethisautoid}
11438 \boolfalse{LWR@freezethisautoid}
```

`\LWR@forcenewautoidanchor` Adds a new `<autoid>` anchor.

```
11439 \newcommand*{\LWR@forcenewautoidanchor}{%
11440 \addtocounter{LWR@thisautoid}{1}%
11441 \ifbool{LWR@doingapar}%
11442 {%
11443 \LWR@htmltag{a id=\textquotedbl%
11444 \LWR@print@box{autoid-\arabic{LWR@thisautoid}}}%
11445 \textquotedbl\ }% space
11446 \LWR@htmltag{/a }%
11447 }%
11448 {%
11449 \LWR@stoppars%
11450 \LWR@htmltag{a id=\textquotedbl%
11451 \LWR@print@box{autoid-\arabic{LWR@thisautoid}}}%
11452 \textquotedbl\ }% space
11453 \LWR@htmltag{/a }%
11454 \LWR@startpars%
11455 }%
11456 }
```

`\LWR@newautoidanchor` Sometimes adds a new `<autoid>` anchor.

```
11457 \newcommand*{\LWR@newautoidanchor}{%
11458 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11459 {%
11460 {\ifbool{LWR@freezethisautoid}}{\LWR@forcenewautoidanchor}}%
11461 }
```

`\@capttype` Remembers which float type is in use.

```
11462 \newcommand*{\@capttype}{{}}
```

`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw `\centering`, `\raggedright`, or `\raggedleft`.

```
11463 \newcommand*{\LWR@floatalignmentname}{{}}
```

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```
11464 \newcommand*{\LWR@floatalignment}{%
11465 \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
11466 \center%
11467 \renewcommand*{\LWR@floatalignmentname}{center}%
11468 }{%}
```

```

11469 \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
11470 \flushleft%
11471 \renewcommand*{\LWR@floatalignmentname}{flushleft}%
11472 }{%
11473 \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
11474 \flushright%
11475 \renewcommand*{\LWR@floatalignmentname}{flushright}%
11476 }{%
11477 }

```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```

11478 \newcommand*{\LWR@endfloatalignment}{%
11479 \ifdefvoid{\LWR@floatalignmentname}%
11480 {}%
11481 {\@nameuse{end\LWR@floatalignmentname}}%
11482 \renewcommand*{\LWR@floatalignmentname}{}%
11483 }

```

### 80.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user.  
In most cases, `caption`'s settings are used instead.

```

11484 \AtBeginDocument{%
11485 \LWR@traceinfo{AtBeginDocument CaptionSeparator}
11486 \providecommand*{\CaptionSeparator}{:~}%
11487 }

```

`\@caption`  $\{\langle pos \rangle\} [\langle name \rangle] \{\langle long name \rangle\}$

`\@makecaption`  $\{\langle name and num \rangle\} \{\langle text \rangle\}$

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```

11488 \AtBeginDocument{
11489 \LWR@traceinfo{AtBeginDocument caption}
11490 \IfPackageLoadedTF{caption}{%
11491 \let\LWR@orig@caption\@caption%
11492 \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a `<span>`:

```

11493 \LWR@spanwarnformat{caption}%

11494 \LWR@setlatestname{#2}%
11495 \LWR@orig@caption{#1}[#2]% also takes third argument
11496 }%
11497
11498 \renewcommand{\@makecaption}[2]{%
11499 \LWR@traceinfo{@makecaption}%
11500 \caption@begin{\@cptype}%

```

```

11501 \LWR@isolate{#1}%
11502 \edef\LWR@tempone{#1}%
11503 \ifdefvoid{\LWR@tempone}{\CaptionSeparator}%
11504 \LWR@isolate{#2}%
11505 \caption@end%
11506 \LWR@traceinfo{@makecaption: done}%
11507 }%
11508 }
11509 }

```

## 80.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L<sup>A</sup>T<sub>E</sub>X PDF file, or at the start of a new section, the L<sup>A</sup>T<sub>E</sub>X PDF page number at that point is stored in `LWR@currentautosecfloatpage`, (and the associated filename is remembered by the special L<sup>A</sup>T<sub>E</sub>X labels). This page number is used to generate an autopage HTML `<id>` in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid `<id>` at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the `.lof`, etc. files just before each float's entry. These values are used by `\l@figure`, etc. to create the HTML links in the List of Figures, etc.

`LWR@nextautoid` (*Ctrl*) Tracks autoid for floats. Tracks autopage for floats.

`LWR@nextautopage` (*Ctrl*) These are updated per float as the `.lof`, `.lot` file is read.

```

11510 \newcounter{LWR@nextautoid}
11511 \newcounter{LWR@nextautopage}

```

`\LWRsetnextfloat` {*<autopage>*} {*<float autoid>*}

`*_html.lof` (*file*) This is written to the `*_html.lof` or `*_html.lot` file just before each float's usual entry. The autopage and the float's autoid are remembered for `\l@figure` to use when creating the HTML links.

```

11512 \newcommand*{\LWRsetnextfloat}[2]{%
11513 \setcounter{LWR@nextautopage}{#1}%
11514 \setcounter{LWR@nextautoid}{#2}%
11515 }

```

`LWR@figcaption` (*env.*) An HTML `<figcaption>` is not allowed in places where L<sup>A</sup>T<sub>E</sub>X does allow a figure caption, such as inside a `longtable` where the `tabular` has already started, or inside a `center` environment. Therefore, a `<div>` of class `figurecaption` is used instead.

```

11516 \newenvironment*{LWR@figcaption}
11517 {%
11518 \ifbool{FormatWP}{%
11519 \BlockClass[font-style:italic]{figurecaption}%
11520 }{%
11521 \BlockClass{figurecaption}%
11522 }%

```

Inside the caption, temporarily prevent underfull `\hbox` warnings, such as when the caption contains a math svg image.

```

11523 \hbadness=10000\relax%

11524 }%
11525 {\endBlockClass}

```

`\LWR@HTML@caption@begin {<type>}`

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```

11526 \newcommand*{\LWR@HTML@caption@begin}[1]
11527 {%
11528 \LWR@traceinfo{\LWR@HTML@caption@begin}%

```

Keep par and minipage changes local:

```

11529 \begingroup%

```

No need for a minipage or `\parbox` inside the caption:

```

11530 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\}{\}%
11531 \RenewDocumentCommand{\parbox}{O{t} O{ } O{t} m +m}{##5}%

```

Enclose the original caption code inside an HTML tag:

```

11532 \LWR@figcaption%
11533 \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
11534 \LWR@print@caption@begin{#1}%
11535 \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
11536 }

```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```

11537 \newcommand*{\LWR@HTML@caption@end}
11538 {%
11539 \LWR@traceinfo{\LWR@HTML@caption@end}%
11540 \LWR@print@caption@end%

```

Closing tag:

```

11541 \endLWR@figcaption%
11542 \endgroup%
11543 % \leavevmode% avoid bad space factor (0) error
11544 \LWR@traceinfo{\LWR@HTML@caption@end: done}%
11545 }

```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument`  
`\caption@end` so that other packages which modify captions will have already been loaded before  
saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```

11546 \AtBeginDocument{
11547 \LWR@traceinfo{AtBeginDocument caption2}
11548 \providecommand{\caption@begin}[1]{

```

```

11549 \LWR@formatted{caption@begin}
11550
11551 \providecommand{\caption@end}{}
11552 \LWR@formatted{caption@end}
11553 }

```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```

11554 \AtBeginDocument{%
11555 \IfPackageLoadedTF{caption}{
11556 \LWR@traceinfo{AtBeginDocument caption3}
11557 \let\LWR@origcaptionlistentry\captionlistentry
11558
11559 \renewcommand*{\captionlistentry}{%
11560 \LWR@ensuredoingapar%
11561 \LWR@origcaptionlistentry%
11562 }

11563 \def\LWR@LTcaptionlistentry{%
11564 \LWR@ensuredoingapar%
11565 \LWR@forcenewautoidanchor%
11566 \bgroup%
11567 \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
11568 {\egroup\LWR@LT@captionlistentry}%
11569 }%
11570
11571 \def\LWR@LT@captionlistentry#1{%
11572 \caption@listentry\@firstoftwo[\LTcaptype]{#1}%
11573 }%
11574 }% caption loaded
11575 {% caption not loaded
11576 \newcommand{\captionlistentry}[2][{}]{%
11577 \newcommand{\LWR@LT@captionlistentry}[2][{}]{%
11578 }
11579 }% AtBeginDocument

```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

11580 \let\LWR@origaddcontentsline\addcontentsline
11581
11582 \renewcommand*{\addcontentsline}[3]{%
11583 \ifstrequal{#1}{toc}{\}% not TOC

11584 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
11585 }%
11586 {\LWR@newautoidanchor}%

11587 \ifcsvoid{ext@#2}{\csdef{ext@#2}{#1}}{}%

11588 \addtocontents{\@nameuse{ext@#2}}{%
11589 \protect\LWRsetnextfloat%

```

```

11590 {\arabic{LWR@currentautosecfloatpage}}}%
11591 {\arabic{LWR@thisautoid}}}%
11592 }%
11593 }% not TOC
11594 \LWR@origaddcontentsline{#1}{#2}{#3}%
11595 }

```

`capt-of (Pkg)` Either package provides `\captionof`, which is later patched at the beginning of the document.

`caption (Pkg)`

`\captionof` Patched to handle paragraph tags. koma-script may have already defined `\captionof`.

```

11596 \ifdef{\captionof}{\RequirePackage{capt-of}}
11597
11598 \AtBeginDocument{
11599 \LWR@traceinfo{AtBeginDocument captionof}
11600 \let\LWR@origcaptionof\captionof
11601
11602 \renewcommand*{\captionof}{%
11603 \LWR@stoppars%
11604 \LWR@origcaptionof%
11605 }
11606 }% AtBeginDocument

```

11607 \end{warpHTML}

## 81 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sidetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L<sup>A</sup>T<sub>E</sub>X infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output:** 11608 \begin{warpHTML}

### 81.1 Reading and printing the toc

```
\LWR@myshorttoc {<{toc/lof/lot/sidetoc}}
```

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the `@` character into a normal letter to allow formatting commands in the section names.

Unlike in regular L<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the `sidetoc` may be referred to again in each HTML page.

```
11609 \newcommand*{\LWR@myshorttoc}[1]{%
11610 \LWR@traceinfo{\LWR@myshorttoc: #1}%
```

Only if the file exists:

```
11611 \IfFileExists{\jobname.#1}{%
11612 \LWR@traceinfo{\LWR@myshorttoc: loading}%
```



Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
11613 \begingroup%
11614 \makeatletter%
```

Disable \ref to avoid nested HTML references.

```
11615 \LetLtxMacro\ref\LWR@print@ref%
11616 \LWR@disablepinyin%
```

Read in the TOC file:

```
11617 \@input{\jobname.#1}%
11618 \endgroup%
11619 }%
11620 {%
11621 \LWR@traceinfo{\LWR@myshorttoc: done}%
11622 }
```

`\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}`

Places a TOC/LOF/LOT at the current position.

```
11623 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
11624 \@ifundefined{chapter}%
11625 {\LWR@closeprevious{section}}%
11626 {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
11627 \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
11628 \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
11629 \LWR@htmlclass{nav}{#1}%
```

Create the actual list:

```
11630 \expandafter\LWR@myshorttoc\expandafter{#1}%
```

Close the nav:

```
11631 \LWR@html elementclassend{nav}{#1}%
11632 }
```

`\@starttoc {<ext>}`

Patch `\@starttoc` to encapsulate the TOC inside HTML tags:

```
11633 \let\LWR@orig@starttoc\@starttoc
11634
11635 \renewcommand{\@starttoc}[1]{
11636 \LWR@html elementclass{nav}{#1}%
11637 \LWR@orig@starttoc{#1}%
11638 \LWR@html elementclassend{nav}{#1}%
11639 }
```

`LWR@copiedsidetoc (bool)` Used to only copy the TOC file to the sidetoc a single time.

(listings and perhaps other packages would re-use `\tableofcontents` for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```
11640 \newbool{LWR@copiedsidetoc}
11641 \boolfalse{LWR@copiedsidetoc}
```

`\tableofcontents` Patch `\tableofcontents`, etc. to print footnotes first. `newfloat` uses `\listoffigures` for all future float types.

```
11642 \AtBeginDocument{
11643 \LWR@traceinfo{AtBeginDocument tableofcontents}
11644
11645 \LetLtxMacro\LWR@origtableofcontents\tableofcontents
11646
11647 \renewcommand*\tableofcontents{%
```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```
11648 \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
11649
11650 === table of contents ===
11651
11652 }
11653 {
```

Copy the `.toc` file to `.sidetoc` for printing the sideroc. The original `.toc` file is renewed when `\tableofcontents` is finished.

```
11654 \ifbool{LWR@copiedsidetoc}{%
11655 \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
11656 \booltrue{LWR@copiedsidetoc}%
11657 }%
11658 \LWR@printpendingfootnotes
```

Disable `\ref` to avoid nested HTML references.

```

11659 \begingroup%
11660 \LetLtxMacro\ref\LWR@print@ref%
11661 \LWR@disablepinyin%
11662 \LWR@origtableofcontents%
11663 \endgroup%
11664 }
11665 }% \tableofcontents
11666
11667 }% AtBeginDocument

```

## \listoffigures

```

11668 \let\LWR@origlistoffigures\listoffigures
11669
11670 \renewcommand*{\listoffigures}{
11671 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11672
11673 === list of figures ===
11674
11675 }
11676 {
11677 \LWR@printpendingfootnotes

```

Disable \ref to avoid nested HTML references.

```

11678 \begingroup%
11679 \LetLtxMacro\ref\LWR@print@ref%
11680 \LWR@disablepinyin%
11681 \LWR@origlistoffigures%
11682 \endgroup%
11683 }
11684 }

```

## \listoftables

```

11685 \let\LWR@origlistoftables\listoftables
11686
11687 \renewcommand*{\listoftables}{
11688 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11689
11690 === list of tables ===
11691
11692 }
11693 {
11694 \LWR@printpendingfootnotes

```

Disable \ref to avoid nested HTML references.

```

11695 \begingroup%
11696 \LetLtxMacro\ref\LWR@print@ref%
11697 \LWR@disablepinyin%
11698 \LWR@origlistoftables%
11699 \endgroup%
11700 }
11701 }

```

## 81.2 toc commands

`\LWR@listof {<type>} {<title>}`

Emulate the `\listof` command from the float package (section 284). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X `\listoffigures` and `\listoftables` commands, and in `tocloft` and `memoir`.

```

11702 \NewDocumentCommand{\LWR@listof}{m +m}{%
11703 \@ifundefined{l@#1}{%
11704 \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
11705 }{}%
11706 \expandafter\ifcsdef\expandafter{ext@#1}{%
11707 \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
11708 \expandafter\newwrite\csname tf@#1\endcsname\endcsname%
11709 \immediate\openout \csname tf@#1\endcsname\endcsname%
11710 \jobname.\@nameuse{ext@#1}\relax%
11711 }{}%
11712 \LWR@subtableofcontents{#1}{#2}%
11713 \expandafter\newwrite\csname tf@#1\endcsname%
11714 \immediate\openout \csname tf@#1\endcsname%
11715 \jobname.#1\relax%
11716 }%
11717 }
```

## 81.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidetocname`, and may contain paragraphs.

Per table 18, `css` may be used to format the `sideroc`.

Table 18: `css` related to the `sideroc`

`div.sidetoccontainer`: The entire `sideroc`.

`div.sidetoctitle`: The title.

`div.sidetoccontents`: The table of contents.

```

11718 \end{warpHTML}
```

**for HTML & PRINT:** `11719 \begin{warpall}`

`SideTOCDepth (Ctr)` Controls how deep the side-TOC gets. Use a standard L<sup>A</sup>T<sub>E</sub>X section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```

11720 \newcounter{SideTOCDepth}
11721 \setcounter{SideTOCDepth}{1}
11722
11723 \AtEndDocument{%
11724 \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
11725 \PackageWarningNoLine{lwarp}
11726 {%
11727 SideTOCDepth is less than FileDepth,\MessageBreak
11728 so some website pages may be inaccessible%

```

```

11729 }
11730 }{}
11731 }

```

`\sitetocname` Holds the default name for the sideroc.

```

11732 \newcommand{\sitetocname}{Contents}

11733 \end{warpall}

```

**for HTML output:** 11734 `\begin{warpHTML}`

`\LWR@sitetoc` Creates the actual side-TOC.

```

11735 \newcommand*{\LWR@sitetoc}{%
11736 \LWR@forcenewpage
11737 \LWR@stoppars
11738 }

```

The entire sideroc is placed into a nav of class `sitetoc`.

```

11739 \LWR@htmlclass{div}{sitetoccontainer}
11740 \LWR@htmlclass{nav}{sitetoc}
11741
11742 \setcounter{tocdepth}{\value{SideTOCDepth}}

```

The title is placed into a `<div>` of class `sitetocitle`, and may contain paragraphs.

```

11743 \begin{BlockClass}{sitetocitle}
11744 \ifcvoid{thetitle}{}{\InlineClass{sitetocthetitle}{\thetitle}\par}
11745 \sitetocname
11746 \end{BlockClass}

```

The table of contents is placed into a `<div>` of class `sitetoccontents`.

```

11747 \begin{BlockClass}{sitetoccontents}
11748 \LinkHome
11749
11750 \LWR@myshorttoc{sitetoc}
11751 \end{BlockClass}
11752 \LWR@htmlclassend{nav}{sitetoc}
11753 \LWR@htmlclassend{div}{sitetoccontainer}
11754 }

```

## 81.4 Low-level toc line formatting

`\numberline {<number>}`

(Called from each line in the `.aux`, `.lof` files.)

Record this section number for further use:

```

11755 \newcommand*{\LWR@numberline}[1]{%
11756 \LWR@sectionnumber{#1}\quad%
11757 }

```

```
11758
11759 \LetLtxMacro\numberline\LWR@numberline
```

\LWR@maybetocdata Replaced by tocdata. Adds author name.

```
11760 \newcommand*{\LWR@maybetocdata}{}%
```

```
\hypertoc {<1: depth>} {<2: type>} {<3: name>} {<4: page>}
```

Called by \l@section, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

**#1:** Depth.

**#2:** section, subsection, etc.

**#3:** The text of the caption.

**#4:** Page number, which for HTML is the LWR@currentautosecpage when the section was created.

```
11761 \NewDocumentCommand{\hypertoc}{m m +m m}{%
11762 \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to tocdepth:

```
11763 \ifnumcomp{#1}{>}{\value{tocdepth}}%
11764 {}%
11765 {%
11766 \LWR@startpars%
```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11767 \LWR@subhyperrefclass{%
11768 \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
11769 \LWR@origpound\LWR@print@mbbox{autosec-#4}%
11770 }{#3}{toc#2}%

11771 \LWR@maybetocdata%

11772 \LWR@stoppars%
11773 }%
11774 \LWR@traceinfo{hypertoc done}%
11775 }
```

lofdepth (Ctr) TOC depth for figures.

```
11776 \IfClassLoadedTF{memoir}{}{
11777 \newcounter{lofdepth}
11778 \setcounter{lofdepth}{1}
11779 }
```

lotdepth (*Ctrl*) toc depth for tables.

```
11780 \IfClassLoadedTF{memoir}{}{
11781 \newcounter{lotdepth}
11782 \setcounter{lotdepth}{1}
11783 }
```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

**#1** is depth

**#2** is figure, table, etc.

**#3** is lof, lot, of the parent.

**#4** the text of the caption

**#5** page number

```
11784 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```
11785 \@ifundefined{c@#3depth}{%
11786 \newcounter{#3depth}%
11787 \setcounter{#3depth}{1}%
11788 }{}%
```

Respond to lofdepth, etc.:

```
11789 \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
11790 \ifthenelse{\cnttest{#1}{<=}}{\arabic{#3depth}}}%
11791 {%
11792 \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11793 \LWR@subhyperrefclass{%
11794 \LWR@htmlrefsectionfilename{%
11795 \BaseJobname-autopage-\arabic{LWR@nextautopage}%
11796 }%
11797 \LWR@origpound\LWR@print@mbx{autoid-\arabic{LWR@nextautoid}}}%
11798 {#4}{toc#2}%

11799 \LWR@maybetocdata%

11800 \LWR@stoppars%
11801 }%
11802 }{}%
11803 }
```

Automatically called by \contentsline:

`\l@book {<name>} {<page>}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\book`.

```
11804 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

`\l@part {<name>} {<page>}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\part`.

```
11805 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

`\l@chapter {<name>} {<page>}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\chapter`.

```
11806 \ifundefined{chapter}
11807 {}
11808 {
11809 \DeclareDocumentCommand{\l@chapter}{m m}
11810 {\hypertoc{0}{chapter}{#1}{#2}}
11811 }
```

`\l@section {<name>} {<page>}`

```
11812 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

`\l@subsection {<name>} {<page>}`

```
11813 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

`\l@subsubsection {<name>} {<page>}`

```
11814 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

`\l@paragraph {<name>} {<page>}`

```
11815 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

`\l@subparagraph {<name>} {<page>}`

```
11816 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

`\l@figure {<name>} {<page>}`

```
11817 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

`\l@table {<name>} {<page>}`

```
11818 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
11819 \end{warpHTML}
```

## 82 Index and glossary

See:

[http://tex.stackexchange.com/questions/187038/  
how-to-mention-section-number-in-index-created-by-imakeidx](http://tex.stackexchange.com/questions/187038/how-to-mention-section-number-in-index-created-by-imakeidx)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output:** 11820 `\begin{warpHTML}`

```
11821 \newcounter{LWR@autoindex}
11822 \setcounter{LWR@autoindex}{0}
11823
11824 \newcounter{LWR@autoglossary}
11825 \setcounter{LWR@autoglossary}{0}
```

`\IndexPageSeparator` User-adjustable delimiters for page and range separators in the \*.ind files.

`\IndexRangeSeparator`

```
11826 \newcommand*\IndexPageSeparator}{, }
11827 \newcommand*\IndexRangeSeparator}{--}
```

`theindex (env.)`

```
11828 \@ifundefined{chapter}
11829 {\newcommand*\LWR@indexsection}[1]{\section*{#1}}
11830 {\newcommand*\LWR@indexsection}[1]{\chapter*{#1}}
11831
11832
11833 \AtBeginDocument{
11834 \LWR@traceinfo{AtBeginDocument theindex}
11835
11836 \renewenvironment*{theindex}{%
11837 \LWR@indexsection{\indexname}%
11838 \DeclareCommandCopy{\item}{\LWR@indexitem}%
11839 \DeclareCommandCopy{\subitem}{\LWR@indexsubitem}%
11840 \DeclareCommandCopy{\subsubitem}{\LWR@indexsubsubitem}%
11841 }{}
11842
11843 }% AtBeginDocument
```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support `repeatindex`.

```
11844 \newcommand*\LWR@indexitem}[1][\@empty]{
11845
11846 \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
11847 }
```

`\LWR@indexsubitem`

```
11848 \newcommand*\LWR@indexsubitem){
11849
11850 \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
11851 }
```

\LWR@indexsubsubitem

```
11852 \newcommand{\LWR@indexsubsubitem}{
11853
11854 \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
11855 }
```

\LWR@index@modifyentry {<*indexing term*>}

If using *xindex*, modifies the pipe character to become \hyperindexformat. The indexing term is split into two argument at the pipe, then fed to \LWR@index@modifyentrysub.

```
11856 \NewDocumentCommand{\LWR@index@modifyentry}{>\SplitArgument{1}{|}}m}
11857 {\LWR@index@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a hyperindexformat clause.

```
11858 \newcommand*{\LWR@index@modifyentrysub}[2]{%
11859 \edef\LWR@tempone{#1}%
11860 \edef\LWR@temptwo{#2}%
11861 \IfValueTF{#2}{%
11862 \ifx#2(%
11863 \appto\LWR@tempone{|}%
11864 \else%
11865 \ifx#2)%
11866 \appto\LWR@tempone{|}%
11867 \else%
11868 \appto\LWR@tempone{%
11869 |hyperindexformat\LWRleftbrace%
11870 \LWRbackslash#2%
11871 \LWRrightbrace%
11872 }%
11873 \fi%
11874 \fi%
11875 }%
11876 {%
11877 }
```

LWR@index@tricked (*bool*) Used to track *xindex* creation. See next.

```
11878 \newbool{LWR@index@tricked}
11879 \boolfalse{LWR@index@tricked}
```

\@wrindex {<*indexing term*>} Redefined to write the LWR@autoindex counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that *hyperref* was used.

```
11880 \def\LWR@wrindex#1{%
11881 \ifbool{LWR@index}{%
11882 \ifbool{LWR@index@tricked}{%
11883 \protected@write\@indexfile{%
11884 {%
11885 \LWRpercent\space hyperpage\LWRrightbrace%
11886 \LWRpercent\space trick xindex to assume hyperref%
```

```

11887 }%
11888 \global\booltrue{LWR@index@tricked}%
11889 }%
11890 \LWR@index@modifyentry{#1}%
11891 }{%
11892 \def\LWR@tempone{#1}%
11893 }%
11894 \addtocounter{LWR@autoindex}{1}%
11895 \protected@write\@indexfile{}%
11896 {\string\indexentry{\LWR@tempone}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

11897 \label{LWRindex-\arabic{LWR@autoindex}}%
11898 \endgroup%
11899 \@esphack%
11900 }
11901
11902 \AtBeginDocument{
11903 \LWR@traceinfo{AtBeginDocument @wrindex}
11904 \let\@wrindex\LWR@wrindex
11905 }

```

`\@wrglossary {<term>}`      Redefined to write the `LWR@autoglossary` counter instead of page.

```

11906 \def\@wrglossary#1{%
11907 \addtocounter{LWR@autoglossary}{1}%
11908 \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
11909 \protected@write\@glossaryfile{%
11910 {\string\glossaryentry{#1}{\theLWR@autoglossary}}%
11911 \endgroup%
11912 \@esphack%
11913 }

```

`\LWR@indexnameref@anonref {<LWR@autoindex>}`

Displays a reference link where there no `\ref` available.

```

11914 \newcommand*{\LWR@indexnameref@anonref}[1]{%
11915 \LWR@startref{LWRindex-#1}%
11916 (*)%
11917 \LWR@htmltag{/a}%
11918 }

```

`\LWR@indexnameref@ref {<LWR@autoindex>}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```

11919 \newcommand*{\LWR@indexnameref@ref}[1]{%
11920 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11921 \ifdefvoid{\LWR@thisref}{}{%
11922 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11923 \ifdefvoid{\LWR@thisref}%
11924 {\LWR@indexnameref@anonref{#1}}%
11925 {\ref{LWRindex-#1}}%
11926 }%
11927 }

```

`\LWR@indexnameref@refnameref`  $\langle LWR@autoindex \rangle$

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or ?? objects, only the name is used.

```

11928 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
11929 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11930 \ifdefvoid{\LWR@thisref}{}{%
11931 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11932 \ifdefvoid{\LWR@thisref}{}{%
11933 \ifdefstring{\LWR@thisref}{(*)}%
11934 {}%
11935 {\ref{LWRindex-#1} }% space
11936 }%
11937 }%
11938 \nameref{LWRindex-#1}%
11939 }
```

`\LWR@indexnameref@cref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is ??, which will be changed by `\LWR@indexnameref` to become (\*), then the link is changed to show (\*).

```

11940 \newcommand*{\LWR@indexnameref@cref}[1]{%
11941 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11942 \ifdefvoid{\LWR@thisref}{}%
11943 \nameref{LWRindex-#1}%
11944 }{%
11945 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11946 \ifdefvoid{\LWR@thisref}{}%
11947 \nameref{LWRindex-#1}%
11948 }{%
11949 \ifdefstring{\LWR@thisref}{(*)}%
11950 \LWR@indexnameref@anonref{#1}%
11951 }{%
11952 \cref{LWRindex-#1}%
11953 }%
11954 }%
11955 }%
11956 }
```

`\LWR@indexnameref@crefnameref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is ??, which will be changed by `\LWR@indexnameref` to become (\*), then the link is changed to show only the name.

```

11957 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11958 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11959 \ifdefvoid{\LWR@thisref}%
11960 {}%
11961 {%
11962 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11963 \ifdefvoid{\LWR@thisref}%
11964 {}%
```

```

11965 {%
11966 \ifdefstring{\LWR@thisref}{(*)}%
11967 {%}
11968 {\cref{LWRindex-#1}} % space
11969 }%
11970 }%
11971 \nameref{LWRindex-#1}%
11972 }

```

`\LWR@indexnameref {<LWR@autoindex>}`

Creates a hyperlink based on the given entry's autoindex.

```

11973 \newcommand*{\LWR@indexnameref}[1]{%
11974 {% group

```

Temporarily redefine `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```

11975 \ifdef{\caption@xref}{%
11976 \renewcommand*{\caption@xref}[2]{(*)}%
11977 }{%
11978 \ifdefstring{\LWR@IndexRef}{ref}{%
11979 \LWR@indexnameref@ref{#1}%
11980 }{%
11981 \ifdefstring{\LWR@IndexRef}{nameref}{%
11982 \nameref{LWRindex-#1}%
11983 }{%
11984 \ifdefstring{\LWR@IndexRef}{refnameref}{%
11985 \LWR@indexnameref@refnameref{#1}%
11986 }{%
11987 \ifdefstring{\LWR@IndexRef}{cref}{%
11988 \LWR@indexnameref@cref{#1}%
11989 }{%
11990 \ifdefstring{\LWR@IndexRef}{crefnameref}{%
11991 \LWR@indexnameref@crefnameref{#1}%
11992 }{%
11993 \ifdefstring{\LWR@IndexRef}{autoref}{%
11994 \LWR@indexnameref@cref{#1}%
11995 }{% text string
11996
11996 \ifnumcomp{\value{LWR@linkdepth}}{>}{0}%
11997 {%
11998 {%
11999 \addtocounter{LWR@linkdepth}{1}%
12000 \LWR@startref{LWRindex-#1}%
12001 \LWR@IndexRef%
12002 \LWR@htmltag{/a}%
12003 \addtocounter{LWR@linkdepth}{-1}%
12004 }%
12005 }}}}%
12006 }% group
12007 }

```

`\LWR@doindexentrysubsub {<range start: LWR@autoindex, or macros.>} {<range end or blank>}`

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```

12008 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
12009 \IfInteger{#1}%
12010 {\LWR@indexnameref{#1}}%
12011 {#1}%
12012 \IfValueT{#2}{%
12013 \IndexRangeSeparator%
12014 \IfInteger{#2}%
12015 {\LWR@indexnameref{#2}}%
12016 {#2}%
12017 }%
12018 }

```

`\LWR@doindexentrysub` {<*range delimiter*>} {<*LWR@autoindex or macros, possible a range*>}

```

12019 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
12020 {\LWR@doindexentrysubsub#2}

```

`\LWR@doindexentry` {<*LWR@autoindex or macros, possible a range*>}

```

12021 \newcommand*{\LWR@doindexentry}[1]{%
12022 \relax% required
12023 \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
12024 }

```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

```
\appto\LWR@hyperindexrefnullified{. . .}
```

```

12025 \newcommand{\LWR@hyperindexrefnullified}{%
12026 \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
12027 \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
12028 \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
12029 \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
12030 \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
12031 \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
12032 \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
12033 \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
12034 \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
12035 \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
12036 \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
12037 \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
12038 \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
12039 }

```

`\hyperindexref` {<*list of LWR@autoindex, commas, and ranges*>}

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```
12040 \newcommand*{\hyperindexref}[1]{%
```

```

12041 \relax% required
12042 \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
12043 }

```

`\LWR@hyperindexref@comma` {*<separator>*} {*<list of args>*}

The list is split at commas, and passed to `\LWR@hyperindexref@comma`.

```

12044 \NewDocumentCommand{\LWR@hyperindexref@comma}
12045 {m >\SplitList{#1}} m}
12046 {%

```

Used to place the separator between each entry, but not before the first.

```

12047 \def\LWR@hyperindexref@thiscomma{}%
12048 \def\LWR@hyperindexref@nextcomma{#1}%

```

Each comma-delimited entry is now passed individually to `\LWR@hyperindexref@comma`.

```

12049 \ProcessList{#2}\LWR@hyperindexref@comma%
12050 }

```

`\LWR@hyperindexref@comma` {*<arg, perhaps with a range>*}

A comma separator is placed if not the first item, then the range is parsed.

```

12051 \newcommand*{\LWR@hyperindexref@comma}[1]{%
12052 \LWR@hyperindexref@thiscomma%
12053 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
12054 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
12055 }

```

`\LWR@hyperindexref@range` {*<range delimiter>*} {*<arg>*}

```

12056 \NewDocumentCommand{\LWR@hyperindexref@range}
12057 {m >\SplitArgument{1}{#1}} m}
12058 {\LWR@hyperindexrefsub#2}

```

`\LWR@hyperindexrefsub` {*<range start: LWR@autoindex>*} {*<range end, or -NoValue->*}

Handles the start and end of a range, if applicable.

```

12059 \newcommand*{\LWR@hyperindexrefsub}[2]{%
12060 \LWR@hyperindexrefsubtwo{#1}%
12061 \IfValueT{#2}{%
12062 \IndexRangeSeparator%
12063 \LWR@hyperindexrefsubtwo{#2}%
12064 }%
12065 }

```

`\LWR@hyperindexrefsubtwo` {*<LWR@autoindex>*}

```

12066 \newcommand*{\LWR@hyperindexrefsubtwo}[1]{%

```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```
12067 \edef\LWR@tempone{#1}%
12068 \IfBeginWith{\LWR@tempone}{ }{%
12069 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
12070 }{ }%
```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```
12071 \IfInteger{\LWR@tempone}%
12072 { \LWR@indexnameref{\LWR@tempone}}%
12073 {%
12074 \begingroup%
12075 \LWR@hyperindexrefnullified%
12076 #1%
12077 \endgroup%
12078 }%
12079 }
```

\hyperpage Emulate hyperref.

```
12080 \LetLtxMacro\hyperpage\hyperindexref
```

\nohyperpage Emulate hyperref.

```
12081 \def\nohyperpage#1{ }
```

\hyperindexformat Emulate hyperref.

```
12082 \AtBeginDocument{
12083 \def\hyperindexformat#1#2{%
12084 #1{\hyperpage{#2}}%
12085 }%
12086 }
```

\hyperxindexformat Emulate hyperref.

```
12087 \AtBeginDocument{
12088 \let\hyperxindexformat\hyperindexformat
12089 }
```

```
12090 \end{warphTML}
```

**for PRINT output:** A null command for print mode, in case hyperref was not used:

```
12091 \begin{warpprint}
12092 \newcommand{\hyperindexref}[1]{#1}
12093 \end{warpprint}
```

**for HTML & PRINT:** For the glossaries package, try to prevent an error where \glo@name was not found:

```
12094 \begin{warppall}
12095 \providecommand{\glo@name}{}
12096 \end{warppall}
```

## 83 Bibliography presentation

for HTML output: 12097 \begin{warphTML}

\bibliography {\filenames} At one time this was modified to read \BaseJobname.bbl, which meant the HTML version could not resolve until the print version was also present. This also confused multibib. It has been reverted to the original to use \jobname.bbl.

\@biblabel {\text-refnumber}

12098 \renewcommand{\@biblabel}[1][\#1]\quad

thebibliography (env.) To emphasize document titles in the bibliography, the following redefines \em inside thebibliography to gather everything until the next closing brace, then display these tokens with \textit.

*Adapted from embracedef.sty, which is by TAKAYUKI YATO:*

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```
12099 \AtBeginDocument{
12100 \LWR@traceinfo{AtBeginDocument thebibliography}
12101
12102 \AtBeginEnvironment{thebibliography}{
12103
12104 \providecommand*\LWR@newem}[1]{\textit{#1}}
12105
12106 \renewrobustcmd{\em}{%
12107 \begingroup
12108 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
12109 \afterassignment\LWR@em@after
12110 \toks@\bgroup
12111 }
12112
12113 \def\LWR@em@finish#1{%
12114 \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
12115 \endgroup
12116 \LWR@em@after\egroup
12117 }
12118
12119 }% \AtBeginEnvironment{thebibliography}
12120
12121 }% \AtBeginDocument

12122 \end{warphTML}
```

## 84 Restoring original formatting

for HTML output: 12123 \begin{warphTML}

\LWR@restoreMathJaxformatting A few macros (ref: tcolorbox) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
12124 \newcommand*{\LWR@restoreMathJaxformatting}{}%
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a lateximage.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```
12125 \newcommand*{\LWR@restoreorigformatting}{}%
```

```
12126 \LWR@traceinfo{\LWR@restoreorigformatting}%
```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```
12127 \renewcommand*{\LWR@formatting}{print}%
```

```
12128 \linespread{1}%
```

```
12129 \setbool{\LWR@doingparhooks}{false}%
```

```
12130 \def\color@endgroup{\endgraf\endgroup}%
```

```
12131 \LetLtxMacro\hfil\LWR@origfil%
```

```
12132 \let\hss\LWR@orighss%
```

```
12133 \let\llap\LWR@origllap%
```

```
12134 \let\rlap\LWR@origrlap%
```

```
12135 \let\hfilneg\LWR@origfilneg%
```

```
12136 \let\,\LWR@origcomma% disable HTML short unbreakable space
```

```
12137 \let\textless\LWR@origtextless%
```

```
12138 \let\textgreater\LWR@origtextgreater%
```

```
12139 \let\&\LWR@origampersand%
```

```
12140 \let%\LWR@origpercent%
```

```
12141 \LetLtxMacro\em\LWR@origem%
```

```
12142 \LetLtxMacro\normalfont\LWR@orignormalfont%
```

```
12143 \let\sp\LWR@origsp%
```

```
12144 \let\sb\LWR@origsb%
```

```
12145 \LetLtxMacro\underline\LWR@origunderline%
```

```
12146 \LetLtxMacro~\LWR@origtilde%
```

```
12147 \LetLtxMacro\nobreakspace\LWR@orignobreakspace%
```

`\endtabular` must be restored to its original, instead of relying on lwarp's `\LWR@formatted` mechanism:

```
12148 \LetLtxMacro\endtabular\LWR@origendtabular%
```

```
12149 \csletcs{endtabular*}{\LWR@origendtabular*}%
```

```
12150 \LetLtxMacro\noalign\LWR@orignoalign%
```

```
12151 \LetLtxMacro\hline\LWR@orighline%
```

```

12152 \let\newline\LWR@orignewline%
12153 \LetLtxMacro\includegraphics\LWR@originincludegraphics%

12154 \LetLtxMacro\@ensuredmath\LWR@origensuredmath%

12155 \let\math\LWR@orig@math%
12156 \let\endmath\LWR@orig@endmath%
12157 \let\displaymath\LWR@orig@displaymath%
12158 \let\enddisplaymath\LWR@orig@enddisplaymath%
12159 %
12160 \LWR@restoreorigaccents%
12161 \LWR@restoreoriglists%

12162 \let\@mpfootnotetext\LWR@orig@mpfootnotetext%

12163 \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for `tcolorbox`:

```

12164 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
12165 {\LWR@restoreMathJaxformatting}%
12166 {}%
12167 }

12168 \end{warpHTML}

```

## 85 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 12169 \begin{warpHTML}

Also commonly used are `\@empty`, `\@gobble`, and `\@firstofone`.

```
12170 \newcommand*{\LWR@dash}{-}
```

`\LWR@nullfonts` Removes formatting during filename operations, file references, and HTML comments.



**Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```

12171 \catcode`\$=\active% redefining $ below
12172 \catcode`_ =12% redefining _ below
12173 \newcommand*{\LWR@nullfonts}{%

```

Various built-in symbols.

```
12174 \renewcommand*{\$}{-}%
```

```

12175 \renewcommand*{\%}{-}%
12176 \renewcommand*{_}{-}%
12177 \renewcommand*{\%}{-}%
12178 \renewcommand*{\%}{-}%
12179 \renewcommand*{\&}{-}% used to be 'and'
12180 \renewcommand*{\#}{-}%
12181 \renewcommand*{\,}{-}%
12182 \renewcommand*{\~}{-}%
12183 %
12184 % accents:
12185 \renewcommand*{\`}[1]{##1}%
12186 \renewcommand*{\'}[1]{##1}%
12187 \renewcommand*{\^}[1]{##1}%
12188 \renewcommand*{\~}[1]{##1}%
12189 \renewcommand*{\=}[1]{##1}%
12190 \renewcommand*{\u}[1]{##1}%
12191 \renewcommand*{\.}[1]{##1}%
12192 \renewcommand*{\"}[1]{##1}%
12193 \renewcommand*{\H}[1]{##1}%
12194 \renewcommand*{\v}[1]{##1}%
12195 \renewcommand*{\d}[1]{##1}%
12196 \renewcommand*{\c}[1]{##1}%
12197 \renewcommand*{\b}[1]{##1}%
12198 \renewcommand*{\t}[1]{##1}%
12199 %
12200 \let\newline\LWR@dash%
12201 \let\textasciicircum\LWR@dash%
12202 \let\textasciitilde\LWR@dash%
12203 \let\textasteriskcentered\LWR@dash%
12204 \let\textbackslash\LWR@dash%
12205 \let\textbar\LWR@dash%
12206 \let\textbardbl\LWR@dash%
12207 \let\textbigcircle\LWR@dash%
12208 \let\textbraceleft\LWR@dash%
12209 \let\textbraceright\LWR@dash%
12210 \let\textbullet\LWR@dash%
12211 \let\textcopyright\LWR@dash%
12212 \let\textdagger\LWR@dash%
12213 \let\textdaggerdbl\LWR@dash%
12214 \let\textdollar\LWR@dash%
12215 \let\textellipsis\LWR@dash%
12216 \let\textemdash\LWR@dash%
12217 \let\textendash\LWR@dash%
12218 \let\textexclamdown\LWR@dash%
12219 \let\textgreater\LWR@dash%
12220 \let\textless\LWR@dash%
12221 \let\textordfeminine\LWR@dash%
12222 \let\textordmasculine\LWR@dash%
12223 \let\textparagraph\LWR@dash%
12224 \let\textperiodcentered\LWR@dash%
12225 \let\textpertenthousand\LWR@dash%
12226 \let\textperthousand\LWR@dash%
12227 \let\textquestiondown\LWR@dash%
12228 \let\textquotedblleft\LWR@dash%
12229 \let\textquotedblright\LWR@dash%
12230 \let\textquoteleft\LWR@dash%
12231 \let\textquoteright\LWR@dash%
12232 \let\textregistered\LWR@dash%
12233 \let\textsection\LWR@dash%
12234 \let\textsterling\LWR@dash%

```

```

12235 \let\texttrademark\LWR@dash%
12236 \let\textunderscore\LWR@dash%
12237 \let\textvisiblespace\LWR@dash%
12238 \let\copyright\LWR@dash%
12239 \let\dag\LWR@dash%
12240 \let\ddag\LWR@dash%
12241 \let\dots\LWR@dash%
12242 \let\P\LWR@dash%
12243 \let\pounds\LWR@dash%
12244 \let\S\LWR@dash%
12245 %
12246 \renewcommand*{\aa}{a}%
12247 \renewcommand*{\AA}{A}%
12248 \renewcommand*{\AE}{AE}%
12249 \renewcommand*{\ae}{ae}%
12250 \renewcommand*{\dh}{d}%
12251 \renewcommand*{\DH}{D}%
12252 \renewcommand*{\DJ}{D}%
12253 \renewcommand*{\dj}{d}%
12254 \renewcommand*{\IJ}{IJ}%
12255 \renewcommand*{\ij}{ij}%
12256 \renewcommand*{\L}{L}%
12257 \renewcommand*{\l}{l}%
12258 \renewcommand*{\NG}{NG}%
12259 \renewcommand*{\ng}{ng}%
12260 \renewcommand*{\O}{O}%
12261 \renewcommand*{\o}{o}%
12262 \renewcommand*{\oe}{oe}%
12263 \renewcommand*{\OE}{OE}%
12264 \renewcommand*{\ss}{ss}%
12265 \renewcommand*{\SS}{SS}%
12266 \renewcommand*{\th}{th}%
12267 \renewcommand*{\TH}{TH}%
12268 %
12269 \let\guillemotleft\@empty%
12270 \let\guilsinglleft\@empty%
12271 \let\quotedblbase\@empty%
12272 \let\textquotedbl\@empty%
12273 \let\guillemotright\@empty%
12274 \let\guilsinglright\@empty%
12275 \let\quotesinglbase\@empty%

12276 \renewcommand*{\HTMLunicode}[1]{}%
12277 \renewcommand*{\HTMLentity}[1]{}%

12278 \renewcommand{\textsuperscript}[1]{##1}%
12279 \renewcommand{\textsubscript}[1]{##1}%

12280 \renewcommand{\underline}[1]{##1}%

12281 \RenewDocumentCommand{\hspace}{s m}{}%

12282 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{##4}%
12283 \DeclareExpandableDocumentCommand{\InlineClass}{D{(){} }{} o m +m}{##4}%

```

Nullify math macros.

```

12284 \def\{##1\}{}%
12285 \def\[##1\]{}%
12286 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

Nullify logos:

```

12287 \renewcommand*\TeX{\TeX}%
12288 \renewcommand*\LaTeX{\LaTeX}%
12289 \renewcommand*\LaTeXe{\LaTeX2e}%
12290 \renewcommand*\LuaTeX{\LuaTeX}%
12291 \renewcommand*\LuaLaTeX{\LuaLaTeX}%
12292 \renewcommand*\XeTeX{\XeTeX}%
12293 \renewcommand*\XeLaTeX{\XeLaTeX}%
12294 \renewcommand*\ConTeXt{\ConTeXt}%
12295 \renewcommand*\BibTeX{\BibTeX}%
12296 \renewcommand*\MakeIndex{\MakeIndex}%
12297 \renewcommand*\AmS{\AmS}%
12298 \renewcommand*\MiKTeX{\MiKTeX}%
12299 \renewcommand*\LyX{\LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

12300 \def\texorpdfstring{\expandafter\@secondoftwo}%
12301 }
12302 \catcode`\$=3%
12303 \catcode`_ =8%

```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```

12304 \newcommand*\FilenameNullify}[1]{%
12305 \appto{\LWR@nullfonts}{#1}%
12306 }

12307 \end{warpHTML}

```

## 86 Math

### 86.1 Limitations

See [Math](#), section 8.7.

### 86.2 Inline and display math

**for HTML output:** 12308 \begin{warpHTML}

`LWR@externalfilecnt` (*Ctr*) Counter for the external files which are generated and then referenced from the HTML:

```

12309 \newcounter{LWR@externalfilecnt}

```

`LWR@indisplaymathimage` (*bool*) True if processing display math for svg output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
12310 \newbool{LWR@indisplaymathimage}
```

`LWR@insidemathcomment` (*bool*) True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label's HTML tags will be seen by HTML.

```
12311 \newbool{LWR@insidemathcomment}
```

```
12312 \boolfalse{LWR@insidemathcomment}
```

`LWR@xfakebold` (*bool*) True if `xfakebold \setBold` is in use.

```
12313 \newbool{LWR@xfakebold}
```

```
12314 \boolfalse{LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
12315 \newcommand*{\LWR@orig@setBold}{}%
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
12316 \newcommand*{\LWR@orig@unsetBold}{}%
```

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

```
12317 \newcommand*{\LWR@applyxfakebold}{}%
```

`\LWR@setcurrentfont` Sets the actual L<sup>A</sup>T<sub>E</sub>X font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “bf”. This sets the PDF output here for use inside a `lateximage`.

```
12318 \newcommand*{\LWR@setcurrentfont}{}%
```

```
12319 \LWR@traceinfo{Using font family \LWR@f@family}%
```

```
12320 \@nameuse{LWR@print@\LWR@f@family family}%
```

```
12321 \LWR@traceinfo{Using font series \LWR@f@series}%
```

```
12322 \@nameuse{LWR@print@\LWR@f@series series}%
```

```
12323 \LWR@traceinfo{Using font shape \LWR@f@shape}%
```

```
12324 \@nameuse{LWR@print@\LWR@f@shape shape}%
```

```
12325 \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
```

```
12326 \@nameuse{LWR@print@\LWR@f@shapecaps shape}%
```

```
12327 }
```

`\$` Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar `\$`, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a `lateximage`, in which case it will not be seen by MATHJAX.

```
12328 \let\LWR@origtextdollar\$
```

```
12329
```

```
12330 \renewcommand*{\$}{}%
```

```
12331 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

```
12332 {\LWR@origtextdollar}%
```

```

12333 {\HTMLUnicode{00024}}}%
12334 }

```

lwarp\_baseline\_marker.png A marker to be used to help *pdfcrop* identify the inline math baseline and width.  
 (file) If either **graphicx** or **graphics** is loaded, this marker is placed at the lower left and lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

lwarp\_baseline\_marker.eps  
 (file)

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final svg image.

If **graphicx** is loaded, this marker is sized as a tiny 1 sp square. If **graphics** is loaded, this marker is used at its default size of around .25 pt. If neither **graphics** package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using **graphicx**.

**\LWR@addbaselinemarker** Places a small marker in an svg inline image. If **graphics** or **graphicx** are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```

12335 \AtBeginDocument{
12336 \LWR@traceinfo{AtBeginDocument lwarp_baseline_marker}
12337
12338 \ifpdf
12339 \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
12340 \else
12341 \ifXeTeX
12342 \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
12343 \else
12344 \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}
12345 \fi
12346 \fi
12347
12348 \IfFileExists{\LWR@baselinename}%
12349 {
12350 \IfPackageLoadedTF{graphicx}{
12351 \newcommand*{\LWR@addbaselinemarker}{%
12352 \LWR@originincludegraphics{\LWR@baselinename}%
12353 }
12354 }{
12355 \IfPackageLoadedTF{graphics}{
12356 \newcommand*{\LWR@addbaselinemarker}{%
12357 \LWR@originincludegraphics{\LWR@baselinename}%
12358 }
12359 }{
12360 \newcommand*{\LWR@addbaselinemarker}{%
12361 \global\booltrue{\LWR@warnbaselinemarker}%
12362 }
12363 }
12364 \AtEndDocument{
12365 \ifbool{\LWR@warnbaselinemarker}{
12366 \PackageNoteNoLine{lwarp}{%
12367 Load graphicx or graphics for improved\MessageBreak
12368 SVG math sizing and baselines%
12369 }
12370 }{}
12371 }

```

```

12372 }
12373 }{% lwarp_baseline_marker.png or .eps is not present
12374 \newcommand*{\LWR@addbaselinemarker}{%
12375 \global\booltrue{\LWR@warnbaselinemarker}%
12376 }
12377 \AtEndDocument{
12378 \ifbool{\LWR@warnbaselinemarker}{
12379 \PackageWarningNoLine{lwarp}{%
12380 File \LWR@baselinename\space is not installed\MessageBreak
12381 alongside the lwarp-*.sty files, so\MessageBreak
12382 SVG math sizing and baselines may not be accurate}
12383 }{}
12384 }
12385 }
12386
12387 }% AtBeginDocument

```

**LWR@warnbaselinemarker** (*bool*) True if the math baseline marker was ever called for, but **graphics** or **graphicx** were not loaded.

```

12388 \newbool{\LWR@warnbaselinemarker}
12389 \boolfalse{\LWR@warnbaselinemarker}

```

**LWR@unknownmathsize** (*bool*) If **TikZ** or other objects are used inside math mode, the resulting image may exceed the **TEX** box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the **HTML** styles for image size and depth will be neutralized.

```

12390 \newbool{\LWR@unknownmathsize}

```

**\LWR@singledollarmeasure** { *$$* }

Measures the size of the image of the math expression.

(In some circumstances **svg math** is used even if **MATHJAX** is preferred.)

**svg math:** **\LWR@origensuredmath** is part of argument #4.

**svg math \ensuremath:** **\LWR@origensuredmath** is part of argument #4.

**svg dynamic math:** **\LWR@origensuredmath** is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without **\LWR@origensuredmath**. This case is handled above.

**MATHJAX \ensuremath:** **\LWR@origensuredmath** is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without **\LWR@origensuredmath**, so **\LWR@origensuredmath** is added below.

**\ifmmode:** Included “just in case”.

Factored from **\LWR@subsingledollarsvg**.

```

12391 \newcommand*{\LWR@singledollarmeasure}[1]{%
12392 \begingroup%

```

Temporarily disable formatting while measuring the image parameters:

```
12393 \LWR@restoreorigformatting%
12394 \RenewDocumentEnvironment{lateximage}{s o s t? o o d()}{}{}% inside group
12395 \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
12396 \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags.  $\mathcal{A}\mathcal{M}\mathcal{S}$  math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
12397 \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```
12398 \boolfalse{LWR@unknownmathsize}%
12399 \ifmode%
12400 \global\abox{\LWR@singledollarbox}{#1}%
12401 \else%
12402 \ifbool{LWR@dynamicmath}{%
12403 \ifbool{mathjax}{%
12404 \global\abox{\LWR@singledollarbox}%
12405 {\LWR@origensuredmath{#1}}}%
12406 }{%
12407 \global\abox{\LWR@singledollarbox}{#1}%
12408 }%
12409 }{%
12410 \global\abox{\LWR@singledollarbox}{#1}%
12411 }%
12412 \fi%
```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```
12413 \global\abox{\LWR@singledollarbox}{%
12414 \usebox{\LWR@singledollarbox}%
12415 \raisebox{-\dp\LWR@singledollarbox}{%
12416 \LWR@addbaselinemarker%
12417 }%
12418 }%
```

More low-level code to undo the counter change.

```
12419 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
12420 \setlength{\LWR@singledollardepth}{%
12421 \LateximageFontScale\dp\LWR@singledollarbox%
```

```
12422 }%
```

Make the length a global change:

```
12423 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
12424 \setlength{\LWR@singledollarwidth}{%
12425 \LateximageFontScale\wd\LWR@singledollarbox%
12426 }%
12427 \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
12428 \setlength{\LWR@singledollarheight}{%
12429 \LateximageFontScale\ht\LWR@singledollarbox%
12430 }%
12431 \addtolength{\LWR@singledollarheight}{%
12432 \LateximageFontScale\dp\LWR@singledollarbox%
12433 }%
12434 \global\LWR@singledollarheight=\LWR@singledollarheight%

12435 \endgroup%
12436 }
```

`\LWR@subsingledollarsvg * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}`

For inline math. Uses svg math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances svg math is used even if MATHJAX is preferred.)

Factored from `\LWR@subsingledollar`.

```
12437 \newcommand*{\LWR@subsingledollarsvg}[4]{%
12438 \LWR@traceinfo{\LWR@subsingledollarsvg}%
```

Measure the depth, width, and height of the math image:

```
12439 \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```
12440 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
12441 \def\LWR@singledollarstyle{%
12442 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
12443 }%
12444 }{%
12445 \def\LWR@singledollarstyle{%
12446 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
12447 }%
12448 }%
```

If a very narrow width, use the height.

```

12449 \ifdimless{\LWR@singledollarwidth}{.2em}%
12450 {%
12451 \def\LWR@singledollarstyle{%
12452 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
12453 }%
12454 }%
12455 {}%
```

If very wide and short, use the width:

```

12456 \ifdimless{\LWR@singledollarheight}{.2em}%
12457 {%
12458 \def\LWR@singledollarstyle{%
12459 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
12460 }%
12461 }%
12462 {}%
```

If there is significant text depth, add the depth to the style.

```

12463 \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
12464 \def\LWR@singledollardepthstyle{%
12465 \ ; % extra space
12466 \LWR@print@mbbox{%
12467 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
12468 } % extra space
12469 }%
12470 }{%
12471 \def\LWR@singledollardepthstyle{}%
12472 }%
```

If using certain TikZ actions inside math, the resulting image may exceed the TeX boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

12473 \ifbool{LWR@unknownmathsize}{%
12474 \def\LWR@singledollarstyle{}%
12475 \def\LWR@singledollardepthstyle{}%
12476 }{%}
```

Create the lateximage using the alternate tag and the computed size and depth. The star causes lateximage to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

12477 \ifbool{LWR@dynamicmath}{%
12478 \LWR@traceinfo{subsingledollarsvg: dynamic}%
12479 \begin{lateximage}% no hashing
12480 [\MathImageAltText]% alt tag
12481 ?% Do not detokenize the alt tag
12482 []% no add'l hashing
12483 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
12484 (math)% ARIA
12485 }{% not dynamic math
12486 \LWR@traceinfo{subsingledollarsvg: static}%
12487 \IfValueTF{#1}{% #1 True
12488 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
```

Support for xfakebold:

```

12489 \ifbool{LWR@xfakebold}%
12490 {\def\LWR@tempone{Y}}%
12491 {\def\LWR@tempone{N}}%

12492 \LWR@traceinfo{subsingledollarsvg about to lateximage}%
12493 \begin{lateximage}% use hashing
12494 [#2]% alt
12495 *% do not add open/closing braces
12496 ?% Do not detokenize the alt tag
12497 [% addl' hashing
12498 #3%
12499 FM\LWR@ef@family%
12500 SR\LWR@ef@series%
12501 SH\LWR@ef@shape%
12502 SHC\LWR@ef@shapecaps%
12503 CL\LWR@tempcolor%
12504 FB\LWR@tempone% xfakebold
12505]%
12506 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
12507 (math)% ARIA
12508 \LWR@traceinfo{subsingledollar did lateximage}%
12509 }{% #1 False
12510 \begin{lateximage}% no hashing
12511 [#2]% alt
12512 ?% Do not detokenize the alt tag
12513 [% no add'l hashing
12514 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
12515 (math)% ARIA
12516]%
12517 }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```

12518 \LWR@addbaselinemarker%

```

Support for xfakebold:

```

12519 \LWR@applyxfakebold%

```

Typeset the contents:

```

12520 \usebox{\LWR@singledollarbox}%

```

The closing baseline marker:

```

12521 \LWR@addbaselinemarker%

```

```

12522 \end{lateximage}%
12523 %
12524 }

```

`\LWR@subsingledollar * {\langle 2: alt text \rangle} {\langle 3: add'l hashing \rangle} {\langle 4: math expression \rangle}`

For inline math. Uses MATHJAX, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

**SVG math:** `\LWR@origensuredmath` is part of argument #4.

**SVG math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**SVG dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated `TeX` expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

```

12525 \newlength{\LWR@singledollarwidth}
12526 \newlength{\LWR@singledollarheight}
12527 \newlength{\LWR@singledollardepth}
12528
12529 \newsavebox{\LWR@singledollarbox}
12530
12531 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
12532 \LWR@traceinfo{\LWR@subsingledollar !#2!}%

12533 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
12534 {%
12535 \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
12536 #4% contents
12537 }%
12538 {% not in a lateximage
12539 \begingroup%
```

Support for `xfakebold`:

```

12540 \LWR@applyxfakebold%
```

MATHJAX cannot parse the often complicated `TeX` expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the `alt` tag to “(math image)”,

as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if `MATHJAX`. Likewise for `siunitx` if `parse-numbers=false`.

If `MATHJAX`, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

12541 \ifboolexpr{%
12542 (
12543 bool{mathjax} or
12544 (bool{FormatWP} and bool{WPMarkMath})
12545) and
12546 (not test {
12547 \ifstrequal {#2}% from \ensuredmath
12548 {\AltTextOpen\MathImageAltText\AltTextClose}
12549 }
12550) and
12551 (not bool{LWR@dynamicmath})
12552 }%

```

For `MATHJAX`, print the math between `\(` and `\)`:

```

12553 {% mathjax
12554 \LWR@traceinfo{LWR@subsingledollar: Mathjax}%
12555 {%
12556 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12557 \textbackslash{%
12558 {%

```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math, ex. equation with `tcolorbox` with math.

```

12559 \ifmmode\else\LWR@print@ttfamily\fi%
12560 \LWR@HTMLsanitizedetokenized{\detokenize{#4}}%
12561 }%
12562 \textbackslash)%
12563 }%
12564 }% mathjax

```

For `svg`, print the math inside a `lateximage`, with an `<alt>` tag of the `LATEX` code, and a `css` style to control the baseline adjustment.

```

12565 {% not mathjax
12566 \LWR@traceinfo{%
12567 LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
12568 }%
12569 \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
12570 }% not mathjax
12571 \endgroup%
12572 }% not in a lateximage

```

Clear the single-use `alt` text:

```

12573 \gdef\LWR@ThisAltText{%
12574 \LWR@traceinfo{LWR@subsingledollar: done}%
12575 }

12576 \LetLtxMacro\LWR@origdollar$
12577 \LetLtxMacro\LWR@secondorigdollar$% balance for editor syntax highlighting

```

```

12578 \LetLtxMacro\LWR@origopenparen\(

12579 \LetLtxMacro\LWR@origcloseparen\

12580 \LetLtxMacro\LWR@origopenbracket\

12581 \LetLtxMacro\LWR@origclosebracket\]

```

\$ Redefine the dollar sign to place math inside a lateximage, or use MATHJAX:

```

$$

12582 \begingroup

12583 \catcode`\$=\active%

12584 \protected\gdef$\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by chemformula to escape single-dollar math:

```

12585 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

\LWR@doubledollar Redefine the double dollar sign to place math inside a lateximage, or use MATHJAX:

```

12586 \protected\gdef\LWR@doubledollar$#1$${%

```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```

12587 \ifbool{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%

```

For MATHJAX, print the math between \[ and \]. If there is a footnote, endnote, or other kind of note ('note' is present), sync the note numbers.

```

12588 {% mathjax: intentional blank line:

12589

12590 \begingroup%

12591 \IfSubStr{\detokenize\expandafter{#1}}{\detokenize{note}}{%

```

The equation is printed to the PDF output inside HTML comment tags. This allows labels and footnotes to be accepted and processed. The math environment is selected here, and \LWR@hidelatexequation will use the original print-mode meaning of math.

```

12592 \LWR@hidelatexequation{math}{#1}%

12593 \InlineClass{hidden}{\LWR@syncnotenumbers}%

12594 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%

12595 \textbackslash[%

12596 {%

12597 \LWR@print@ttfamily%

12598 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%

12599 }%

12600 \textbackslash]

12601 \InlineClass{hidden}{\LWR@syncnotenames}%

12602 }% yes note

12603 {% no note

12604 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%

12605 \textbackslash[%

12606 {%

12607 \LWR@print@ttfamily%

12608 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%

12609 }%

```

```

12610 \textbackslash]
12611 }% no note
12612 \endgroup%
12613
12614 }% mathjax

```

For svg, print the math inside a lateximage, with an <alt> tag of the L<sup>A</sup>T<sub>E</sub>X code:

```

12615 {% not mathjax
12616 \begin{BlockClass}{displaymath}%
12617 \LWR@newautoidanchor%
12618 \booltrue{LWR@indisplaymathimage}%
12619 \begin{lateximage}%
12620 [% alt text
12621 \textbackslash{[] % extra space
12622 \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12623 \textbackslash{]}}%
12624]%
12625 *% do not add open/closing braces
12626 ?% Do not detokenize the alt tag
12627 (math)% ARIA

```

Support for xfakebold:

```

12628 \LWR@applyxfakebold%

12629 \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
12630 \end{lateximage}%
12631 \end{BlockClass}%
12632 }% not mathjax

```

Clear the single-use alt text:

```

12633 \gdef\LWR@ThisAltText{%
12634 }%

```

`\LWR@singledollar {<math expression>}`

```

12635 \protected\gdef\LWR@singledollar#1${%
12636 \LWR@traceinfo{LWR@singledollar}%
12637 \ifbool{mathjax}{%
12638 \begingroup%
12639 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12640 \LWR@subsingledollar*%
12641 {% alt tag
12642 \textbackslash(%
12643 \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12644 \textbackslash)%
12645 }%
12646 {singledollar}% add'l hashing
12647 {#1}% contents
12648 \endgroup%
12649 }{% not mathjax
12650 \LWR@subsingledollar*%
12651 {% alt tag
12652 \textbackslash(%
12653 \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12654 \textbackslash)%

```

```

12655 }%
12656 {singledollar}% add'l hashing
12657 {\LWR@origensuredmath{#1}}% contents
12658 }% not mathjax

```

Clear the single-use alt text:

```

12659 \gdef\LWR@ThisAltText{%
12660 }

```

\( Redefine to the above dollar macros.

```

\[
12661 \AtBeginDocument{
12662 \LWR@traceinfo{AtBeginDocument paren math}
12663 \protected\gdef\(#1\){$#1$}
12664 \protected\gdef\[#1\]{$$#1$$}
12665 }
12666
12667 \endgroup% active $

12668 \AtBeginDocument{
12669 \LWR@traceinfo{AtBeginDocument bracket math}
12670 \LetLtxMacro\LWR@openbracketnormal\[
12671 \LetLtxMacro\LWR@closebracketnormal\]
12672 }

```

`\@ensuredmath {<expression>}`

If MATHJAX, a lateximage is used, since \ensuremath is often used for complex TEX expressions which MATHJAX may not render. If svg math, a hashed file is used with a simple alt tag, but additional hashing provided by the contents.

```

12673 \LetLtxMacro\LWR@origensuredmath\@ensuredmath
12674
12675 \renewcommand{\@ensuredmath}[1]{%
12676 \ifbool{mathjax}{%
12677 \begingroup%
12678 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12679 \LWR@subsingledollar*{\AltTextOpen\MathImageAltText\AltTextClose}%
12680 {%
12681 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
12682 }%
12683 {%
12684 \relax%
12685 \LWR@origensuredmath{#1}%
12686 }%
12687 \endgroup%
12688 }{% SVG math

```

If already inside a lateximage in math mode, continue as-is.

```

12689 \ifmmode%
12690 \LWR@origensuredmath{#1}%
12691 \else%

```

Create an inline math lateximage with a simple alt tag and additional hashing according to the contents.

```

12692 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
12693 {\LWR@origensuredmath{#1}}%
12694 {%
12695 \LWR@subsingledollar*%
12696 {\AltTextOpen\MathImageAltText\AltTextClose}%
12697 {%
12698 \protect\LWR@HTMLsanitizedetokenized{%
12699 \detokenize\expandafter{#1}%
12700 }%
12701 }%
12702 {\LWR@origensuredmath{#1}}%
12703 }%
12704 \fi%
12705 }%

```

Clear the single-use alt text:

```

12706 \gdef\LWR@ThisAltText{%
12707 }

```

Remember then remove the old math and displaymath environments:

```

12708 \let\LWR@orig@math\math
12709 \let\LWR@orig@endmath\endmath
12710
12711 \let\LWR@orig@displaymath\displaymath
12712 \let\LWR@orig@enddisplaymath\enddisplaymath
12713
12714 \let\math\relax
12715 \let\endmath\relax
12716
12717 \let\displaymath\relax
12718 \let\enddisplaymath\relax

```

**math (env.)** Set math mode then typeset the body of what was between the begin/end. See the **environ** package for `\BODY`.

```

12719 \NewEnviron{math}{\expandafter\(\BODY\)}

```

**LWR@displaymathnormal (env.)** Set math mode then typeset the body of what was between the begin/end. See the **environ** package for `\BODY`.

```

12720 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY]\@ignoretrue}

```

Set the default displaymath to the normal version:

```

12721 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12722 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%

```

**LWR@displaymathother (env.)** A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

12723 \newenvironment{LWR@displaymathother}
12724 {%
12725 \begin{BlockClass}{displaymath}%

```

```

12726 \LWR@newautoidanchor%
12727 \booltrue{LWR@indisplaymathimage}%
12728 \begin{lateximage}[\MathImageAltText]?(math)% [alt](ARIA)
12729 \LWR@origdollar\LWR@origdollar%
12730 }
12731 {%
12732 \LWR@origdollar\LWR@origdollar%
12733 \end{lateximage}%
12734 \end{BlockClass}%
12735 }

```

**LWR@equationother** (*env*) A version of **displaymath** which can handle complicated objects, but does not supply **MATHJAX** or **HTML alt** tags.

```

12736 \newenvironment{LWR@equationother}
12737 {%
12738 \begin{BlockClass}{displaymathnumbered}%
12739 \LWR@newautoidanchor%
12740 \booltrue{LWR@indisplaymathimage}%
12741 \begin{lateximage}[\MathImageAltText]?(math)% [alt](ARIA)
12742 \LWR@orig@equation%
12743 }
12744 {%
12745 \LWR@orig@endequation%
12746 \end{lateximage}%
12747 \end{BlockClass}%
12748 }

```

### 86.3 MATHJAX support

**LWR@nextequation** (*Ctrl*) Used to add one to compute the next equation number.

```

12749 \newcounter{LWR@nextequation}

```

Determining how to set **MATHJAX** section and equation numbers. Adjusts for various kinds of **\theequation** to determine **\theMathJaxsection** and **\theMathJaxequation**.

```

12750 \newcommand\LWR@article@theequation{\@arabic{c@equation}}
12751
12752 \newcommand\LWR@book@theequation
12753 {\ifnum \c@chapter > \z@ \thechapter.\fi \@arabic{c@equation}}
12754
12755
12756 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
12757 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
12758 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
12759
12760 \AtBeginDocument{
12761 \LWR@traceinfo{AtBeginDocument MathJax}
12762 % default per article class:
12763 \newcommand*\theMathJaxsubequations{\0}
12764 \newcommand*\theMathJaxsection{\}
12765 \newcommand*\theMathJaxequation{\arabic{equation}}
12766
12767 \ifdefstrequal{\theequation}{\LWR@article@theequation}
12768 {}{
12769 \ifdefstrequal{\theequation}{\LWR@book@theequation}{

```

```

12770 \renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}
12771 }{
12772 \ifdefstrequal{\theequation}{\LWR@subsection@theequation}{
12773 \renewcommand*\theMathJaxsection{\thesubsection{}}.}
12774 }{
12775 \ifdefstrequal{\theequation}{\LWR@section@theequation}{
12776 \renewcommand*\theMathJaxsection{\thesection{}}.}
12777 }{
12778 \ifdefstrequal{\theequation}{\LWR@chapter@theequation}{
12779 \renewcommand*\theMathJaxsection{\thechapter{}}.}
12780 }{% unknown format
12781 \PackageWarningNoLine{lwarp}
12782 {%
12783 Unknown equation tag format for \protect\theequation.\MessageBreak
12784 Article-style equation numbering will be used%
12785 }
12786 }}}}}
12787 }

```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\(" and “\)” characters. They are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
12788 \newcommand*\LWR@syncmathjax{%
```

Tell MATHJAX that the next equation number is the current L<sup>A</sup>T<sub>E</sub>X equation number.

Before each equation, lwarp inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

`subequations?` is 0 usually, 1 if inside `amsmath` subequations.

`section` is a string printed as-is, or empty.

`number` is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\(" and “\)” characters, to be printed to HTML, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```

12789 \LWR@stoppars%
12790 \InlineClass{hidden}{
12791 \textbackslash(%
12792 \textbackslash{}\seteqnumber%
12793 \{\theMathJaxsubequations\}%
12794 \{\theMathJaxsection\}%
12795 \{\theMathJaxequation\}%
12796 \textbackslash)%
12797 }
12798 \LWR@startpars%
12799 }

```

`\LWR@hidelatexequation` {*environment*} {*contents*}

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
12800 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```
12801 \LWR@stoppars
12802 \LWR@htmlopencomment
12803
```

Start the  $\text{\LaTeX}$  math environment inside the HTML comment:

```
12804 \begingroup
12805 \@nameuse{LWR@orig@#1}
```

While in the math environment, restore various commands to their  $\text{\LaTeX}$  meanings.

```
12806 \LWR@restoreorigformatting
12807 \booltrue{LWR@insidemathcomment}
```

Temporarily prevent underfull  $\text{\hbox}$  warnings.

```
12808 \hbadness=10000\relax%
```

See `\LWR@htmlmathlabel` in section 86.6.1.

Print the contents of the equation:

```
12809 #2
```

End the  $\text{\LaTeX}$  math environment inside the HTML comment:

```
12810 \@nameuse{LWR@orig@end#1}
12811 \endgroup
12812
```

Close the HTML comment and resume HTML paragraph handling:

```
12813 \LWR@htmlclosecomment
12814 \boolfalse{LWR@insidemathcomment}
12815 \LWR@startpars
12816 }
```

`\LWR@addmathjax {<environment name>} {<contents>}`

Given the name of a math environment and its contents, create a  $\text{\MATHJAX}$  instance. The contents are printed to HTML output, not interpreted by  $\text{\LaTeX}$ .

```
12817 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
12818 \LWR@orignobreakspace\LWR@orignewline
```

Enclose the  $\text{\MATHJAX}$  environment inside printed “ $\text{\(}$ ” and “ $\text{\)}$ ” characters. Print the environment name and contents, sanitizing for HTML special characters.

```
12819 {%
12820 \LWR@print@ttfamily%
12821 \textbackslash{}begin\{#1\}
```

The `alignat` environment takes a mandatory argument, which must be replicated here.

```

12822 \ifboolexpr{
12823 test {\ifstrequal{#1}{alignat}} or
12824 test {\ifstrequal{#1}{alignat*}} or
12825 test {\ifstrequal{#1}{alignat+}}
12826 }%
12827 {\{\arabic{LWR@maxfields}\}}%
12828 }%

```

The environment contents and `\end`:

```

12829 \LWR@orignewline%
12830 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12831 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#2}}%
12832 \LWR@orignewline%
12833 \textbackslash{}end\{#1\}
12834 }%

12835 \LWR@orignewline
12836 }

```

## 86.4 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```

12837 \AtBeginDocument{
12838 \LWR@traceinfo{AtBeginDocument equation 1}
12839 \let\LWR@orig@equation\equation
12840 \let\LWR@orig@endequation\endequation
12841 \csletcs{LWR@orig@equation*}{equation*}
12842 \csletcs{LWR@orig@endequation*}{endequation*}
12843 }

```

`\LWR@doequation {<env contents>} {<env name>}`

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the  $\text{\LaTeX}$  source for the math.

For `MATHJAX` output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the `MATHJAX` script.

```

12844 \newcommand*{\LWR@doequation}[2]{%
12845

```

If `mathjax` or `FormatWP`, print the  $\text{\LaTeX}$  expression:

```

12846 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%

```

**MATHJAX output:**

```

12847 {

```

Print commands to synchronize MATHJAX's equation number and format to the current L<sup>A</sup>T<sub>E</sub>X chapter/section and equation number:

```
12848 \LWR@syncmathjax%
```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```
12849 \LWR@hidelatexequation{#2}{#1}
12850 }
```

svg output: Create the lateximage along with an HTML <alt> tag having an equation number, the L<sup>A</sup>T<sub>E</sub>X equation environment commands, and the contents of the environment's \BODY.

```
12851 {% not mathjax
```

Begin the lateximage with an <alt> tag containing the math source:

```
12852 \ifstrequal{#2}{equation*}{%
12853 \begin{BlockClass}{displaymath}%
12854 }{%
12855 \begin{BlockClass}{displaymathnumbered}%
12856 }%
12857 \LWR@newautoidanchor%
12858 \booltrue{LWR@indisplaymathimage}%
12859 \begin{lateximage}[%
12860 \ifstrequal{#2}{equation*}{%
12861 \ifdefequal{\LWR@equationtag}{\theequation}{%
12862 no tag was given
12863 }{%
12864 (\LWR@equationtag) % tag was given
12865 }%
12866 }{%
12867 (\LWR@equationtag) % automatic numbering
12868 }%
12869 \textbackslash{begin\{#2\}} % extra space
12870 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#1}} % extra space
12871 \textbackslash{end\{#2\}}%
12872]*?(math)% alt tag, ARIA
```

Support for xfakebold:

```
12873 \LWR@applyxfakebold%
```

Create the actual L<sup>A</sup>T<sub>E</sub>X-formatted equation inside the lateximage using the contents of the environment.

```
12874 \@nameuse{LWR@orig@#2}%
12875 #1% contents collected by \collect@body
12876 \@nameuse{LWR@orig@end#2}%
12877 \end{lateximage}%
12878 \end{BlockClass}%
12879 }% not mathjax
```

Clear the single-use alt text:

```
12880 \gdef\LWR@ThisAltText{%
12881 }
```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

12882 \newcommand*{\LWR@doendequation}[1]{%
12883 \ifbool{expr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }}{%
12884 {%
12885 \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12886 \InlineClass{hidden}{\LWR@syncnotenumbers}%
12887 \LWR@addmathjax{#1}{\BODY}%
12888 \InlineClass{hidden}{\LWR@syncnotenames}%
12889 }{%
12890 \LWR@addmathjax{#1}{\BODY}%
12891 }%
12892 }{}%
12893 }%

```

Clear the single-use alt text:

```

12894 \gdef\LWR@ThisAltText{}%
12895 }

```

The following are used to synchronize footnote marks and related to MATHJAX if `*note*` is used inside the MATHJAX expression. The counter is read from L<sup>A</sup>T<sub>E</sub>X then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenum`  $\{\langle\textit{MathJax variable}\rangle\} \{\langle\textit{mark}\rangle\}$

```

12896 \newcommand*{\LWR@synconenotenum}[2]{%
12897 \textbackslash(
12898 \textbackslash{def\textbackslash{#1}\{#2\}
12899 \textbackslash)
12900 }

```

`\LWR@syncnotenumbers` Assignments to make.

```

12901 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenum{\LWRfootnote}{\thefootnote}}

```

`\LWR@synconenotename`  $\{\langle\textit{MathJax variable}\rangle\} \{\langle\textit{text}\rangle\}$

```

12902 \newcommand*{\LWR@synconenotename}[2]{%
12903 \textbackslash(
12904 \textbackslash{def\textbackslash{#1name}\{#2\}
12905 \textbackslash)
12906 }

```

`\LWR@syncnotenames` Assignments to make.

```

12907 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}

```

Remove existing equation environment:

```

12908 \AtBeginDocument{
12909 \LWR@traceinfo{AtBeginDocument equation 2}
12910 \let\equation\relax
12911 \let\endequation\relax
12912 \csletcs{equation*}{relax}
12913 \csletcs{endequation*}{relax}
12914 }

```

`equation (env)` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```

12915 \AtBeginDocument{
12916 \LWR@traceinfo{AtBeginDocument equation 3}
12917 \NewEnviron{equation}%
12918 {\LWR@doequation{\BODY}{equation}}}%
12919 [\LWR@doendequation{equation}]
12920
12921 \LetLtxMacro\LWR@equationnormal\equation
12922 \LetLtxMacro\endLWR@equationnormal\endequation
12923 }% AtBeginDocument

```

`equation* (env)`

```

12924 \AtBeginDocument{
12925 \LWR@traceinfo{AtBeginDocument equation 4}
12926 \NewEnviron{equation*}%
12927 {\LWR@doequation{\BODY}{equation*}}}%
12928 [\LWR@doendequation{equation*}]
12929
12930 \csletcs{LWR@equationnormalstar}{equation*}
12931 \csletcs{LWR@endequationnormalstar}{endequation*}
12932 }% AtBeginDocument

```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `TikZ` expressions.

```

12933 \AtBeginDocument{
12934 \LWR@traceinfo{AtBeginDocument equation 5}
12935 \LetLtxMacro\LWR@equationless\equation
12936 \LetLtxMacro\endLWR@equationless\endequation
12937 \csletcs{LWR@equationlessstar}{equation*}
12938 \csletcs{LWR@endequationlessstar}{endequation*}
12939 }

```

## 86.5 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, `MATHJAX` math display environments print their contents as text into HTML for `MATHJAX` to interpret, and `svg` display math environments render their contents as `svg` images and use their contents as the `alt` tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated `TikZ` pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate `TikZ` picture, which will

**MATHJAX unsupported**

**complicated alt tag** not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become svg images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as TikZ pictures are more likely to compile successfully.

`\displaymathnormal` Use when display math environments have simple math which is to sent to MATHJAX or included in HTML alt tags.

```

12940 \newcommand*{\displaymathnormal}{%
12941 \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12942 \LetLtxMacro\[\LWR@openbracketnormal%
12943 \LetLtxMacro\]\LWR@closebracketnormal%
12944 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12945 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
12946 \LetLtxMacro\equation\LWR@equationnormal%
12947 \LetLtxMacro\endequation\endLWR@equationnormal%
12948 \csletcs{equation*}{LWR@equationnormalstar}%
12949 \csletcs{endequation*}{LWR@endequationnormalstar}%
12950 }
```

`\displaymathother` Use when display math environments have complicated objects which will not work with MATHJAX or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

12951 \newcommand*{\displaymathother}{%
12952 \boolfalse{mathjax}%
12953 \LetLtxMacro\displaymath\LWR@displaymathother%
12954 \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
12955 \LetLtxMacro\[\LWR@displaymathother%
12956 \LetLtxMacro\]\endLWR@displaymathother%
12957 \LetLtxMacro\equation\LWR@equationother%
12958 \LetLtxMacro\endequation\endLWR@equationother%
12959 \csletcs{equation*}{displaymath}%
12960 \csletcs{endequation*}{enddisplaymath}%
12961 }
```

```
12962 \end{warppHTML}
```

**for PRINT output:** 12963 \begin{warpprint}

Print-mode versions:

```

12964 \newcommand*{\displaymathnormal}{}
12965 \newcommand*{\displaymathother}{}
12966 \newcommand*{\theMathJaxsubequations}{0}
12967 \newcommand*{\theMathJaxsection}{}
12968 \newcommand*{\theMathJaxequation}{\arabic{equation}}

12969 \end{warpprint}
```

**for HTML output:** 12970 \begin{warppHTML}

## 86.6 AMS Math environments

### 86.6.1 Support macros

`LWR@amsmultline` (*bool*) True if processing a multiline environment.

To compensate for `multline`-specific code, `LWR@amsmultline` is used to add extra horizontal space in `\LWR@htmlmathlabel` if is used in an `amsmath` environment which is not a `multline` environment and not an equation.

```
12971 \newbool{LWR@amsmultline}
12972 \boolfalse{LWR@amsmultline}
```

`\LWR@beginhideamsmath` Starts hiding  $\text{\LaTeX}$  math inside an HTML comment.

```
12973 \newcommand*{\LWR@beginhideamsmath}{
12974 \LWR@stoppars
12975 \LWR@orignobreakspace\LWR@orignewline
12976 \LWR@htmlopencomment
12977
12978 \begingroup
12979 \LWR@restoreorigformatting
```

Temporarily prevent underfull `\hbox` warnings.

```
12980 \hbadness=10000\relax%

12981 \booltrue{LWR@insidemathcomment}
12982 }
```

`\LWR@endhideamsmath` Ends hiding  $\text{\LaTeX}$  math inside an HTML comment.

```
12983 \newcommand*{\LWR@endhideamsmath}{
12984 \endgroup
12985
12986 \LWR@htmlclosecomment
12987 \boolfalse{LWR@insidemathcomment}
12988 \LWR@orignewline
12989 \LWR@startpars
12990 }
```

### 86.6.2 Environment patches

The `amsmath` environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an  $\mathcal{AMS}$  package, and thus requires special handling.

For `svg math`: Each environment is encapsulated inside a `lateximage` environment, along with a special optional argument of `\LWR@amsmathbody` or `\LWR@amsmathbodynumbered` telling `lateximage` to use as the HTML `<alt>` tag the environment's contents which were automatically captured by the  $\mathcal{AMS}$  environment.

For `MATHJAX`: Each environment is synched with  $\text{\LaTeX}$ 's equation numbers, typeset with  $\text{\LaTeX}$  inside an HTML comment, then printed to HTML output for `MATHJAX` to process.

`eqnarray` (*env.*) This environment is not an  $\mathcal{AMS}$  environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
12991 \let\LWR@origeqnarray\eqnarray
12992 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12993 \newbool{LWR@numbereqnarray}
12994 \booltrue{LWR@numbereqnarray}
```

Common code used by `eqnarray` and `Beqnarray` (from `fancybox`):

```
12995 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the  $\text{\LaTeX}$  expression:

```
12996 \ifbool{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
12997 {%
```

If `MATHJAX`, the environment contents (the `\BODY`) are executed in a `HTML` comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for `MATHJAX` to interpret:

```
12998 \LWR@syncmathjax%
12999 \boolfalse{LWR@amsmultline}%
13000 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
13001 \ifbool{LWR@numbereqnarray}%
13002 {%
```

If numbering the equations, execute a copy inside an `HTML` comment block:

```
13003 \LWR@beginhideamsmath%
13004 \LWR@origeqnarray%
13005 \BODY%
13006 \LWR@origendeqnarray%
13007 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for `MATHJAX` to interpret:

```
13008 \LWR@addmathjax{eqnarray}{\BODY}%
13009 }%
13010 {% not LWR@numbereqnarray
```

If not numbering equations, just create the contents for `MATHJAX`:

```
13011 \LWR@addmathjax{eqnarray*}{\BODY}%
13012 }% LWR@numbereqnarray
13013 }% mathjax
13014 {% not mathjax
13015 \ifbool{LWR@numbereqnarray}%
13016 {%
```

For numbered `svg` equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```

13017 \begin{BlockClass}{displaymathnumbered}%
13018 \LWR@newautoidanchor%
13019 \booltrue{LWR@indisplaymathimage}%
13020 \begin{lateximage}[%
13021 (\LWR@startingequationtag\textendash\LWR@equationtag)%
13022 \LWR@addmathjax{eqnarray}{\BODY}%
13023]%
13024 *?(math)%

```

Support for xfakebold:

```

13025 \LWR@applyxfakebold%

```

Create the image contents using an actual eqnarray:

```

13026 \LWR@origeqnarray%
13027 \BODY%
13028 \LWR@origendeqnarray%
13029 \end{lateximage}%
13030 \end{BlockClass}%
13031 }%
13032 {% not LWR@numbereqnarray

```

If not numbered, do the same, but an extra \nonumber seems to be required:

```

13033 \begin{BlockClass}{displaymath}%
13034 \LWR@newautoidanchor%
13035 \booltrue{LWR@indisplaymathimage}%
13036 \begin{lateximage}[%
13037 \LWR@addmathjax{eqnarray*}{\BODY}%
13038]*?(math)%

```

Support for xfakebold:

```

13039 \LWR@applyxfakebold%

13040 \def\@eqncr{\nonumber\@seqncr}%
13041 \csuse{LWR@origeqnarray}%
13042 \BODY%
13043 \nonumber\csuse{LWR@origendeqnarray}%
13044 \end{lateximage}%
13045 \end{BlockClass}%
13046 }% LWR@numbereqnarray
13047 }% not mathjax

```

Default to number equations in the future:

```

13048 \booltrue{LWR@numbereqnarray}%

```

Clear the single-use alt text:

```

13049 \gdef\LWR@ThisAltText{}%
13050 }

```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```

13051 \RenewEnviron{eqnarray}

```

```

13052 {%
13053
13054 \LWR@eqnarrayfactor
13055
13056 }

```

The starred version is patched to turn off the numbering:

```

13057 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}

13058 \end{warpHTML}

```

## 87 Lateximages

### 87.1 Description

**lateximage** (*env.*) A lateximage is a piece of the document which is typeset in L<sup>A</sup>T<sub>E</sub>X then included in the HTML output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the lateximage a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 84.)

A lateximage is typeset on its own PDF page inside an HTML comment which starts on the preceeding page and ends on following page, and instructions are written to `lateximage.txt` for *lwarpmk* to extract the lateximage from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `<span>` is created to hold both the HTML comment, which will have the *pdftotext* conversion, and also the link to the final `.svg` image.

A L<sup>A</sup>T<sub>E</sub>X label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

**HTML alt tag** The HTML alt tag is set to the L<sup>A</sup>T<sub>E</sub>X source for `svg math`, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the alt tag is set according to the package name.

When creating an `svg math` image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `svg math` images.

For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

**svg image font size** For svg display math and the `lateximage` environment, the size of the math and text used in the svg image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline svg math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

## 87.2 Support counters and macros

**for HTML output:** 13059 `\begin{warphTML}`

`LWR@lateximagenumber` (*Ctrl*) Sequence the images.

```
13060 \newcounter{LWR@lateximagenumber}
13061 \setcounter{LWR@lateximagenumber}{0}
```

`LWR@lateximagedepth` (*Ctrl*) Do not create `\lateximage` inside of `\lateximage`.

```
13062 \newcounter{LWR@lateximagedepth}
13063 \setcounter{LWR@lateximagedepth}{0}
13064 \newcounter{LWR@saved@lateximagedepth}
13065 \setcounter{LWR@saved@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
13066 \edef\LWR@hashmark{\string#} % for use in \write
13067 \edef\LWR@percent{\@percentchar} % for use in \write
```

`LWR@LIpage` (*Ctrl*) Used to reference the PDF page number of a `lateximage` to be written into `<project>-images.txt`.

```
13068 \newcounter{LWR@LIpage}

13069 \end{warphTML}
```

## 87.3 Font size

**for HTML & PRINT:** 13070 `\begin{warppall}`

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The .svg file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

```
13071 \newcommand*{\LateximageFontSizeName}{normalsize}
```

`\LateximageFontScale` Declares how large to scale inline SVG math images. The .svg file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
13072 \newcommand*{\LateximageFontScale}{1}
```

```
13073 \end{warpall}
```

## 87.4 Equation numbers

**for HTML output:** 13074 `\begin{warpHTML}`

`LWR@startingequation (Ctr)` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
13075 \newcounter{LWR@startingequation}
13076
13077 \ifundefined{chapter}
13078 {
13079 \renewcommand{\theLWR@startingequation}{%
13080 \arabic{LWR@startingequation}%
13081 }
13082 }
13083 {% chapter defined
13084 \renewcommand{\theLWR@startingequation}{%
13085 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}%
13086 \arabic{LWR@startingequation}%
13087 }
13088 }
```

`LWR@isstartingequation (bool)` True for the first equation tag, false for later tags in the same environment.

```
13089 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
13090 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
13091 \newcommand*{\LWR@equationtag}{}
```

Only if svg math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
13092 \AtBeginDocument{
13093 \LWR@traceinfo{AtBeginDocument svg math}
13094
13095 \ifbool{mathjax}{}{% not mathjax
```

`\LWR@remembertag {<tag>}`

For use inside the math environments while using svg math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
13096 \NewDocumentCommand{\LWR@remembertag}{m}{%
13097 \ifbool{LWR@isstartingequation}%
13098 {%
13099 \global\boolfalse{LWR@isstartingequation}%
13100 \xdef\LWR@startingequationtag{#1}%
13101 }{%
13102 \xdef\LWR@equationtag{#1}%
13103 }%
13104 }% not mathjax
13105 }% AtBeginDocument
```

## 87.5 HTML alt tags

`\LWR@amsmathbody {<envname>}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
13106 \newcommand*{\LWR@amsmathbody}[1]
13107 {%
13108 \textbackslash\begin\{#1\} % extra space
13109 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{\the\envbody}}%
13110 \textbackslash\end\{#1\}%
13111 }
```

`\LWR@amsmathbodynumbered {<envname>}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```
13112 \newcommand*{\LWR@amsmathbodynumbered}[1]
13113 {%
13114 \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
13115 {(\LWR@equationtag)}%
13116 {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
13117 \LWR@amsmathbody{#1} % extra space
13118 }
```

## 87.6 lateximage environment

`\LWR@lateximage@oneimageb {<1: alt text>} {<2: filename>} {<3: css style>} {<4: aria role>}` Creates the HTML image tag for the `lateximage`.

To allow sanitization of the alt tag, if the alt tag is detokenized then it must also be expanded before being used here.

```

13119 \newcommand{\LWR@lateximage@oneimageb}[4]{%
13120 \LWR@subinlineimage{#1}{lateximage}%
13121 {%
13122 \LWR@print@box{%
13123 \LWR@ImagesDirectory\OSPathSymbol%
13124 #2%
13125 }%
13126 }{svg}{#3}{#4}%
13127 }

```

`\LWR@lateximage@oneimage {<1: alt text>}{<2: filename>}{<3: css style>}{<4: delimit?>}{<5: aria role>}`

Creates an image for the lateximage, whose alt text depends on the circumstances.

To allow sanitization of the alt tag, if the alt tag is detokenized then it must also be expanded before being used here.

```

13128 \newcommand{\LWR@lateximage@oneimage}[5]{%
13129 \LWR@traceinfo{\LWR@lateximage@oneimage !#1!#2!#3!#4!#5!}%
13130 \ifdefvoid{\LWR@ThisAltText}{%
13131 \IfBooleanTF{#4}{%
13132 \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
13133 }{%
13134 \LWR@lateximage@oneimageb%
13135 {\AltTextOpen#1\AltTextClose}%
13136 {#2}{#3}{#5}%
13137 }%
13138 }{%
13139 \LWR@lateximage@oneimageb%
13140 {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
13141 {#2}{#3}{#5}%
13142 }%
13143 }

```

`lateximage (env) * [<2: <alt> tag>] * ? [<5: add'l hashing>] [<6: css style>] (<7: aria role>)`

Typesets the contents and then renders the result as an SVG file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions. Question mark #4 does not detokenize the alt tag (for internal use). This allows the use of macros inside the alt tag.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple alt tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated T<sub>E</sub>X expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

`*_html.aux` (*file*) A new label is placed into the file `*_html.aux`:

```
\newlabel{LWRlateximage-<BaseJobname>-<number>}{<x>}{<y>}}
```

This is used to find the image in the PDF file, according to its name.

`*-images.txt` (*file*) A list of images to generate is created in `<jobname>-images.txt`. Each line has three pipe-delimited fields, containing the PDF page number from `<jobname>_html.pdf`, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```
13144 \catcode`\$=\active%
13145
13146 \NewDocumentEnvironment{lateximage}{s o s t? O{} O{} D({})}%
13147 {%
13148 \LWR@traceinfo{lateximage !#1!#2!#3!#4!#5!#6!}%
13149 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
13150 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested lateximages remain one large lateximage:

```
13151 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing lateximage, simply record one more level.  $\mathcal{A}\mathcal{M}\mathcal{S}$  packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level  $\text{\TeX}$  macros are used for tracking nested lateximages.

```
13152 {%
13153 % \addtocounter{LWR@lateximagedepth}{1}%
13154 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
13155 }%
```

Otherwise, this is the outer-most lateximage:

```
13156 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
13157 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
13158 \setcounter{LWR@startingequation}{\value{equation}}%
13159 \addtocounter{LWR@startingequation}{1}%
13160 \booltrue{LWR@isstartingequation}%
13161 \let\LWR@startingequationtag\theLWR@startingequation%
```

The default equation tag, unless overwritten by `\tag`:

```
13162 \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```

13163 \addtocounter{LWR@lateximagenumber}{1}%
13164 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```

13165 \boolfalse{mathjax}%

```

Be sure that are doing a paragraph:

```

13166 \LWR@ensuredoingapar%

```

Inside the lateximage, temporarily prevent underfull \hbox warnings.

```

13167 \hbadness=10000\relax%

```

Next file:

```

13168 \addtocounter{LWR@externalfilecnt}{1}%
13169 \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%

```

Figure out what the next page number will be. \setcounterpageref assigns LWR@LPage to the page number for the reference LWR@lateximage-BaseJobname-XXX:

```

13170 \setcounterpageref{LWR@LPage}{%
13171 LWR@lateximage-BaseJobname-\arabic{LWR@lateximagenumber}%
13172 }%
13173 \LWR@traceinfo{lateximage: LWR@LPage is \arabic{LWR@LPage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

13174 \LWR@htmltag{span\LWR@indentHTML%
13175 id=\textquotedbl{}%
13176 lateximage-BaseJobname-\arabic{LWR@lateximagenumber}%
13177 \textquotedbl\LWR@indentHTML
13178 class=\textquotedbl{}lateximagesource\textquotedbl\LWR@orignewline
13179 }%

```

Write instructions to the <ImagesDirectory>.txt file:

```

13180 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
13181 \IfBooleanTF{#1}% starred
13182 {% hash

```

Compute and save the hashed file name for later use:

```

13183 \ifdefvoid{\LWR@ThisAltText}{%
13184 \IfBooleanTF{#3}{% no open/close tags?
13185 \IfBooleanTF{#4}{% '?': don't detokenize
13186 {% don't detokenize
13187 \edef\LWR@hashedname{%
13188 \LWR@mdfive{#2-!-#5}%
13189 }%
13190 }%
13191 }% do detokenize
13192 \edef\LWR@hashedname{%
13193 \LWR@mdfive{\detokenize\expandafter{#2}-!-#5}%
13194 }%

```

```

13195 }%
13196 }{%
13197 \IfBooleanTF{#4}% '?' : don't detokenize
13198 {% don't detokenize
13199 \edef\LWR@hashedname{%
13200 \LWR@mdfive{\AltTextOpen#2\AltTextClose-!-#5}%
13201 }%
13202 }%
13203 {% do detokenize
13204 \edef\LWR@hashedname{%
13205 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#5}%
13206 }%
13207 }%
13208 }%
13209 }{%
13210 \edef\LWR@hashedname{%
13211 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#5}%
13212 }%
13213 }%
13214 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

13215 \immediate\write\LWR@lateximagesfile{%
13216 |\arabic{LWR@LPage}|true|\LWR@hashedname|%
13217 }%
13218 }% hash
13219 {% no hash

```

No hash, so write the page, no hashing, and the image number:

```

13220 \LWR@traceinfo{lateximage: hash false}%
13221 \immediate\write\LWR@lateximagesfile{%
13222 |\arabic{LWR@LPage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}}%
13223 }%
13224 }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

13225 \LWR@traceinfo{lateximage: about to create open comment}%
13226 \LWR@htmlopencomment%

```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an  $\mathcal{A}\mathcal{M}\mathcal{S}$  \text, since the outer-most level will never be in math mode.

```

13227 \addtocounter{LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

13228 \LWR@traceinfo{lateximage: about to create a new page}%
13229 \LWR@maybe@orignewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

13230 \LWR@traceinfo{lateximage: about to create minipage}%
13231 \setcounter{LWR@mpfootnote@store}{\value{mpfootnote}}

```

```

13232 \ifdimless{\linewidth}{6in}{%
13233 \LWR@print@minipage{\linewidth}%
13234 }{%
13235 \LWR@print@minipage{6in}%
13236 }%

13237 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
13238 {\setcounter{mpfootnote}{\value{LWR@mpfootnote@store}}}%
13239 {}%
13240 \@nameuse{LWR@print@LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for `\hspace`, etc. inside a `lateximage`.

```

13241 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
13242 \LWR@restoreorigformatting%

```

If not inside a `minipage`, use full-page footnotes instead of `minipage` footnotes. These become HTML footnotes.

```

13243 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
13244 {}%
13245 {%
13246 \def\@mpfn{footnote}%
13247 \def\thempfn{\thefootnote}%
13248 \LetLtxMacro\@footnotetext\LWR@footnotetext%
13249 }%

```

Create the `LWRlateximage-jobname-<number>` label:

```

13250 \LWR@traceinfo{lateximage: about to create label
13251 LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
13252 \LWR@orig@label{LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
13253 \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

13254 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
13255 \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
13256 }%

```

Enable print-mode math functions:

```

13257 \LetLtxMacro$\LWR@origdollar%
13258 \catcode`\$=3% math shift
13259 \LetLtxMacro\(\LWR@origopenparen%
13260 \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

13261 \ifbool{LWR@indisplaymathimage}{}{% not in display math
13262 \LetLtxMacro\[\LWR@origopenbracket%
13263 \LetLtxMacro\]\LWR@origclosebracket%
13264 \let\equation\LWR@orig@equation%
13265 \let\endequation\LWR@orig@endequation%
13266 \csletcs{equation*}{LWR@orig@equation*}%
13267 \csletcs{endequation*}{LWR@orig@endequation*}%
13268 }% not in display math

```

For chemformula:

```
13269 \LetLtxMacro\LWR@newsingledollar$%
13270 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting
```

While inside a lateximage, do not use HTML tags for verbatim content, and do not sanitize HTML tags for <, >, &, etc.

```
13271 \boolfalse\LWR@verbtags}%
13272 \boolfalse\LWR@HTMLsanitize@tmpb@enable}%

13273 }% end of outer-most lateximage
13274 \LWR@traceinfo{lateximage: finished start of environment}%
13275 }% end of \begin{lateximage}
```

`\endlateximage` When the lateximage environment closes:

```
13276 {% start of \end{lateximage}
13277 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
13278 \LWR@traceinfo{lateximage: internal depth was \arabic\LWR@lateximagedepth}}%
13279 \ifnumcomp{\value\LWR@lateximagedepth}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level T<sub>E</sub>X macro due to  $\mathcal{M}\mathcal{S}$  `\text` change of `\addtocounter`.

```
13280 {%
13281 \LWR@traceinfo{lateximage: unnesting}%
13282 \global\advance\c@LWR@lateximagedepth -1\relax%
13283 }%
```

If this is the outer-most lateximage:

```
13284 {% end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
13285 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
13286 \endLWR@print@minipage%
13287 \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```
13288 \LWR@print@vspace*{.5\baselineskip}%
13289 \LWR@htmlclosecomment%
13290 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
13291 \LWR@traceinfo{about to LWR@lateximage@oneimage !#2!}%
```

Generate the HTML link. Due to the need to correctly expand the alt tag, choose which of eight methods to use depending on whether to hash, whether an alt tag

was passed, and whether to detokenize the alt tag. If detokenizing the alt tag, it must be expanded now so it can be sanitized later.

```

13292 \IfBooleanTF{#1}% starred?
13293 {% starred, hash
13294 \IfValueTF{#2}% alt argument
13295 {% alt argument given
13296 \IfBooleanTF{#4}% '?': don't detokenize
13297 {% don't detokenize
13298 \LWR@lateximage@oneimage{#2}%
13299 {\LWR@hashedname}{#6}{#3}{#7}%
13300 }% don't detokenize
13301 {% detokenize
13302 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize{#2}}%
13303 {\LWR@hashedname}{#6}{#3}{#7}%
13304 }% detokenize
13305 }% alt argument given
13306 {% alt argument not given
13307 \IfBooleanTF{#4}% '?': don't detokenize
13308 {% don't detokenize
13309 \LWR@lateximage@oneimage{\ImageAltText}%
13310 {\LWR@hashedname}{#6}{#3}{#7}%
13311 }% don't detokenize
13312 {% detokenize
13313 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize\expandafter{\ImageAltText}}%
13314 {\LWR@hashedname}{#6}{#3}{#7}%
13315 }% detokenize
13316 }% alt argument not given
13317 }% starred, hash
13318 {% not starred, no hash
13319 \IfValueTF{#2}% alt argument
13320 {% alt argument given
13321 \IfBooleanTF{#4}% '?': don't detokenize
13322 {% don't detokenize
13323 \LWR@lateximage@oneimage{#2}%
13324 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
13325 }% don't detokenize
13326 {% detokenize
13327 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize{#2}}%
13328 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
13329 }% detokenize
13330 }% alt argument given
13331 {% alt argument not given
13332 \IfBooleanTF{#4}% '?': don't detokenize
13333 {% don't detokenize
13334 \LWR@lateximage@oneimage{\ImageAltText}%
13335 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
13336 }% don't detokenize
13337 {% detokenize
13338 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize\expandafter{\ImageAltText}}%
13339 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
13340 }% detokenize
13341 }% alt argument not given
13342 }% not starred, no hash

```

Be sure that are doing a paragraph:

```

13343 \LWR@ensuredoingapar%

```

Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
13344 \LWR@htmltag{/span}%
13345 \ifbool{HTMLDebugComments}{%
13346 \LWR@htmlcomment{End of lateximage}%
13347 }{}
```

Undo one lateximage level. This is not inside an  $\mathcal{AMS}$  \text, so regular \addtocounter may be used here.

```
13348 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
13349 \gdef\LWR@ThisAltText{%
13350 }% end of outer-most lateximage
13351 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
13352 \LWR@traceinfo{lateximage: done}%
13353 }%
13354 \catcode`\$=3% math shift
13355 \end{warpHTML}
```

**for PRINT output:** 13356 \begin{warpprint}

lateximage (*env*) \* [ $\langle$ alt $\rangle$  tag] \* [ $\langle$ add'l hashing $\rangle$ ] [ $\langle$ css style $\rangle$ ]

Ignored in print mode.

```
13357 \NewDocumentEnvironment{lateximage}{s o s t? o o d()}
13358 {}{}
13359 \end{warpprint}
```

## 88 center, flushleft, flushright

**for HTML output:** 13360 \begin{warpHTML}

center (*env*) Replace center functionality with css tags. In a  $\langle$ span $\rangle$ , these macros are nullified, but extra % are used to remove spurious spaces here as well.

```
13361 \newenvironment*{LWR@HTML@center}
13362 {%
13363 \LWR@forcenewpage%
13364 \ifbool{FormatWP}%
13365 {\BlockClass[LWR@print@mbox{text-align:center}]{center}}%
13366 {\BlockClass{center}}%
13367 }
13368 \endBlockClass}
13369
13370 \LWR@formattedenv{center}
```

flushright (*env*)

```

13371 \newenvironment*{LWR@HTML@flushright}
13372 {%
13373 \LWR@forcenewpage%
13374 \ifbool{FormatWP}%
13375 {\BlockClass[\LWR@print@mbbox{text-align:right}]{flushright}}%
13376 {\BlockClass{flushright}}%
13377 }
13378 {\endBlockClass}
13379
13380 \LWR@formattedenv{flushright}

```

### flushleft (*env*)

```

13381 \newenvironment*{LWR@HTML@flushleft}
13382 {%
13383 \LWR@forcenewpage%
13384 \ifbool{FormatWP}%
13385 {\BlockClass[\LWR@print@mbbox{text-align:left}]{flushleft}}%
13386 {\BlockClass{flushleft}}%
13387 }
13388 {\endBlockClass}
13389
13390 \LWR@formattedenv{flushleft}

```

`\centering`, `\raggedleft`, and `\raggedright` usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See `\LWR@floatalignment`.

### `\centering`

```

13391 \newcommand*{\LWR@HTML@centering}{%
13392 \ifbool{HTMLDebugComments}{%
13393 \LWR@htmlcomment{centering}%
13394 }{}%
13395 }
13396 \LWR@formatted{centering}

```

### `\raggedleft`

```

13397 \newcommand*{\LWR@HTML@raggedleft}{%
13398 \ifbool{HTMLDebugComments}{%
13399 \LWR@htmlcomment{raggedleft}%
13400 }{}%
13401 }
13402 \LWR@formatted{raggedleft}

```

### `\raggedright`

```

13403 \newcommand*{\LWR@HTML@raggedright}{%
13404 \ifbool{HTMLDebugComments}{%
13405 \LWR@htmlcomment{raggedright}%
13406 }{}%
13407 }
13408 \LWR@formatted{raggedright}

```

### `\leftline {<text>}`

```

13409 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}

\centerline {<text>}

13410 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}

\rightline {<text>}

13411 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}

13412 \end{warpHTML}

```

## 89 Preloaded packages

**for HTML output:** 13413 \begin{warpHTML}

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

```

\LWR@PreloadedPackage {<packagename>}

13414 \newcommand*\LWR@PreloadedPackage}[1]{%
13415 \IfPackageLoadedTF{#1}%
13416 {%
13417 \AtBeginDocument{
13418 \LWR@traceinfo{AtBeginDocument preloading lwarp-#1}%
13419 \LWR@origRequirePackage{lwarp-#1}%
13420 }
13421 }%
13422 {}%
13423 }

```

Undo `nameref` if already loaded, such as by `memoir`:

```
13424 \LWR@PreloadedPackage{nameref}
```

If `inputtrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```
13425 \LWR@PreloadedPackage{inputtrc}
```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
13426 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
13427 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `lwarp`, perhaps by `xunicode`, explicitly load the `lwarp` patches now:

```
13428 \LWR@PreloadedPackage{graphics}
13429 \LWR@PreloadedPackage{graphicx}
```

**tagpdf-base** may have been preloaded by pdfmanagement-testphase

```
13430 \LWR@PreloadedPackage{tagpdf-base}
```

**scalegnt** may have been preloaded by babel

```
13431 \LWR@PreloadedPackage{scalegnt}
```

**fontaxes** must be preloaded so that lwarp may patch it for HTML.

```
13432 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before lwarp:

```
13433 \LWR@PreloadedPackage{cmbright}
13434 \LWR@PreloadedPackage{fourier}
13435 \LWR@PreloadedPackage{kpfonts}
13436 \LWR@PreloadedPackage{kpfonts-otf}
13437 \LWR@PreloadedPackage{libertinust1math}
13438 \LWR@PreloadedPackage{pxfonts}
13439 \LWR@PreloadedPackage{txfonts}
13440 \LWR@PreloadedPackage{txgreek}
13441 \LWR@PreloadedPackage{newpxmath}
13442 \LWR@PreloadedPackage{newtxmath}
13443 \LWR@PreloadedPackage{newtxsf}
13444 \LWR@PreloadedPackage{mathalpha}
13445 \LWR@PreloadedPackage{unicode-math}
```

```
13446 \LWR@PreloadedPackage{realscripts}
```

**nfssect-cfr** may be preloaded by cfm-lm or related font packages.

```
13447 \LWR@PreloadedPackage{nfssect-cfr}
```

**ulem** may be preloaded by ctex, ctexart, and related classes.

```
13448 \LWR@PreloadedPackage{ulem}
```

```
13449 \LWR@PreloadedPackage{xetexko}
```

**geometry** is preloaded by lwarp, and perhaps by various classes.

```
13450 \LWR@PreloadedPackage{geometry}
```

**plext** is preloaded by some CJK classes.

```
13451 \LWR@PreloadedPackage{plext}
```

**stfloats** is preloaded by ltj\* classes.

```
13452 \LWR@PreloadedPackage{stfloats}
```

**lltjtext** is preloaded by ltj\* classes.

```
13453 \LWR@PreloadedPackage{lltjtext}
```

luatexko must be loaded before lwarp.

```
13454 \LWR@PreloadedPackage{luatexko}
```

```
13455 \end{warpHTML}
```

## 90 siunitx

siunitx (*Pkg*)

A few HTML unit equivalents are defined here.

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

 **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, table-format, table-align-uncertainty, drop-exponent, etc.. use `\tablenum` for each cell. This is especially required for

 **drop-exponent**

drop-exponent, without which the value will be shown incorrectly.

 **table-auto-round**

table-auto-round is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the svg image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in svg math or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

- ⚠ **v3 only!** Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for MATHJAX:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```

**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ MathJax

#### Document modifications required for MATHJAX

- ⚠ `\sisetup`
- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.
- ⚠ **complex numbers**
- Complex numbers are displayed as entered, ignoring `output-complex-root`.
- custom units**
- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:
 

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```
- ⚠ **unit spacing**
- Units work better using `~` between units instead of using periods.
- ⚠ `\square`, `\cubic`
- To square or cube compound units, enclose the following compound units in braces:
 

```
\cubic{\centi\meter}
```

 Single units do not require braces.
  - For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.
- ⚠ **Missing \$ inserted**
- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see **MATHJAX option**, section 8.7.5.

**for HTML output:** 13456 `\begin{warpHTML}`

Options for siunitx:

```
13457 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
13458 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
13459 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLUnicode{2032}}
13460 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLUnicode{2033}}
13461 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLUnicode{210F}}}}
13462
13463 \appto\LWR@restoreorigformatting{%
13464 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^{\circ}C}}}%
13465 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^{\circ}}}}%
13466 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}%
```

```

13467 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime}\prime}}}%
13468 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
13469 }

```

```

13470 \end{warpHTML}

```

**for PRINT output:** The print version of \HTMLDeclareSIUnit.

```

13471 \begin{warpprint}
13472 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}{}
13473 \end{warpprint}

```

## 91 Graphics print-mode modifications

### 91.1 General limitations

file extensions

⚠ case sensitive

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and **lwarp** cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with **lwarp**. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

\includegraphics file formats

For \includegraphics with .pdf or .eps files, the user must provide a .pdf or .eps image file for use in print mode, and also a .svg, .png, or .jpg version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, **lwarp** will automatically choose the .pdf or .eps format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```

\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html

```

**pdftocairo** (*Prog*) To convert a PDF image to SVG, use the utility **pdftocairo**:

PDF to SVG

```
Enter ⇒ pdftocairo -svg filename.pdf
```

**lwarpmk pdftosvg** (*Prog*) For a large number of images, use **lwarpmk**:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of filenames)
```

**lwarpmk epstopdf** (*Prog*) For EPS images converted to PDF using the package **epstopdf**, use

epstopdf (*Prog*)

**epstopdf** package

Enter ⇒ **lwarpmk pdftosvg \*.PDF**

to convert to SVG images.

**DVI L<sup>A</sup>T<sub>E</sub>X** When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **lwarpmk epstopdf \*.eps** (or a list of filenames)

Enter ⇒ **lwarpmk pdftosvg \*.pdf** (or a list of filenames)

**PNG and JPG** For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF** GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities** If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

**duplicate files**

⚠ **image not displayed**

A complication occurs if a file of the same name exists elsewhere in the T<sub>E</sub>X tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. T<sub>E</sub>X looks in the local document directory before considering the directories specified by `\graphicspath`, but the T<sub>E</sub>X tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that

⚠ **viewport**

viewports are not supported by `lwarp` — the entire image will be shown.

**units** For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

**options** `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus `new class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

**HTML class** With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

**HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

⚠ **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

**\rotatebox** `\rotatebox` accepts the optional `origin` key.

 **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

## 91.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new class key:

```
13474 \begin{warpprint}
13475 \define@key{Gin}{class}{}

```

Print-mode additions for the `overpic` package. See section 470 for the HTML version.

```
13476 \AtBeginDocument{
13477 \LWR@traceinfo{AtBeginDocument overpic}
13478 \IfPackageLoadedTF{overpic}{
13479 \newcommand*{\overpicfontsize}{12}
13480 \newcommand*{\overpicfontskip}{14}
13481 }{}
13482 }
13483 \end{warpprint}

```

## 92 xcolor boxes

`xcolor (Pkg)` A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode version are also provided.

Print-mode versions of new `xcolor` definitions. These are defined inside `warppall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT:** 13484 `\begin{warppall}`

After `xparse` may have been loaded ...

```
13485 \AtBeginDocument{
13486 \LWR@traceinfo{AtBeginDocument xcolor}

```

... and *only* if `xcolor` was loaded:

```
13487 \IfPackageLoadedTF{xcolor}{
13488 \LWR@traceinfo{patching xcolor}

```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
13489 \LetLtxMacro\colorboxBlock\colorbox

```

The original definition is reused by the new versions:

```
13490 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox
```

```
\fcolorbox [<framemodel>] {<framecolor>} [<boxmodel>] {<boxcolor>} {<text>}
```

In print mode, \fcolorbox is modified to accept a background color of none.

(\fcolorbox is particular about its optional arguments, thus the elaborate combinations of \ifthenelse.)

```
13491 \newsavebox{\LWR@colorminipagebox}
13492
13493 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
13494 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
13495 \begin{lrbox}{\LWR@colorminipagebox}%
13496 #5%
13497 \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
13498 \ifstrequal{#4}{none}%
13499 {% #4 none
13500 \LWR@traceinfo{background is none}%
13501 {% scope the \colorlet
13502 \colorlet{\LWR@currentcolor}{.}%
13503 \color{#2}%
13504 \fbox{%
13505 \color{\LWR@currentcolor}%
13506 \usebox{\LWR@colorminipagebox}%
13507 }% fbox
13508 }% colorlet
13509 }% #4 none
13510 {% #4 not none
13511 \LWR@traceinfo{background not none}%
13512 \IfValueTF{#1}%
13513 {%
13514 \IfValueTF{#3}%
13515 {\LWR@orig@print@fcolorbox[#1][#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
13516 {\LWR@orig@print@fcolorbox[#1][#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
13517 }%
13518 {% no value #1
13519 \IfValueTF{#3}%
13520 {\LWR@orig@print@fcolorbox{#2}[#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
13521 {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
13522 }% no value #1
13523 {% #4 not none
13524 \LWR@traceinfo{\LWR@print@fcolorbox done}%
13525 }
```

```
13526 \renewrobustcmd*{\fcolorbox}{\LWR@print@fcolorbox}%
```

`\fcolorboxBlock` [*<framemodel>*] {<framecolor>} [*<boxmodel>*] {<boxcolor>} {<text>}

In print mode, `\fcolorboxBlock` is the same as `\fcolorbox`.

```
13527 \newcommand*\LWR@print@fcolorboxBlock{\LWR@print@fcolorbox}
```

```
13528 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}
```

`fcolorminipage` (*env.*) [*<1:framemodel>*] {<2:framecolor>} [*<3:boxmodel>*] {<4:boxcolor>} [*<5:align>*] [*<6:height>*] [*<7:inner-align>*] {<8:width>}

In print mode, becomes a `\fcolorbox` containing a minipage:

```
13529 \NewDocumentEnvironment{fcolorminipage}{o m o m O{c} O{ } o m}
```

```
13530 {%
```

```
13531 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
13532 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```
13533 \IfValueTF{#7}%
```

```
13534 {\begin{minipage}[#5][#6][#7]{#8}}%
```

```
13535 {\begin{minipage}[#5][#6][#5]{#8}}%
```

```
13536 }%
```

```
13537 {%
```

```
13538 \end{minipage}%
```

```
13539 \end{lrbox}%
```

```
13540 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
13541 \ifstrequal{#4}{none}%
```

```
13542 {% #4 none
```

```
13543 {% scope the \colorlet
```

```
13544 \colorlet{\LWR@currentcolor}{.}%
```

```
13545 \color{#2}%
```

```
13546 \fbox{%
```

```
13547 \color{\LWR@currentcolor}%
```

```
13548 \usebox{\LWR@colorminipagebox}%
```

```
13549 }% fbox
```

```
13550 }% colorlet
```

```
13551 }% #4 none
```

```
13552 {% #4 not none
```

```
13553 \IfValueTF{#1}%
```

```
13554 {%
```

```
13555 \IfValueTF{#3}%
```

```
13556 {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13557 {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13558 }%
```

```
13559 {% no value #1
```

```
13560 \IfValueTF{#3}%
```

```

13561 {\LWR@orig@print@fcolorbox{#2}[#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
13562 {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
13563 }% no value #1
13564 }% #4 not none
13565 \LWR@traceinfo{*** finished end fcolorminipage}%
13566 }

```

xcolor is known to have been loaded, and provided HTML versions of the following, and the print versions are provide above, so now they may be \LW@formatted.

```

13567 \LWR@formatted{colorbox}
13568 \LWR@formatted{colorboxBlock}
13569 \LWR@formatted{fcolorbox}
13570 \LWR@formatted{fcolorboxBlock}
13571 \LWR@formattedenv{fcolorminipage}

13572 \LWR@traceinfo{xcolor patches done}
13573 }{}% xcolor loaded
13574 }% AtBeginDocument

13575 \end{warppall}

```

## 93 chemmacros environments

\makepolymerdelims and redox reactions must be enclosed in a lateximage during HTML output. These environments are provided here in print mode, and in the chemmacros code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a lateximage with an appropriate alt tag.

**for PRINT output:** 13576 \begin{warpprint}

```

13577 \AtBeginDocument{
13578 \LWR@traceinfo{AtBeginDocument chemmacros}
13579 \IfPackageLoadedTF{chemmacros}{

```

Env polymerdelims

```

13580 \DeclareDocumentEnvironment{polymerdelims}{}
13581 {}{}

```

Env redoxreaction

$\{\langle space\ above\rangle\}\{\langle space\ below\rangle\}$

For print output, extra space is include above and below the image, and a lateximage is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section 200.5.

```

13582 \DeclareDocumentEnvironment{redoxreaction}{m m}
13583 {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

13584 }{}% chemmacros
13585 }% AtBeginDocument

13586 \end{warpprint}

```

## 94 cleveref

**loading order** `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the `HTML` conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during `HTML` output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

**for HTML output:**

```

13587 \begin{warppHTML}
13588
13589 \AtEndPreamble{
13590 \RequirePackage{cleveref}
13591 }
13592
13593 \end{warppHTML}
```

## 95 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or `HTML` output, and thus do not use the `\LWR@formatted` system.

**for HTML output:** Not using `\VerifyCommand` for `\label` because various packages change `\label`.

```

13594 \begin{warppHTML}
13595
13596 \VerifyCommand[lwarp][latex]{\label}
13597 {CC54D04488DFE3E744EB3EE90731F66A}
13598
13599 \LetLtxMacro\LWR@orig@label\label
13600 \LetLtxMacro\label\LWR@new@label
13601
13602 \AtBeginDocument{%
13603 \LWR@traceinfo{AtBeginDocument pageref}
13604 \LetLtxMacro\LWR@orig@pageref\pageref%
13605 \LetLtxMacro\pageref\LWR@new@pageref%
13606 }
```

`\label` `\Detokenize \@currentname\label` to avoid bug if math is in the name. Uses `lwarp` labels instead of `\@currentHref`.

```

13607 \xpatchcmd{\LWR@orig@label}
13608 {{\@currentlabelname}}
13609 {{\detokenize\expandafter{\@currentlabelname}}}
13610 {}
13611 {}
13612 \PackageWarning{lwarp}{%
13613 Could not patch \string\label:\string\@currentlabelname.\MessageBreak
```

```

13614 This may cause an error with section names or float captions\MessageBreak
13615 containing math, for example.\MessageBreak
13616 (Recent updates in the LaTeX kernel may make things work again%
13617 }
13618 }

13619 \end{warphTML}

```

## 96 picture environment

`picture (env)` The picture environment is enclosed inside a `\lateximage`.

**for HTML output:** 13620 `\begin{warphTML}`

`picture (env)`

```

13621 \IfPackageLoadedTF{tagpdf-base}
13622 {
13623 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
13624 \AfterEndEnvironment{picture}{\end{lateximage}}
13625 }

```

If tagging is not turned on, the keys are processed before the picture is created. These keys set `\ThisAltText`, which is used by `lateximage`.

```

13626 {%
13627 \RenewDocumentCommand\picture{O{m}}
13628 {%
13629 \leavevmode%
13630 \ifblank{#1}{}{\setkeys{igraph}{#1}}%
13631 \begin{lateximage}[picture]%
13632 \pictur@#2%
13633 }%
13634 \xapptocmd{\endpicture}{\end{lateximage}}{}{}%
13635 }

```

13636 `\end{warphTML}`

## 97 Minipages and Boxes

A CSS flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

 **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

**placement** minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

**side-by-side** Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in

print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

-  **minipage in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.
-  **minipage size** When using minipage, `\parbox`, and `fminipage`, a virtual  $6 \times 9$  inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.
- if width is `\linewidth`** If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.
-  **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
-  **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
-  **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

**for HTML output:** 13637 `\begin{warphTML}`

## 97.1 Computed lengths

`\LWR@minipagewidth (Len)` Used to convert the width into printable units.

```
13638 \newlength{\LWR@minipagewidth}
```

`\LWR@minipageheight (Len)` Used to convert the height into printable units.

```
13639 \newlength{\LWR@minipageheight}
```

## 97.2 Virtual page size

`LWR@virtualpagedepth (Ctr)` Used to only reset the line width at the outermost minipage.

```
13640 \newcounter{LWR@virtualpagedepth}
13641 \setcounter{LWR@virtualpagedepth}{0}
```

`LWR@setvirtualpage (env.) * [<columns>]`

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```

13642 \NewDocumentEnvironment{LWR@setvirtualpage}{s O{1}}{%
13643 \ifnumequal{\value{LWR@virtualpagedepth}}{0}{}%
13644 \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
13645 \setlength{\linewidth}{6in/#2}%
13646 \setlength{\textwidth}{6in}%
13647 \setlength{\textheight}{9in}%
13648 }{%
13649 \addtocounter{LWR@virtualpagedepth}{1}%
13650 }
13651 {\addtocounter{LWR@virtualpagedepth}{-1}}

```

### 97.3 Footnote handling

Also see section 63 for other forms of footnotes. Minipage footnotes are gathered in section 63.7, and then placed into the document in section 97.4.

### 97.4 Minipage handling

`LWR@minipagefullwidth` (*bool*) Should the next minipage have no HTML width?

```

13652 \newbool{LWR@minipagefullwidth}
13653 \boolfalse{LWR@minipagefullwidth}

```

`LWR@forceminipagefullwidth` (*bool*) Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as `tabular` or `multicols`, where the actual width depends on the browser width. Controlled by `\useminipagewidths` and `\ignoreminipagewidths`.

```

13654 \newbool{LWR@forceminipagefullwidth}
13655 \boolfalse{LWR@forceminipagefullwidth}

```

`\minipagefullwidth` Requests that the next minipage have no width tag in HTML:

**for HTML output:** `13656 \newcommand*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}`

`\UseMinipageWidths` Locally requests that minipage widths be honored.

```

13657 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}

```

`\IgnoreMinipageWidths` Locally requests that minipage widths be ignored.

```

13658 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
13659 \end{warpHTML}

```

**for PRINT output:** 13660 \begin{warpprint}  
 13661 \newcommand\*\minipagefullwidth{}\br/>
 13662 \newcommand\*\UseMinipageWidths{}\br/>
 13663 \newcommand\*\IgnoreMinipageWidths{}\br/>
 13664 \end{warpprint}

**for HTML output:** 13665 \begin{warpHTML}

**LWR@minipagethispar (*bool*)** Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
13666 \newbool{LWR@minipagethispar}
13667 \boolfalse{LWR@minipagethispar}
```

**LWR@minipage@depth (*Ctr*)** Used to track whether to change footnote styles in a lateximage inside an HTML minipage.

```
13668 \newcounter{LWR@minipage@depth}
13669 \setcounter{LWR@minipage@depth}{0}
```

**LWR@mpfootnote@store (*Ctr*)** Used to maintain minipage footnote number while nesting inside a lateximage.

```
13670 \newcounter{LWR@mpfootnote@store}
```

**minipage (*env.*)** [*<vert position>*] [*<height>*] [*<inner vert position>*] [*<width>*]

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using \linewidth, \textwidth, or \textheight, these are scaled proportionally to a 6×9 inch text area.

```
13671 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
13672 {%
13673 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
13674 \begin{LWR@setvirtualpage}*\%
```

Save the requested width now that \linewidth, etc. are adjusted to virtual size.

```
13675 \setlength{\LWR@minipagewidth}{#4}%
13676 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
13677 \addtolength{\LWR@minipagewidth}{3em}% room for frames
13678 }{%
13679 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
13680 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
13681 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

L<sup>A</sup>T<sub>E</sub>X wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
13682 \ifbool{FormatWP}{\newline}{}%
13683 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
13684 \ifbool{FormatWP}{%
13685
13686 \addtocounter{LWR@thisautoidWP}{1}%
13687 \LWR@htmltag{%
13688 div id=\textquotedbl%
13689 \LWR@print@mbbox{autoidWP-\arabic{LWR@thisautoidWP}}%
13690 \textquotedbl\ % space
13691 class=\textquotedbl{}wpminipage\textquotedbl%
13692 }%
13693
13694 }{}%
```

Create the <div> tag with optional alignment style:

```
13695 \LWR@traceinfo{minipage: creating div class}%
13696 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
13697 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbbox{vertical-align:bottom} ; }{}%
13698 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbbox{vertical-align:middle} ; }{}%
13699 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbbox{vertical-align:top} ; }{}%
13700 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbbox{justify-content:flex-start} ; }{}%
13701 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbbox{justify-content:center} ; }{}%
13702 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbbox{justify-content:flex-end} ; }{}%
13703 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbbox{justify-content:space-between} ; }{}%
```

Print the width and optional height styles:

```
13704 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
13705 \ifbool{LWR@minipagefullwidth}%
13706 {\global\boolfalse{LWR@minipagefullwidth}}%
13707 {%
13708 \ifbool{LWR@forceminipagefullwidth}%
13709 {%
13710 {%
13711 \ifdimequal{#4}{\linewidth}%
13712 {%
13713 {width:\LWR@printlength{\LWR@minipagewidth} ; }%
13714 }%
13715 }%
13716 \LWR@traceinfo{minipage: about to print the height}%
13717 \ifblank{#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
13718 \textquotedbl%
13719 }%
```

Finish with an empty line to start the contents on a new line.

```
13720
13721 % The preceding empty line is required.
```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here.

This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```
13722 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
13723 \addtolength{LWR@minipagewidth}{-3em}% undo frame padding
13724 }{%
13725 \setlength{linewidth}{LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
13726 \LWR@print@raggedright%
```

```
13727 \LWR@newautopagelabel{page}%
```

Set minipage footnotes:

```
13728 \def\@mpfn{mpfootnote}%
13729 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
13730 \let\@footnotetext\@mpfootnotetext%
```

Track depth for lateximage footnote type:

```
13731 \addtocounter{LWR@minipage@depth}{1}%
```

Resume paragraph tag handling for the contents of the minipage:

```
13732 \LWR@startpars%
13733 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
13734
13735 === begin minipage ===
13736
13737 }{%
13738 \LWR@traceinfo{minipage: finished starting the minipage}%
13739 }% finished \minipage
13740 {% \endminipage
```

Print pending minipage footnotes:

```
13741 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
13742 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
13743
13744 === end minipage ===
13745
13746 }{%
13747 \LWR@stoppars%
13748
13749 \ifbool{FormatWP}{%
13750
13751 \LWR@html@elementend{div}%
13752
13753 }{%
```

Wrapup:

```
13754 \addtocounter{LWR@minipage@depth}{-1}%
```

```

13755 \LWR@htmldivclassend{minipage}%
13756
13757 \end{LWR@setvirtualpage}%
13758 \LWR@startpars%
13759 \ifbool{FormatWP}{\newline}{}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

13760 \global\booltrue{LWR@minipagethispar}%
13761 \LWR@traceinfo{LWR@minipage: done}%
13762 }
13763
13764 \NewDocumentEnvironment{LWR@HTML@minipage}{0{t} 0{ } 0{t} m}
13765 {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
13766 {\endLWR@HTML@sub@minipage}
13767
13768 \LWR@formattedenv{minipage}

```

## 97.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

`\parbox` [*pos*] [*height*] [*inner-pos*] {*width*} {*text*}

A parbox uses the minipage code:

```

13769 \NewDocumentCommand{\LWR@HTML@parbox}{0{t} 0{ } 0{t} m +m}
13770 {
13771 \LWR@traceinfo{parbox of width #4}%
13772 \begin{minipage}[#1][#2][#3]{#4}%
13773 #5
13774 \end{minipage}%
13775 }
13776
13777 \LWR@formatted{parbox}

```

`\mbox` {*text*}      Nullified for HTML.

```

13778 \newcommand*{\LWR@HTML@mbox}[1]{#1}
13779
13780 \LWR@formatted{mbox}

```

`\LWR@makebox@paren` {*width*}, {*height*}

Adds to the style in `\LWR@temptwo`.

```

13781 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
13782 \IfValueTF{#2}{%
13783 \setlength{\LWR@tempwidth}{#1\unitlength}%
13784 \setlength{\LWR@tempheight}{#2\unitlength}%
13785 \appto{\LWR@temptwo}{%
13786 \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
13787 \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
13788 }%
13789 }%

```

```

13790 \PackageError{lwarp}%
13791 {(width,height) is missing a comma ',' character}%
13792 {\protect\makebox\space and \protect\framebox\space accept
13793 a size in the format (width,height).}%
13794 }%
13795 }

```

`\LWR@makebox@align` {<*alignment character*>}

Adds to the style in `\LWR@temptwo`.

```

13796 \newcommand*{\LWR@makebox@align}[1]{%
13797 \def\LWR@align{center}%
13798 \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
13799 \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
13800 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
13801 \appto{\LWR@temptwo}{%
13802 \LWR@print@box{text-align:\LWR@align} ; %
13803 }%
13804 }

```

`\makebox` (<*width,height*>) [*<width>*] [*<pos>*] {<*text*>}

```

13805 \NewDocumentCommand{\LWR@HTML@makebox}{>\SplitArgument{1}{,}}d() o o +m{%

```

Build the style depending on arguments:

```

13806 \begin{LWR@setvirtualpage}%
13807 \def\LWR@temptwo{}%
13808 \IfValueTF{#1}%
13809 {% (width,height) ..
13810 \LWR@makebox@paren #1%
13811 \IfValueT{#2}%
13812 {% (width,height) [posn]
13813 \LWR@makebox@align{#2}%
13814 }%
13815 }%
13816 {% [width]
13817 \IfValueT{#2}% [width]
13818 {%
13819 \setlength{\LWR@tempwidth}{#2}%
13820 \ifdimgreater{\LWR@tempwidth}{0pt}{%
13821 \appto{\LWR@temptwo}{%
13822 width:\LWR@printlength{\LWR@tempwidth} ; % space
13823 }%
13824 }{}%
13825 }%
13826 }%
13827 \IfValueT{#3}%
13828 {% [width] [posn]
13829 \LWR@makebox@align{#3}%
13830 }%
13831 \InlineClass[%
13832 \LWR@print@box{display:inline-block} ; %
13833 \LWR@temptwo%
13834]%
13835 {makebox}%
13836 {#4}%

```

```

13837 \end{LWR@setvirtualpage}%
13838 }
13839 \LWR@formatted{makebox}

```

`\framebox` (*<width,height>*) [*<width>*] [*<pos>*] {*<text>*}

```

13840 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
13841 \fbox{\makebox{#1}[#2][#3]{#4}}%
13842 }
13843
13844 \LWR@formatted{framebox}

```

`\LWR@forceminwidth` {*<legth>*}

Sets `\LWR@atleastonept` to be at least 1pt.

```

13845 \newlength{\LWR@atleastonept}
13846
13847 \newcommand*{\LWR@forceminwidth}[1]{%
13848 \setlength{\LWR@atleastonept}{#1}%
13849 \ifthenelse{%
13850 \lengthtest{\LWR@atleastonept>0pt}\AND%
13851 \lengthtest{\LWR@atleastonept<1pt}%
13852 }%
13853 {\setlength{\LWR@atleastonept}{1pt}}%
13854 }%
13855 }

```

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```

13856 \newcommand*{\LWR@fboxstyle}{%
13857 \LWR@findcurrenttextcolor%
13858 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
13859 padding:\LWR@printlength{\fboxsep} ; %
13860 color:\LWR@origpound\LWR@tempcolor%
13861 }

```

`\fbox` {*<text>*}

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```

13862 \newcommand{\LWR@HTML@fbox}[1]{%
13863 \LWR@traceinfo{HTML fbox}%
13864 \LWR@forceminwidth{\fboxrule}%
13865 \LWR@traceinfo{HTML fbox B}%
13866 \InlineClass[%
13867 \LWR@print@fbox{display:inline-block} ; %
13868 \LWR@fboxstyle%
13869]{fbox}{#1}%
13870 \LWR@traceinfo{HTML fbox: done}%
13871 }

```

`xcolor` \lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```
13872 \AtBeginDocument{%
13873 \LWR@traceinfo{AtBeginDocument fbox}
13874 \LWR@formatted{fbox}%
13875 }
```

`\fboxBlock {<text>}` Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

**for HTML & PRINT:**

```
13876 \end{warpHTML}
13877
13878 \begin{warpall}
13879 \let\fboxBlock\fbox
13880 \end{warpall}
13881
13882 \begin{warpHTML}
```

**for HTML output:** Next, an HTML version:

```
13883 \newcommand{\LWR@HTML@fboxBlock}[1]{%
13884 \LWR@forceminwidth{\fboxrule}%
13885 \LWR@stoppars%
13886 \begin{BlockClass}[\LWR@fboxstyle]{fboxBlock}
13887 #1
13888 \end{BlockClass}
13889 \LWR@startpars%
13890 }
13891
13892 \LWR@formatted{fboxBlock}
13893
13894 \end{warpHTML}
```

`fminipage (env) [ <align> ] [ <height> ] [ <align> ] { <width> }`

Creates a framed HTML `<div>` around its contents.

**for HTML & PRINT:** Print version:

```
13895 \begin{warpall}
13896
13897 \newsavebox{\LWR@fminipagebox}
13898
13899 \NewDocumentEnvironment{fminipage}{0{t} o 0{t} m}
13900 {%
```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```
13901 \IfValueTF{#3}%
13902 {\def\LWR@thisalign{#3}}
13903 {\def\LWR@thisalign{#1}}%
```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```
13904 \IfValueTF{#2}%
13905 {\minipage[#1][#2+2\fbboxsep+2\fbboxrule][\LWR@thisalign]{#4+2\fbboxsep+2\fbboxrule}}%
13906 {\minipage[#1]{#4+2\fbboxsep+2\fbboxrule}}%
```

Capture the contents of the environment:

```
13907 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
13908 \IfValueTF{#2}%
13909 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
13910 {\minipage[#1]{#4}}%
13911 }
13912 {%
```

Close the inner minipage and the LR box with the contents:

```
13913 \endminipage%
13914 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
13915 \fbbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
13916 \endminipage%
13917 }
13918 \end{warppall}
```

HTML version:

**for HTML output:**

```
13919 \begin{warppHTML}
13920
13921 \NewDocumentEnvironment{\LWR@HTML@fminipage}{0{t} o 0{t} m}
13922 {%
13923 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```
13924 \begin{\LWR@setvirtualpage}*%
13925 \setlength{\LWR@tempwidth}{#4}%
13926 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
13927 \LWR@forceminwidth{\fbboxrule}%

13928 \LWR@stoppars%

13929 \begin{BlockClass}[%
13930 \LWR@fbboxstyle ; %
13931 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
```

```

13932 \ifbool{LWR@minipagefullwidth}%
13933 {\global\boolfalse{LWR@minipagefullwidth}}%
13934 {%
13935 \ifbool{LWR@forceminipagefullwidth}%
13936 {%
13937 {%
13938 \ifdimequal{\LWR@tempwidth}{\linewidth}%
13939 {%
13940 {width:\LWR@printlength{\LWR@tempwidth} ; }%
13941 }%
13942 }%
13943]{fminipage}%
13944 }
13945 {%
13946 \end{BlockClass}%
13947 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

13948 \global\booltrue{LWR@minipagethispar}%
13949 \LWR@traceinfo{fminipage done}%
13950 }
13951
13952 \LWR@formattedenv{fminipage}

```

`\raisebox {<raiselen>}[<height>][<depth>]{<text>}`

```

13953 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
13954 #4%
13955 }
13956
13957 \LWR@formatted{raisebox}

13958 \end{warpHTML}

```

## 98 Direct formatting

- ⚠ **Underscores, “Missing \$ inserted”** Underscores (`_`) are allowed in filenames and web links. Underscores must be escaped (`\_`) in text, otherwise “Missing \$ inserted” errors will occur. The `underscore` package is ignored.
- ⚠ **`\bfseries`, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.
- ⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.
- program listings For program listings, the `listings` package is supported, and its `literate` option is used to automatically convert `&`, `<`, and `>` to proper HTML entities.
- minted sanitizes HTML automatically by its `colorizing`, which splits the special characters from the rest of the tag.
- ⚠ **verbatim** The `fancyvrb` and `fvextra` packages automatically sanitize HTML entities, but the

core L<sup>A</sup>T<sub>E</sub>X verbatim-related environments do not, nor does the `verbatim` package, so care must be taken to avoid accidentally including valid HTML code inside these environments. It may be sufficient to add a space on either side of `&`, `<`, and `>`.

 **gobble** `fancyvrb` does not sanitize HTML when using the `gobble` option.

For high-level block and inline custom CSS classes, see section 54.10.

**for HTML & PRINT:** 13959 `\begin{warpall}`

`FixSmallCaps` (*bool*) User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```
13960 \newbool{FixSmallCaps}
13961 \boolfalse{FixSmallCaps}

13962 \end{warpall}
```

**for PRINT output:** 13963 `\begin{warpprint}`

It seems that `\textsi` used to be provided by `fontspec`, but is no longer as of this writing. `lwarp` provides it for print and HTML modes.

```
13964 \AtBeginDocument{
13965 \ifdef{\textsi}
13966 {}
13967 {\csNewCommandCopy{cs}{textsi}{textsc}}
13968 }

13969 \end{warpprint}
```

**for HTML output:** 13970 `\begin{warphTML}`

`\emph`  $\{\langle text \rangle\}$

```
13971 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
13972 {%
13973 \LWR@HTML@itshape%
13974 \LWR@htmlspan{em}{#1}%
13975 }%
13976 }
13977
13978 \LWR@formatted{emph}
```

`\textmd`  $\{\langle text \rangle\}$

```
13979 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
13980 {%
13981 \LWR@HTML@mdseries%
13982 \InlineClass(font-weight:normal){textmd}{#1}%
13983 }%
13984 }
13985
13986 \LWR@formatted{textmd}
```

`\textbf`  $\{\langle text \rangle\}$

```

13987 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
13988 {%
13989 \LWR@HTML@bfseries%
13990 \LWR@htmlspan{b}{#1}%
13991 }%
13992 }
13993
13994 \LWR@formatted{textbf}

```

`\texteb {<text>}` From `nfssex-cfr`.

```

13995 \AtBeginDocument{
13996 \LWR@traceinfo{AtBeginDocument font control}
13997 \IfPackageLoadedTF{nfssex-cfr}{
13998 \providerobustcmd{\texteb}[1]{%
13999 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
14000 {%
14001 \LWR@HTML@ebweight%
14002 \InlineClass{texteb}{#1}%
14003 }%
14004 }
14005 \LWR@formatted{texteb}
14006 }
14007 {% if not loaded
14008 \providerobustcmd{\texteb}[1]{%
14009 }
14010 }

```

`\textlg {<text>}` From `nfssex-cfr`.

```

14011 \AtBeginDocument{
14012 \IfPackageLoadedTF{nfssex-cfr}{
14013 \providerobustcmd{\textlg}[1]{%
14014 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
14015 {%
14016 \LWR@HTML@lgweight%
14017 \InlineClass{textlg}{#1}%
14018 }%
14019 }
14020
14021 \LWR@formatted{textlg}
14022 }{% if not loaded
14023 \providerobustcmd{\textlg}[1]{%
14024 }
14025 }

```

`\textrm {<text>}`

```

14026 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
14027 {%
14028 \LWR@HTML@rmfamily%
14029 \InlineClass(font-family:serif){textrm}{#1}%
14030 }%
14031 }
14032
14033 \LWR@formatted{textrm}

```

`\textsf {⟨text⟩}`

```

14034 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
14035 {%
14036 \LWR@HTML@sffamily%
14037 \InlineClass(font-family:sans){textsf}{#1}%
14038 }%
14039 }
14040
14041 \LWR@formatted{textsf}

```

`\texttt {⟨text⟩}`

```

14042 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
14043 {%
14044 \LWR@HTML@ttfamily%
14045 \LWR@htmlspan{kbd}{#1}%
14046 }%
14047 }
14048
14049 \LWR@formatted{texttt}

```

`\textup {⟨text⟩}`

```

14050 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
14051 {%
14052 \LWR@HTML@upshape%
14053 \InlineClass(font-style:normal){textup}{#1}%
14054 }%
14055 }
14056
14057 \LWR@formatted{textup}

```

`\textit {⟨text⟩}`

```

14058 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
14059 {%
14060 \LWR@HTML@itshape%
14061 \LWR@htmlspan{i}{#1}%
14062 }%
14063 }
14064
14065 \LWR@formatted{textit}

```

`\textsc {⟨text⟩}`

```

14066 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
14067 {%
14068 \LWR@HTML@scshape%
14069 \InlineClass{textsc}{#1}%
14070 }%
14071 }
14072
14073 \LWR@formatted{textsc}

```

`\textulc {⟨text⟩}`      From fontaxes.

```

14074 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
14075 {%
14076 \LWR@HTML@ulcshape%
14077 \InlineClass{textulc}{#1}%
14078 }%
14079 }
14080
14081 \LWR@formatted{textulc}

```

`\textsi`  $\langle text \rangle$

```

14082 \AtBeginDocument{
14083 \ifdef{\textsi}
14084 {}
14085 {\csNewCommandCopy{\LWR@print@textsi}{\LWR@print@textsc}}
14086
14087 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
14088 {%
14089 \LWR@HTML@sisshape%
14090 \textsc{\textit{#1}}%
14091 }%
14092 }
14093 \LWR@formatted{textsi}
14094 }

```

`\textsl`  $\langle text \rangle$

```

14095 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
14096 {%
14097 \slshape%
14098 \InlineClass(font-style:oblique){textsl}{#1}%
14099 }%
14100 }
14101
14102 \LWR@formatted{textsl}

```

`\textssc`  $\langle text \rangle$

```

14103 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
14104 \LWR@formatted{textssc}

```

`\textnormal`  $\langle text \rangle$

```

14105 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{%
14106 \LWR@HTML@mdseries%
14107 \LWR@HTML@rmfamily%
14108 \LWR@HTML@upshape%
14109 \LWR@HTML@ulcshape%
14110 \InlineClass(%
14111 font-weight: normal;
14112 font-family: serif;
14113 font-style: normal;
14114 font-variant: normal;
14115 font-variant-numeric: normal ;
14116){textnormal}{#1}%
14117 }
14118
14119 \LWR@formatted{textnormal}

```

```

14120 \FilenameNullify{%
14121 \LetLtxMacro\emph\@firstofone%
14122 \LetLtxMacro\textmd\@firstofone%
14123 \LetLtxMacro\textbf\@firstofone%
14124 \LetLtxMacro\texteb\@firstofone%
14125 \LetLtxMacro\textlg\@firstofone%
14126 \LetLtxMacro\textrm\@firstofone%
14127 \LetLtxMacro\textsf\@firstofone%
14128 \LetLtxMacro\texttt\@firstofone%
14129 \LetLtxMacro\textup\@firstofone%
14130 \LetLtxMacro\textit\@firstofone%
14131 \LetLtxMacro\textsc\@firstofone%
14132 \LetLtxMacro\textulc\@firstofone%
14133 \LetLtxMacro\textsi\@firstofone%
14134 \LetLtxMacro\textsl\@firstofone%
14135 \LetLtxMacro\textssc\@firstofone%
14136 \LetLtxMacro\textnormal\@firstofone%
14137 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```

14138 \newcommand*{\LWR@f@family}{rm}
14139 \newcommand*{\LWR@f@series}{md}
14140 \newcommand*{\LWR@f@shape}{up}
14141 \newcommand*{\LWR@f@shapecaps}{ulc}

```

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

14142 \newcounter{LWR@textcurrentfontdepth}
14143 \setcounter{LWR@textcurrentfontdepth}{0}
14144
14145 \newcommand*{\LWR@textcurrentfont}[1]{%
14146 \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
14147 {%
14148 \addtocounter{LWR@textcurrentfontdepth}{1}%
14149 #1%
14150 \addtocounter{LWR@textcurrentfontdepth}{-1}%
14151 }%
14152 {%
14153 \addtocounter{LWR@textcurrentfontdepth}{1}%
14154 \ifboolexpr{%
14155 test {\ifdefstring{\LWR@f@family}{rm}} and
14156 test {\ifdefstring{\LWR@f@series}{md}} and
14157 test {\ifdefstring{\LWR@f@shape}{up}} and
14158 test {\ifdefstring{\LWR@f@shapecaps}{ulc}}
14159 }%
14160 {\InlineClass{textnormal}{#1}}%
14161 {%
14162 \InlineClass{%
14163 text\LWR@f@family\LWR@orignobreakspace}%
14164 text\LWR@f@series\LWR@orignobreakspace}%
14165 text\LWR@f@shape\LWR@orignobreakspace}%
14166 text\LWR@f@shapecaps%
14167 }%
14168 {#1}%

```

```

14169 }%
14170 \addtocounter{LWR@textcurrentfontdepth}{-1}%
14171 }%
14172 }

```

**LWR@blocktextcurrentfont** (*env.*) Prints the contents with the current font choices.

```

14173 \newenvironment*{LWR@blocktextcurrentfont}{%
14174 \LWR@stoppars%
14175 \BlockClass{%
14176 text\LWR@f@family\LWR@orignobreakspace}%
14177 text\LWR@f@series\LWR@orignobreakspace}%
14178 text\LWR@f@shape\LWR@orignobreakspace}%
14179 text\LWR@f@shapecaps%
14180 }%
14181 }\endBlockClass\LWR@startpars}

```

#### **\mdseries**

```

14182 \newrobustcmd*{\LWR@HTML@mdseries}{%
14183 \LWR@print@mdseries%
14184 \renewcommand*{\LWR@f@series}{md}%
14185 }
14186 \LWR@formatted{mdseries}

```

#### **\bfseries**

```

14187 \newrobustcmd*{\LWR@HTML@bfseries}{%
14188 \LWR@print@bfseries%
14189 \renewcommand*{\LWR@f@series}{bf}%
14190 }
14191 \LWR@formatted{bfseries}

```

#### **\ebweight** From **nfssexp-cfr**.

```

14192 \AtBeginDocument{
14193 \IfPackageLoadedTF{nfssexp-cfr}{
14194 \providerobustcmd{\ebweight}}{}
14195 \newrobustcmd*{\LWR@HTML@ebweight}{%
14196 \LWR@print@ebweight%
14197 \renewcommand*{\LWR@f@series}{eb}%
14198 }
14199 \LWR@formatted{ebweight}
14200 }{}
14201 }

```

#### **\lgweight** From **nfssexp-cfr**.

```

14202 \AtBeginDocument{
14203 \IfPackageLoadedTF{nfssexp-cfr}{
14204 \providerobustcmd{\lgweight}}{}
14205 \newrobustcmd*{\LWR@HTML@lgweight}{%
14206 \LWR@print@lgweight%
14207 \renewcommand*{\LWR@f@series}{lg}%
14208 }

```

```

14209 \LWR@formatted{lgweight}
14210 }{}
14211 }

```

#### \rmfamily

```

14212 \newrobustcmd*{\LWR@HTML@rmfamily}{%
14213 \LWR@print@rmfamily%
14214 \renewcommand*{\LWR@f@family}{rm}%
14215 }
14216 \LWR@formatted{rmfamily}

```

#### \sffamily

```

14217 \newrobustcmd*{\LWR@HTML@sffamily}{%
14218 \LWR@print@sffamily%
14219 \renewcommand*{\LWR@f@family}{sf}%
14220 }
14221 \LWR@formatted{sffamily}

```

#### \ttfamily

```

14222 \newrobustcmd*{\LWR@HTML@ttfamily}{%
14223 \LWR@print@ttfamily%
14224 \renewcommand*{\LWR@f@family}{tt}%
14225 }
14226 \LWR@formatted{ttfamily}

```

The following use \AtBeginDocument due to the L<sup>A</sup>T<sub>E</sub>X core \reinstall@nfss@defs, which redefines these \AtBeginDocument. See **texdoc source2e**.

#### \upshape

```

14227 \newrobustcmd*{\LWR@HTML@upshape}{%
14228 \LWR@print@upshape%
14229 \renewcommand*{\LWR@f@shape}{up}%
14230 }
14231 \AtBeginDocument{\LWR@formatted{upshape}}

```

#### \itshape

```

14232 \newrobustcmd*{\LWR@HTML@itshape}{%
14233 \LWR@print@itshape%
14234 \renewcommand*{\LWR@f@shape}{it}%
14235 }
14236 \AtBeginDocument{\LWR@formatted{itshape}}

```

\scshape Note: \LWR@print@scshape is not used here since some fonts, such as **erewhon**, copy/paste as all-caps.

```

14237 \newrobustcmd*{\LWR@HTML@scshape}{%
14238 \ifbool{FixSmallCaps}{}{%
14239 \LWR@print@scshape%
14240 }}%

```

```

14241 \renewcommand*{\LWR@f@shapecaps}{sc}%
14242 }
14243 \AtBeginDocument{\LWR@formatted{scshape}}

```

#### \ulcshape From fontaxes.

```

14244 \@ifundefined{ulcshape}{
14245 \LetLtxMacro\ulcshape\upshape
14246 }{}
14247 \newrobustcmd*{\LWR@HTML@ulcshape}{%
14248 \LWR@print@ulcshape%
14249 \renewcommand*{\LWR@f@shapecaps}{ulc}%
14250 }
14251 \AtBeginDocument{\LWR@formatted{ulcshape}}

```

#### \sishape

```

14252 \@ifundefined{sishape}{
14253 \LetLtxMacro\sishape\scshape
14254 }{}
14255 \newrobustcmd*{\LWR@HTML@sishape}{%
14256 \ifbool{FixSmallCaps}{}{%
14257 \LWR@print@sishape%
14258 }}%
14259 \renewcommand*{\LWR@f@shape}{it}
14260 \renewcommand*{\LWR@f@shapecaps}{sc}%
14261 }
14262 \AtBeginDocument{\LWR@formatted{sishape}}

```

#### \slshape

```

14263 \newrobustcmd*{\LWR@HTML@slshape}{%
14264 \LWR@print@slshape%
14265 \renewcommand*{\LWR@f@shape}{sl}%
14266 }
14267 \AtBeginDocument{\LWR@formatted{slshape}}

```

#### \sscshape

```

14268 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
14269 \AtBeginDocument{\LWR@formatted{sscshape}}

```

#### \normalfont

```

14270 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
14271 \LWR@formatted{normalfont}

14272 \FilenameNullify{%
14273 \LetLtxMacro\rmfamily\@empty%
14274 \LetLtxMacro\sffamily\@empty%
14275 \LetLtxMacro\ttfamily\@empty%
14276 \LetLtxMacro\bfseries\@empty%
14277 \LetLtxMacro\ebweight\@empty%
14278 \LetLtxMacro\lgweight\@empty%
14279 \LetLtxMacro\mdseries\@empty%
14280 \LetLtxMacro\upshape\@empty%

```

```

14281 \LetLtxMacro\slshape\@empty%
14282 \LetLtxMacro\sishape\@empty%
14283 \LetLtxMacro\scshape\@empty%
14284 \LetLtxMacro\itshape\@empty%
14285 \LetLtxMacro\ulcshape\@empty%
14286 \LetLtxMacro\sscshape\@empty%
14287 \LetLtxMacro\normalfont\@empty%
14288 }

```

`\sp {<text>}`

For siunitx-v2. Must work in math mode.

```
14289 \renewcommand{\sp}[1]{\text{^{#1}}{}}
```

`\sb {<text>}`

For siunitx-v2. Must work in math mode.

```
14290 \renewcommand{\sb}[1]{\text{_{#1}}{}}
```

`\textsuperscript {<text>}`

```

14291 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
14292 \LWR@formatted{textsuperscript}

```

`\@textsuperscript {<text>}`

```

14293 \newcommand{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
14294 \LWR@formatted{@textsuperscript}

```

`\textsubscript {<text>}`

```

14295 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
14296 \LWR@formatted{textsubscript}

```

`\@textsubscript {<text>}`

```

14297 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
14298 \LWR@formatted{@textsubscript}

```

`\up {<text>}` Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
14299 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup {<text>}` Prints superscript.

Supports `fntcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
14300 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline {<text>}`

```
14301 \renewcommand{\underline}[1]{%
14302 \InlineClass%
14303 (text-decoration:underline; text-decoration-skip: auto)%
14304 {underline}{#1}%
14305 }
```

`\LWR@overline {<text>}`

```
14306 \newcommand{\LWR@overline}[1]{%
14307 \InlineClass%
14308 (text-decoration:overline; text-decoration-skip: auto)%
14309 {overline}{#1}%
14310 }
```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```
14311 \newcommand*{\LWR@currenttextcolor}{black}
```

`\LWR@tempcolor` The color converted to HTML colorspace.

`\LWR@tempcolortwo`

```
14312 \newcommand*{\LWR@tempcolor}{}
14313 \newcommand*{\LWR@tempcolortwo}{}

```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
14314 \newcommand*{\LWR@findcurrenttextcolor}{%
14315 \renewcommand{\LWR@tempcolor}{000000}%
14316 }
```

`\LWR@textcurrentcolor {<text>}` Like `\textcolor` but uses the current `\color` instead.

```
14317 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
14318 \renewcommand*{\LWR@currenttextcolor}{black}%
14319 #1%
14320 }
```

```
14321 \end{warppHTML}
```

**for PRINT output:** `14322 \begin{warpprint}`

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices.

```
14323 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

`\LWR@blocktextcurrentfont (env)` Prints the contents with the current font choices.

```
14324 \newenvironment*\LWR@blocktextcurrentfont{}{}
```

\FilenameNullify {*<macros to nullify>*}

```
14325 \newcommand*{\FilenameNullify}[1]{}
```

```
14326 \end{warpprint}
```

## 99 Skips, spaces, font sizes

**for HTML output:** 14327 \begin{warppHTML}

LWR@HTMLsanitize@nobreakspace Used to disable the nbsp entity inside verbatims <pre> sections, but not inside (bool) inline verbatims where spacing must be preserved by <nbsp>.

(fvextra used ~ which showed as <nbsp>.)

```
14328 \newbool{LWR@HTMLsanitize@nobreakspace}
```

```
14329 \booltrue{LWR@HTMLsanitize@nobreakspace}
```

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
14330 \AtBeginDocument{%
```

```
14331 \LWR@traceinfo{AtBeginDocument direct formatting}
```

```
14332 %
```

```
14333 \renewrobustcmd*{\,}{\HTMLUnicode{202f}}% HTML thin non-breakable space, not using LWR@formatted
```

```
14334 %
```

```
14335 \newrobustcmd*{\LWR@HTML@thinspace}{\HTMLUnicode{202f}}% HTML thin non-breakable space
```

```
14336 \LWR@formatted{thinspace}
```

```
14337 %
```

```
14338 \newrobustcmd*{\LWR@HTML@negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
```

```
14339 \LWR@formatted{negthinspace}
```

Cannot use \LWR@formatted for ~ or \nobreakspace.

```
14340 \renewrobustcmd*{~}{%
```

```
14341 \ifbool{LWR@HTMLsanitize@nobreakspace}%
```

```
14342 {\leavevmode\nobreak\HTMLentity{nbsp}}%
```

```
14343 {\LWR@originobreakspace}%
```

```
14344 }
```

```
14345
```

```
14346 \LetLtxMacro\nobreakspace~
```

\?- \nobreakspace seems to be necessary for packages such as ctexbook, where this is used at the end of the document.

```
14347 \expandafter\LetLtxMacro\csname ?-\string\nobreakspace\endcsname~
```

```
14348 \newrobustcmd*{\LWR@HTML@textellipsis}{\HTMLUnicode{2026}}
```

```
14349 \LWR@formatted{textellipsis}
```

```
14350 %
```

```
14351 \newrobustcmd*{\LWR@HTML@vdots}{\HTMLUnicode{22EE}}
```

```
14352 \LWR@formatted{vdots}
```

```
14353 %
```

```
14354 }% AtBeginDocument
```

Direct-formatting font sizes are remembered for future use:

```

14355 \newcommand*{\LWR@font@size}{normalsize}
14356
14357 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
14358 \LWR@formatted{normalsize}
14359
14360 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
14361 \LWR@formatted{small}
14362
14363 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
14364 \LWR@formatted{footnotesize}
14365
14366 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
14367 \LWR@formatted{scriptsize}
14368
14369 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
14370 \LWR@formatted{tiny}
14371
14372 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
14373 \LWR@formatted{large}
14374
14375 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
14376 \LWR@formatted{Large}
14377
14378 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
14379 \LWR@formatted{LARGE}
14380
14381 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
14382 \LWR@formatted{huge}
14383
14384 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
14385 \LWR@formatted{Huge}

14386 \DeclareDocumentCommand{\onecolumn}{}{}
14387
14388 \DeclareDocumentCommand{\twocolumn}{O{}}{
14389
14390 #1
14391
14392 }

```

\hfill

```

14393 \newcommand*{\LWR@HTML@hfill}{\quad}
14394 \LWR@formatted{hfill}

```

\hrulefill

```

14395 \newcommand*{\LWR@HTML@hrulefill}{%
14396 \ifbool{\LWR@doingapar}%
14397 {\rule{1in}{1pt}}%
14398 {%
14399 \LWR@findcurrenttextcolor%
14400 \ifdefstring{\LWR@tempcolor}{000000}%
14401 {%
14402 \begin{BlockClass}{hrule}%
14403 \end{BlockClass}%

```

```

14404 }%
14405 {%
14406 \begin{BlockClass}[%
14407 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
14408]{hrule}%
14409 \end{BlockClass}%
14410 }%
14411 }%
14412 }%
14413 \LWR@formatted{hrulefill}

```

`\dotfill`

```

14414 \newcommand*{\LWR@HTML@dotfill}{\dots}
14415 \LWR@formatted{dotfill}

```

`\newpage` Not `\LWR@foramttd` since cannot be used inside a `lateximage` anyhow.

```

14416 \renewcommand*{\newpage}{
14417
14418 }

```

`\newline` Uses the HTML `<br />` element.

```

14419 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
14420 \LetLtxMacro\newline\LWR@newlinebr

```

`\\` Redefined to `\LWR@endofline` or `\LWR@tabularendofline`.

`\LWR@endofline` \* [*len*]

`\\` is assigned to `\LWR@endofline` at `\LWR@LwarpStart`.

Inside `tabular`, `\\` is temporarily changed to `\LWR@tabularendofline`.

```

14421 \LetLtxMacro\LWR@origendofline\\
14422 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
14423 {%
14424 \newline%

14425 \setlength{\LWR@templengthone}{#2}%
14426 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
14427 }

```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qqquad` until the end of the paragraph, when the closing `p` tag is created.

When a minipage is seen, the boolean LWR@minipagethispar is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. LWR@minipagethispar is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before \hspace, \quad, or \qquad's HTML output.

```
14428 \newcommand*{\LWR@minipagestartpars}{%
14429 \ifbool{\LWR@minipagethispar}{\LWR@startpars}{}%
14430 }
```

\LWR@minipagestoppars Placed just after \hspace, \quad, or \qquad's HTML output.

```
14431 \newcommand*{\LWR@minipagestoppars}{%
14432 \ifbool{\LWR@minipagethispar}{\LWR@stoppars}{}%
14433 }
```

\quad Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
14434 \newrobustcmd*{\LWR@HTML@quad}{%
14435 \LWR@minipagestoppars%
14436 \HTMLUnicode{2003}%
14437 \LWR@minipagestartpars%
14438 }
14439 \LWR@formatted{quad}
```

\qquad Handles special minipage & horizontal space interactions.

```
14440 \newrobustcmd*{\LWR@HTML@qquad}{\quad\quad}
14441 \LWR@formatted{qquad}
```

\enskip Handles special minipage & horizontal space interactions.

```
14442 \newrobustcmd*{\LWR@HTML@enskip}{%
14443 \LWR@minipagestoppars%
14444 \HTMLUnicode{2002}%
14445 \LWR@minipagestartpars%
14446 }
14447 \LWR@formatted{enskip}
```

\LWR@tempwidth (*Len*) Used to compute span width, height, raise for \hspace and \rule:

```
\LWR@tempheight (Len)
14448 \newlength{\LWR@tempwidth}
\LWR@tempraise (Len)
14449 \newlength{\LWR@tempheight}
14450 \newlength{\LWR@tempraise}
```

\hspace \* {<length>} \* {<length>}

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

\hspace{\fill} is converted to \hspace{2em}, equal to \quad.

```
14451 \NewDocumentCommand{\LWR@HTML@hspace}{s m}{%
14452 \setlength{\LWR@tempwidth}{#2}%
```

If `\fill`, change to `\quad`:

```
14453 \ifnum\gluestretchorder\LWR@tempwidth>0%
14454 \setlength{\LWR@tempwidth}{2em}%
14455 \fi%
```

Only if the width is greater than zero:

```
14456 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
14457 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
14458 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
14459 {%
14460 \HTMLUnicode{2009}% thin breakable space
14461 }%
```

Print the span with the converted width. Not rounded.

```
14462 {%
14463 \LWR@htmltagc{%
14464 span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
14465 display:inline-block\textquotedbl{}
14466 }%
```

If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```
14467 \ifbool{FormatWP}{%
14468 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
14469 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14470 \quad%
14471 \addtolength{\LWR@templengthone}{-1em}%
14472 }%
14473 }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
14474 {\LWR@htmlcomment{}}%
```

Close the span:

```
14475 \LWR@htmltagc{/span}%
14476 }%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

14477 \LWR@minipagestartpars%
14478 }{}% width greater than 0
14479 }%
14480 \LWR@formatted{hspace}

```

`\LWR@vspace` \*  $\langle length \rangle$  Nullified vspace.

```

14481 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
14482
14483 \LWR@formatted{vspace}

```

`\linebreak` [ $\langle num \rangle$ ] Inserts an HTML br tag.

```

14484 \renewcommand*\linebreak[1][\newline}

```

`\nolinebreak` [ $\langle num \rangle$ ]

```

14485 \renewcommand*\nolinebreak[1][{}

```

`\pagebreak` [ $\langle num \rangle$ ] Starts a new paragraph.

```

14486 \renewcommand*\pagebreak[1][{}
14487
14488 }

```

`\nopagebreak` [ $\langle num \rangle$ ]

```

14489 \renewcommand*\nopagebreak[1][{}

```

`\enlargethispage` \*  $\langle len \rangle$

```

14490 \RenewDocumentCommand{\enlargethispage}{s m}{}

```

`\clearpage`  
`\cleardoublepage`

```

14491 \renewcommand*\clearpage{}
14492 \renewcommand*\cleardoublepage{}

```

`\rule` [ $\langle raise \rangle$ ] [ $\langle width \rangle$ ] [ $\langle height \rangle$ ]

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```

14493 \newcommand*\LWR@HTML@rule[3][{}%

```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```

14494 \setlength{\LWR@tempwidth}{#2}%

```

If it's zero-width then skip the entire rule:

```
14495 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
14496 {}% zero- width
14497 {% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
14498 \ifthenelse{%
14499 \lengthtest{\LWR@tempwidth>0pt}\AND%
14500 \lengthtest{\LWR@tempwidth<1pt}%
14501 }%
14502 {\setlength{\LWR@tempwidth}{1pt}}%
14503 {}%
```

Likewise with height:

```
14504 \setlength{\LWR@tempheight}{#3}%
14505 \ifthenelse{%
14506 \lengthtest{\LWR@tempheight>0pt}\AND%
14507 \lengthtest{\LWR@tempheight<1pt}%
14508 }%
14509 {\setlength{\LWR@tempheight}{1pt}}%
14510 {}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
14511 \LWR@minipagestoppars%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```
14512 \LWR@findcurrenttextcolor%
14513 \LWR@htmltagc{%
14514 span\LWR@indentHTML%
14515 style=\textquotedbl%
```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by `\textcolor`.

```
14516 \ifbool{FormatWP}{\background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
14517 width:\LWR@printlength{\LWR@tempwidth} ; %
14518 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a CSS transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```
14519 \ifblank{#1}%
```

```

14520 {}%
14521 {%
14522 \setlength{\LWR@tempraise}{0pt-#1}%
14523 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
14524 \LWR@indentHTML%
14525 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14526 \LWR@indentHTML%
14527 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14528 \LWR@indentHTML%
14529 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14530 \LWR@indentHTML%
14531 }%

```

Display inline-block to place the span inline with the text:

```

14532 display:inline-block;\textquotedbl\LWR@orignewline%
14533 }%

```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```

14534 \ifbool{FormatWP}{%
14535 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
14536 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14537 _{}%
14538 \addtolength{\LWR@templengthone}{-1em}%
14539 }%
14540 }%

```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```

14541 {\LWR@htmlcomment{}}%

```

Close the span:

```

14542 \LWR@htmltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

14543 \LWR@minipagestartpars%
14544 }% non-zero width
14545 }
14546
14547 \LWR@formatted{rule}

14548 \end{warpHTML}

```

## 100 \phantomsection

**for HTML output:** 14549 \begin{warpHTML}

\LWR@phantomsection Emulate the `hyperref \phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```

14550 \newrobustcmd*{\LWR@phantomsection}{%
14551 \beginngroup%
14552 \boolfalse{LWR@forcinghtmltoc}%
14553 \section*{}%
14554 \endgroup%
14555 }

14556 \end{warpHTML}

```

## 101 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by \LWR@formatted.

For css conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the metafont package documentation.

```

for HTML & PRINT: 14557 \begin{warpall}
14558 \newbool{LWR@warnXe}
14559 \boolfalse{LWR@warnXe}
14560
14561 \newrobustcmd*{\Xe}
14562 {%
14563 X\hspace{-.1667em}\raisebox{-.5ex}{E}%
14564 \global\booltrue{LWR@warnXe}%
14565 }
14566
14567 \AtBeginDocument{
14568 \LWR@traceinfo{AtBeginDocument logos}
14569 \IfPackageLoadedTF{graphics}{
14570 \IfPackageLoadedTF{metalogo}{}{
14571 \renewrobustcmd*{\Xe}
14572 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}
14573 }
14574 }{}
14575 }
14576
14577 \AtEndDocument{
14578 \ifbool{LWR@warnXe}{
14579 \PackageNoteNoLine{lwarp}{Load graphicx or graphics
14580 for improved XeTeX logo}
14581 }{}
14582 }
14583
14584 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
14585 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
14586 \providerobustcmd*{\AmS}{%
14587 \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
14588 \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
14589 }
14590 \newrobustcmd*{\LyX}{\textsf{LyX}}
14591 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}

```

```

14592 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
14593 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
14594 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
14595 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{t}}}
14596 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
14597 \end{warpall}

```

for HTML output: 14598 \begin{warpHTML}

The print-mode versions of the following may be changed by metalogo, so their print formatting is recorded \AtBeginDocument.

\TeX T<sub>E</sub>X

latexlogo is a css class used to properly typeset the E and A in L<sup>A</sup>T<sub>E</sub>X and friends.

latexlogofont is a css class used to select the font for the rest of the logo in L<sup>A</sup>T<sub>E</sub>X, LuaT<sub>E</sub>X, ConT<sub>E</sub>Xt, etc.

```

14599 \newrobustcmd*{\LWR@HTML@TeX}
14600 {%
14601 \InlineClass{latexlogofont}%
14602 {%
14603 \InlineClass{latexlogo}%
14604 {%
14605 T%
14606 \InlineClass{latexlogosub}{e}%
14607 X%
14608 }%
14609 }%
14610 }
14611 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>

\LaTeXe

```

14612 \newrobustcmd*{\LWR@HTML@LaTeX}
14613 {%
14614 \InlineClass{latexlogofont}%
14615 {%
14616 \InlineClass{latexlogo}%
14617 {%
14618 L%
14619 \InlineClass{latexlogosup}{a}%
14620 T%
14621 \InlineClass{latexlogosub}{e}%
14622 X%
14623 }%
14624 }%
14625 }
14626
14627 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
14628
14629
14630 \newrobustcmd*{\LWR@HTML@LaTeXe}
14631 {%
14632 \LaTeX%
14633 \InlineClass{latexlogofont}{%
14634 \InlineClass{latexlogotwoe}{%

```

```

14635 2%
14636 \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
14637 }%
14638 }%
14639 }
14640 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

### \LuaTeX LuaTeX, LuaL<sup>A</sup>TeX

#### \LuaLaTeX

```

14641 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
14642 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
14643
14644 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
14645 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

### \XeTeX Xe<sup>3</sup>TeX, Xe<sup>3</sup>L<sup>A</sup>TeX

#### \XeLaTeX

xetexlogo is a css class which aligns the backwards E in Xe<sup>3</sup>TeX and spaces T<sup>E</sup>X appropriately.

xelatexlogo is a css class which aligns the backwards E in Xe<sup>3</sup>L<sup>A</sup>TeX and spaces L<sup>A</sup>TeX appropriately.

```

14646 \newrobustcmd*{\LWR@HTML@Xe}
14647 {
14648 X%
14649 \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
14650 }
14651 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
14652
14653 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xetexlogo}{\Xe}\TeX}
14654 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
14655
14656 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
14657 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

### \ConTeXt ConT<sup>E</sup>Xt

```

14658 \newrobustcmd*{\LWR@HTML@ConTeXt}{
14659 \InlineClass{latexlogofont}{Con}\TeX{}}%
14660 \InlineClass{latexlogofont}{t}}%
14661 }
14662 \LWR@formatted{ConTeXt}

```

### \BibTeX BiB<sup>T</sup>E<sup>X</sup>, *MakeIndex*

#### \MakeIndex

```

14663 \newrobustcmd*{\LWR@HTML@BibTeX}
14664 {
14665 \InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
14666 }
14667 \newrobustcmd*{\LWR@HTML@MakeIndex}
14668 {
14669 \InlineClass{latexlogofont}{\textit{MakeIndex}}}
14669 \LWR@formatted{MakeIndex}

```

`\AmS  $\mathcal{MS}$`

`amslogo` is a css class used for the  $\mathcal{MS}$  logo.

```

14670 \AtBeginDocument{%
14671 \newrobustcmd*{\LWR@HTML@AmS}
14672 {%
14673 \InlineClass{amslogo}{%
14674 \textit{%
14675 A%
14676 \InlineClass{latexlogosub}{M}%
14677 S%
14678 }%
14679 }%
14680 }%
14681 \LWR@formatted{AmS}
14682 }

```

`\MiKTeX MiKTeX`

```

14683 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
14684 \LWR@formatted{MiKTeX}

```

`\LyX LyX`

`lyxlogo` is a css class used for the LyX logo.

```

14685 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
14686 \LWR@formatted{LyX}

14687 \end{warpHTML}

```

## 102 Starting and stopping lwarp

**for HTML output:** `14688 \begin{warpHTML}`

`\LWR@LwarpStart` Automatically sets up the HTML-related actions for the start and end of the document.  
`\LWR@LwarpEnd`

```

14689 \AfterEndPreamble{\LWR@LwarpStart}
14690 \AtEndDocument{\LWR@LwarpEnd}
14691 \DeclareHookRule{enddocument}{lwarp}{after}{legacy}

14692 \end{warpHTML}

```

## 103 Loading array

`array` is required for lwarp's column parsing. It and its patches are now loaded.

**for HTML output:** `14693 \begin{warpHTML}`  
`14694 \RequirePackage{array}`

The following are compared with the tabular preamble > to add css classes to adjust tabular cells. Defined here now that `\arraybackslash` is defined after array is loaded.

```

14695 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}
14696 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}
14697 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}
14698 \def\LWR@detect@itshape{\itshape}
14699 \def\LWR@detect@bfseries{\bfseries}
14700 \def\LWR@detect@bfit{\bfseries\itshape}
14701 \end{warpHTML}

```

## 104 Loading everyshi patches

`everyshi` is emulated by the  $\text{\LaTeX}$  core, so its patches are loaded here. `\AtBeginDocument` is used in case an older version of  $\text{\LaTeX}$  is used.

**for HTML output:**

```

14702 \begin{warpHTML}
14703 \AtBeginDocument{
14704 \LWR@traceinfo{AtBeginDocument everyshi}
14705 \IfPackageLoadedTF{everyshi}{
14706 \RequirePackage{lwarp-everyshi}
14707 }{}
14708 }
14709 \end{warpHTML}

```

## 105 Loading textcomp patches

`textcomp` has now been integrated into the  $\text{\LaTeX}$  core, so its patches are loaded now.

**for HTML output:**

```

14710 \begin{warpHTML}
14711 \RequirePackage{lwarp-textcomp}
14712 \end{warpHTML}

```

## 106 Loading amsmath, amsthm patches, centernot

`amsmath`, `amsthm`, and `centernot` may have been preloaded, such as by `newtx`, so their patches are loaded now.

**for HTML output:**

```

14713 \begin{warpHTML}
14714 \IfPackageLoadedTF{amsthm}{
14715 \RequirePackage{lwarp-amsthm}
14716 }{}

14717 \IfPackageLoadedTF{amsmath}{
14718 \RequirePackage{lwarp-amsmath}
14719 }{}

```

`amsthm` may load `centernot`, so `centernot` must be checked second.

```

14720 \IfPackageLoadedTF{centernot}{
14721 \RequirePackage{lwarp-centernot}
14722 }{}
14723 \end{warpHTML}

```

## 107 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

**for HTML output:** 14724 \begin{warpHTML}

```

14725 \IfClassLoadedTF{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
14726 \IfClassLoadedTF{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
14727 \IfClassLoadedTF{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

14728 \end{warpHTML}

```

## 108 Loading MEMOIR class patches

Load patches to memoir.

**for PRINT output:** 14729 \begin{warpprint}

```

14730 \IfClassLoadedTF{memoir}{\LWR@origRequirePackage{xcolor}}{}
14731 \end{warpprint}

```

**for HTML output:** 14732 \begin{warpHTML}

```

14733 \IfClassLoadedTF{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
14734 \end{warpHTML}

```

## 109 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

**for HTML output:** 14735 \begin{warpHTML}

```

14736 \newcommand*{\LWR@patchujtclasses}{

```

uj/t does not use \partname

```

14737 \def\@partnameformat{}

14738 \def\@partcntformat##1{%
14739 \prepartname%
14740 \csname the##1\endcsname%
14741 \postpartname%
14742 \quad%
14743 }
14744 \@ifundefined{chapter}{}{
14745 \def\@chapcntformat##1{%
14746 \prechaptername%

```

```

14747 \csname the##1\endcsname%
14748 \postchaptername%
14749 \quad%
14750 }
14751 }
14752 \renewcommand*{\LWR@printchaptername}{\}

```

Use decimal points instead of centered dots:

```

14753 \renewcommand{\thepart}{\@Roman\c@part}
14754 \ifundefined{chapter}{
14755 \renewcommand{\thesection}{\@arabic\c@section}
14756 }{
14757 \renewcommand{\thechapter}{\@arabic\c@chapter}
14758 \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
14759 }
14760 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
14761 \renewcommand{\thesubsubsection}{%
14762 \thesubsection.\@arabic\c@subsubsection}
14763 \renewcommand{\theparagraph}{%
14764 \thesubsubsection.\@arabic\c@paragraph}
14765 \renewcommand{\thesubparagraph}{%
14766 \theparagraph.\@arabic\c@subparagraph}
14767 \ifundefined{chapter}{
14768 \renewcommand{\thefigure}{\@arabic\c@figure}
14769 \renewcommand{\thetable}{\@arabic\c@table}
14770 }{
14771 \renewcommand{\thefigure}{%
14772 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
14773 \renewcommand{\thetable}{%
14774 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
14775 }
14776 }
14777
14778 \IfClassLoadedTF{ujarticle}{\LWR@patchujtclasses}{\}
14779 \IfClassLoadedTF{ujbook}{\LWR@patchujtclasses}{\}
14780 \IfClassLoadedTF{ujreport}{\LWR@patchujtclasses}{\}
14781 \IfClassLoadedTF{utarticle}{\LWR@patchujtclasses}{\}
14782 \IfClassLoadedTF{utbook}{\LWR@patchujtclasses}{\}
14783 \IfClassLoadedTF{utreport}{\LWR@patchujtclasses}{\}
14784 \IfClassLoadedTF{ltjarticle}{\LWR@patchujtclasses}{\}
14785 \IfClassLoadedTF{ltjbook}{\LWR@patchujtclasses}{\}
14786 \IfClassLoadedTF{ltjreport}{\LWR@patchujtclasses}{\}
14787 \IfClassLoadedTF{ltjsarticle}{\LWR@patchujtclasses}{\}
14788 \IfClassLoadedTF{ltjsbook}{\LWR@patchujtclasses}{\}
14789 \IfClassLoadedTF{ltjsreport}{\LWR@patchujtclasses}{\}
14790 \IfClassLoadedTF{ltjskiyou}{\LWR@patchujtclasses}{\}
14791 \IfClassLoadedTF{ltjspf}{\LWR@patchujtclasses}{\}
14792 \IfClassLoadedTF{ltjtarticle}{\LWR@patchujtclasses}{\}
14793 \IfClassLoadedTF{ltjtbook}{\LWR@patchujtclasses}{\}
14794 \IfClassLoadedTF{ltjtreport}{\LWR@patchujtclasses}{\}
14795 \end{warpHTML}

```

## 110 CTeX patches

Patches for ctex and related classes, which are loaded before lwarp.

All CTeX classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch CTeX.

for HTML output: 14796 \begin{warphTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

14797 \AtBeginDocument{
14798 \LWR@traceinfo{AtBeginDocument ctexpatch}%
14799 \IfPackageLoadedTF{ctexpatch}{%
14800 \def\@partcntformat#1{%
14801 \LWR@isolate{\CTEX@partname}~%
14802 \CTEX@part@aftername%
14803 }%
14804
14805 \def\@partnameformat{}
14806
14807 \def\@chapcntformat#1{%
14808 \LWR@isolate{\CTEX@chaptername}~%
14809 \CTEX@chapter@aftername%
14810 }%
14811
14812 \renewcommand*\LWR@printchaptername{}{}
14813 }{}
14814 }

14815 \end{warphTML}

```

## 111 kotexutf patches

Patch for `kotexutf`, which is loaded before `lwarp`.

`kotexutf`'s `\@setref` was conflicting with `lwarp`'s cross references.

for HTML output: 14816 \begin{warphTML}

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

14817 \AtBeginDocument{
14818 \LWR@traceinfo{AtBeginDocument kotexutf}
14819 \IfPackageLoadedTF{kotexutf}{%
14820 \def\LWR@kotexutf@setref#1#2#3{%
14821 \@setref@dhucs@orig{#1}{#2}{#3}%
14822 \ifx#1\relax\else
14823 \bgroup
14824 \dhucs@make@cjkchar@null
14825 \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
14826 \egroup
14827 \fi%
14828 }%
14829
14830 \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
14831 \let\@setref\@setref@dhucs@orig
14832 }{}
14833 }{}
14834 }

```

```
14835 \end{warphTML}
```

## 112 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```
for HTML output: 14836 \begin{warphTML}
14837 \AtBeginDocument{
14838 \LWR@traceinfo{AtBeginDocument polyglossia warning}
14839
14840 \IfPackageLoadedTF{polyglossia}{
14841 \PackageNoteNoLine{lwarp}
14842 {%
14843 Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
14844 See the cleveref documentation regarding\MessageBreak
14845 polyglossia support. Some languages are not supported.\MessageBreak
14846 --- \MessageBreak
14847 If the error\MessageBreak
14848 \space\space Undefined control sequence ...
14849 \protect__hook begindocument\MessageBreak
14850 occurs here, use the polyglossia macro:\MessageBreak
14851 \space\space\protect\setmainlanguage\protect{...\protect}
14852 }
14853 }{
14854 \IfPackageLoadedTF{babel}{
14855 \PackageNoteNoLine{lwarp}
14856 {%
14857 Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
14858 See the cleveref documentation regarding\MessageBreak
14859 babel support. Some languages are not supported%
14860 }
14861 }{}
14862 }
14863
14864 }
14865 \end{warphTML}
```

## 113 MATHJAX warnings

`\LWR@mathjaxwarn`  $\{\langle\textit{packagename}\rangle\}$   $\{\langle\textit{More text.}\rangle\}$

Issue a warning that MATHJAX is emulated. To be done `\AtBeginDocument`.

```

14866 \newcommand*\LWR@mathjaxwarn}[2]{%
14867 \IfPackageLoadedTF{lwarp-#1}{%
14868 \ifblank{#2}{%
14869 \PackageWarningNoLine{lwarp}
14870 {%
14871 Lwarp provides emulation for MathJax when used\MessageBreak
14872 with the #1 package%
14873 }
14874 }{%
14875 \PackageWarningNoLine{lwarp}
14876 {%
14877 Lwarp provides emulation for MathJax when used\MessageBreak
14878 with the #1 package.\MessageBreak
14879 #2%
14880 }
14881 }%
14882 }{}%
14883 }
14884
14885 % \begin{macro}\LWR@nomathjaxwarn \marg{packagename} \marg{More text.}
14886 %
14887 % Issue a warning that \MathJax\ is not supported.
14888 % To be done \cs{AtBeginDocument}.
14889 %
14890 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \MathJax.}
14891 % \changes{v0.895}{2021/01/08}{Improved \MathJax\ warning.}
14892 % \begin{macrocode}
14893 \newcommand*\LWR@nomathjaxwarn}[2]{%
14894 \IfPackageLoadedTF{lwarp-#1}{%
14895 \ifblank{#2}{%
14896 \PackageWarningNoLine{lwarp}
14897 {%
14898 Lwarp does not provide MathJax support for #1.\MessageBreak
14899 Use SVG math by removing the Lwarp mathjax option%
14900 }
14901 }{%
14902 \PackageWarningNoLine{lwarp}
14903 {%
14904 Lwarp does not provide MathJax support for #1.\MessageBreak
14905 #2%
14906 }
14907 }%
14908 }{}%
14909 }

```

`\LWR@forceSVGmessage`  $\{\langle\textit{packagename}\rangle\}$

```

14910 \newcommand*\LWR@forceSVGmessage}[1]{%
14911 SVG math output may be enabled for select math\MessageBreak
14912 expressions to preserve #1 visual\MessageBreak
14913 features for those particular expressions.\MessageBreak
14914 Before the chosen inline math, use \protect\inlinemathother\MessageBreak

```

```

14915 to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
14916 afterward to resume using MathJax math.\MessageBreak
14917 Before display math, use \protect\displaymathother\MessageBreak
14918 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
14919 after to resume using MathJax for the following math.\MessageBreak
14920 Or, use SVG math for all expressions by removing\MessageBreak
14921 the mathjax option for the lwarp package%
14922 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

14923 \AtBeginDocument{
14924 \LWR@traceinfo{AtBeginDocument MathJax warnings}
14925 \ifbool{mathjax}{
14926 \LWR@nomathjaxwarn{aligned-overset}{}
14927 \LWR@nomathjaxwarn{amscdx}{\LWR@forceSVGmessage{amscdx}}
14928 \LWR@mathjaxwarn{arydshln}
14929 {In a math array, do not use the optional argument\MessageBreak
14930 for \protect\cdashline.\space\space
14931 Furthermore, \protect\cline\space is not\MessageBreak
14932 supported by MathJax}
14933 \LWR@nomathjaxwarn{autoaligne}{}
14934 \LWR@mathjaxwarn{autonum}
14935 {MathJax does not support equation+.\MessageBreak
14936 You may use the warpprint and warpHTML\MessageBreak
14937 environments to isolate the package load\MessageBreak
14938 and the equation+ environments}
14939 \LWR@mathjaxwarn{bigdelim}
14940 {Delimiters appear only on the first line}
14941 \LWR@nomathjaxwarn{boldtensors}{}
14942 \LWR@mathjaxwarn{booktabs}
14943 {\protect\cmidrule\space is not displayed}
14944 \LWR@mathjaxwarn{breqn}
14945 {Each environment becomes an SVG image}
14946 \LWR@mathjaxwarn{colortbl}
14947 {Colors are ignored in MathJax.\MessageBreak
14948 (Text mode tabular does support colortbl.)\MessageBreak
14949 \LWR@forceSVGmessage{colortbl}}
14950 \LWR@mathjaxwarn{delarray}{\LWR@forceSVGmessage{delarray}}
14951 \LWR@nomathjaxwarn{gauss}{\LWR@forceSVGmessage{gauss}}
14952 \LWR@mathjaxwarn{hhline}
14953 {A simple \protect\hline\space is used}
14954 \LWR@mathjaxwarn{isomath}
14955 {Some of the symbol font macros such as \protect\mathsfbf\it\MessageBreak
14956 do not use a sans font because MathJax does not yet\MessageBreak
14957 have sans Greek. Tensors may look like vectors%
14958 }
14959 \LWR@nomathjaxwarn{jkmath}{\LWR@forceSVGmessage{jkmath}}
14960 \LWR@mathjaxwarn{libertinustlmath}
14961 {Some of the symbol font macros such as \protect\mathsfbf\it\MessageBreak
14962 do not use a sans font because MathJax does not yet\MessageBreak
14963 have sans Greek. Tensors may look like vectors%
14964 }
14965 \LWR@mathjaxwarn{mathtools}
14966 {See the Lwarp manual regarding the disallowspace\MessageBreak
14967 and showonlyrefs options, the alignat environment,\MessageBreak
14968 \protect\DeclarePairedDelimiter\space and related,\MessageBreak
14969 and \protect\MakeAboxedCommand%
14970 }

```

```

14971 \LWR@mathjaxwarn{mathspec}
14972 {Double quotes are removed, even inside \protect\text}
14973 \LWR@mathjaxwarn{mismatch}
14974 {MathJax does not support \protect\enumber,
14975 \protect\inumber,\MessageBreak
14976 \protect\jnumber, \protect\pinumber, \protect\MathUp, \protect\MathIt,\MessageBreak
14977 \protect\MathNumbers, or \protect\MathNormal.\MessageBreak
14978 \protect\itpi\space is made available as a clone of \protect\pi.\MessageBreak
14979 Tensors are not sans serif%
14980 }
14981 \LWR@mathjaxwarn{multirow}
14982 {Multirow works as expected in text mode, but\MessageBreak
14983 limited emulation is provided for MathJax math.\MessageBreak
14984 \protect\multirow\space ignores all arguments except\MessageBreak
14985 the text}
14986 \LWR@mathjaxwarn{nicematrix}
14987 {Keys/values are ignored in MathJax.\MessageBreak
14988 \protect\Cdots, etc. do not span multiple cells.\MessageBreak
14989 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
14990 \protect\CodeBefore, \protect\Body, and \protect\CodeAfter\MessageBreak
14991 \space\space also are not supported for MathJax.\MessageBreak
14992 \LWR@forceSVGmessage{nicematrix}%
14993 }
14994 \LWR@nomathjaxwarn{pb-diagram}{\LWR@forceSVGmessage{pb-diagram}}
14995 % \LWR@mathjaxwarn{physics}
14996 % {The third-party extension is not used.\MessageBreak
14997 % {The MathJax v3 extension is used.\MessageBreak
14998 % See the Lwarp manual for details}
14999 \LWR@mathjaxwarn{siunitx}
15000 {Place \protect\sisetup\space before \protect\begin{document}.\MessageBreak
15001 Many optional arguments are ignored}
15002 \LWR@nomathjaxwarn{tensind}{}
15003 \LWR@mathjaxwarn{unicode-math}
15004 {Do not use embedded Unicode characters.\MessageBreak
15005 (Not all characters are encoded correctly.)\MessageBreak
15006 Some symbol fonts are not supported by MathJax,\MessageBreak
15007 and are only approximated.\MessageBreak
15008 Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
15009 option. Latin symbols does not, per MathJax\MessageBreak
15010 limitations, unless placed inside \protect\symbol\space or similar}
15011 \LWR@nomathjaxwarn{unitsdef}{}
15012 \LWR@mathjaxwarn{witharrows}
15013 {Arrows can only point to the next line.\MessageBreak
15014 Text is only placed on a single line}
15015 \LWR@nomathjaxwarn{xy}
15016 {In text, xy works as-is. SVG images will be generated.\MessageBreak
15017 \LWR@forceSVGmessage{xy}}
15018 }{}
15019 }

```

## 114 Temporary patches

These are temporary fixes for issues which probably soon will be fixed by others, outside of lwarp.

## 115 End of lwarp package

```
15020 \AtBeginDocument{
15021 \LWR@traceinfo{AtBeginDocument done}
15022 }
```

## 116 Adjustments for package listings

(Adjustments are made for the following listing sectioning.)

(No code shown here.)

---

File 2 **lwarp-2in1.sty**

§ 117      Package **2in1**

2in1 (*Pkg*) 2in1 is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{2in1}

---

File 3 **lwarp-2up.sty**

§ 118      Package **2up**

2up (*Pkg*) 2up is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupeemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\twoupWrites{}

```

---

File 4 **lwarp-a4.sty**

§ 119      Package **a4**

a4 (*Pkg*) a4 is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```

2 \newcommand*\WideMargins{}{}

```

---

File 5 **lwarp-a4wide.sty**

§ 120      Package **a4wide**

a4wide (*Pkg*) a4wide is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 **lwarp-a5comb.sty**§ 121 Package **a5comb**

`a5comb (Pkg)` `a5comb` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{a5comb}`

File 7 **lwarp-abstract.sty**§ 122 Package **abstract**

*(Emulates or patches code by PETER WILSON.)*

`abstract (Pkg)` `abstract` is supported and patched by `lwarp`.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** `memoir` provides an abstract environment even though it is not an article or report class. Meanwhile, `lwarp` loads `book` to emulate `memoir`, but `book` does not have an abstract environment, so when the `abstract` package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for `lwarp-abstract`:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitlekip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
```

```
17 \IfClassLoadedTF{memoir}
18 {
19 \renewenvironment{abstract}{%

```

```

20 % % \titlepage
21 % \null\vfil
22 % \beginparpenalty\@lowpenalty
23 \setup@bstract
24 \if@bsrunin
25 \else
26 % \if@bsstyle
27 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28 % \else
29 % \ifnumber@bs
30 % \num@bs
31 % \else
32 % \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34 % \endparpenalty\@M
35 % \end\absnamepos%
36 % \vspace{\abstitleskip}%
37 % \fi
38 % \fi
39 % \vspace{\abstitleskip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
44 }
45 }{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48 % \titlepage
49 % \null\vfil
50 % \beginparpenalty\@lowpenalty
51 % \if@bsrunin
52 % \else
53 % \if@bsstyle
54 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 % \else
56 % \ifnumber@bs
57 % \num@bs
58 % \else
59 % \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
61 % \endparpenalty\@M
62 % \end\absnamepos%
63 %% \vspace{\abstitleskip}%
64 % \fi
65 % \fi
66 % \vspace{\abstitleskip}%
67 % \fi
68 % \put@bsintoc%
69 % \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs

```

---

```

80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %% \vspace{\abstitleskip}%
86 \fi
87 \fi
88 \vspace{\abstitleskip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

## File 8 **lwarp-academicons.sty**

### § 123 Package **academicons**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

**academicons** (*Pkg*) **academicons** is patched for use by **lwarp**.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7 \begin{lateximage}*[academicon][academicons#1]%
8 \begingroup%
9 \LWR@academicons@orig@AI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16 \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21 \begin{lateximage}*[#1 icon]?[academicons#1]%
22 \AI\csname aiicon@#1\endcsname%
23 \end{lateximage}%
24 }

```

File 9 **lwarp-accents.sty**§ 124 Package **accents***(Emulates or patches code by JAVIER BEZOS.)*`accents` (*Pkg*) `accents` is used as-is for SVG math, and is emulated for MATHJAX.**for HTML output:** 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20 {%
21 \renewcommand{\grave}[1]{\LARGE\LWRgrave{#1}}}%
22 \renewcommand{\acute}[1]{\LARGE\LWRacute{#1}}}%
23 \renewcommand{\check}[1]{\LARGE\LWRcheck{#1}}}%
24 \renewcommand{\breve}[1]{\LARGE\LWRbreve{#1}}}%
25 \renewcommand{\bar}[1]{\LARGE\LWRbar{#1}}}%
26 \renewcommand{\hat}[1]{\LARGE\LWRhat{#1}}}%
27 \renewcommand{\dot}[1]{\LARGE\LWRdot{#1}}}%
28 \renewcommand{\tilde}[1]{\LARGE\LWRtilde{#1}}}%
29 \renewcommand{\ddot}[1]{\LARGE\LWRddot{#1}}}%
30 \renewcommand{\vec}[1]{\LARGE\LWRvec{#1}}}%
31 \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32 \underset{\raise 2pt {#1}}{#2}%
33 \let\grave\LWRgrave%
34 \let\acute\LWRacute%
35 \let\check\LWRcheck%
36 \let\breve\LWRbreve%
37 \let\bar\LWRbar%

```

---

```

38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

---

File 10 **lwarp-accessibility.sty**

§ 125 Package **accessibility**

`accessibility` (*Pkg*) `accessibility` is emulated.

**for HTML output:** Discard all options for `lwarp-accessibility`:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

For MATHJAX:

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{} }
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **lwarp-acccsupp.sty**

§ 126 Package **accsupp**

`accsupp` (*Pkg*) `accsupp` is ignored.

**for HTML output:** `\LWR@ProvidesPackageDrop{accsupp}[2018/03/28]`

```

2 \newcommand*\BeginAccSupp[1]{}
3 \newcommand*\EndAccSupp[1]{}

For MATHJAX:

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{} }
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{} }
7 \end{warpMathJax}

```

File 12 **lwarp-acro.sty**§ 127 Package **acro***(Emulates or patches code by CLEMENS NIEDERBERGER.)***acro** (*Pkg*) **acro** is patched for use by **lwarp**. **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.**for HTML output:** 1 `\LWR@ProvidesPackagePass{acro}[2019/10/12]`

`\DeclareAcronym` is used in the preamble, where **lwarp** has not yet made the dollar active, so temporarily enable **lwarp** math catcode just for this definition:

```

2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5 \acro_declare_acronym:nn {#1} {#2}
6 \catcode`\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{*}{
11 \catcode`\$=\active% lwarp
12 \LWR@DeclareAcronym
13 }

```

Replace dot fill with simple dots:

```

14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: { \dots \space }
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff

```

Modified to activate the current font:

```

18 \ExplSyntaxOn
19 \IfPackageAtLeastTF{acro}{2020/04/29}%
20 {}% v3 or later
21 {}% before v3
22 \IfPackageAtLeastTF{acro}{2019/09/23}%
23 {}% v2.10 or later
24 \cs_gset_protected:Npn __acro_typeset:nn #1#2
25 {
26 \mode_if_horizontal:F { \leavevmode }
27 \group_begin:
28 \use:x
29 {
30 \bool_if:cTF {l__acro_custom_#1_format_bool}
31 { \exp_not:v {l__acro_custom_#1_format_tl} }
32 { \exp_not:v {l__acro_#1_format_tl} }
33 { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
34 }
35 \group_end:

```

```

36 }
37
38 \cs_gset_protected:Npn __acro_ending_format:nn #1#2
39 {
40 \bool_if:NTF \l__acro_include_endings_format_bool
41 {
42 \str_case:nn {#1}
43 {
44 {long}
45 {
46 \bool_if:NTF \l__acro_custom_long_format_bool
47 { \l__acro_custom_long_format_tl }
48 {
49 \bool_if:NTF \l__acro_first_instance_bool
50 { \l__acro_first_long_format_tl }
51 { \l__acro_long_format_tl }
52 }
53 }
54 } {short}
55 {
56 \bool_if:NTF \l__acro_custom_short_format_bool
57 { \l__acro_custom_short_format_tl }
58 { \l__acro_short_format_tl }
59 }
60 } {alt}
61 {
62 \bool_if:NTF \l__acro_custom_alt_format_bool
63 { \l__acro_custom_alt_format_tl }
64 { \l__acro_alt_format_tl }
65 }
66 }
67 }
68 { \use:n }
69 {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71}% v2.10 or later
72{% before v2.10
73 \cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75 \mode_if_horizontal:F { \leavevmode }
76 \group_begin:
77 \bool_if:NTF \l__acro_custom_format_bool
78 { \l__acro_custom_format_tl }
79 { \l__acro_short_format_tl }
80 {\LWR@textcurrentfont{#2}}% lwarp
81 \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86 \mode_if_horizontal:F { \leavevmode }
87 \group_begin:
88 \bool_if:NTF \l__acro_custom_format_bool
89 { \l__acro_custom_format_tl }
90 { \l__acro_alt_format_tl }
91 {\LWR@textcurrentfont{#2}}% lwarp
92 \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2

```

```

96 {
97 \mode_if_horizontal:F { \leavevmode }
98 \group_begin:
99 \bool_if:NTF \l__acro_custom_long_format_bool
100 { \l__acro_custom_long_format_tl }
101 { \use:n }
102 {
103 \use:x
104 {
105 \exp_not:n {#1}
106 {
107 \bool_if:NTF \l__acro_first_upper_bool
108 { \exp_not:N __acro_first_upper_case:n { \exp_not:n {
109 \LWR@textcurrentfont{#2}% lwarp
110 } } }
111 { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
112 }
113 }
114 }
115 \group_end:
116 }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff

```

File 13 **lwarp-acronym.sty**§ 128 Package **acronym***(Emulates or patches code by TOBIAS OETIKER.)***acronym** (*Pkg*) **acronym** is patched for use by **lwarp**.

 **multiply-defined labels** **\acresetall** does not work with **cleveref**, causing multiply-defined labels. **lwarp** patches **acronym** for HTML, but not for print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acronym}[2020/04/17]

Simplifies for HTML. Unable to use **\VerifyCommand** here due to **\csname** being used.

```

2 \expandafter\def\csname AC@\AC@prefix{ }\acro\endcsname#1[#2]#3{%
3 \ifAC@nolist%
4 \else%
5 \ifnum%
6 \ifAC@printonlyused 1%
7 \else\ifAC@printonlyreused 1%
8 \else 0\fi\fi%
9 =1\relax%
10 \ifnum%
11 \ifAC@printonlyused%
12 \expandafter\ifx\csname acused@#1@once\endcsname\AC@used 1 \else 0 \fi%
13 \else\ifAC@printonlyreused%
14 \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used 1 \else 0 \fi%
15 \else 0 \fi\fi%
16 =1\relax%
17 \item[\protect\AC@hypertarget{#1}]{%

```

```

18 \AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}%
19]\AC@hyperref[acro:#1]{#3}%
20 \ifAC@withpage%
21 \expandafter\ifx\csname r@acro:#1\endcsname\relax%
22 \PackageInfo{acronym}{%
23 Acronym #1 used in text but not spelled out in
24 full in text}%
25 \else%
26 \nobreak\leaders\hbox{%
27 $\m@th\mkern\@dotsep mu\hbox{.}\mkern\@dotsep mu$%
28 }\hfill%
29 \nobreak\hbext@\@pnumwidth{%
30 \hfil\normalfont\normalcolor
31 \quad --- % lwarp
32 \AC@pageref{acro:#1}%
33 }%
34 \fi%
35 \fi\}%
36 \fi%
37 \else%
38 \item[\protect\AC@hypertarget{#1}{\AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}}]%
39 \AC@hyperref[acro:#1]{#3}%
40 \fi%
41 \fi%
42 \begingroup
43 \def\acroextra##1{%
44 \@bsphack
45 \ifAC@printonlyreused%
46 \protected@write\@auxout{}{%
47 \string\newacro{#1}%
48 \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used%
49 \string\AC@hyperlink{#1}{#2}%
50 \else%
51 {#2}%
52 \fi%
53]{#3}%
54 }%
55 \else%
56 \protected@write\@auxout{}{%
57 \string\newacro{#1}[\string\AC@hyperlink{#1}{#2}]{#3}%
58 }%
59 \fi%
60 \@esphack
61 \endgroup
62 \ignorespaces}

```

Uses \textit instead of \itshape:

```

63 \renewcommand{\acfia}[1]{%
64 {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}

```

Removes the mbox to allow math inside:

```

65 \VerifyCommand[lwarp][acronym]{\AC@acs}{E2119484F7CD2A5D4B064390C6BB806F}
66
67 \renewcommand*\AC@acs[1]{%
68 % \mbox{
69 \expandafter\AC@get\csname fn@#1\endcsname\@firstoftwo{#1}}
70 % }

```

Fix for acronym labels in the captions of floats.

```

71 \renewcommand{\@starttoc}[1]{%
72 \LWR@html@elementclass{nav}{#1}
73 \LetLtxMacro\@verridelabel\@gobble
74 \LWR@orig@starttoc{#1}
75 \LWR@html@elementclassend{nav}{#1}
76 }

```

Modified for cleveref and lwarp:

```

77 \VerifyCommand[lwarp][acronym]{\AC@und@newl@bel}{661CF70DCB3E1AA8871B26E785BE7C86}
78
79 \renewcommand*\AC@und@newl@bel[3]{%
80 \@ifundefined{#1@#3}%
81 {%
82 \global\expandafter\let\csname#2@#3\endcsname\@nnil
83 \global\expandafter\let\csname#2@#3@lwarp\endcsname\@nnil% lwarp
84 \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% lwarp
85 }%
86 {%
87 \global\expandafter\let\csname#1@#3\endcsname\relax
88 \global\expandafter\let\csname#1@#3@lwarp\endcsname\relax% lwarp
89 \global\expandafter\let\csname#1@#3@cref\endcsname\relax% lwarp
90 }%
91 }%

```

Improve paragraph handling:

```

92 \BeforeBeginEnvironment{acronym}{\LWR@stoppars}
93 \AfterEndEnvironment{acronym}{\LWR@startpars}

```

Create hyperlinks, even though hyperref is only emulated:

```

94 \AtBeginDocument{
95 \LetLtxMacro\AC@hyperlink\hyperlink
96 \LetLtxMacro\AC@hyperref\hyperref
97 \newcommand*\AC@raisedhypertarget[2]{%
98 \Hy@raisedlink{%
99 \hypertarget{#1}{}%
100 }%
101 #2}%
102 \LetLtxMacro\AC@hypertarget\AC@raisedhypertarget
103 \def\AC@phantomsection{%
104 \Hy@GlobalStepCount\Hy@linkcounter
105 \edef\@currentHref{section*.\the \Hy@linkcounter}%
106 \Hy@raisedlink{%
107 \hyper@anchorstart{\@currentHref}\hyper@anchorend
108 }%
109 \phantomsection%
110 }%
111 }
112
113 \appto\LWR@restoreorigformatting{%
114 \LetLtxMacro\AC@hyperlink\@secondoftwo%
115 \LetLtxMacro\AC@hyperref\LWR@nullify@hyperref%
116 }

```

---

File 14 **lwarp-adjmulticol.sty**

§ 129      Package **adjmulticol**

*(Emulates or patches code by BORIS VEYTSMAN.)*

adjmulticol (*Pkg*) adjmulticol is emulated.

Emulation similar to multicols is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, lwarp allows a variable number of columns up to three.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols    \* {\langle numcols \rangle} {\langle left margi \rangle} {\langle right margin \rangle}

3 \NewDocumentEnvironment{adjmulticols}{s m m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{%}

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{%}

If one column is specified, use a <div> of class singlecolumn, else use multicols:

9 \newcommand\*\LWR@mcolstype{multicols}%

10 \ifnumcomp{#2}{=}{1}{\renewcommand\*\LWR@mcolstype{singlecolumn}}{%}

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%

13    \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14    \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15 ]{\LWR@mcolstype}%

16 }

17 {\endBlockClass}

---

File 15 **lwarp-addlines.sty**

§ 130      Package **addlines**

*(Emulates or patches code by WILL ROBERTSON.)*

`addlines (Pkg)` `addlines` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}
4 \let\addline\addlines
5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}
7 \let\remove\removelines
8 \newcommand\squeezepage[1][0]{}

```

---

File 16 **lwarp-afterpage.sty**

§ 131 Package **afterpage**

*(Emulates or patches code by DAVID CARLISLE.)*

`afterpage (Pkg)` `afterpage` is emulated.

**for HTML output:** Discard all options for `lwarp-afterpage`:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]

2 \newcommand{\afterpage}[1]{#1}

```

---

File 17 **lwarp-algorithm2e.sty**

§ 132 Package **algorithm2e**

*(Emulates or patches code by CHRISTOPHE FIORIO.)*

`algorithm2e (Pkg)` `algorithm2e` is patched for use by `lwarp`.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}

Select the lwarp float style according to the algorithm2e style:

3 \newcommand*\LWR@floatstyle@algocf{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf{boxed}
7 }{}
8

```

```

9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*{\LWR@floatstyle@algocf}{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*{\LWR@floatstyle@algocf}{plain}
15 }{}

```

Paragraph handling to allow line numbers under certain conditions:

```

16 \renewcommand{\algocf@everypar}{%
17 \ifbool{\LWR@algocf@dopars}{%
18 \ifbool{\LWR@doingstartpars}{%
19 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
20 {}%
21 {%

```

`algorithm2e` uses `\everypar`, so the open paragraph tag is generated here instead of `\LWR@openparagraph`:

```

22 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%

23 \algocf@everypar\nl\algocf@everyparhanging%
24 }%
25 }{}%
26 }{}%
27 }

```

lwarp caption handling:

```

28 \renewcommand{\algocf@makecaption}[2]{%
29 \LWR@HTML@caption@begin{\algocf}%
30 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
31 \LWR@HTML@caption@end%
32 }

```

Print any caption where it is declared:

```

33 \renewcommand{\algocf@makecaption@plain}[2]{%
34 \LWR@HTML@caption@begin{\algocf}%
35 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
36 \LWR@HTML@caption@end%
37 }
38
39 \renewcommand{\algocf@makecaption@boxed}[2]{%
40 \LWR@HTML@caption@begin{\algocf}%
41 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
42 \LWR@HTML@caption@end%
43 }
44
45 \renewcommand{\algocf@makecaption@ruled}[2]{%
46 \LWR@HTML@caption@begin{\algocf}%
47 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
48 \LWR@HTML@caption@end%
49 }

```

Turn off line numbering while making the caption:

```

50 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
51 \boolfalse{LWR@algocf@dopars}% lwarp
52 \par%
53 \addcontentsline{\csname ext@#1\endcsname}{#1}%
54 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
55 \begingroup%
56 \@parboxrestore%
57 \if@minipage%
58 \@setminipage%
59 \fi%
60 \normalsize%
61 \@makecaption{\csname fnum#1\endcsname}{\ignorespaces #3}\par%
62 \endgroup%
63 \booltrue{LWR@algocf@dopars}% lwarp
64 }

```

Line numbers are printed in a `<span>` of class `alg2elinenumber`:

```

65 \renewcommand{\algocf@printnl}[1]{%
66 \InlineClass{alg2elinenumber}{\NlSty{#1}}~%
67 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the figure option was used.

```

68 \preto\@algocf@init{%
69 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
70 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

71 \renewcommand{\@algocf@start}{%
72 \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\@endalgoln\fi}%
73 % \raggedright%
74 \AlFnt{}%
75 \booltrue{LWR@algocf@dopars}% lwarp
76 }
77
78 \renewcommand{\@algocf@finish}{%
79 \boolfalse{LWR@algocf@dopars}% lwarp
80 \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
81 \let\;=\@mathsemicolon%
82 \let\]=\@mathdisplay%
83 }

```

Use an HTML break:

```

84 \renewcommand{\BlankLine}{%
85 \LWR@stopars%
86 \LWR@htmltagc{br /}%
87 \LWR@startpars%
88 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

89 \renewcommand{\SetKwInOut}[2]{%
90 \algocf@newcommand{#1}[1]{%
91 \ifthenelse{\boolean{algocf@hanginginout}}%

```

```

92 {\relax}%
93 {\algocf@seteveryparhanging{\relax}}%
94 \ifthenelse{\boolean{algocf@inoutnumbered}}%
95 {\relax}%
96 {\algocf@seteveryparnl{\relax}}%
97 {%
98 \KwSty{#2\algocf@typo:}%
99 ~##1\par%
100 }%
101 \algocf@linesnumbered% reset the numbering of the lines
102 \ifthenelse{\boolean{algocf@hanginginout}}%
103 {\relax}%
104 {\algocf@reseteveryparhanging}%
105 }%
106}%
107
108 \renewcommand{\ResetInOut}[1]{%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

109 \renewcommand{\algocf@Vline}[1]{%
110 \boolfalse{LWR@algocf@dopars}%
111 \begin{BlockClass}{alg2evline}
112 \booltrue{LWR@algocf@dopars}%
113 #1
114 \boolfalse{LWR@algocf@dopars}%
115 \end{BlockClass}
116 \booltrue{LWR@algocf@dopars}%
117 }

118 \renewcommand{\algocf@Vsline}[1]{%
119 \boolfalse{LWR@algocf@dopars}%
120 \begin{BlockClass}{alg2evsline}
121 \booltrue{LWR@algocf@dopars}%
122 #1
123 \boolfalse{LWR@algocf@dopars}%
124 \end{BlockClass}
125 \booltrue{LWR@algocf@dopars}%
126 }

127 \renewcommand{\algocf@Noline}[1]{%
128 \boolfalse{LWR@algocf@dopars}%
129 \begin{BlockClass}{alg2enoline}
130 \booltrue{LWR@algocf@dopars}%
131 #1
132 \boolfalse{LWR@algocf@dopars}%
133 \end{BlockClass}
134 \booltrue{LWR@algocf@dopars}%
135 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

136 \LetLtxMacro\algocf@Here\algocf
137 \LetLtxMacro\endalgocf@Here\endalgocf

```

File 18 **lwarp-algorithmicx.sty**§ 133 Package **algorithmicx***(Emulates or patches code by SZÁSZ JÁNOS.)*algorithmicx (*Pkg*) **algorithmicx** is supported with minor adjustments.**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the `algorithmic` environment, level indenting is converted to a `<span>` of the required length, and comments are placed inside a `<span>` which is floated right.

 **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 650.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*{\ALG@doentity}{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style=\textquotedbl{}%
10 width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11 \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{%
20 \LWR@htmltagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26 \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLUnicode{25B7} #1% white right triangle
32 }%
```

File 19 **lwarp-alltt.sty**§ 134 Package **alltt***(Emulates or patches code by JOHANNES BRAAMS.)*

`alltt (Pkg)` `alltt` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {}%
8 {%
9 \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10 \LWR@atbeginverbatim{alltt}%
11 }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16 {}%
17 {%

```

Vertical spacing changes if inside a list.

```

18 \LWR@afterendverbatim%
19 }%
20 }
21
22 }

```

---

File 20 **lwarp-amscdx.sty**

§ 135    Package **amscdx**

*(Emulates or patches code by MARTIN VERMEER.)*

`amscdx (Pkg)` `amscdx` is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \renewenvironment{CD}
5 {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6 {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDfattrue}}{}
10 \CustomizeMathJax{\newcommand{\CDfatfalse}}{}
11 \CustomizeMathJax{\newcommand{\CDashtrue}}{}
12 \CustomizeMathJax{\newcommand{\CDashfalse}}{}

```

```

13 \CustomizeMathJax{\newcommand{\CDlor}[1]{} }
14 \end{warpMathJax}

```

---

## File 21 **lwarp-amsmath.sty**

### § 136 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

amsmath (*Pkg*) amsmath is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso

An HTML text-mode version.

```

2 \newcommand*\LWR@HTML@dotso{\textellipsis\ }
3 \LWR@formatted{dotso}

```

Patches to allow \eqref inside a caption:

```

4 \def\maketag@@#1{\text{#1}}
5 \def\tagform#1{\maketag@@{(\ignorespaces#1\unskip)}}

```

Patches for  $\mathcal{MS}$  math \tag macro to remember the first tag:

```

6 \ifbool{mathjax}{ }{% not mathjax
7
8 \VerifyCommand[lwarp][amsmath]{\make@df@tag@@}{A5AA7B9CD20DC2C73B1D19D582C44A8E}
9 \VerifyCommand[lwarp][amsmath]{\make@df@tag@@@}{670399C01F88B0E9B0874E9B129FA404}
10
11 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
12 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
13
14 \renewcommand*\make@df@tag@@[1]{%
15 \LWR@remembertag{#1}%
16 \LWR@origmake@df@tag@@{#1}%
17 }
18
19 \renewcommand*\make@df@tag@@@[1]{%
20 \LWR@remembertag{#1}%
21 \LWR@origmake@df@tag@@@{#1}%
22 }
23
24 }{% not mathjax

```

For nesting  $\mathcal{MS}$  environments:

```

25 \newcounter{LWR@amsmathdepth}
26 \setcounter{LWR@amsmathdepth}{0}

```

The following  $\mathcal{MS}$  environments are patched in-place:

$\text{LWR@maxfields@}$  (*Ctr*) A copy of maxfields@ as it was passed. This is used to generate the mandatory argument for alignat and alignat\* when using MATHJAX.

```

27 \newcounter{LWR@maxfields@}
28
29 \VerifyCommand[lwarp][amsmath]{\start@align}{91CC0364710455D823A1D74B3E5704DD}
30
31 \xpatchcmd{\start@align}
32 {\maxfields@#3\relax}
33 {%
34 \maxfields@#3\relax%
35 \setcounter{LWR@maxfields@}{#3}%
36 }
37 {}
38 {\LWR@patcherror{amsmath}{start@align}}

```

`\LWR@amsmathenv@@before`

\*  $\langle environment\ name \rangle$   
 \* if the environment was starred.  
 Embeds the environment inside a lateximage.

```

39 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
40 \IfBooleanTF{#1}{
41 \begin{BlockClass}{displaymath}
42 }{
43 \begin{BlockClass}{displaymathnumbered}
44 }
45 \LWR@newautoidanchor%
46 \booltrue{LWR@indisplaymathimage}%
47 \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*?%
48 \LWR@applyxfakebold%
49 }

```

`\LWR@amsmathenv@@before`

\*  $\langle environment\ name \rangle$   
 \* if the environment was starred.  
 Embeds the environment with MATHJAX or a lateximage.

```

50 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
51 \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
52 \LWR@stoppars%
53 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
54 {
55 \LWR@syncmathjax
56 \boolfalse{LWR@amsmultline}
57 \ifstrequal{#2}{multline}{\booltrue{LWR@amsmultline}}{}
58 \ifstrequal{#2}{multline*}{\booltrue{LWR@amsmultline}}{}

```



autonum's "+" environments are not supported by MATHJAX.

```

59 \LWR@beginhideamsmath
60 }
61 {
62 \IfBooleanTF{#1}{
63 \LWR@amsmathenv@@before*{#2}
64 }{
65 \LWR@amsmathenv@@before{#2}
66 }
67 }
68 {}
69 \addtocounter{LWR@amsmathdepth}{1}
70 }

```

`\LWR@amsmathenv@after`

Embeds the environment inside a `lateximage`.

```
71 \newcommand*\LWR@amsmathenv@after{%
72 \end{lateximage}\end{BlockClass}\LWR@startpars%
73 }
```

`\LWR@amsmathenv@after`

`* {{environment name}}`

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with `MATHJAX` or a `lateximage`.

```
74 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
75 \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
76 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
77 {
78 \LWR@endhideamsmath
79 \boolfalse{LWR@amsmultline}
80 \LWR@addmathjax{#2}{\the\@envbody}%
81 }
82 {\LWR@amsmathenv@after}
```

Clear the single-use alt text:

```
83 \gdef\LWR@ThisAltText{%
84 }}
85 \addtocounter{LWR@amsmathdepth}{-1}
86 }
```

`multline (env)`

```
87 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
88
89 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}
```

`multline* (env)`

```
90 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
91
92 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
93
```

`gather (env)`

```
94 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
95
96 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}
```

`gather* (env)`

```
97 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
98
99 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}
```

`align (env)`

align\* (*env.*)
$$\text{flalign}(env.)$$
$$\text{flalign*}(\textit{env.})$$

alignat (env.)

alignat\* (*env.*)

```

118 \AtBeginEnvironment{subequations}{
119 \renewcommand*{\theMathJaxsubequations}{1}
120 \renewcommand*{\theMathJaxsection}{\theparentequation}
121 \renewcommand*{\theMathJaxequation}{\arabic{equation}}
122 }

```

```

123 \begin{warpMathJax}
124 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{\#1}\notag \\\}}
125 \CustomizeMathJax{\let\Hat\hat}
126 \CustomizeMathJax{\let\Check\check}
127 \CustomizeMathJax{\let\Tilde\tilde}
128 \CustomizeMathJax{\let\Acute\acute}
129 \CustomizeMathJax{\let\Grave\grave}
130 \CustomizeMathJax{\let\Dot\dot}
131 \CustomizeMathJax{\let\Ddot\ddot}
132 \CustomizeMathJax{\let\Breve\breve}
133 \CustomizeMathJax{\let\Bar\bar}
134 \CustomizeMathJax{\let\Vec\vec}
135 \end{warpMathJax}

```

File 22 **lwarp-amsthm.sty**§ 137 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amscldotx.dtx`, and printed in `amscldotx.pdf`.

`amsthm` (*Pkg*) `amsthm` is patched for use by `lwarp`.

---

Table 19: `amsthm` package — css styling of theorems and proofs

---

**Theorem:** `<div> of class amsthmbody<theoremstyle>`

**Theorem Name:** `<span> of class amsthmname<theoremstyle>`

**Theorem Number:** `<span> of class amsthmnumber<theoremstyle>`

**Theorem Note:** `<span> of class amsthmnote<theoremstyle>`

**Proof:** `<div> of class amsthmproof`

**Proof Name:** `<span> of class amsthmproofname`

where `<theoremstyle>` is `plain`, `definition`, etc.

---

for HTML output:

`amsthm` must be loaded before `mdframed`:

```
1 \IfPackageLoadedTF{mdframed}{
2 \PackageError{lwarp}
3 {%
4 Package mdframed must be loaded after package amsthm.\MessageBreak
5 Enter 'H' for solutions%
6 }
7 {%
8 Move ``\protect\usepackage{amsthm}'' before
9 ``\protect\usepackage{mdframed}''.\MessageBreak
10 Package amsthm may be loaded by something else,\MessageBreak
11 which must also be moved before mdframed.%
12 }
13 }
14 {\relax}
```

Necessary for `\text`, used by `\openbox`, etc., below:

```
15 \RequirePackage{amsmath}

16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]
```

Storage for the style being used for new theorems:

```
17 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19 \ifundefined{th@#1}{%
20 \PackageWarning{amsthm}{Unknown theoremstyle `#1'}%
21 \thmstyle{plain}%
22 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23 }{%
24 \thmstyle{#1}%
25 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26 }%
27 }

```

Patched to remember the style for this theorem type:

```

28 \VerifyCommand[lwarp][amsthm]{\@xnthm}{21F7FB3FB6FB0C1A0F2EECD66EE87A60}
29
30 \def\@xnthm#1#2{%
31 \csdef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
32 \let\@tempa\relax
33 \exp\@ifdefinable\csname #2\endcsname{%
34 \global\@xp\let\csname end#2\endcsname\@endtheorem
35 \ifx *#1% unnumbered, need to get one more mandatory arg
36 \edef\@tempa##1{%
37 \gdef\@xp\@nx\csname#2\endcsname{%
38 \@nx\@thm{\@xp\@nx\csname th@the\thmstyle\endcsname}%
39 }{##1}}}%
40 \else % numbered theorem, need to check for optional arg
41 \def\@tempa{\@oparg{\@ynthm{#2}}[]}%
42 \fi
43 \AtBeginEnvironment{#2}{%
44 \edef\LWR@thishmstyle{\@nameuse{LWR@thmstyle#2}}% lwarp
45 }% lwarp
46 }%
47 \@tempa%
48 }

```

Patched to enclose with css:

```

49 \newcommand{\LWR@haveamsthmname}{
50 \renewcommand{\thmname}[1]{%
51 \InlineClass{amsthmname\LWR@thishmstyle}{##1}%
52 }
53 }
54
55 \newcommand{\LWR@haveamsthmnumber}{
56 \renewcommand{\thmnumber}[1]{%
57 \InlineClass{amsthmnumber\LWR@thishmstyle}{##1}%
58 }
59 }
60
61 \newcommand{\LWR@haveamsthmnote}{
62 \renewcommand{\thmnote}[1]{%
63 \InlineClass{amsthmnote\LWR@thishmstyle}{##1}%
64 }
65 }
66
67 \LWR@haveamsthmname
68 \LWR@haveamsthmnumber
69 \LWR@haveamsthmnote

```

Patched for css. Not using `\VerifyCommand` because the existing definition depends on other packages. The following is from `amsthm`'s own definition.

```

70 \def\@begintheorem#1#2[#3]{%

71 \GetTitleString{#3}% lwarp
72 \let\@currentlabelname\GetTitleStringResult% lwarp
73 \item[%

74 \LWR@newautopagelabel{page}\LWR@orignewline%

75 % \deferred@thm@head{
76 % \the\thm@headfont \thm@indent
77 % \ifempty{#1}{\let\thmname@gobble}\LWR@haveamsthmname}% lwarp
78 % \ifempty{#2}{\let\thmnumber@gobble}\LWR@haveamsthmnumber}% lwarp
79 % \ifempty{#3}{\let\thmnote@gobble}\LWR@haveamsthmnote}% lwarp
80 % \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
81 % \the\thm@headpunct % space
82 % \thmheadnl % possibly a newline.
83 % \hskip\thm@headsep
84 % }%
85 % }%
86 \ignorespaces}

```

Patched for css:

```

87 \TestVerifyCommands
88
89 \IfVerifyCommand[lwarp][amsthm]{\@thm}
90 {2624BDB5B96C45756978B3D393430088}% amsthm definition
91 {}{}
92
93 \IfVerifyCommand[lwarp][amsthm]{\@thm}
94 {92CB17837FB4FDD879B327DA0E9D8059}% amsthm definition modified by lwarp
95 {}{}
96
97 \IfVerifyCommandPassed
98 {}
99 {\VERCMDWarning{lwarp}{amsthm}{\@thm}}
100
101 \def\@thm#1#2#3{%
102 \ifhmode\unskip\unskip\par\fi
103 \normalfont
104 \LWR@forcenewpage% lwarp

105 \LWR@printpendingfootnotes% lwarp

106 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
107 \trivlist
108 \let\thmheadnl\relax
109 \let\thm@swap@gobble
110 \thm@notefont{\fontseries\mddefault\upshape}%
111 \thm@headpunct{.}% add period after heading
112 \thm@headsep 5\p@ plus\p@ minus\p@\relax
113 \thm@space@setup
114 #1% style overrides
115 \@topsep \thm@preskip % used by thm head

```

```

116 \topsepadd \thm@postskip % used by \endparenv
117 \def\@tempa{#2}\ifx\@empty\@tempa
118 \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}{}%
119 \else
120 \refstepcounter{#2}%
121 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}{}%
122 \fi
123 \@tempa%
124 }

```

cleveref patches \thm to do \cref@thmoptarg if an optional argument is given.  
lwarp then patches \cref@thmoptarg \AtBeginDocument.

```

125 \AtBeginDocument{%
126 %
127 \VerifyCommand[lwarp][amsthm]{\cref@thmoptarg}{64B912D4D903D245FD05837C5838C9EC}
128 %
129 \def\cref@thmoptarg[#1]#2#3#4{%
130 \ifhmode\unskip\unskip\par\fi%
131 \normalfont%
132 \LWR@forcenewpage% lwarp

133 \LWR@printpendingfootnotes% lwarp

134 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
135 \trivlist%
136 \let\thmheadn\relax%
137 \let\thm@swap\@gobble%
138 \thm@notefont{\fontseries\mddefault\upshape}%
139 \thm@headpunct{.}% add period after heading
140 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
141 \thm@space@setup%
142 #2% style overrides
143 \topsep \thm@preskip % used by thm head
144 \topsepadd \thm@postskip % used by \endparenv
145 \def\@tempa{#3}\ifx\@empty\@tempa%
146 \def\@tempa{\@oparg{\@begintheorem{#4}{}}{}}{}%
147 \else%
148 \refstepcounter[#1]{#3}% <<< cleveref modification
149 \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}{}}{}%
150 \fi%
151 \@tempa
152 }%
153 }% AtBeginDocument
154
155 \def\@endtheorem{%
156 \endtrivlist%

157 \LWR@printpendingfootnotes% lwarp

158 \endBlockClass%
159 \@endpefalse%
160 }

```

Proof QED symbol:

```

161 \AtBeginDocument{
162 \ifundefined{LWR@orig@openbox}{

```

```

163 \LetLtxMacro\LWR@orig@openbox\openbox
164 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
165 \LetLtxMacro\LWR@orig@Box\Box
166
167 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
168 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
169 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
170
171 \appto\LWR@restoreorigformatting{%
172 \LetLtxMacro\openbox\LWR@orig@openbox%
173 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
174 \LetLtxMacro\Box\LWR@orig@Box%
175 }% appto
176 \{}% @ifundefined
177 }% AtBeginDocument

```

Patched to add a `<span>`:

```

178 \DeclareRobustCommand{\qed}{%
179 \ifmmode \mathqed
180 \else
181 \leavevmode\unskip\penalty9999 \hbox{}\nobreak\hfill
182 \quad\hbox{\qedsymbol}%
183 \InlineClass{theoremendmark}{\qedsymbol}% lwarp
184 \fi
185 }

```

Patched for css:

```

186 \renewenvironment{proof}[1][\proofname]{\par
187 \LWR@forcenewpage% lwarp

188 \LWR@printpendingfootnotes% lwarp

189 \BlockClass{amsthmproof}% lwarp
190 \LWR@newautopagelabel{page}%
191 \pushQED{\qed}%
192 \normalfont \topsep6\p@\@plus6\p@\relax
193 \trivlist
194 \item[
195 \InlineClass{amsthmproofname}{#1\@addpunct{.}}]\ignorespaces% changes
196]{%
197 \popQED\endtrivlist%

198 \LWR@printpendingfootnotes% lwarp

199 \endBlockClass% lwarp
200 \@endpfalse
201 }

```

---

File 23 **lwarp-anonchap.sty**

§ 138 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

anonchap (*Pkg*) anonchap is emulated.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.



#### tocloft & other packages

The code is shared by tocbibind.

#### for HTML output:

```
1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3 \def\@chapcntformat##1{%
4 #1~\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secntformat%
10 }
```

#### File 24 lwarp-anysize.sty

### § 139 Package anysize

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

anysize (*Pkg*) anysize is ignored.

#### for HTML output:

```
1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```

#### File 25 lwarp-appendix.sty

### § 140 Package appendix

(Emulates or patches code by PETER WILSON.)

appendix (*Pkg*) appendix is patched for use by lwarp.



#### incorrect toc link

During HTML conversion, the option toc without the option page results in a toc link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

#### for HTML output:

```
1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

2 \renewcommand*{\@chap@pppage}{%
3 \part*{\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi}
```

---

```

7 }
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }

```

---

## File 26 **lwarp-apxproof.sty**

### § 141 Package **apxproof**

*(Emulates or patches code by PIERRE SENELLART.)*

apxproof (*Pkg*) **apxproof** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{apxproof}[2022/10/14]

2 \VerifyCommand[lwarp][apxproof]{\FVB@exp@VerbatimOut}{ADA4853FD25696EB39CD005CF44C7B5C}
3
4 \xpatchcmd{\FVB@exp@VerbatimOut}
5 {\FV@Scan}
6 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
7 {}
8 {\LWR@patcherror{apxproof}{FVB@exp@VerbatimOut}}

```

---

## File 27 **lwarp-ar.sty**

### § 142 Package **ar**

*(Emulates or patches code by AGOSTINO DE MARCO.)*

ar (*Pkg*) **ar** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ar}[2012/01/23]

Measure and print the width of the supplied glyph.

2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }

The HTML version of \AR:

9 \newrobustcmd*{\LWR@HTML@AR}{%

Start a hashed lateximage, additionally hashed by the font series, with a width
depending on the given glyph:

10 \begin{lateximage}*{AR}[\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%

```

For text mode, set the font series according to the HTML font series:

```
11 \ifmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}

16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}

22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A\!|!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A\!|!R}}}
44 \end{warpMathJax}
```

---

File 28 **lwarp-arabicfront.sty**

§ 143      Package **arabicfront**

arabicfront (*Pkg*)    arabicfront is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

---

File 29 **lwarp-array.sty**

§ 144      Package **array**

array (*Pkg*)    array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firsthline or \lasthline, and so are not affected by the following.

**for HTML output:**    If array is not yet loaded, remove the default nullfied macros:

```
1 \IfPackageLoadedTF{array}{%
2 \let\firsthline\relax
3 \let\lasthline\relax
4 }
5
6 \LWR@ProvidesPackagePass{array}[2018/12/30]
```

Provide simplified column types for HTML:

```
7 \HTMLnewcolumnntype{w}[2]{#1}
8 \HTMLnewcolumnntype{W}[2]{#1}
```

More HTML versions:

```
9 \newcommand*\LWR@HTML@firsthline{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firsthline}
11
12 \newcommand*\LWR@HTML@lasthline{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lasthline}
```

```
14 \let\tabularnewline\
15 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
16 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
17 \CustomizeMathJax{
18 \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }
```

---

File 30 **lwarp-arydshln.sty**

§ 145      Package **arydshln**
*(Emulates or patches code by HIROSHI NAKASHIMA.)*

arydshln (*Pkg*) **NOTE: arydshln is broken by L<sup>A</sup>T<sub>E</sub>X 06/01/2026 changes.**

arydshln heavily patches tabular code, so the actual package is not used. arydshln is emulated for HTML tabular, and reverts to solid rules for svg math array and tabular in a lateximage.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For MATHJAX, limited emulation is provided for math mode.

**for HTML output:**

array is required to allow \newcolumn below.

```
1 \RequirePackage{array}

2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*\ADLdrawingmode[1]{}
16 \newcommand*\ADLnoshorthanded{}
17 \newcommand*\dashgapcolor[2]{}
18 \newcommand*\nodashgapcolor{}
```

In a lateximage, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumntype{:}{|}%
21 \newcolumntype{;}[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the lwarp core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a lateximage:

```

24 \def\hdashline{
25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0=`\}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \@height \arrayrulewidth% lwarp
33 % \fi
34 \@ifnextchar[%]
35 {#1}%
36 {#1[%
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 %]}}
40 \def\adl@ihdashline[#1/#2]{\ifnum0=`\}\fi}%
41 % \multispan{\adl@columns}\unskip \adl@hline\z[#1/#2]%
42 % \noalign{\ifnum0=`\}\fi
43 % \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule\@height\arrayrulewidth
47 % \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 % \ifx\@tempa\hdashline \adl@ixhline\fi
50 % \ifnum0=`\}\fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}%
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}%
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0=`\}\fi
62 % \@ifnextchar[%]
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0=`\}\fi\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][\hdashline]}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

---

File 31 **lwarp-asymptote.sty**

§ 146      Package **asymptote**

*(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)*

asymptote (*Pkg*) **asymptote** is patched for use by **lwarp**.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex
```

```
lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1
```

```
lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]

2 \BeforeBeginEnvironment{asy}{%
3 \begin{lateximage}[-asymptote-~\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \VerifyCommand[lwarp][asymptote]{\asyinclude}{A4F9DF668FC457768E7DFB83FAF7B343}
8
9 \xpatchcmd{\asyinclude}
10 {\begingroup}
11 {\begin{lateximage}[-asymptote-~\PackageDiagramAltText]?%
12 {}
13 {\LWR@patcherror{asymptote}{asyinclude-begingroup}}}
14
15 \xpatchcmd{\asyinclude}
16 {\endgroup}
17 {\end{lateximage}}
18 {}
19 {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

File 32 **lwarp-atbegshi.sty**

§ 147      Package **atbegshi**

*(Emulates or patches code by HEIKO OBERDIEK.)*

atbegshi (*Pkg*) atbegshi is ignored.

for HTML output:

Discard all options for lwarp-atbegshi:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]

2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*{\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*{\AtBeginShipoutNext}[1]{}
16 \newcommand*{\AtBeginShipoutFirst}[1]{}
17 \newcommand*{\AtBeginShipoutDiscard}{}
18 \newcommand*{\AtBeginShipoutInit}{}
19 \newcommand*{\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*{\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*{\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*{\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*{\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}
```

---

### File 33 lwarp-attachfile.sty

## § 148 Package attachfile

(Emulates or patches code by SCOTT PAKIN.)

attachfile (*Pkg*) attachfile is patched for use by lwarp.



Metadata is ignored for now.

for HTML output:

```
1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]
```

Encloses each icon:

```
2 \newenvironment*{LWR@attachfile@icon}
3 {
4 \begin{lateximage}*%
5 [-attachfile-]%
6 [%
7 \detokenize\expandafter{\atfi@icon@icon}-%
8 \detokenize\expandafter{\atfi@color@rgb}%
9]%
10 }
11 {
12 \end{lateximage}
13 }
```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29 \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32 \LWR@href@partsanitized{#1}{\LWR@attachfile@appearance}%
33 }

```

---

#### File 34 **lwarp-attachfile2.sty**

### § 149 Package **attachfile2**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`attachfile2` (*Pkg*) `attachfile2` is patched for use by `lwarp`.



Metadata is ignored for now.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]
```

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5 \def\LWR@attachfiletwo@color{#1}% lwarp
6 \HyColor@AttachfileColor{#1}%
7 \atfi@color@tex\atfi@color@inline\atfi@color@annot
8 {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{LWR@attachfile@icon}
11 {
12 \begin{lateximage}*%
13 [-attachfile-]%
14 [%
15 \detokenize\expandafter{\atfi@icon@icon}-%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}%
17]%
18 }
19 {
20 \end{lateximage}
21 }

```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an \attachfile reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}
35
36 \def\atfi@set@appearance@icon{%
37 \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41 \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44 \LWR@href@partsanitized{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \VerifyCommand[lwarp][attachfile2]{\notextattachfile}{CE78259EFC576D4A15920EADF824D7EF}
47
48 \DeclareRobustCommand{\notextattachfile}[2][]{%
49 \begingroup
50 \atfi@setup{#1}%
51 \ifatfi@print
52 \leavevmode
53 \begingroup

```

```

54 \HyColor@UseColor\atfi@color@tex
55 \LWR@textcurrentcolor{#2}% lwarp
56 % \strut
57 \endgroup
58 % \else
59 \sbox\ltx@zero{#2\strut}%
60 % \makebox[\wd0]{}%
61 \fi
62 \endgroup
63 }

```

Modified to draw the icon:

```

64 \VerifyCommand[lwarp][attachfile2]{\noattachfile}{CE78259EFC576D4A15920EADF824D7EF}
65
66 \DeclareRobustCommand{\noattachfile}[1][\]{%
67 \begingroup
68 \atfi@setup{#1}%
69 \atfi@set@appearance@icon
70 \ifatfi@print
71 \LWR@attachfile@appearance% lwarp
72 % \expandafter
73 % \atfi@refxform\csname atfi@appobj\atfi@icon\endcsname
74 % \else
75 % \makebox[\atfi@appearancewidth]{}%
76 \fi
77 \endgroup
78 }

```

---

### File 35 **lwarp-authblk.sty**

## § 150 Package **authblk**

(Emulates or patches code by PATRICK W. DALY.)

**authblk** (*Pkg*) **authblk** is patched for HTML.

**package support** **lwarp** supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**.

 **load order**

**\published and \subtitle** If using the **titling** package, additional titlepage fields for **\published** and **\subtitle** may be added by using **\AddSubtitlePublished** in the preamble. See section 72.8.

(Emulates or patches code by PATRICK W. DALY.)

**for HTML output:**

Require that **authblk** be loaded before **titling**:

```

1 \IfPackageLoadedTF{titling}{
2 \PackageError{lwarp-authblk}
3 {Package authblk must be loaded before titling}
4 {%
5 Titling appends authblk's author macro,
6 so authblk must be loaded first.%
7 }
8 }
9 {\relax}

```

Load authblk:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```
11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][{}]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }
```

Create an HTML break for an \authorcr:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

---

### File 36 **lwarp-autobreak.sty**

## § 151 Package **autobreak**

*(Emulates or patches code by TAKAHIRO UEDA.)*

`autobreak` (*Pkg*) `autobreak` is used as-is for SVG math, and nullified for MATHJAX.

**for HTML output:** `1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]`

For MATHJAX. The modified align environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```
2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\endalign\@autobreak@oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}
```

---

### File 37 **lwarp-autonum.sty**

## § 152 Package **autonum**

`autonum` (*Pkg*) `autonum` is ignored.

 **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]`

```
2 \RequirePackage{amsmath}
3
```

---

```

4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}

20 \newenvironment{flalign+}{\flalign}{\endflalign}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23
24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\align}{\endalign}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{align+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\alignat}{\endalignat}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alignat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
40
41 \newenvironment{split+}{\split}{\endsplit}

```

---

File 38 **lwarp-awesomebox.sty**

§ 153      Package **awesomebox**

*(Emulates or patches code by ÉTIENNE DEPARIS.)*

awesomebox (*Pkg*) **awesomebox** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

2 \newcommand*{\LWR@awesomebox@boxborders}{}%
3 \newcommand*{\LWR@awesomebox@contentsborders}{}%
4
5 \newcommand*{\LWR@awesomebox@ruleborders}{%
6 border-top: 1px solid black ;
7 border-bottom: 1px solid black%

```

```

8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title][4:vrulewidth]{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} O{ } o m m m +m }{%
12 \begin{awesomeblock}[#1][#2][#3][#4][#5][#6]
13 #7
14 \end{awesomeblock}
15 }
16
17 % \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title][4:vrulewidth]{5:icon}{6:iconcolor}
18 % <contents>
19 % \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} O{ } o m m m }
21 {%
22 \LWR@forceminwidth{#4}%
23 \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24 \renewcommand*\LWR@awesomebox@boxborders{}{%
25 \renewcommand*\LWR@awesomebox@contentsborders{}{%
26 \ifdefstrequal{\abShortLine}{#2}{%
27 \renewcommand*\LWR@awesomebox@contentsborders{\LWR@awesomebox@ruleborders}%
28 }{%
29 \ifdefstrequal{\abLongLine}{#2}{%
30 \renewcommand*\LWR@awesomebox@boxborders{\LWR@awesomebox@ruleborders}%
31 }{%
32 \begin{BlockClass}\LWR@awesomebox@boxborders}{awesomebox}
33 \begin{BlockClass}{%
34 margin-left: 2\% ;
35 vertical-align: top
36]{minipage}
37 \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}{%
40 width:75\% ;
41 vertical-align: top ;
42 padding-left: 1em ;
43 \LWR@awesomebox@contentsborders ;
44 border-left: \LWR@printlength{\LWR@atleastonept} %
45 solid \LWR@origpound\LWR@tempcolor%
46]{minipage}
47 \IfValueTF{#3}{#3\newline}{}
48 }
49 }{%
50 \end{BlockClass}
51 \end{BlockClass}
52 }

```

---

File 39 **lwarp-axessibility.sty**

§ 154 Package **axessibility**

`axessibility (Pkg)` `axessibility` is ignored.

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package `axessibility'.}%
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5

```

---

```

6 \DeclareOption{accsupp}{
7 \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11 \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17 \RequirePackage{tagpdf}
18 \else
19 \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}

```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}

```

---

#### File 40 **lwarp-axodraw2.sty**

### § 155 Package **axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

axodraw2 (*Pkg*) **axodraw2** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

2 \BeforeBeginEnvironment{axopicture}{%
3 \begin{lateximage}[-axopicture~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}

```

---

#### File 41 **lwarp-backnaur.sty**

### § 156 Package **backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

backnaur (*Pkg*) **backnaur** is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

```

```

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnfnpn}[1]{\langle \text{\texttrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \IfPackageLoadedWithOptionsTF{backnaur}{perp}{
9 \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 \IfPackageLoadedWithOptionsTF{backnaur}{epsilon}{
12 \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }{
14 \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15 }
16 }
17 \IfPackageLoadedWithOptionsTF{backnaur}{tsrm}{
18 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \IfPackageLoadedWithOptionsTF{backnaur}{altpo}{
25 \CustomizeMathJax{\newcommand{\bnfpo}{::=}}
26 }{
27 \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfnpn{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfnpn{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmoreenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{& \; #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmoreenn}[1]{\nonumber & \; #1}}
35 \end{warpMathJax}

```

---

## File 42 **lwarp-backref.sty**

### § 157 Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

`backref` (*Pkg*) **backref** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backref}[2023-11-26]

Force the `hyperref` option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{\LWR@refwithsection{#3}}
5
6 \let\backrefxxx\hyper@section@backref
7
8 \VerifyCommand[lwarp][backref]{\Hy@backout}

```

```

9 {277444C1A7F4620D9563D82EFD29877E}
10
11 \xpatchcmd{\Hy@backout}
12 {\@currentHref}%
13 {\BaseJobname-autopage-\arabic{LWR@previousautopagelabel}}
14 {}
15 {\LWR@patcherror{backref}{Hy@backout}}

```

---

#### File 43 **lwarp-balance.sty**

### § 158 Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

`balance (Pkg)` **balance** is ignored.

**for HTML output:** Discard all options for **lwarp-balance**:

```

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

#### File 44 **lwarp-bbding.sty**

### § 159 Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

`bbding (Pkg)` **bbding** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLUnicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022} {261C}}

```

|                                                                          |         |
|--------------------------------------------------------------------------|---------|
| 23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023}}            | {261D}} |
| 24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024}}             | {261F}} |
| 25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025}}                  | {270C}} |
| 26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026}}         | {270D}} |
| 27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027}}            | {270F}} |
| 28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}}             | {270F}} |
| 29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}}          | {2710}} |
| 30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}}           | {2710}} |
| 31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}}        | {270E}} |
| 32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}}         | {270E}} |
| 33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}}               | {2711}} |
| 34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}}                | {2711}} |
| 35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}}          | {2712}} |
| 36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}}           | {2712}} |
| 37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}}              | {2713}} |
| 38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}}          | {2714}} |
| 39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}}                 | {2715}} |
| 40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}}             | {2716}} |
| 41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}}            | {2717}} |
| 42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}}            | {2719}} |
| 43 \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}}                   | {271A}} |
| 44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}}         | {271C}} |
| 45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}}     | {271B}} |
| 46 \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}}                  | {271D}} |
| 47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}}        | {271E}} |
| 48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}}           | {271F}} |
| 49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}}       | {271F}} |
| 50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}}           | {2720}} |
| 51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}}         | {2721}} |
| 52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}}              | {2721}} |
| 53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}}           | {2722}} |
| 54 \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}}               | {2723}} |
| 55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}           | {2724}} |
| 56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}}        | {2725}} |
| 57 \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}               | {2726}} |
| 58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}           | {2727}} |
| 59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}          | {2729}} |
| 60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}               | {2605}} |
| 61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}           | {2729}} |
| 62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}    | {272A}} |
| 63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}     | {272B}} |
| 64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}     | {272C}} |
| 65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}        | {272D}} |
| 66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}   | {272E}} |
| 67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}         | {272F}} |
| 68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}         | {2730}} |
| 69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}           | {2731}} |
| 70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}     | {2732}} |
| 71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}           | {273B}} |
| 72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}} | {273C}} |
| 73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}         | {2733}} |
| 74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}        | {2735}} |
| 75 \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}                | {2736}} |
| 76 \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}              | {2737}} |
| 77 \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}          | {2738}} |
| 78 \newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}             | {2739}} |
| 79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}       | {273A}} |
| 80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}}  | {273B}} |
| 81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}}    | {273C}} |
| 82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}}               | {273D}} |

```

83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}} {273E}}
84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}} {273F}}
85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}} {2740}}
86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}} {2740}}
87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}} {2741}}
88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}} {2742}}
89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}} {2743}}
90 \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}} {273F}}
91 \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}} {273F}}
92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}} {2749}}
93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}} {274A}}
94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}} {274B}}
95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} {2740}}
96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}} {2748}}
97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}} {2747}}
98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}} {2744}}
99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}} {2746}}
100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}} {2744}}
101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}} {25CF}}
102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}} {274D}}
103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}} {25CF}}
104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}} {274D}}
105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}} {274D}}
106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}} {25A1}}
107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}} {25A0}}
108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}} {2751}}
109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}} {2752}}
110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}} {2752}}
111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} {2751}}
112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}} {2752}}
113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}} {2752}}
114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}} {25B2}}
115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}} {25BC}}
116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}} {25C6}}
117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}} {2756}}
118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}} {25D7}}
119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}} {25D6}}
120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}} {2758}}
121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}} {2759}}
122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}} {275A}}
123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}} {27A0}}
124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}} {27A6}}
125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}} {27A5}}
126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}} {27A7}}
127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173}} {27B2}}
128
129
130 \LWR@formatted{ScissorRightBrokenBottom}
131 \LWR@formatted{ScissorRight}
132 \LWR@formatted{ScissorRightBrokenTop}
133 \LWR@formatted{ScissorLeftBrokenBottom}
134 \LWR@formatted{ScissorLeft}
135 \LWR@formatted{ScissorLeftBrokenTop}
136 \LWR@formatted{ScissorHollowRight}
137 \LWR@formatted{ScissorHollowLeft}
138 \LWR@formatted{Phone}
139 \LWR@formatted{PhoneHandset}
140 \LWR@formatted{Tape}
141 \LWR@formatted{Plane}
142 \LWR@formatted{Envelope}

```

```
143 \LWR@formatted{HandCuffRight}
144 \LWR@formatted{HandCuffLeft}
145 \LWR@formatted{HandCuffRightUp}
146 \LWR@formatted{HandCuffLeftUp}
147 \LWR@formatted{HandRight}
148 \LWR@formatted{HandLeft}
149 \LWR@formatted{HandRightUp}
150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
152 \LWR@formatted{HandPencilLeft}
153 \LWR@formatted{PencilRight}
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossClowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
190 \LWR@formatted{FiveStarOpenDotted}
191 \LWR@formatted{FiveStarOutline}
192 \LWR@formatted{FiveStarOutlineHeavy}
193 \LWR@formatted{FiveStarConvex}
194 \LWR@formatted{FiveStarShadow}
195 \LWR@formatted{AsteriskBold}
196 \LWR@formatted{AsteriskCenterOpen}
197 \LWR@formatted{AsteriskThin}
198 \LWR@formatted{AsteriskThinCenterOpen}
199 \LWR@formatted{EightStarTaper}
200 \LWR@formatted{EightStarConvex}
201 \LWR@formatted{SixStar}
202 \LWR@formatted{EightStar}
```

```

203 \LWR@formatted{EightStarBold}
204 \LWR@formatted{TwelveStar}
205 \LWR@formatted{SixteenStarLight}
206 \LWR@formatted{SixFlowerPetalRemoved}
207 \LWR@formatted{SixFlowerOpenCenter}
208 \LWR@formatted{Asterisk}
209 \LWR@formatted{SixFlowerAlternate}
210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourClowerOpen}
217 \LWR@formatted{FourClowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

---

File 45 **lwarp-beamerarticle.sty**

§ 160 Package **beamerarticle**

*(Emulates or patches code by TILL TANTAU, VEDRAN MILETIĆ, LOUIS STUART, JOSEPH WRIGHT.)*

beamerarticle (*Pkg*) beamerarticle is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{beamerarticle}[2021/05/26]

2 \renewcommand<>{\textcolor}{\only#1{\beameroriginal{\textcolor}}}
3
4 \AtBeginDocument{
5
6 \renewcommand<>{\LWR@listitem}{%
7 \only#1{%
8 \beameroriginal{\LWR@listitem}%
9 }%
10 }
11
12 \renewcommand<>{\LWR@itemizeitem}{%
13 \only#1{%
14 \beameroriginal{\LWR@itemizeitem}%
15 }%
16 }
17
18 \renewcommand<>{\LWR@descitem}{%
19 \only#1{%
20 \beameroriginal{\LWR@descitem}%
21 }%
22 }
23
24 \renewcommand<>{\abstract}{%
25 \only#1{%
26 \beameroriginal{\abstract}%
27 }%
28 }
29
30 \renewcommand<>{\LWR@includegraphicsb}{%
31 \only#1{%
32 \beameroriginal{\LWR@includegraphicsb}%
33 }%
34 }
35
36 \xpretocmd\frame
37 {
38 \LWR@forcenewpage
39 \BlockClass{beamerframe}%
40 }
41 {}
42 {\LWR@patcherror{beamerarticle}{frame}}
43
44 \xapptocmd\beamer@endframe
45 {\endBlockClass}
46 {}
47 {\LWR@patcherror{beamerarticle}{beamer@endframe}}
```

An example in the beamer docs for `\includegraphics` shows the use of `\llap` in a frame.

```

48 \xpretocmd\beamer@article@startframe
49 {\LWR@nulllistfills}
50 {}
51 {\LWR@patcherror{beamerarticle}{beamer@article@startframe}}
52
```

```

53 }% AtBeginDocument
54
55 \let\beamer@tmpop@frametitle@default\relax
56 \defbeamer@template<article>*{frametitle}{default}{%
57 \paragraph*{\insertframetitle}\ \par%
58 \ifdefempty{\insertframesubtitle}{\}%
59 \noindent\emph{\insertframesubtitle}\par%
60 }%
61 }
62
63
64 \NewDocumentCommand{\LWR@beamer@itemize}{o}{%
65 \LWR@itemizestart\LWR@origitemize%
66 }%
67 \NewDocumentCommand{\LWR@beamer@description}{o o}{%
68 \LWR@descriptionstart\LWR@origdescription%
69 }%
70
71 \xapptocmd{\LWR@patchlists}
72 {%
73 \LetLtxMacro\itemize\LWR@beamer@itemize%
74 \LetLtxMacro\description\LWR@beamer@description%
75 }
76 {}
77 {\LWR@patcherror{beamerarticle}{\LWR@patchlists}}
78
79
80 \LetLtxMacro\maketitle\LWR@maketitle
81
82 \renewcommand{\subtitle}[2][{}]{
83 \gdef\@subtitle{#2}
84 \def\insertsubtitle{#2}
85 }

```

Add subtitle if not already present:

```

86 \AtBeginDocument{
87 \IfPackageLoadedTF{lwarp-scrextend}
88 {% komascript already has subtitle
89 {% not komascript
90 \xpatchcmd{\@maketitle}
91 {%
92 \LWR@htmltag{\LWR@tagtitleend}%
93 \LWR@startpars%
94 }%
95 {%
96 \LWR@htmltag{\LWR@tagtitleend}%
97 \ifdefvoid{\@subtitle}{\}%
98 \begin{BlockClass}{subtitle}%
99 \@subtitle%
100 \end{BlockClass}%
101 }%
102 \LWR@startpars%
103 }%
104 {}
105 {\LWR@patcherror{beamerarticle}{\@maketitle}}
106 }% not komascript
107 }
108
109 \RequirePackage{fancyvrb}

```

---

```
110 \DefineVerbatimEnvironment{semiverbatim}{Verbatim}{commandchars=\\\{\}}
```

---

File 46 **lwarp-biblatex.sty**

§ 161      Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

`biblatex` (*Pkg*) When `biblatex` is used, modifications from `newfloat` may have to be undone.

for HTML output:

1. `lwarp` uses `newfloat`.
2. For classes with chapters which `newfloat` does not know about, such as C<sub>T</sub>E<sub>X</sub>-related classes, `newfloat` may modify `\addtocontents`.
3. `biblatex`, though, wants to patch `\addtocontents`, which causes an error if `\addtocontents` has been changed.
4. Therefore, `\addtocontents` is restored to its original here, since `biblatex` is about to be loaded.
5. This means that the `newfloat`'s `chapterlistsgaps` option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}{
2 \let\addtocontents\newfloat@addtocontents@ORI
3 }{}
```

`hyperref` emulation is loaded `\AtBeginDocument` to avoid an options clash.

```
4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use `hyperref` is recreated here, because `hyperref` is emulated.

```
7 \AfterPreamble{
```

Not using `\VerifyCommand` because this may be defined several ways.

```
8 \let\blx@anchors\@empty
9 \protected\def\blx@anchor{%
10 \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
11 {}
12 {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
13 \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}}
14
15 \protected\def\blx@imc@bibhyperref{%
16 \@ifnextchar[%
17 {\blx@bibhyperref}
18 {\blx@bibhyperref[\abx@field@entrykey]}}%
19
20 \long\def\blx@bibhyperref[#1]#2{%
21 % \blx@sfsave
22 \hyperlink{cite.\the\c@refsection @#1}{%}
```

```

23 % \blx@sfrest
24 #2%
25 % \blx@sfsave
26 }%
27 % \blx@sfrest%
28 }%% \def\blx@nohyperref[#1]#2{#2}%
29
30 \protected\long\def\blx@imc@bibhyperlink#1#2{%
31 % \blx@sfsave
32 \hyperlink{cite.\the\c@refsection:#1}{%
33 % \blx@sfrest
34 #2%
35 % \blx@sfsave
36 }%
37 % \blx@sfrest%
38 }%
39
40 \protected\long\def\blx@imc@bibhypertarget#1#2{%
41 % \blx@sfsave%
42 \hypertarget{cite.\the\c@refsection:#1}{%
43 % \blx@sfrest
44 #2%
45 % \blx@sfsave%
46 }%
47 % \blx@sfrest%
48 }
49
50 \let\blx@imc@ifhyperref\@firstoftwo

```

Ensure that an autopage reference is current where each `\cite` is used, although this is nullified inside footnotes since they now use a  $\LaTeX$  box.

```

51 \xpretocmd{\blx@citecmdinit}
52 {\LWR@newautopagelabel{page}}%
53 {}
54 {\LWR@patcherror{biblatex}{\blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceeded the footnotes.

```

55 \VerifyCommand[lwarp][biblatex]{\blx@addbackref@i}{C820E8B12CF2904906644302E07EBE88}
56
57 \xpatchcmd{\blx@addbackref@i}
58 {\thepage}
59 {\theLWR@previousautopagelabel}% ref to the most recent object
60 {}
61 {\LWR@patcherror{biblatex}{\blx@addbackref@i A}}
62
63 \xpatchcmd{\blx@addbackref@i}
64 {\c@page}
65 {\c@LWR@previousautopagelabel}% ref to the most recent object
66 {}
67 {\LWR@patcherror{biblatex}{\blx@addbackref@i B}}

```

The following patches are for back page references.

```

68 \DeclareListFormat{pageref}{%
69 \ifnumless{\abx@pagerefstyle}{0}
70 {\usebibmacro{list:plain}%

```

```

71 \ifhyperref
72 {%
73 % \hyperlink{page.#1}{#1}%
74 \LWR@refwithsection{\BaseJobname-autopage-#1}% lwarp
75 }
76 {#1}}
77 {\ifnumequal{\value{listcount}}{1}
78 {\usebibmacro{pageref:init}}
79 {}}%
80 \usebibmacro{pageref:comp}{#1}%
81 \ifnumequal{\value{listcount}}{\value{liststop}}
82 {\usebibmacro{pageref:dump}}
83 {}}
84
85 \expandafter\VerifyCommand\expandafter{\csname abx@macro@pageref:comp\endcsname}
86 {019E018D2EBB4F3D02578439F03128D8}
87
88 \renewbibmacro*{pageref:comp}[1]{%
89 \numdef\abx@range@prev{\abx@range@prev+1}%
90 \ifinteger{#1}
91 {\def\abx@range@num{#1}%
92 \def\abx@range@this{1}%
93 \ifnumequal{\abx@range@this}{\abx@range@last}
94 {}
95 {\def\abx@range@prev{-1}}}
96 {\ifrmnum{#1}
97 {\numdef\abx@range@num{\rmntonum{#1}}%
98 \def\abx@range@this{2}%
99 \ifnumequal{\abx@range@this}{\abx@range@last}
100 {}
101 {\def\abx@range@prev{-1}}}
102 {\undef\abx@range@num
103 \def\abx@range@this{0}%
104 \def\abx@range@prev{-1}}}
105 \ifdef\abx@range@num
106 {\ifnumequal{\abx@range@num}{\abx@range@prev}
107 {\def\abx@range@hold{#1}%
108 \numdef\abx@range@diff{\abx@range@diff+1}}
109 {\usebibmacro{pageref:dump}%
110 \ifnumgreater{\abx@range@last}{-1}
111 {\printdelim{multilistdelim}}
112 {}}%
113 \ifhyperref
114 % {\hyperlink{page.#1}{#1}}
115 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
116 {#1}}%
117 \edef\abx@range@prev{\abx@range@num}}
118 {\usebibmacro{pageref:dump}%
119 \ifnumgreater{\abx@range@last}{-1}
120 {\printdelim{multilistdelim}}
121 {}%
122 \ifhyperref
123 % {\hyperlink{page.#1}{#1}}
124 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
125 {#1}%
126 \def\abx@range@prev{-1}%
127 \edef\abx@range@last{\abx@range@this}}
128
129 \expandafter\VerifyCommand\expandafter{\csname abx@macro@pageref:dump\endcsname}
130 {9BD1165E771053A5DA8957BE4E2E7B9E}

```

```

131
132 \renewbibmacro*{pageref:dump}{%
133 \ifnumgreater{\abx@range@diff}{0}
134 {\ifcase\abx@pagerefstyle\relax % two
135 \bibrangedash
136 \ifhyperref
137 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
138 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
139 {\abx@range@hold}%
140 \or % three
141 \ifnumless{\abx@range@diff}{2}
142 {\printdelim{multilistdelim}}
143 {\bibrangedash}%
144 \ifhyperref
145 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
146 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
147 {\abx@range@hold}%
148 \or % two+
149 \ifnumless{\abx@range@diff}{2}
150 {\sqspace
151 \ifhyperref
152 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
153 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
154 {\bibstring{sequens}}}
155 {\bibrangedash
156 \ifhyperref
157 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
158 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
159 {\abx@range@hold}}%
160 \or % three+
161 \ifnumless{\abx@range@diff}{2}
162 {\sqspace
163 \ifhyperref
164 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
165 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
166 {\bibstring{sequens}}}
167 {\ifnumless{\abx@range@diff}{3}
168 {\sqspace
169 \ifhyperref
170 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
171 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
172 {\bibstring{sequentes}}}
173 {\bibrangedash
174 \ifhyperref
175 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
176 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
177 {\abx@range@hold}}%
178 \else % all+
179 \ifnumless{\abx@range@diff}{2}
180 {\sqspace
181 \ifhyperref
182 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
183 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
184 {\bibstring{sequens}}}
185 {\sqspace
186 \ifhyperref
187 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
188 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
189 {\bibstring{sequentes}}}%
190 \fi

```

---

```

191 \def\abx@range@diff{0}}
192 {}
193
194 }% \AfterPreamble

```

---

#### File 47 **lwarp-bibunits.sty**

### § 162 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

`bibunits (Pkg)` `bibunits` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

---

#### File 48 **lwarp-bigdelim.sty**

### § 163 Package **bigdelim**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

`bigdelim (Pkg)` `bigdelim` is used as-is for print or `lateximage`, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default CSS sets this to `font-size:200%`

 **use `\mrowcell`** `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{3}{.25in}[left] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<-> a b
 {
left { c d
 { e f
 { g h
 {
<-> i j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

for HTML output:

First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```
1 \let\ldelim\relax
2 \let\rdelim\relax
```

Next, load the package's new definitions:

```
3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]
```

```
\ldelim {<1:delimiter>} {<2:#rows>} [<3: vmove>] {<4:width>} [<5:text>]
\rdelim
```

```
4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}%
14 }
15
16 \LWR@formatted{rdelim}
```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```
17 \begin{warpMathJax}
18 % \ldelim ({n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}[1][\text{#1}~\LWRbigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRldelimone}[2][\LWRldelimtwo]}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\LWRbigdelim{#1}\LWRldelimone}}
22 % \rdelim) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][\LWRbigdelim~\text{#1}]}
24 \CustomizeMathJax{\newcommand{\LWRrdelimone}[2][\LWRrdelimtwo]}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\LWRbigdelim{#1}\LWRrdelimone}}
26 \end{warpMathJax}
```

---

File 49 **lwarp-bigfoot.sty**

§ 164 Package **bigfoot**

`bigfoot (Pkg)` `bigfoot` is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
```

---

```

10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 50 **lwarp-bigstrut.sty**

§ 165 Package **bigstrut**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

**bigstrut** (*Pkg*) **bigstrut** is used as-is for print or `lateximage`, and patched for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][x]{} }
12 \end{warpMathJax}

```

---

File 51 **lwarp-bitpattern.sty**

§ 166 Package **bitpattern**

(Emulates or patches code by JEAN-MARC BOURGUET.)

**bitpattern** (*Pkg*) **bitpattern** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

2 \VerifyCommand[lwarp][bitpattern]{\bitpattern}{379A39416C9C5E48DBCEE730D51C5BF}
3
4 \xpatchcmd{\bitpattern}
5 {\begingroup}
6 {\begin{lateximage}[-bitpattern~\PackageDiagramAltText]?}%
7 {}
8 {\LWR@patcherror{bitpattern}{bitpattern}}
9
10 \VerifyCommand[lwarp][bitpattern]{\bp@Done}{4F2F6DDB41FE31051ACA3CA9F58E3395}
11
12 \xpatchcmd{\bp@Done}
13 {\endgroup}

```

---

```

14 {\end{lateximage}}
15 {}
16 {\LWR@patcherror{bitpattern}{bp@Done}}

```

---

File 52 **lwarp-blowup.sty**

§ 167      Package **blowup**

`blowup` (*Pkg*) **blowup** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

2 \newcommand\*\blowUp[1]{}

---

File 53 **lwarp-bm.sty**

§ 168      Package **bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

`bm` (*Pkg*) **bm** is patched for use by **lwarp**.

**for HTML output:**    1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

\DeclareBoldMathCommand must only be used in the preamble, since it adds to the MATHJAX setup code.

```

2 \begin{warpMathJax}
3 \LetLtxMacro\LWR@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
4
5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
6 \LWR@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
7 \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
8 }
9
10 \@onlypreamble\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

---

File 54 **lwarp-booklet.sty**

§ 169      Package **booklet**

(Emulates or patches code by PETER WILSON.)

`booklet` (*Pkg*) **booklet** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

---

```

2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebyside true
6 \newif\ifuselandscape \uselandscape false
7 \newif\ifprintoption \printoption false
8 \newcommand*{\pagespersignature}[1]{}
9 \def\magstepminus#1{}
10 \newcommand*{\target}[3]{}
11 \newcommand*{\source}[3]{}
12 \newcommand*{\setpdftargetpages}{}
13 \newcommand*{\setdvipstargetpages}{}
14 \newcommand*{\targettopbottom}{}
15 \newcommand*{\twoupemptypage}{}
16 \newcommand*{\twoupclearpage}{}
17 \newcommand*{\checkforlandscape}{}

```

---

### File 55 **lwarp-bookmark.sty**

## § 170 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

bookmark (*Pkg*) **bookmark** is ignored.

**for HTML output:** Discard all options for **lwarp-bookmark**:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*{\bookmarksetup}[1]{}
3 \newcommand*{\bookmarksetupnext}[1]{}
4 \newcommand*{\bookmark}[2][]{}
5 \newcommand*{\bookmarkdefinestyle}[2]{}
6 \newcommand*{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}

```

---

### File 56 **lwarp-booktabs.sty**

## § 171 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

booktabs (*Pkg*) **booktabs** is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

 `\cmidrule` For MATHJAX, emulation is provided in math mode, but `\cmidrule` trim must not be used.

**for HTML output:** If **booktabs** has already been loaded before **lwarp**, such as by **memoir**, use it as-is. If not, the **lwarp** core will have placed some dummy macros which should be removed before loading the actual **booktabs** definitions.

```

1 \IfPackageLoadedTF{booktabs}{}{
2 \LetLtxMacro\toprule\relax
3 \LetLtxMacro\midrule\relax

```

```

4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }

```

Next, load the `booktabs` package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if `xltable` is loaded:

```

11 % \def\LWR@HTML@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro\@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16 {%
17 \IfValueTF{#1}%
18 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
19 {%
20 \ifbool{FormatWP}%
21 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22 {\booltrue{LWR@doingtbrule}}}%
23 }%
24 \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29 {%
30 \IfValueTF{#1}%
31 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32 {%
33 \ifbool{FormatWP}%
34 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35 {\defaddtocounter{LWR@hlines}{1}}}%
36 }%
37 \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42 \LWR@docmidrule[#1](#2){#3}%
43 \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}%
49 \IfValueTF{#1}%
50 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51 {%
52 \ifbool{FormatWP}%
53 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54 {\booltrue{LWR@doingtbrule}}}%
55 }%

```

```

56 \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70 {\LWR@docmidrule[#1]}{1-\arabic{\LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidruilenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][{}]}
80 \ifnextchar(\LWRbooktabscmidruleparen\LWRbooktabscmidruilenoparen%
81 }}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][{}]}
85 \end{warpMathJax}

```

---

File 57 **lwarp-bophook.sty**

§ 172 Package **bophook**

bophook (*Pkg*) bophook is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

```

2 \newcommand*\AtBeginPage[1]{}
3 \newcommand*\PageLayout[1]{}

```

---

File 58 **lwarp-bounddvi.sty**

§ 173 Package **bounddvi**

bounddvi (*Pkg*) bounddvi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

File 59 **lwarp-boxedminipage.sty**

§ 174      Package **boxedminipage**

*(Emulates or patches code by SCOTT PAKIN.)*

boxedminipage (*Pkg*) **boxedminipage** is emulated for HTML, and used as-is for lateximages.

**for HTML output:**    1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

```

2 \newenvironment{LWR@HTML@boxedminipage}{%
3 \LWR@stoppars%
4 \begin{BlockClass}{framebox}%
5 \minipage%
6 }
7 {%
8 \endminipage%
9 \end{BlockClass}%
10 \LWR@startpars%
11 }
12 \LWR@formattedenv{boxedminipage}
```

---

File 60 **lwarp-boxedminipage2e.sty**

§ 175      Package **boxedminipage2e**

*(Emulates or patches code by SCOTT PAKIN.)*

boxedminipage2e (*Pkg*) **boxedminipage2e** has been renamed **boxedminipage** by the author.

**for HTML output:**    Automatically loads **boxedminipage**:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

File 61 **lwarp-braket.sty**

§ 176      Package **braket**

*(Emulates or patches code by DONALD ARSENEAU.)*

braket (*Pkg*) **braket** works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:**    1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}
```

File 62 **lwarp-breakurl.sty**§ 177 Package **breakurl**

*(Emulates or patches code by VILAR CAMARA NETO.)*

breakurl (*Pkg*) **breakurl** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```

2 \LetLtxMacro\ Burl\ LWR@url
3
4 \NewDocumentCommand{\LWR@ Burlaltb}{O{} +m m}{%
5 \ifnumcomp{\value{LWR@linkdepth}}{>}{0}%
6 {}%
7 {%
8 \addtocounter{LWR@linkdepth}{1}%
9 \LWR@ensuredoingapar%
10 \LWR@subhyperref{#2}%

```

If use \LWR@subhyperref text@sanitized here, some forms of text may not expand correctly, and thus break.

```

11 \LWR@subhyperref text@unsanitized{#3}%
12 }%
13 \endgroup% restore catcodes
14 }
15
16 \newrobustcmd*\ Burlalt}{%
17 \begingroup%
18 \LWR@linkcatcodes%
19 \LWR@ Burlaltb%
20 }
21
22 \LetLtxMacro\ urlalt\ Burlalt

```

File 63 **lwarp-breqn.sty**§ 178 Package **breqn**

*(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)*

breqn (*Pkg*) **breqn** is patched for use by lwarp.

 **darray** darray is not supported, and in fact does not work in the print version either.

While using MATHJAX, breqn objects are converted to svg images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

```

2 \setkeys{breqn}{spread={5pt}}
3

```

```

4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8 \begin{BlockClass}{displaymathnumbered}
9 \LWR@newautoidanchor%
10 \booltrue{LWR@indisplaymathimage}%
11 \begin{lateximage}[-breqn dmath- \MathImageAltText]?%
12 }
13
14 \AfterEndEnvironment{dmath}{
15 \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19 \begin{BlockClass}{displaymath}
20 \LWR@newautoidanchor%
21 \booltrue{LWR@indisplaymathimage}%
22 \begin{lateximage}[-breqn dmath*- \MathImageAltText]?%
23 }
24
25 \AfterEndEnvironment{dmath*}{
26 \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%
32 \booltrue{LWR@indisplaymathimage}%
33 \begin{lateximage}[-breqn dseries- \MathImageAltText]?%
34 }
35
36 \AfterEndEnvironment{dseries}{
37 \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{LWR@indisplaymathimage}%
44 \begin{lateximage}[-breqn dseries*- \MathImageAltText]?%
45 }
46
47 \AfterEndEnvironment{dseries*}{
48 \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]?%
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}

```

---

```

64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*- \MathImageAltText]?%
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }

```

---

File 64 **lwarp-bsheaders.sty**

§ 179 Package **bsheaders**

bsheaders (*Pkg*) bsheaders is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---

File 65 **lwarp-bussproofs.sty**

§ 180 Package **bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

bussproofs (*Pkg*) bussproofs is used as-is for HTML, and emulated by MATHJAX's extension.

 **\DisplayProof** If not using MATHJAX, inline proofs with \DisplayMath must be placed inside a math expression.

If using MATHJAX, only the prooftree environment may be used, not \DisplayProof.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

```

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{LWR@HTML@prooftree}%
6 {%
7 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
8 \LWR@doequation{\BODY}{prooftree}%
9 }%
10 [\LWR@doendequation{prooftree}]
11 \LWR@formattedenv{prooftree}
12 }{% SVG HTML
13 \BeforeBeginEnvironment{prooftree}{%
14 \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]?%
15 }
16 \AfterEndEnvironment{prooftree}{\end{lateximage}}
17 }

```

File 66 **lwarp-bxpapersize.sty**§ 181 Package **bxpapersize**

`bxpapersize` (*Pkg*) `bxpapersize` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

File 67 **lwarp-bytefield.sty**§ 182 Package **bytefield**

*(Emulates or patches code by SCOTT PAKIN.)*

`bytefield` (*Pkg*) `bytefield` is patched for use by `lwarp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{lateximage}[-bytefield-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

File 68 **lwarp-cancel.sty**§ 183 Package **cancel**

`cancel` (*Pkg*) `cancel` is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:**

```
1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]
```

`\cancelto` is math-only, so is used as-is.

```
\LWR@cancelcolor {\langle text \rangle} {\langle color \rangle} {\langle class \rangle} {\langle colorstyle \rangle} {\langle FormatWPstyle \rangle}
Add colors if not empty:
3 \newcommand{\LWR@cancelcolor}[5]{%
4 \ifcsempy{#2}%
5 {\InlineClass{#5}{#3}{#1}}%
6 {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
7 }
```

```

\cancel {\text{}}

8 \DeclareRobustCommand{\LWR@HTML@cancel}[1]{%
9 \begin{group}
10 \CancelColor%
11 \LWR@findcurrenttextcolor%
12 \color{black}%
13 \LWR@cancelcolor{#1}{\LWR@tempcolor}{sout}{text-decoration-color}%
14 {text-decoration:line-through}%
15 \end{group}%
16 }
17 \LWR@formatted{cancel}%
18
19 \LetLtxMacro\bcancel\cancel
20 \LetLtxMacro\xcancel\cancel

For MATHJAX:

21 \begin{warpMathJax}
22 \PackageNoteNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
23 \CustomizeMathJax{\require{cancel}}
24 \end{warpMathJax}

```

---

File 69 **lwarp-canonlayout.sty**

§ 184      Package **canoniclayout**

canoniclayout (*Pkg*)    canoniclayout is ignored.

**for HTML output:**    § \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}

```

---

File 70 **lwarp-caption.sty**

§ 185      Package **caption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

caption (*Pkg*)    caption is patched for use by lwarp.

**for HTML output:**

```

1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ``Missing \protect\begin\protect{document\protect}'' error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5 \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2023/08/05]

10 \VerifyCommand[lwarp][caption]{\caption@iibox@}{AD79C5FACDA9F8F9977188D922E8AC12}

```

```

11
12 \long\def\caption@iibox@#1#2#3#4{%
13 % \setbox\@tempboxa\hbox{#4}%
14 \caption@iibox{#1}{#2}{#3}%
15 % [\wd\@tempboxa]%
16 []% lwarp
17 [\captionbox@innerpos@default]%
18 % {\unhbox\@tempboxa}%
19 {#4}}% lwarp
20 }

21 \VerifyCommand[lwarp][caption]{\caption@iiibox}{62FC9237FCA80F5A607BF02D88C61601}
22
23 \long\def\caption@iiibox#1#2#3#4#5[#6][#7]#8{%
24 \begingroup
25 #1*% set \caption@position
26 \caption@iftop{%
27 \endgroup

28 \minipagefullwidth% lwarp
29 \parbox[t]{\linewidth}{%
30 #1\relax
31 \caption@setposition t%
32 % #2%
33 {\caption#4{#5}}%
34 % \captionbox@hrule
35 % \csname caption@justification@#7\endcsname
36 #8%
37 }%
38 }{%
39 \endgroup

40 % \parbox[b]{#6}{%
41 \minipagefullwidth% lwarp
42 \parbox[b]{\linewidth}{% lwarp
43 #1\relax
44 \caption@setposition b%
45 % \csname caption@justification@#7\endcsname
46 #8%
47 % \captionbox@hrule
48 % #3
49 {\caption#4{#5}}%
50 }%
51 }%
52 }

\caption@makecaption

53 \VerifyCommand[lwarp][caption]{\caption@makecaption}{9E0A92DF71E248B2C7A3B4BB5190A2C5}
54
55 \long\def\caption@makecaption#1#2{%
56 % \caption@make@above
57 \caption@@make{#1}{#2}%
58 % \caption@make@below
59 }
60
61 \AtBeginDocument{
62 \let\@makecaption\caption@makecaption
63 }

```

Appended to look ahead to the next token for \centering, etc:

```

64 \AtBeginDocument{
65 \xapptocmd{\@xfloat}
66 {\LWR@futurenonspacel\LR@mynexttoken\LR@floatalignment}
67 {}
68 {\LWR@patcherror{caption}{@xfloat}}
69
70 \xapptocmd{\@xdblfloat}
71 {\LWR@futurenonspacel\LR@mynexttoken\LR@floatalignment}
72 {}
73 {\LWR@patcherror{caption}{@xdblfloat}}
74 }

75 \VerifyCommand[lwarp][caption]{\caption@@@text}{C7253081E4F8EA695FF193E21855AA0A}
76
77 \long\def\caption@@@text#1#2#3[#4]#5{%
78 \begin{BlockClass}{figurecaption}% lwarp
79 \begingroup
80 #3{\csname c@#1\endcsname #4\relax}%
81 #2{\caption@fnum{#1}}{#5}%
82 \endgroup%
83 \end{BlockClass}% lwarp
84 }
```

Updates for late patches for scrextend:

```

85 \caption@AtBeginDocument{
86 \IfPackageLoadedTF{lwarp-scrextend}{
87 \LetLtxMacro\captionbelow\caption
88 \LetLtxMacro\captionabove\caption
89 \LetLtxMacro\captionofbelow\captionof
90 \LetLtxMacro\captionofabove\captionof
91 }{}
92 }
```

---

## File 71 **lwarp-caption3.sty**

### § 186 Package **caption3**

(Emulates or patches code by AXEL SOMMERFELDT.)

caption3 (*Pkg*) **caption3** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{caption3}[2023/07/31]

```

\caption@@@make {\caption label} {\caption text}

2 \IfPackageAtLeastTF{caption3}{2020/08/23}{
3 %
4 \VerifyCommand[lwarp][caption3]{\caption@@@make}{F09A9BB05CE4EDF5A477D3CC2AE04F81}
5 %
6 \renewcommand\caption@@@make[2]{%
7 \LWR@traceinfo{caption@@@make}%

8 \LWR@stoppars% lwarp
```

```

9% \ifx\caption@fmt\undefined\caption@format\fi
10% \let\caption@lfmt\caption@labelformat
11% \global\def\caption@tempa{gobbletwo}%
12% \global\def\caption@tempb{}%
13% \sbox\@tempboxa{%
14% \let\caption@ignorespaces\ignorespaces
15% \def\ignorespaces{%
16% \global\def\caption@tempb{two}% "gobble" -> "gobbletwo"
17% % if \ignorespaces is used additionally
18% \caption@ignorespaces}%
19% #1%
20% {\global\let\caption@tempa\undefined\aftergroup\gobble}%
21% {\global\def\caption@tempa{gobble\caption@tempb}}}%
22% \ifdim\wd\@tempboxa=\z@
23% \gdef\caption@tempa{none}%
24% \fi
25% \ifx\caption@tempa\undefined \else
26% \@expandtwoargs\caption@set{labelseparator}{\caption@tempa}%
27% \fi
28% \caption@ifempty{#2}{%
29% \caption@set{labelseparator}{none}%
30% \caption@set{textformat}{simple}%
31% }%
32% \caption@labelseparator % defines \caption@iflabelfont,
33% \caption@labelsep and \caption@labelsep@name
34% (the latter is needed by \caption@fmt)
35%

36% \setpar{\@par\caption@@par}\caption@@par
37% \caption@applyfont

```

\caption@fmt with plain format is defined as {#1#2#3\par}:

```

38% \caption@fmt
39% {\ifcaption@star\else
40% \begingroup
41% \captionlabelfont
42% \LWR@isolate{#1}% lwarp
43% \endgroup
44% \fi}%
45% {\ifcaption@star\else
46% \begingroup
47% \caption@iflabelfont\captionlabelfont
48% \relax\caption@labelsep
49% \endgroup
50% \fi}%
51% {\caption@textfont
52% \let\\newline% lwarp
53% }
54% \caption@textstart
55% \caption@ifstrut
56% {\vrule\@height\ht\strutbox\@width\z@}%
57% {}%
58% \nobreak\hskip\z@skip % enable hyphenation
59% \LWR@isolate{\caption@textformat{#2}}% lwarp
60% \caption@ifstrut
61% {\ifhmode\@finalstrut\strutbox\fi}%

```

```

62 % {}%
63 \caption@textend}}}%

64 \LWR@startpars% lwarp
65 \LWR@traceinfo{caption@@@make done}%
66 }
67 }% later than 2020/08/23
68 {% earlier than 2020/08/23
69 \renewcommand\caption@@@make[2]{%
70 \LWR@traceinfo{caption@@@make}%
71 \LWR@stoppars% lwarp
72 % \sbox\@tempboxa{#1}%
73 % \ifdim\wd\@tempboxa=\z@
74 % \let\caption@lsep\relax
75 % \fi
76 \caption@ifempty{#2}{%
77 \let\caption@lsep\@empty
78 \let\caption@tfmt\@firstofone
79 }%
80 % \@setpar{\@par\caption@@par}\caption@@par
81 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

```

```

82 % \caption@fmt
83 {\ifcaption@star\else
84 \begingroup
85 \caption@labelfont
86 \LWR@isolate{#1}% lwarp
87 \endgroup
88 \fi}%
89 {\ifcaption@star\else
90 \begingroup
91 \caption@iflf\caption@labelfont
92 \relax
93 \caption@lsep
94 \endgroup
95 \fi}%
96 {{%
97 \caption@textfont
98 \let\\\newline% lwarp
99 % \caption@ifstrut
100 % {\vrule\@height\ht\strutbox\@width\z@}%
101 % {}%
102 % \nobreak\hskip\z@skip % enable hyphenation
103 % \LWR@isolate{\caption@tfmt{#2}}% lwarp
104 % \caption@ifstrut
105 % {\ifhmode\@finalstrut\strutbox\fi}%
106 % {}%
107 }}%
108 \LWR@startpars% lwarp
109 \LWR@traceinfo{caption@@@make done}%
110 }
111 }% earlier than 2020/08/23

```

\caption@@make@

{<>} {<>}

```

112 \VerifyCommand[lwarp][caption3]{\caption@@make@}{AD348E907B8F8B0BCAE57E72DE4A2035}
113 %
114 \renewcommand{\caption@@make@}[2]{%
115 \caption@stepthecounter%

```

```

116 \caption@beginhook%
117 % \caption@box\hsize{%
118 % \caption@singlelinecheck{\caption@slc{#1}{#2}}\caption@singleline\caption@multiline}{\caption@mu
119 % \caption@calcmargin
120 % \caption@make@leftmargin
121 % \caption@make@parbox{%
122 % \caption@make@indentation
123 % \caption@@@make{#1}{#2}%
124 % }
125 % \caption@make@rightmargin
126 % }%
127 \caption@endhook%
128 }

129 \DeclareCaptionBox{none}{#2}
130 \DeclareCaptionBox{parbox}{%
131 #2%
132 }

133 \DeclareCaptionBox{colorbox}{%
134 #2%
135 }

```

---

## File 72 **lwarp-cases.sty**

### § 187 Package **cases**

*(Emulates or patches code by DONALD ARSENEAU.)*

**cases** (*Pkg*) **cases** is patched for use by **lwarp**.

While using **MATHJAX**, **cases** objects are converted to svg math images. The MathJax 3.2 **cases** package does not yet work with **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cases}[2020/03/29]

2 \BeforeBeginEnvironment{numcases}{
3 \begin{BlockClass}{displaymathnumbered}
4 \LWR@newautoidanchor%
5 \booltrue{LWR@indisplaymathimage}%
6 \begin{lateximage}[-cases- \MathImageAltText]?%
7 }
8
9 \AfterEndEnvironment{numcases}{
10 \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14 \begin{BlockClass}{displaymathnumbered}
15 \LWR@newautoidanchor%
16 \booltrue{LWR@indisplaymathimage}%
17 \begin{lateximage}[-cases- \MathImageAltText]?%
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21 \end{lateximage}\end{BlockClass}
22 }

```

---

File 73 **lwarp-ccicons.sty**

§ 188      Package **ccicons**

*(Emulates or patches code by MICHAEL UMMELS.)*

ccicons (*Pkg*) ccicons is used as SVG images for HTML.

**for HTML output:** Discard all options for lwarp-ccicons:

```
1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

2 \newcommand{\LWR@ccicons}[2]{%
3 {\begin{lateximage}*[#1]?ccicons@font\char#2\end{lateximage}}}%
4 }
5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}
8 \renewcommand{\ccicons@end}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}
```

---

File 74 **lwarp-centerlastline.sty**

§ 189      Package **centerlastline**

centerlastline (*Pkg*) centerlastline is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

2 \providecommand{\centerlastline}{}
3 \def\endcenterlastline{\par}
```

---

File 75 **lwarp-centernot.sty**

§ 190      Package **centernot**

*(Emulates or patches code by HEIKO OBERDIEK.)*

centernot (*Pkg*) centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]
```

---

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{centernot}}
4 \end{warpMathJax}

```

---

## File 76 **lwarp-changebar.sty**

### § 191 Package **changebar**

changebar (*Pkg*) changebar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*\cbstart{}{}
3 \newcommand*\cbend{}{}
4 \newenvironment*\changebar{}{}
5 \newcommand*\cbdelete{}{}
6 \newcommand*\nochnagebars{}{}
7 \newcommand*\cbcolor[1]{}
8 \newlength\changebarwidth
9 \newlength\deletebarwidth
10 \newlength\changebarsep
11 \newcounter{changebargrey}

```

---

## File 77 **lwarp-changelayout.sty**

### § 192 Package **changelayout**

*(Emulates or patches code by AHMED MUSA.)*

changelayout (*Pkg*) changelayout is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

```

2 \renewrobustcmd\cpl@backtodefautls{}
3
4 \renewrobustcmd\cpl@checkifoddpag{%
5 \cpl@oddpagfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9 \setkeys[KV]{changelay}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15 \setkeys[KV@X]{changelay}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21 \setkeys[KV]{changelay}{#1}%
22 \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}

```

---

```

23 \color{\cpl@textcolor}%
24 \cpl@content
25 \end{BlockClass}
26 }

```

---

## File 78 **lwarp-changepage.sty**

### § 193 Package **changepage**

*(Emulates or patches code by PETER WILSON.)*

`changepage` (*Pkg*) `changepage` is ignored.

**for HTML output:** Discard all options for `lwarp-changepage`:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpag
3 \DeclareRobustCommand{\checkoddpag}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changeage}[9]{}
6
7 \@ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}

```

---

## File 79 **lwarp-changes.sty**

### § 194 Package **changes**

*(Emulates or patches code by EKKART KLEINOD.)*

`changes` (*Pkg*) `changes` is patched for use by `lwarp`.

 **\comment** Use `commandnameprefix=ifneeded` to avoid a conflict with the `\comment` command when using `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3 \IfIsInList{#1}{\Changes@loc@show}{%
4 \LWR@startpars%
5 #2: #3 \quad
6 \nameref{\BaseJobname-autopage-#4}%

```

```

7 \LWR@stoppars%
8 }{}%
9 }
10
11 \VerifyCommand[lwarp][changes]{\listofchanges}{CDE77F21854A8C807FDF2CF756286B55}
12
13 \renewcommand{\listofchanges}[1][\@empty]{%
14 \setkeys{Changes@loc}{#1}%
15 \ifbool{Changes@optiondraft}%
16 {%
17 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
18 }{}%
19 {%
20 \PackageWarning{changes}{Wrong style for list of changes:%
21 '\Changes@loc@style', using 'list' instead.}%
22 \def\Changes@loc@style{}%
23 }%
24 \IfIsEmpty{\Changes@loc@style}%
25 {\def\Changes@loc@style{list}}%
26 {%
27 \IfStrEq{\Changes@loc@show}{all}%
28 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
29 {}%
30 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%
31 {}%
32 {%
33 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead.}%
34 \def\Changes@loc@show{}%
35 }%
36 \IfIsEmpty{\Changes@loc@show}%
37 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
38 {}%
39 \IfIsEmpty{\Changes@loc@title}%
40 {%
41 \IfStrEq{\Changes@loc@style}{list}%
42 {\def\Changes@heading{\listofchangesname}}{}%
43 \IfStrEq{\Changes@loc@style}{summary}%
44 {\def\Changes@heading{\summaryofchangesname}}{}%
45 \IfStrEq{\Changes@loc@style}{compactsummary}%
46 {\def\Changes@heading{\compactsummaryofchangesname}}{}%
47 }%
48 {\def\Changes@heading{\Changes@loc@title}}%
49 \section*{\Changes@heading}
50 \IfIsInList{\Changes@loc@style}{list}%
51 {%
52 \IfFileExists{\jobname.\Changes@loc@extension}%
53 {%
54 \newread\Changes@InFile%
55 \openin\Changes@InFile=\jobname.\Changes@loc@extension%
56 \loop\unless\ifeof\Changes@InFile%
57 \read\Changes@InFile to \Changes@Line%
58 \ifeof\Changes@InFile\else%
59 \Changes@Line%
60 \fi
61 \repeat
62 \closein\Changes@InFile%
63 }{}%
64 \emph{\changes@loc}%
65 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
66 }%

```

```

67 }{}%
68 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
69 {%
70 \IfFileExists{\jobname.\Changes@socextension}%
71 {%
72 \newread\Changes@InFile%
73 \openin\Changes@InFile = \jobname.\Changes@socextension%
74 \loop\unless\ifeof\Changes@InFile%
75 \read\Changes@InFile to \Changes@Line%
76 \ifeof\Changes@InFile\else%
77 \expandafter\changes@chopline\Changes@Line\\%
78 \textbf{%
79 \IfIsColored%
80 {\color{\Changes@Incolor}}}%
81 }{}%
82 \IfIsAnonymous{\Changes@Inid}%
83 {%
84 \LWR@textcurrentcolor{% lwarp
85 \changesauthorname: \changesanonymousname%
86 }% lwarp
87 }%
88 {%
89 \LWR@textcurrentcolor{% lwarp
90 \changesauthorname: \Changes@Inid%
91 }% lwarp
92 \IfIsEmpty{\Changes@Inname}%
93 }{}%
94 { %
95 \LWR@textcurrentcolor{% lwarp
96 (\Changes@Inname)%
97 }% lwarp
98 }%
99 }%
100 }\\%
101 \numdef{\Changes@InSum}{0}%
102 \renewcommand*{\do}[1]{%
103 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
104 }%
105 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
106 \ifnumcomp{\Changes@InSum}{=}{0}%
107 {%
108 \parbox{\Changes@summary@width}{% lwarp
109 \changesnochanges%
110 % }% lwarp
111 % \[1ex]% lwarp
112 \par% \lwarp
113 }%
114 {%
115 \numdef{\Changes@InCount}{0}%
116 \renewcommand*{\do}[1]{%
117 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
118 \ifboolexpr{%
119 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
120 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
121 }%
122 {%
123 \parbox{\Changes@summary@width}{% lwarp
124 \csuse{changes#####1name}~%
125 \let\cleaders\leaders\dotfill~% lwarp
126 \dotfill~% \lwarp

```

```

127 \csuse{Changes@In#####1}%
128 % }% lwarp
129 % \ifnumless{\Changes@InCount}{\Changes@InSum}% lwarp
130 {\}%
131 % {\[lex]}% lwarp
132 }%
133 {}%
134 }%
135 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
136 \par% lwarp
137 }%
138 \fi%
139 \repeat
140 \closein\Changes@InFile%
141 }{%
142 \emph{\changesnosoc}%
143 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
144 }%
145 }{%}%
146 }{%}%
147 }
148
149 \VerifyCommand[lwarp][changes]{\Changes@Markup@comment}{23057A40141C9D1A0A173DCF1BD5DE55}
150
151 \renewcommand{\Changes@Markup@comment}[3]{%
152 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
153 {%
154 \IfIsColored%
155 {\colorlet{Changes@todocolor}{authorcolor}}%
156 {\colorlet{Changes@todocolor}{black}}%
157 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, nol
158 }{%}%
159 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
160 {%
161 \marginpar{%
162 \IfIsColored%
163 {\leavevmode\color{authorcolor}}%
164 }%
165 \LWR@textcurrentcolor{% lwarp
166 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
167 }% lwarp
168 }%
169 }{%}%
170 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
171 {%
172 \footnote{%
173 \LWR@textcurrentcolor{% lwarp
174 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
175 }% lwarp
176 }%
177 }{%}%
178 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
179 {%
180 {%
181 \IfIsColored%
182 {\color{authorcolor}}%
183 }%
184 \allowbreak%
185 \uwave{%
186 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%

```

```
187 }%
188 }%
189 }{}%
190 }
191
192 \VerifyCommand[lwarp][changes]{\Changes@output}{BD1ACDECB4BBA2D9181885F9EDC87F77}
193
194 \renewrobustcmd{\Changes@output}[7]{%
195 \ifbool{Changes@optiondraft}%
196 {%
197 \Changes@check@author{#2}%
198 \Changes@set@color{#2}%
199 {%
200 \IfIsInList{#1}{added|deleted|replaced|highlight}%
201 {%
202 \IfIsEmpty{#5}%
203 {%
204 \IfIsAuthorEmptyAtPosition{#2}{left}%
205 {}%
206 {}%
207 \IfIsColored%
208 {\color{authorcolor}}%
209 {}%
210 \LWR@textcurrentcolor{% lwarp
211 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
212 }% lwarp
213 }}%
214 }{}%
215 {%
216 \IfStrEq{#1}{highlight}%
217 {}{}%
218 \IfIsColored%
219 {\color{authorcolor}}%
220 {}%
221 }%
222 \LWR@textcurrentcolor{% lwarp
223 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{}%
224 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{}%
225 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{}%
226 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{}%
227 }% lwarp
228 }%
229 \IfIsEmpty{#5}%
230 {%
231 \IfIsAuthorEmptyAtPosition{#2}{right}%
232 {}%
233 {}%
234 \IfIsColored%
235 {\color{authorcolor}}%
236 {}%
237 \LWR@textcurrentcolor{% lwarp
238 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
239 }% lwarp
240 }}%
241 }{}%
242 \stepcounter{Changes@#1Count#2}%
243 }{}%
244 \IfIsEmpty{#5}%
245 {}%
246 {%
```

```

247 \stepcounter{Changes@commentCount#2}%
248 \Changes@set@commentcount{#2}%
249 \Changes@Markup@comment%
250 {#5}%
251 {#2}%
252 {\Changes@output@author{#2}}%
253 }%
254 }%
255 \IfIsEmpty{#2}%
256 {\def\Changes@locid{}}%
257 {\def\Changes@locid{~(#2)}}%
258 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}%
259 }%
260 {%
261 \IfIsEmpty{#3}%
262 {\@bsphack\@esphack}%
263 {#3}%
264 }%
265 }

```

---

## File 80 **lwarp-chappg.sty**

### § 195 Package **chappg**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

chappg (*Pkg*) **chappg** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]

2 \renewcommand{\pagenumbering}[2][{}]{
3 \providecommand{\chappgsep}{--}

```

---

## File 81 **lwarp-chapterbib.sty**

### § 196 Package **chapterbib**

*(Emulates or patches code by DONALD ARSENEAU.)*

chapterbib (*Pkg*) **chapterbib** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

```

---

## File 82 **lwarp-chemfig.sty**

### § 197 Package **chemfig**

*(Emulates or patches code by CHRISTIAN TELLECHEA.)*

chemfig (*Pkg*) chemfig is patched for use by lwarp.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{. . .}
\polymerdelim[. . .]{. . .}
\end{lateximage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

for HTML output:

```
1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]
2 \catcode`_ =11
3
4 \IfPackageAtLeastTF{chemfig}{2020/03/05}
5 {
6 \xpretocmd\charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]?}%
7 {}{\LWR@patcherror{chemfig}{charge}}
8 \xpretocmd\Charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]?}%
9 {}{\LWR@patcherror{chemfig}{Charge}}
10 \xapptocmd\charge_c{\end{lateximage}}
11 {}{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \IfPackageAtLeastTF{chemfig}{2019/04/18}%
15 {% 2019/04/18 or newer
16
17 \xpretocmd{\CF_chemfiga}
18 {\begin{lateximage}[-chemfig-~\PackageDiagramAltText]?}%
19 {}{\LWR@patcherror{chemfig}{CF_chemfiga}}
20
21 \VerifyCommand[lwarp][chemfig]{\CF_chemfigb}{7B199210755F37B1BCD036567614BA34}
22
23 \xpatchcmd{\CF_chemfigb}
24 {\let\CF_flipstate\CF_zero}
25 {\end{lateximage}\let\CF_flipstate\CF_zero}
26 {}{\LWR@patcherror{chemfig}{CF_chemfigb}}
27
28 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
29 \gdef\CF_lewisc#1,#2_nil{%
30 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]?%
31 \LWR@chemfig@origCF_lewisc#1,#2_nil
32 \end{lateximage}
33 }
34
35 \gpreto{\schemestart}{%
36 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]?%
37 \gappto{\CF_schemestop}{\end{lateximage}}
38 }
39 }% 2019/04/18 or newer
40 {% older than 2019/04/18
41
42 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
43
44 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
45 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]?%
```

```

46 \IfBooleanTF{#1}{%
47 \LWR@chemfig@origchemfig*[#2][#3]{#4}%
48 }{%
49 \LWR@chemfig@origchemfig[#2][#3]{#4}%
50 }
51 \end{lateximage}%
52 }
53
54 \LetLtxMacro\LWR@chemfig@origCF@lewis@b\CF@lewis@b
55
56 \def\CF@lewis@b#1#2{%
57 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
58 \LWR@chemfig@origCF@lewis@b{#1}{#2}%
59 \end{lateximage}%
60 }
61
62 \preto{\schemestart}{%
63 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
64 }
65 \appto{\CF@schemestop}{\end{lateximage}}
66
67 }% older than 2019/04/18
68
69 \catcode`_ =8%
70
71
72
73 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
74
75 \def\chemleft#1#2\chemright#3{%
76 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
77 \LWR@chemfig@origchemleft#1#2\chemright#3%
78 \end{lateximage}%
79 }
80
81 \LetLtxMacro\LWR@chemfig@origchemup\chemup
82
83 \def\chemup#1#2\chemdown#3{%
84 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
85 \LWR@chemfig@origchemup#1#2\chemdown#3%
86 \end{lateximage}%
87 }

```

---

File 83 **lwarp-chemformula.sty**

§ 198      Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemformula (*Pkg*)    chemformula is patched for use by lwarp.

The svg images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX**    chemformula works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The chemformula package adapts to array, but does not know about MATHJAX, and MATHJAX does not know about chemformula.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

for HTML output: 1 \LWR@ProvidesPackagePass{chemformula}[2022/01/23]

2 \ExplSyntaxOn

\ch

Enclose in an inline SVG image or MATHJAX. The alt tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

3 \VerifyCommand[lwarp][chemformula]{\ch}{6D4331F95E9FF2E011E310B1F8C5487E}

4

5 \RenewDocumentCommand \ch { O{}m }

6 {%

To work inside align with `\displaymathother`, a simple version must be used to work with `chemformula`'s adaptation to align.

7 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp

8 {%

9 \chemformula\_ch:nn {#1} {#2}% original

10 }%

If used as the outer level, must temporarily ensure MATHJAX is disabled:

11 {%

12 \begingroup%

13 \boolfalse{mathjax}%

An inline image is used, adjusted for the baseline:

14 \LWR@subsingledollar\*{% lwarp

15 \textbackslash{}

16 ch%

17 \{%

18 \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%

19 \}% alt text

20 }{%

21 \protect\LWR@HTMLsanitizedetokenized{%

22 \detokenize\expandafter{#1}%

23 }% add'l hashing

24 }%

25 {%

26 \chemformula\_ch:nn {#1} {#2}% original

27 }%

28 \endgroup%

29 }%

30 }

\chcpd

Similar to `\ch`.

31 \IfPackageAtLeastTF{chemformula}{2019/10/13}{

32

33 \VerifyCommand[lwarp][chemformula]{\chemformula\_chcpd:nn}

34 {C1E882F2C1137D429AE4F789C84E7428}

35

36 \cs\_gset\_protected:Npn \chemformula\_chcpd:nn #1#2

37 {

38 \begingroup%

39 \boolfalse{mathjax}%

```

40 \LWR@subsingledollar*{% lwarp
41 \textbackslash}% alt tag
42 chcpd%
43 \{%
44 \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
45 \}%
46 }{%
47 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
48 }{% original
49 \group_begin:
50 \tl_if_blank:nF {#2}
51 {
52 \keys_set:nn {chemformula} {#1}
53 __chemformula_save_catcodes:
54 __chemformula_sanitiz:Nn
55 \l__chemformula_chemformula_tmpa_tl
56 {#2}
57 __chemformula_input_compound_no_check:NV
58 \l__chemformula_compound_tl
59 \l__chemformula_chemformula_tmpa_tl
60 __chemformula_prepare_output:NV
61 \l__chemformula_compound_tl
62 \l__chemformula_catcodes_tl
63 \chemformula_write:V \l__chemformula_compound_tl
64 }
65 \group_end:
66 }
67 \endgroup
68 }
69}% later than 2019/10/13
70}% earlier than 2019/10/13
71% \changes{v0.903}{2021/12/18}{\pkg{chemformula}: Improved alt tag sanitization.}
72 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
73 {
74 \begingroup%
75 \boolfalse{mathjax}%
76 \LWR@subsingledollar*{% lwarp
77 \textbackslash}% alt tag
78 chcpd%
79 \{%
80 \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
81 \}%
82 }{%
83 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
84 }{% original
85 \group_begin:
86 \tl_if_blank:nF {#2}
87 {
88 \keys_set:nn {chemformula} {#1}
89 __chemformula_save_catcodes:
90 __chemformula_sanitiz:Nn
91 \l__chemformula_chemformula_tmpa_tl
92 {#2}
93 __chemformula_input_compound_no_check:NV
94 \l__chemformula_compound_tl
95 \l__chemformula_chemformula_tmpa_tl
96 __chemformula_prepare_output:N \l__chemformula_compound_tl
97 \chemformula_write:V \l__chemformula_compound_tl
98 }
99 \group_end:

```

```

100 }
101 \endgroup
102 }
103}% earlier than 2019/10/13

```

**\charrow**

If standalone, appears in a regular lateximage.

```

104 \VerifyCommand[lwarp][chemformula]{\charrow}
105 {31D2B3405541C0B128504C94C5046713}
106
107 \RenewDocumentCommand \charrow { mO{}O{} }
108 {
109 \begin{lateximage}[-chemformula- charrow]
110 \group_begin:
111 __chemformula_draw_arrow:nnn {#1} {#2} {#3}
112 \group_end:
113 \end{lateximage}
114 }

```

**\chname**

If standalone, appears in a regular lateximage, hashed according to contents.

```

115 \VerifyCommand[lwarp][chemformula]{\chname}
116 {3C697C09415EE601DE035EEDD6D3BA4D}
117
118 \RenewDocumentCommand \chname { R(){}R(){} }
119 {
120 \begin{lateximage}*[%
121 \textbackslash{}%
122 chname%
123 (\LWR@HTMLsanitizedetokenized{\detokenize{#1}})%
124 (\LWR@HTMLsanitizedetokenized{\detokenize{#2}})%
125]*?%
126 \chemformula_chwritebelow:nn {#1} {#2}%
127 \end{lateximage}%
128 }

```

**\chlewis**

Placed inline, hashed according to contents and options.

```

129 \VerifyCommand[lwarp][chemformula]{\chlewis}
130 {371F2DD32AA98170F43CFDA71177226B}
131
132 \RenewDocumentCommand \chlewis { O{}mm }
133 {
134 \begingroup%
135 \boolfalse{mathjax}%
136 \LWR@subsingledollar*{\textbackslash{}chlewis\{#2\}\{#3\}}%
137 {
138 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
139 }{
140 \chemformula_lewis:nnn {#1} {#2} {#3}
141 }
142 \endgroup%
143 }

```

lwarp redefines the \$ character, so special handling is required to escape math expressions inside \ch.

This boolean tracks a new kind of escaped math:

```
144 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

```
\chemformula_input_escape_math
```

Adds additional escaping for the new dollar definition:

```
145 \VerifyCommand[\lwarp][chemformula]{__chemformula_input_escape_math:n}
146 {5318E84E9168C2F123781D2EA8CFA871}
147
148 \cs_gset_protected:Npn __chemformula_input_escape_math:n #1
149 {
150 __chemformula_first_last_math:n {#1}
151 \bool_if:NT \l__chemformula_first_last_dollar_bool
152 {
153 \bool_set_true:N \l__chemformula_first_last_math_bool
154 __chemformula_read_escape_dollar:w #1 \q_nil
155 }
156 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
157 {
158 \bool_set_true:N \l__chemformula_first_last_math_bool
159 __chemformula_read_escape_mathbraces:w #1 \q_nil
160 }
```

Added by lwarp:

```
161 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
162 {
163 \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
164 __chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
165 }
166 }
```

```
\chemformula_read_escape_LWRdollar
```

The following parses the contents inside the new dollars.

**lwarp** keeps the dollar as its original math shift until the document starts. While **chemmacros** is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```
167 \begingroup
168 \catcode`\$=\active
169
170 \cs_new_protected:Npn __chemformula_read_escape_LWRdollar:w $#1$ \q_nil
171 {
172 __chemformula_read_escape_math:n {#1}
173 }
174
175 \endgroup
```

```
\chemformula_bool_set_if_first_last
```

The following looks at the first and last tokens for delimiters to escape math inside **\ch**. The original definition is modified to look for the control sequences which are used by the new meaning of **\$**.

```
176 \cs_new_protected:Npn __chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
177 {
178 \int_zero:N \l__chemformula_tmpa_int
```

```

179 \int_zero:N \l__chemformula_tmpb_int
180 \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
181 \tl_map_inline:nn {#2}
182 {
183 \int_incr:N \l__chemformula_tmpb_int
184 \int_compare:nT { \l__chemformula_tmpb_int = 1 }
185 {

```

At the start, the cs\_ version compares control sequences:

```

186 \ifdefstrequal{##1}{#3}% lwarp
187 {
188 \bool_set_true:N #1
189 }% lwarp
190 {}
191 }

```

At the end, compare more control sequences:

```

192 \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
193 {
194 \ifdefstrequal{##1}{#4}
195 {}
196 {
197 \bool_set_false:N #1
198 }
199 }
200 }
201 }

```

\chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

202 \VerifyCommand[lwarp][chemformula]{__chemformula_first_last_math:n}
203 {B464BC6E81CAC84BE00FEE988970CE96}
204
205 \cs_gset_protected:Npn __chemformula_first_last_math:n #1
206 {
207 \bool_set_false:N \l__chemformula_first_last_math_bool
208 \bool_set_false:N \l__chemformula_first_last_dollar_bool
209 \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
210 \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
211 __chemformula_bool_set_if_first_last:Nnnn
212 \l__chemformula_first_last_dollar_bool
213 {#1}
214 { $ } { $ }
215 \bool_if:NF \l__chemformula_first_last_dollar_bool
216 {
217 __chemformula_bool_set_if_first_last:Nnnn
218 \l__chemformula_first_last_mathbraces_bool
219 {#1}
220 { \ () { \) }

```

Added by lwarp:

```

221 \bool_if:NF \l__chemformula_first_last_mathbraces_bool% lwarp
222 {
223 __chemformula_bool_cs_set_if_first_last:NnNN
224 \l__chemformula_first_last_LWRdollar_bool
225 {#1}
226 { \LWR@newsingledollar } { \LWR@newsingledollar }

```

```

227 }% lwarp
228 }
229 }

230 \ExplSyntaxOff

```

---

## File 84 **lwarp-chemgreek.sty**

### § 199 Package **chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemgreek (*Pkg*) chemgreek is patched for use by lwarp.

 **Greek symbols** To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other packages supported by chemgreek will result in math-mode greek characters, which will result in svg images being used. These images will be hashed.

 **X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X, Lua<sup>A</sup>T<sub>E</sub>X** If using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } } }%
10 }
11
12 \ExplSyntaxOff

```

---

## File 85 **lwarp-chemmacros.sty**

### § 200 Package **chemmacros**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemmacros (*Pkg*) chemmacros is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemmacros}[2022/02/13]

svg file hashing assumes that the relevant options are constant for the entire document.

### § 200.1 Changes to the user's document

 **\makepolymerdelims** When using \makepolymerdelims, enclose the entire expression inside a polymerdelims environment, such as (from the chemmacros manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}] }
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

 **redox reactions** Redox reactions must be enclosed inside a redoxreaction environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the chemmacros manual. For HTML output, the extra space is ignored and a lateximage is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

### § 200.2 Code

```
2 \ExplSyntaxOn
```

### § 200.3 Loading packages

Also accept the lwarp version. \VerifyCommand not used here because it doesn't work with the conditional.

```
3 \prg_set_conditional:Npnn \chemmacros_if_package_loaded:n #1 {p,T,F,TF}
4 {
5 \cs_if_exist:cTF {ver@#1.sty}
6 { \prg_return_true: }
7 {
8 \cs_if_exist:cTF {ver@lwarp-#1.sty}
9 { \prg_return_true: }
10 { \prg_return_false: }
11 }
12 }
```

Nullify hyperref detection:

```
13 \hook_gput_code:nnn {begindocument/end} {chemmacros}
14 {
15 \bool_set_false:N \l__chemmacros_hyperref_bool
16 }
```

## § 200.4 Loading modules

Patching chemmacros modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

## § 200.5 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```
17 \DeclareDocumentEnvironment{polymerdelims}{}
18 {\begin{lateximage}[-chemmacros- polymer]}
19 {\end{lateximage}}
```

Env `redoxreaction`

$\langle \textit{space above} \rangle \langle \textit{space below} \rangle$

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 93.

```
20 \DeclareDocumentEnvironment{redoxreaction}{m m}
21 {\begin{lateximage}[-chemmacros- redoxreaction]}
22 {\end{lateximage}}
```

## § 200.6 Acid-base

```
23 \AtBeginDocument{
24 \chemmacros_module_if_loaded:nTF{{acid-base}}{
25 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
26
27 \VerifyCommand[lwarp][chemmacros]{\chemmacros_p:n}
28 {D95080E9783CB80E34C51221236CF370}
29
30 \cs_gset_protected:Npn \chemmacros_p:n #1
31 {
32 \begingroup
33 \boolfalse{mathjax}
34 \LWR@subsingledollar*{
35 \textbackslash}%
36 p%
37 \{%
38 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
39 \}
40 }{
41 chemmacrosp%
42 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
43 }{
44 \group_begin:
45 \mbox
46 {
47 \chemmacros_p_style:n {p}
48 \ensuremath {#1}
49 }
50 \group_end:
51 }
52 \endgroup
```

```

53 }
54
55 \VerifyCommand[lwarp][chemmacros]{\pH}
56 {BA70E24367521CBBF282F40F65758016}
57
58 \RenewDocumentCommand \pH {} {
59 \begingroup
60 \boolfalse{mathjax}
61 \LWR@subsingledollar*{\textbackslash{}pH}{chemmacros}{
62 \chemmacros_p:n { \chemmacros_formula:n {H} }
63 }
64 \endgroup
65 }
66
67 \VerifyCommand[lwarp][chemmacros]{\pOH}
68 {EFBC86417A28B1777F8A783D68225A3C}
69
70 \RenewDocumentCommand \pOH {} {
71 \begingroup
72 \boolfalse{mathjax}
73 \LWR@subsingledollar*{\textbackslash{}pOH}{chemmacros}{
74 \chemmacros_p:n { \chemmacros_formula:n {OH} }
75 }
76 \endgroup
77 }
78
79 \VerifyCommand[lwarp][chemmacros]{\pKa}
80 {C4141E480C360A8EDA38B65F71F5B1F}
81
82 \RenewDocumentCommand \pKa {O{}}
83 {
84 \begingroup
85 \boolfalse{mathjax}
86 \LWR@subsingledollar*{\textbackslash{}pKa{[]#1{}}}{chemmacros #1}{
87 \chemmacros_p:n
88 {
89 \Ka \ifblank {#1} {}
90 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
91 }
92 }
93 \endgroup
94 }
95
96 \VerifyCommand[lwarp][chemmacros]{\pKb}
97 {00A20E25465C2E0D2E3731634F39B0FA}
98
99 \RenewDocumentCommand \pKb {O{}}
100 {
101 \begingroup
102 \boolfalse{mathjax}
103 \LWR@subsingledollar*{\textbackslash{}pKb{[]#1{}}}{chemmacros #1}{
104 \chemmacros_p:n
105 {
106 \Kb \ifblank {#1} {}
107 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
108 }
109 }
110 \endgroup
111 }
112

```

```

113 \LetLtxMacro\LWR@chemmacros@origKa\Ka
114 \renewcommand*{\Ka}{%
115 \begingroup
116 \boolfalse{mathjax}
117 \LWR@subsingledollar*{\textbackslash{}Ka}{chemmacros}{%
118 \LWR@chemmacros@origKa%
119 }%
120 \endgroup
121 }
122
123 \LetLtxMacro\LWR@chemmacros@origKb\Kb
124 \renewcommand*{\Kb}{%
125 \begingroup
126 \boolfalse{mathjax}
127 \LWR@subsingledollar*{\textbackslash{}Kb}{chemmacros}{%
128 \LWR@chemmacros@origKb%
129 }%
130 \endgroup
131 }
132
133 \LetLtxMacro\LWR@chemmacros@origKw\Kw
134 \renewcommand*{\Kw}{%
135 \begingroup
136 \boolfalse{mathjax}
137 \LWR@subsingledollar*{\textbackslash{}Kw}{chemmacros}{
138 \LWR@chemmacros@origKw
139 }
140 \endgroup
141 }
142
143 }{}% module loaded
144 }% AtBeginDocument

```

## § 200.7 Charges

```

145 \AtBeginDocument{
146 \chemmacros_module_if_loaded:nTF{{charges}}{
147 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
148
149 \VerifyCommand[lwarp][chemmacros]{\fplus}
150 {F6F7137115BC798D4CA779782DCCEB6D}
151
152 \cs_gset_protected:Npn \fplus {
153 \begingroup
154 \boolfalse{mathjax}
155 \LWR@subsingledollar*{\textbackslash{}fplus}{chemmacros}
156 { \LWR@origensuredmath{\chemformula_fplus:} }
157 \endgroup
158 }
159
160 \VerifyCommand[lwarp][chemmacros]{\fminus}
161 {A7ED8520C49A794F33AA6122E2411746}
162
163 \cs_gset_protected:Npn \fminus {
164 \begingroup
165 \boolfalse{mathjax}
166 \LWR@subsingledollar*{\textbackslash{}fminus}{chemmacros}
167 { \LWR@origensuredmath{\chemformula_fminus:} }
168 \endgroup
169 }

```

```

170
171 }{}% Module loaded.
172 }% AtBeginDocument

```

## § 200.8 Nomenclature

```

173 \AtBeginDocument{
174 \chemmacros_module_if_loaded:nTF{{nomenclature}}{
175 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
176
177 \VerifyCommand[lwarp][chemmacros]{\chemmacros_charge:n}
178 {258D97BF6FF3FA5C995D4FDCC44B0E63}
179
180 \cs_gset_protected:Npn \chemmacros_charge:n #1
181 {
182 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{
183 {\chemmacros_formula:n { }^{#1} }}
184 {
185 \ifmmode
186 {\chemmacros_formula:n { }^{#1} }}
187 \else
188 { \textsuperscript{\ensuremath{#1}} }
189 \fi
190 }
191 }

192
193 \hook_gput_code:nnn {begindocument/end} {chemmacros}
194 {
195 \protected\def\LWR@HTML@chemprime { \HTMLunicode{2032} }
196 \LWR@formatted{chemprime}
197 }

198 \VerifyCommand[lwarp][chemmacros]{\chemmacros_cip:n}
199 {EEF7D8AF4D975C2D11D879A77ABDFF88}
200
201 \cs_gset_protected:Npn __chemmacros_cip:n #1
202 {
203 \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
204 \int_step_inline:nnnn {0} {1} {9}
205 {
206 \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
207 {##1}
208 { { \l__chemmacros_cip_number_tl ##1} }
209 }
210 {
211 \l__chemmacros_cip_inner_tl
212 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
213 \l__chemmacros_tmpa_tl
214 }}% lwarp
215 }
216 }

217 \VerifyCommand[lwarp][chemmacros]{\Sconf}
218 {D7A87543D1C944168CBAC59E9F45DF9A}
219
220 \RenewDocumentCommand \Sconf { 0{S} } {
221 \begin{lateximage}\textbackslash{Sconf{[]#1{}}}*?%
222 \chemmacros_sconf:n {#1}%
223 \end{lateximage}

```

```
224 }
225
226 \VerifyCommand[lwarp][chemmacros]{\Rconf}
227 {AB922016338B2F2C2635E6104311DAF2}
228
229 \RenewDocumentCommand \Rconf { O{R} } {
230 \begin{lateximage}{\textbackslash{}Rconf{[]\#1{}}}*%
231 \chemmacros_rconf:n {#1}%
232 \end{lateximage}
233 }
234
235 \VerifyCommand[lwarp][chemmacros]{\chemmacros_hapto:n}
236 {FCEEDAB3292A95E65B69F4F8C8849B26}
237
238 \cs_gset_protected:Npn \chemmacros_hapto:n #1
239 {
240 \begingroup
241 \boolfalse{mathjax}
242 \LWR@subsingledollar*{\textbackslash{}hapto\{#1\}}{\chemmacros}{
243 \chemmacros_coordination_symbol:nnnn
244 { \l__chemmacros_coord_use_hyphen_bool }
245 {
246 { \c_true_bool }
247 }
248 { \chemeta }
249 {#1}
250 }
251 }
252
253 \VerifyCommand[lwarp][chemmacros]{\chemmacros_dento:n}
254 {E85BBDEF5A35F37215EBAD87AFCB99E8}
255
256 \cs_gset_protected:Npn \chemmacros_dento:n #1
257 {
258 \begingroup
259 \boolfalse{mathjax}
260 \LWR@subsingledollar*{\textbackslash{}dento\{#1\}}{\chemmacros}{
261 \chemmacros_coordination_symbol:nnnn
262 { \l__chemmacros_coord_use_hyphen_bool }
263 {
264 { \c_true_bool }
265 }
266 { \chemkappa }
267 {#1}
268 }
269 \endgroup
270 }
271
272 \VerifyCommand[lwarp][chemmacros]{\chemmacros_bridge:n}
273 {5E5D0EA9045A41FF30D4AB315E547B25}
274
275 \cs_gset_protected:Npn \chemmacros_bridge:n #1
276 {
277 \begingroup
278 \boolfalse{mathjax}
279 \LWR@subsingledollar*{\textbackslash{}bridge\{#1\}}{\chemmacros}{
280 \chemmacros_coordination_symbol:nnnn
281 { \l__chemmacros_coord_use_hyphen_bool }
282 { \l__chemmacros_bridge_super_bool }
```

```

283 { \chemmu }
284 {#1}
285 }
286 \endgroup
287 }
288 }{}% Module loaded.
289 }% AtBeginDocument

```

## § 200.9 Particles

```

290 \AtBeginDocument{
291 \chemmacros_module_if_loaded:nTF{{particles}}{{
292 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
293
294 \VerifyCommand[lwarp][chemmacros]{\chemmacros_declare_nucleophile:Nn}
295 {ED9AA7471C8638CEF0757A10A2E3935E}
296
297 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
298 {
299 \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1:}
300 {
301 \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
302 {
303 \chemmacros_elpair:n { #2 }
304 { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
305 \chemmacros_formula:n { {}^{{-}} }
306 }
307 { \chemmacros_formula:n { #2^{{-}} } }
308 }
309 \DeclareDocumentCommand #1 {o}
310 {%
311 \begin{lateximage}%
312 \group_begin:%
313 \IfNoValueF {##1}%
314 { \chemmacros_set_keys:nn {particles} {##1} }%
315 \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
316 \group_end:%
317 \end{lateximage}%
318 }
319 }
320
321 \RenewChemNucleophile \Nuc {Nu}
322 \RenewChemNucleophile \ba {ba}
323
324 }{}% Module loaded.
325 }% AtBeginDocument

```

## § 200.10 Phases

```

326 \AtBeginDocument{
327 \chemmacros_module_if_loaded:nTF{{phases}}{{
328 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
329
330 \VerifyCommand[lwarp][chemmacros]{\chemmacros_phase:n}
331 {83788F1FCBEDA21B495E919E36DD90A5}
332
333 \cs_undefine:N \chemmacros_phase:n
334 \cs_new_protected:Npn \chemmacros_phase:n #1
335 {

```

```

336 \mode_leave_vertical:
337 \bool_if:NTF \l__chemmacros_phases_sub_bool
338 {
339 \ifnumequal{\value{LWR@lateximagedepth}}{0}
340 {
341 \textsubscript{ (#1) }
342 }
343 {
344 \chemformula_subscript:n { (#1) }
345 }
346 }
347 {
348 \skip_horizontal:N \l__chemmacros_phases_space_dim
349 \chemmacros_text:n { (#1) }
350 }
351 }
352
353 }{}% Module loaded.
354 }% AtBeginDocument

```

## § 200.11 Mechanisms

```

355 \AtBeginDocument{
356 \chemmacros_module_if_loaded:nTF{{mechanisms}}{
357 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
358
359 \chemmacros_define_keys:nn {textmechanisms}
360 {
361 type .choice: ,
362 type / .code:n =
363 {
364 __chemmacros_set_mechanisms:nnn { S }
365 {
366 \textsubscript{N}
367 }
368 { }
369 } ,
370 type / 1 .code:n =
371 {
372 __chemmacros_set_mechanisms:nnn { S }
373 {
374 \textsubscript{N}
375 1
376 }
377 { }
378 } ,
379 type / 2 .code:n =
380 {
381 __chemmacros_set_mechanisms:nnn { S }
382 {
383 \textsubscript{N}
384 2
385 }
386 { }
387 } ,
388 type / se .code:n =
389 {
390 __chemmacros_set_mechanisms:nnn { S }
391 {

```

```

392 \textsubscript{E}
393 }
394 { }
395 },
396 type / 1e .code:n =
397 {
398 __chemmacros_set_mechanisms:nnn { S }
399 {
400 \textsubscript{E}
401 1
402 }
403 { }
404 },
405 type / 2e .code:n =
406 {
407 __chemmacros_set_mechanisms:nnn { S }
408 {
409 \textsubscript{E}
410 2
411 }
412 { }
413 },
414 type / ar .code:n =
415 {
416 __chemmacros_set_mechanisms:nnn { S }
417 {
418 \textsubscript{E}
419 }
420 { Ar - }
421 },
422 type / e .code:n =
423 { __chemmacros_set_mechanisms:nnn { E } { } { } } ,
424 type / e1 .code:n =
425 { __chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
426 type / e2 .code:n =
427 { __chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,
428 type / cb .code:n =
429 {
430 __chemmacros_set_mechanisms:nnn { E }
431 {
432 1
433 \textsubscript{cb}
434 }
435 { }
436 },
437 type .default:n =
438 }
439
440 \VerifyCommand[lwarp][chemmacros]{\chemmacros_mechanisms:n}
441 {2CF049E0C61235166A36565979D79933}
442
443 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
444 {
445 \tl_if_blank:nTF {#1}
446 { \chemmacros_set_keys:nn {textmechanisms} { type } }
447 { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
448 \mbox
449 {
450 \tl_use:N \l__chemmacros_mechanisms_ar_tl
451 \tl_use:N \l__chemmacros_mechanisms_type_tl

```

```

452 \tl_use:N \l__chemmacros_mechanisms_mol_tl
453 }
454 }
455
456 \appto\LWR@restoreorigformatting{%
457 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
458 {%
459 \tl_if_blank:nTF {#1}%
460 { \chemmacros_set_keys:nn {mechanisms} { type } }%
461 { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
462 \mbox%
463 {%
464 \tl_use:N \l__chemmacros_mechanisms_ar_tl%
465 \tl_use:N \l__chemmacros_mechanisms_type_tl%
466 \tl_use:N \l__chemmacros_mechanisms_mol_tl%
467 }%
468 }%
469 }
470
471 }{}% Module loaded.
472 }% AtBeginDocument

```

## § 200.12 **Newman**

There are so many options that it is hard to hash these images for reuse.

```

473 \AtBeginDocument{
474 \chemmacros_module_if_loaded:nTF{{newman}}{
475 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
476
477 \VerifyCommand[lwarp][chemmacros]{\newman}
478 {45E815D161E8467A51F5B04150DEC20C}
479
480 \RenewDocumentCommand \newman {od()m}%
481 {
482 \IfValueTF{#2}
483 {\begin{lateximage}[\textbackslash{}newman(#2)\{#3\}]*?}%
484 {\begin{lateximage}[\textbackslash{}newman\{#3\}]*?}%
485 \group_begin:
486 \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
487 \IfNoValueTF {#2}
488 { \chemmacros_newman:nn { } {#3} }
489 { \chemmacros_newman:nn {#2} {#3} }
490 \group_end:
491 \end{lateximage}
492 }%
493
494 }{}% Module loaded.
495 }% AtBeginDocument

```

§ 200.13 **Orbital**

```

496 \AtBeginDocument{
497 \chemmacros_module_if_loaded:nTF{{orbital}}{
498 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
499
500 \VerifyCommand[lwarp][chemmacros]{\orbital}
501 {F8E338F96B2EBF6AFE4A91D37A58CD90}
502
503 \RenewDocumentCommand \orbital {om}
504 {
505 \IfValueTF{#1}
506 {
507 \begin{lateximage}[%
508 \textbackslash{orbital}%
509 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
510 \{#\} \{#2\}%
511]*?[] [margin-left: 1em ; margin-right: 1em]%
512 }
513 {
514 \begin{lateximage}[%
515 \textbackslash{orbital}\{#2\}%
516]*?[] [margin-left: 1em ; margin-right: 1em]%
517 }
518 \group_begin:
519 \chemmacros_set_keys:nn {orbital/type} {#2}
520 \IfNoValueTF {#1}
521 { \chemmacros_orbital:n { } }
522 { \chemmacros_orbital:n {#1} }
523 \group_end:
524 \end{lateximage}
525 }
526
527
528 }{}% Module loaded.
529 }% AtBeginDocument

```

§ 200.14 **Reactions**

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list ({#2}{#3}...)}

530 \AtBeginDocument{
531 \chemmacros_module_if_loaded:nTF{{reactions}}{
532 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
533
534 \VerifyCommand[lwarp][chemmacros]{__chemmacros_declare_reaction_env:nnnn}
535 {E52CE623404E664FD0647E3A874F2702}
536
537 % #1: chem
538 % #2: math
539 % #3: args number
540 % #4: argument list ({#2}{#3}...)
541 \cs_gset_protected:Npn __chemmacros_declare_reaction_env:nnnn #1#2#3#4
542 {
543 \exp_args:Nnx \DeclareDocumentEnvironment {#1}
544 { \int_compare:nT { #3+0 = 0 } {!} 0{ } \prg_replicate:nn {#3+0} {m} }
545 {
546 \boolfalse{mathjax}%
547 \ifdefined\LWR@ThisAltText{%
548 \ThisAltText{-chemmacros~reaction}%

```

```

549 }{}% lwarp
550 \chemmacros_add_reaction_description:n {##1}
551 __chemmacros_begin_reaction:
552 __chemmacros_reaction_read:nnw {#2} {#4}
553 }
554 {
555 __chemmacros_end_reaction:
556 \gdef\LWR@ThisAltText{}% lwarp
557 \ignorespacesafterend
558 }
559 }
560
561 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
562
563 \RenewChemReaction {reaction} {equation}
564 \RenewChemReaction {reaction*} {equation*}
565 \RenewChemReaction {reactions} {align}
566 \RenewChemReaction {reactions*} {align*}
567
568 }{}% Module loaded.
569 }% AtBeginDocument

```

## § 200.15 Reactants

Recompiled for tabular ampersand processing, with the only change being `\StartDefiningTabulars`. `\xpatchcmd` does not work here.

```

570 \VerifyCommand[lwarp][chemmacros]{\printreactants}
571 {18AD32DCD3F2F49C0369DA9ED9974CD7}
572
573 \StartDefiningTabulars% lwarp
574
575 % #1: star: include ID in table
576 \RenewDocumentCommand \printreactants {s}
577 {
578 \group_begin:
579 \chemmacros_set_keys:nn {reactants} { switch = false }
580 \int_step_variable:nNn
581 { \seq_count:N \g_chemnum_initiated_compounds_seq }
582 \l__chemmacros_reactants_tmpa_tl
583 {
584 \seq_put_right:Nx
585 \l__chemmacros_reactants_tmpa_seq
586 {
587 \chemnum_cmpd:nnne { \c_false_bool } { \c_true_bool } {}
588 {
589 \seq_item:NV
590 \g_chemnum_initiated_compounds_seq
591 \l__chemmacros_reactants_tmpa_tl
592 }
593 &
594 \bool_if:nT {#1}
595 {
596 \seq_item:NV
597 \g_chemnum_initiated_compounds_seq
598 \l__chemmacros_reactants_tmpa_tl
599 &
600 }
601 % TODO: expl3-command ??
602 \solvent

```

```

603 {
604 \seq_item:NV
605 \g_chemnum_initiated_compounds_seq
606 \l__chemmacros_reactants_tmpa_tl
607 }
608 \tabularnewline
609 }
610 \tl_set:Nx
611 \l__chemmacros_reactants_tmpb_tl
612 {
613 \seq_item:NV
614 \g_chemnum_initiated_compounds_seq
615 \l__chemmacros_reactants_tmpa_tl
616 }
617 \chemmacros_reactants_list_subreactant:Vn
618 \l__chemmacros_reactants_tmpb_tl
619 {#1}
620 }
621 % TODO: longtable ?
622 % table customizable?
623 % first draft of two styles
624 \par
625 \noindent
626 \bool_if:NTF \l__chemmacros_reactants_printreactants_style_bool
627 {
628 \str_case:Vn \l__chemmacros_reactants_printreactants_style_str
629 {
630 {xltabular}
631 {
632 \chemmacros_if_package_loaded:nTF {xltabular}
633 {
634 \bool_if:nTF {#1}
635 {
636 \begin {xltabular}
637 { \textwidth }
638 { @{}ll>{\raggedright\arraybackslash}X@{} }
639 }
640 {
641 \begin {xltabular}
642 { \textwidth }
643 { @{}l>{\raggedright\arraybackslash}X@{} }
644 }
645 \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
646 \end{xltabular}
647 }
648 {
649 \msg_expandable_error:nnnn
650 {chemmacros}
651 {package-not-loaded}
652 { \printreactants }
653 {xltabular}
654 }
655 }
656 }{longtable}
657 {
658 \chemmacros_if_package_loaded:nTF {longtable}
659 {
660 \bool_if:nTF {#1}
661 {
662 \begin {longtable}[l]

```

```

663 { @{}ll>{\raggedright\arraybackslash}p{0.6\textwidth}@{} }
664 }
665 {
666 \begin {longtable}[l]
667 { @{}l>{\raggedright\arraybackslash}p{0.9\textwidth}@{} }
668 }
669 \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
670 \end{longtable}
671 }
672 {
673 \msg_expandable_error:nnnn
674 {chemmacros}
675 {package-not-loaded}
676 { \printreactants }
677 {longtable}
678 }
679 }
680 }
681 }
682 {
683 \msg_warning:nn {chemmacros} {missing-printreactants-style}
684 }
685 \group_end:
686 }
687
688 \VerifyCommand[lwarp][chemmacros]{\chemmacros_reactants_list_subreactant:nn}
689 {50553A53C2149BD3ADA8AE0FAB0C79C4}
690
691 % #1: full ID
692 % #2: star, include ID in table
693 \cs_gset_protected:Npn \chemmacros_reactants_list_subreactant:nn #1#2
694 {
695 \chemnum_if_subcompounds:nT {#1}
696 {
697 \int_step_variable:nNn
698 { \chemnum_count_subcompounds:n {#1} }
699 \l__chemmacros_reactants_tmpa_tl
700 {
701 \seq_put_right:Nx
702 \l__chemmacros_reactants_tmpa_seq
703 {
704 \chemnum_cmpd:nnne { \c_false_bool } { \c_true_bool } {}
705 {
706 \exp_not:n {#1}
707 \exp_not:V \l_chemnum_compound_separator_tl
708 \chemnum_get_subcompound:nV
709 {#1}
710 \l__chemmacros_reactants_tmpa_tl
711 }
712 }
713 &
714 \bool_if:nT {#2}
715 {
716 #1
717 \l_chemnum_compound_separator_tl
718 \chemnum_get_subcompound:nV
719 {#1}
720 \l__chemmacros_reactants_tmpa_tl
721 }
722 &
723 % TODO: expl3-command ??

```

```

723 \solvent
724 {
725 #1
726 \l_chemnum_compound_separator_tl
727 \chemnum_get_subcompound:nV
728 {#1}
729 \l__chemmacros_reactants_tmpa_tl
730 }
731 \tabularnewline
732 }
733 }
734 }
735 }
736 \cs_generate_variant:Nn \chemmacros_reactants_list_subreactant:nn {V}
737
738 \StopDefiningTabulars% lwarp

```

## § 200.16 Redox

```

739 \AtBeginDocument{
740 \chemmacros_module_if_loaded:nTF{{redox}}{
741 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
742
743 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
744 {
745 \IfBooleanTF {#1}
746 { \chemmacros_ox:nnnn {#1} {#2} #3 }
747 { \chemmacros_ox:nnnn { } {#2} #3 }
748 }
749
750 \VerifyCommand[lwarp][chemmacros]{\ox}
751 {06B84CC6B38302F75169D5B90D8D29AA}
752
753 \RenewDocumentCommand \ox { s O{} m }
754 {
755 \begingroup
756 \boolfalse{mathjax}
757 \IfBooleanTF {#1}
758 {
759 \LWR@subsingledollar*{% yes hash
760 \textbackslash}%
761 ox*%
762 \{%
763 \LWR@HTMLsanitizeddetokenized{\detokenize{#3}}%
764 \}% alt
765 }{%
766 star \protect\LWR@HTMLsanitizeddetokenized{\detokenize\expandafter{#2}}%
767 }{%
768 \LWR@chemmacros@ox* {#2} {#3}% contents
769 }%
770 }
771 {
772 \LWR@subsingledollar*{% yes hash
773 \textbackslash}%
774 ox%
775 \{%
776 \LWR@HTMLsanitizeddetokenized{\detokenize{#3}}%
777 \}% alt
778 }{%
779 \protect\LWR@HTMLsanitizeddetokenized{\detokenize\expandafter{#2}}%

```

```

780 }{%
781 \LWR@chemmacros@ox {#2} {#3}% contents
782 }%
783 }
784 \endgroup
785 }
786
787 }{% Module loaded.
788 }{% AtBeginDocument

```

## § 200.17 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

789 \AtBeginDocument{
790 \chemmacros_module_if_loaded:nTF{{scheme}}{
791 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
792
793 \ifdefstring{\schemename}{\los}{
794 \SetupFloatingEnvironment{scheme}{
795 name = \chemmacros_translate:n {scheme-name}
796 }
797 }{}
798
799 }{% Module loaded.
800 }{% AtBeginDocument

```

## § 200.18 Spectroscopy

```

801 \AtBeginDocument{
802 \chemmacros_module_if_loaded:nTF{{spectroscopy}}{
803 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
804
805 \VerifyCommand[lwarp][chemmacros]{__chemmacros_nmr_base:nn}
806 {EDE669CC90B085080E3F96DB754836D5}
807
808 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
809 {
810 \group_begin:
811 \tl_use:N \l__chemmacros_nmr_base_format_tl
812 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
813 {
814 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
815 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
816 }
817 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
818 \chemmacros_formula:n { ^{#1} }
819 #1
820 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
821 {
822 \bool_if:NTF \l__chemmacros_nmr_parse_bool
823 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
824 { \chemmacros_formula:V \g__chemmacros_nmr_element_coupled_tl }
825 }
826 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
827 \tl_use:N \l__chemmacros_nmr_method_tl
828 \group_end:
829 }
830
831

```

```

832 \VerifyCommand[lwarp][chemmacros]{\chemmacros_nmr_position:n}
833 {637FDE0E801CF4052274FF60A12A38F0}
834
835 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
836 {
837 \chemmacros_formula:x
838 {
839 \exp_not:V \g__chemmacros_nmr_element_tl
840 \bool_if:NF \l__chemmacros_nmr_position_side_bool
841 {
842 \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
843 { \textsuperscript{\exp_not:n { {#1} }} }% lwarp
844 { \textsubscript{\exp_not:n { {#1} }} }% lwarp
845 } \exp_not:V \l__chemmacros_nmr_position_tl
846 \exp_not:n { {#1} }
847 }
848 }
849 \bool_if:NT \l__chemmacros_nmr_position_side_bool
850 {
851 \tl_use:N \l__chemmacros_nmr_position_tl
852 __chemmacros_nmr_position:n {#1}
853 }
854 }
855
856 \VerifyCommand[lwarp][chemmacros]{__chemmacros_nmr_coupling:w}
857 {4D1E7321CA2F8C7EA2E4F56FB3A26EED}
858
859 \cs_gset_protected:Npn __chemmacros_nmr_coupling:w (#1;#2)
860 {
861 \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
862 {
863 \l__chemmacros_nmr_coupling_bonds_pre_tl
864 #1
865 \l__chemmacros_nmr_coupling_bonds_post_tl
866 }
867 \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
868 {
869 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
870 {
871 \c_math_subscript_token
872 \textsubscript% lwarp
873 {
874 \l__chemmacros_nmr_coupling_nuclei_pre_tl
875 \chemmacros_formula:n {#2}
876 \l__chemmacros_nmr_coupling_nuclei_post_tl
877 }
878 }
879 }
880 {
881 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
882 {
883 \l__chemmacros_nmr_coupling_nuclei_pre_tl
884 \chemmacros_formula:n {#2}
885 \l__chemmacros_nmr_coupling_nuclei_post_tl
886 }
887 }
888 __chemmacros_nmr_coupling_aux_i:w
889 }
890 \AfterEndPreamble{% After \AtBeginDocument
891

```

```

892 \VerifyCommand[lwarp][chemmacros]{\chemmacros_nmr:nnnn}
893 {FD67505420F044B2CA8E7CBD05B1ECEB}
894
895 % \NMR{<num>,<elem>}<num>,<unit>[<solvent>] ALL arguments are optional
896 % \NMR* same but without ": δ" at end
897 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
898 {
899 \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
900 \group_begin:

901 \mode_leave_vertical:

902 \bool_set_false:N \l__chemmacros_nmr_frequency_bool
903 \bool_set_false:N \l__chemmacros_nmr_solvent_bool
904 \tl_if_empty:nF {#3}
905 { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
906 \tl_if_empty:nF {#4}
907 { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
908 \bool_if:nT
909 {
910 \l__chemmacros_nmr_frequency_bool
911 ||
912 \l__chemmacros_nmr_solvent_bool
913 }
914 { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
915 \bool_if:nT
916 {
917 \l__chemmacros_nmr_frequency_bool
918 &&
919 \l__chemmacros_nmr_solvent_bool
920 }
921 { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
922 \tl_if_empty:nTF {#2}
923 {
924 __chemmacros_nmr_nucleus:VV
925 \l__chemmacros_nmr_isotope_default_tl
926 \l__chemmacros_nmr_element_default_tl
927 }
928 { __chemmacros_nmr_nucleus:w #2 \q_stop }
929 \mode_if_math:TF
930 {
931 \text
932 {
933 \group_begin:
934 \tl_use:N \l__chemmacros_nmr_format_tl
935 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
936 __chemmacros_nmr_base:VV
937 \g__chemmacros_nmr_isotope_tl
938 \g__chemmacros_nmr_element_tl
939 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
940 { ~ (}
941 \bool_if:NT \l__chemmacros_nmr_frequency_bool
942 { __chemmacros_nmr_frequency:n {#3} }
943 \bool_if:NT \l__chemmacros_nmr_comma_bool
944 { , ~ }
945 \bool_if:NT \l__chemmacros_nmr_solvent_bool
946 { \chemmacros_formula:n {#4} }
947 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
948 {) }
949 \tl_if_blank:nT {#1} {::~}

```

```

950 }}% lwarp
951 \group_end:
952 }
953 \tl_if_blank:nT {#1}
954 {
955 \delta
956 \text { \l__chemmacros_nmr_delta_tl }
957 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
958 }
959 }
960 {
961 \group_begin:
962 \tl_use:N \l__chemmacros_nmr_format_tl
963 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
964 __chemmacros_nmr_base:VV
965 \g__chemmacros_nmr_isotope_tl
966 \g__chemmacros_nmr_element_tl
967 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
968 {~()}
969 \bool_if:NT \l__chemmacros_nmr_frequency_bool
970 { __chemmacros_nmr_frequency:n {#3} }
971 \bool_if:NT \l__chemmacros_nmr_comma_bool
972 {,~}
973 \bool_if:NT \l__chemmacros_nmr_solvent_bool
974 {
975 \bool_if:NTF \l__chemmacros_nmr_parse_bool

976 % { \chemformula_ch:nn { } {#4} }% original
977 {\ch{#4}}% lwarp
978 {#4}
979 }
980 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
981 {}}
982 }}% lwarp
983 \tl_if_blank:nT {#1} {:}
984 \group_end:
985 \tl_if_blank:nT {#1}
986 {
987 \tl_use:N \c_space_tl
988 \c_math_toggle_token
989 \delta
990 \c_math_toggle_token
991 \l__chemmacros_nmr_delta_tl
992 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
993 }
994 }
995 \group_end:
996 }
997 }% AfterEndPreamble
998
999
1000 \VerifyCommand[lwarp][chemmacros]{\chemmacros_data:w}
1001 {30A6134DE00E9850E074854B48644833}
1002
1003 \RenewDocumentCommand \chemmacros_data:w { smo }
1004 {
1005 \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
1006 {
1007 % \tl_use:N \l__chemmacros_nmr_format_tl #2
1008 \tl_use:N \l__chemmacros_nmr_format_tl

```

```

1009 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
1010 #2
1011 \IfNoValueF {#3} { ~ (#3) }
1012 \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
1013 }}% lwarp
1014 }
1015 \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
1016 }
1017
1018 }{}% Module loaded.
1019 }% AtBeginDocument

```

## § 200.19 Thermodynamics

```

1020 \AtBeginDocument{
1021 \chemmacros_module_if_loaded:NTF{{thermodynamics}}{
1022 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
1023
1024 \VerifyCommand[lwarp][chemmacros]{\chemmacros_state:nnnnnn}
1025 {C5B35D9405E380ABE9A9CE849F46EE6D}
1026
1027 \cs_gset_protected:Npn \chemmacros_state:nnnnnn #1#2#3#4#5#6
1028 {
1029 \group_begin:
1030 \chemmacros_set_keys:ne {thermodynamics}
1031 {
1032 \exp_not:n {#1} ,
1033 \tl_if_novalue:nF {#2} { subscript-left = \exp_not:n {#2} , }
1034 \tl_if_novalue:nF {#3} { superscript-left = \exp_not:n {#3} , }
1035 \tl_if_novalue:nF {#5} { subscript-right = \exp_not:n {#5} , }
1036 \tl_if_novalue:nF {#6} { superscript-right = \exp_not:n {#6} }
1037 }
1038 \LWR@subsingledollar*{% yes hashing
1039 \textbackslash{}state%
1040 \{\LWR@HTMLsanitizedetokenized{\detokenize{#4}}\}% alt
1041 }{%
1042 chemmacros_state% add'l hashing
1043 #1% options
1044 LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
1045 LSB \tl_use:N \l__chemmacros_state_sb_left_tl
1046 RSP \tl_use:N \l__chemmacros_state_sp_right_tl
1047 RSB \tl_use:N \l__chemmacros_state_sb_right_tl
1048 }
1049 {
1050 \LWR@originsuredmath
1051 {
1052 \chemmacros_text:V \l__chemmacros_state_pre_tl
1053 \c_math_superscript_token
1054 { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

1055 \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
1056 {}
1057 {
1058 \c_math_subscript_token
1059 { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
1060 }
1061 #4

```

```

1062 \c_math_superscript_token
1063 { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
1064 \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
1065 {}
1066 {
1067 \c_math_subscript_token
1068 { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
1069 }
1070 \chemmacros_text:V \l__chemmacros_state_post_tl
1071 }
1072 }
1073 \group_end:
1074 }
1075 \cs_generate_variant:Nn \chemmacros_state:nnnnnn { nVVVVV }
1076
1077 \VerifyCommand[lwarp][chemmacros]{\chemmacros_declare_state:Nn}
1078 {3C1386935B85ED732A283627DA403FBE}
1079
1080 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
1081 {
1082 \chemmacros_define_keys:xn
1083 {thermodynamics/\chemmacros_remove_backslash:N #1}
1084 {
1085 pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
1086 post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
1087 superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
1088 superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
1089 superscript .meta:n = { superscript-right = ##1 } ,
1090 subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
1091 subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
1092 subscript .meta:n = { subscript-left = ##1 } ,
1093 subscript-pos .choices:nn =
1094 { left , right }
1095 { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
1096 symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
1097 unit .tl_set:N = \l__chemmacros_state_unit_tl
1098 }
1099 \DeclareDocumentCommand #1 { sO{}D(){}m }
1100 {
1101 \group_begin:
1102 \chemmacros_set_keys:en
1103 {thermodynamics/\chemmacros_remove_backslash:N #1}
1104 {#2}
1105 \tl_if_blank:nF {##3}
1106 {
1107 \chemmacros_set_keys:ne {thermodynamics}
1108 { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
1109 }
1110 \LWR@origensuredmath
1111 {
1112 \chemmacros_state:nVVVVV
1113 {##2}
1114 \c_novalue_tl
1115 \c_novalue_tl
1116 \l__chemmacros_state_symbol_tl
1117 \c_novalue_tl
1118 \c_novalue_tl
1119 \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
1120 \IfBooleanF {##1} { = \qty {##4} { \l__chemmacros_state_unit_tl } }
1121 }

```

```

1122 \group_end:
1123 }
1124 }

```

The pre-existing macros are redefined with the new definition:

```

1125 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
1126 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
1127 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
1128
1129 }{}% Module loaded.
1130 }% AtBeginDocument

1131 \ExplSyntaxOff

```

---

## File 86 **lwarp-chemnum.sty**

### § 201 Package **chemnum**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

chemnum (*Pkg*) **chemnum** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][chemnum]{\chemnum_compound_write:n}
5 {E47ACDCCC4D90FAC40B75B53721EC218}
6
7 \cs_gset_protected:Npn \chemnum_compound_write:n #1
8 {
9 \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
10 \group_begin:
11 \bool_if:NTF \l__chemnum_compound_local_bool
12 { \l__chemnum_local_label_format_tl }
13 { \chemnum_get_compound_property:nn {#1} {label-format} }
14 {
15 \LWR@textcurrentfont{
16 \chemnum_get_compound_property:nn {#1} {counter-representation}
17 }
18 }
19 \group_end:
20 \chemnum_get_compound_property:nn {#1} {post-main-label-code}
21 }
22
23 \VerifyCommand[lwarp][chemnum]{\chemnum_subcompound_write:nn}
24 {F6BB883B91A1FA330EF3B89924BF3679}
25
26 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
27 {
28 \group_begin:
29 \bool_if:NTF \l__chemnum_compound_local_bool
30 { \l__chemnum_local_label_format_tl }
31 { \chemnum_get_compound_property:nn {#1} {label-format} }
32 {
33 \LWR@textcurrentfont{

```

---

```

34 \chemnum_get_subcompound_property:nnn {#1} {#2}
35 {counter-representation}
36 }
37 }
38 \group_end:
39 }
40
41 \ExplSyntaxOff

```

---

File 87 **lwarp-chkfloat.sty**

§ 202 Package **chkfloat**

chkfloat (*Pkg*) chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 88 **lwarp-chngpage.sty**

§ 203 Package **chngpage**

*(Emulates or patches code by PETER WILSON.)*

chngpage (*Pkg*) chngpage is ignored.

**for HTML output:** Discard all options for lwarp-chngpage:

```

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-chngpage}

```

---

File 89 **lwarp-cite.sty**

§ 204 Package **cite**

*(Emulates or patches code by DONALD ARSENEAU.)*

cite (*Pkg*) cite is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```

2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6 \def\@biblabel#1{\@citess{#1}}
7 }{}

```

For the [super] option, \textsuperscript is used instead of math superscript:

---

```

8 \def\@citess#1{#1}
9
10 \DeclareDocumentCommand\citepunct{}{\,\,\relax}

```

---

## File 90 **lwarp-citeref.sty**

### § 205 Package **citeref**

(Emulates or patches code by Björn Briel.)

`citeref` (*Pkg*) `citeref` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

2 \def\@cprwrite#1={%
3 \write\@auxout{\string\citepageref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \VerifyCommand[lwarp][citeref]{\citepageref}
7 {F5E07AE6603C65E9398417D6D392825D}
8
9 \def\citepageref#1#2{%
10 \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
11 \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
12 \ifx\cpr@testa\cpr@testb%
13 \relax% Konsekutive identische Seitenangaben weglassen
14 \else%
15 \@namexdef{cpr@last@#1}{#2}%
16 \@ifundefined{cpr@#1}%
17 {\@namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}}% lwarp
18 {% lwarp
19 \@namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
20 \LWR@refwithsection{\BaseJobname-autopage-#2}}}%
21 }%
22 \fi
23 }

```

---

## File 91 **lwarp-CJK.sty**

### § 206 Package **CJK**

`CJK` (*Pkg*) `CJK` does not work with `lwarp` unless called from `ctex`.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{%{
2 \LWR@loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]

```

---

File 92 **lwarp-CJKutf8.sty**

§ 207      Package **CJKutf8**

CJKutf8 (*Pkg*) CJKutf8 does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{\{
2 \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

---

File 93 **lwarp-classicthesis.sty**

§ 208      Package **classicthesis**

*(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)*

classicthesis (*Pkg*) classicthesis is emulated.

**for HTML output:** Discard all options for lwarp-classicthesis:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrtime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline
7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc}% marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*\deactivateadvspace{}{}%
20 \newlength{\beforebibskip}
```

---

File 94 **lwarp-cleveref.sty**

§ 209      Package **cleveref**

*(Emulates or patches code by TOBY CUBITT.)*

cleveref (*Pkg*) cleveref is patched for HTML, and limited MATHJAX emulation is added.

⚠ **cleveref page numbers** `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 765 to redefine the message which is printed for page number references.

Table 16 on page 514 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For MATHJAX, each references is printed as an `\eqref`, without `cleveref`’s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in MATHJAX.

⚠ **multiple labels**

for HTML output: 1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
\@@@setcref {\<kindofref>} {\<label>}
```

For HTML, `\@templabel` is replaced by the section number.

```
2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5 \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}}
6 }{
7 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8 \renewcommand*{\@@@setcref}[2]{%
9 #1{\ref{#2}}{}}
10 }{
11 \PackageWarningNoLine{lwarp-cleveref}{
12 Unknown version of cleveref.
13 \protect\cref\space will fail.
14 }%
15 }
16 }
```

```
\@@@setcrefrange {\<text>} {\<label>} {\<label>}
```

```
17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18 \cref@getlabel{#2}{\@labela}%
19 \cref@getlabel{#3}{\@labelb}%
20 #1{\@labela}{\@labelb}{}}%
21
22 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
23 \renewcommand{\@@@setcrefrange}[3]{%
24 #1{\ref{#2}}{\ref{#3}}{}}
25 }
26 }{
27 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
```

```

28 \renewcommand{\@@@setcrefrange}[3]{%
29 #1{\ref{#2}}{\ref{#3}}{\}\{\}\}%
30 }
31 }{
32 \PackageWarningNoLine{lwarp-cleveref}{
33 Unknown version of cleveref.
34 \protect\crefrange\space will fail.
35 }
36 }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```
38 \newcommand*\cpagerefFor{for}
```

`\@@@setcpageref {<typeofref>}{<label>}`, where `typeofref` is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
40 \cref@getpageref{#2}{\@temppage}#1{\@temppage}{\}\{\}\}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43 \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{\}\{\}\}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
46 \renewcommand*\@@@setcpageref[2]{%
47 #1{\cpagerefFor\ \cref{#2}}{\}\{\}\}%
48 }
49 }{
50 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
51 \renewcommand*\@@@setcpageref[2]{%
52 #1{\cpagerefFor\ \cref{#2}}{\}\{\}\}%
53 }
54 }
55 {
56 \PackageWarningNoLine{lwarp-cleveref}{
57 Unknown version of cleveref.
58 \protect\cpageref\space will fail.
59 }
60 }
61 }

62 \def\LWR@orig@@@setcpagerefrange#1#2#3{% before v0.21
63 \cref@getpageref{#2}{\@pagea}%
64 \cref@getpageref{#3}{\@pageb}%
65 #1{\@pagea}{\@pageb}{\}\{\}\{\}\}%
66
67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68 \cpageref@getlabel{#2}{\@pagea}%
69 \cpageref@getlabel{#3}{\@pageb}%
70 #1{\@pagea}{\@pageb}{\}\{\}\{\}\}%
71
72 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
73 \renewcommand*\@@@setcpagerefrange[3]{%
74 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\}\{\}\{\}\}%
75 }
76 }{
77 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{

```

```

78 \renewcommand*{\@@@setcpagerefrange}[3]{%
79 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}{}%
80 }
81 }
82 {
83 \PackageWarningNoLine{lwarp-cleveref}{
84 Unknown version of cleveref.
85 \protect\cpagerefrange\space will fail.
86 }
87 }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \IfPackageLoadedTF{varioref}{
100 \LWR@absorbstar{vref}
101 \LWR@absorbstar{Vref}
102 \LWR@absorbstar{vrefrange}
103 \LWR@absorbstar{Vrefrange}
104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }{}% varioref

107 \IfPackageLoadedTF{subfig}{
108 \def\sfs@sub@label(#1)#2{%
109 \ifhyperrefloaded
110 \protected@edef\@currentlabelname{%
111 \expandafter\strip@period #1\relax.\relax\@@}%
112 \fi
113 \sfs@sub@label{#2}}
114 }{}

```

---

File 95 **lwarp-clrdblpg.sty**

## § 210 Package **clrdblpg**

`clrdblpg` (*Pkg*) `clrdblpg` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]

---

File 96 **lwarp-cmbright.sty**

§ 211      Package **cmbright**

*(Emulates or patches code by WALTER SCHMIDT.)*

`cmbright` (*Pkg*) `cmbright` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and `\mathbold` is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \IfPackageLoadedWithOptionsTF{cmbright}{slantedGreek}
9 {
10 \LWR@mathjax@addgreek@u@it*{}{}
11 }
12 {}
13
14 \LWR@mathjax@addgreek@u@up*{up}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}
```

---

File 97 **lwarp-cmdtrack.sty**

§ 212      Package **cmdtrack**

`cmdtrack` (*Pkg*) `cmdtrack` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}

```

---

File 98 **lwarp-colonequals.sty**

§ 213      Package **colonequals**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`colonequals` (*Pkg*) `colonequals` is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

for HTML output:

```
1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2237}\!=}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}\!=}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\unicode{x2236}\!\approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}\!\approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx\!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx\!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{-\unicode{x2236}\!\sim}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}\!\sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim\!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim\!\unicode{x2237}}}}
23 \end{warpMathJax}
```

---

File 99 **lwarp-color.sty**

§ 214 Package **color**

`color` (*Pkg*) Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}

\color@endgroup's \endgraf was conflicting with lwarp's paragraph handling.

3 \let\color@endgroup\endgroup
```

---

File 100 **lwarp-colortbl.sty**

§ 215 Package **colortbl**

`colortbl` (*Pkg*) `colortbl` is used as-is for print output, and emulated for HTML.

 **row/cell color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

**colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.

**for HTML output:** A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2022/06/20]
```

The following `\LWR@HTML` versions are used inside an HTML tabular.

`\columncolor`

`[<model>] {<color>} [<left overhang>] [<right overhang>]`

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the tabular.

`\columncolor` is provided here to satisfy `\LWR@formatted`'s test for the existence of the print-mode macro.

```
4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{}%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8 \LWR@addtabularcellcolor%
9 }
10
11 \AtBeginDocument{\LWR@formatted{columncolor}}
```

`\LWR@getmynexttoken` is used for `\rowcolor` because it is used inside the data area of the tabular.

`\rowcolor`

`[<model>] {<color>} [<left overhang>] [<right overhang>]`

```
12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
13 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
14 \LWR@getmynexttoken%
15 }
16
17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}
```

`\cellcolor`

`[<model>] {<color>} [<left overhang>] [<right overhang>]`

```
18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
19 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
20 \LWR@addtabularcellcolor%
21 }
22
23 \AtBeginDocument{\LWR@formatted{cellcolor}}
```

`\arrayrulecolor`

`[<model>] {<color>}`

The HTML version for use outside a tabular. Inside a tabular, `\LWR@HTML@arrayrulecolornexttoken` is used instead.

```
24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
25 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
26 }
```

```

27
28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}

```

$[\langle model \rangle] \{ \langle color \rangle \}$

$\backslash\text{LWR@arrayrulecolornexttoken}$  The HTML version for use inside a tabular.

```

29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
30 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
31 \LWR@getmynexttoken%
32 }
33
34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}

```

$[\langle model \rangle] \{ \langle color \rangle \}$

The version for use outside a tabular.

```

35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
36
37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}

```

$[\langle model \rangle] \{ \langle color \rangle \}$

$\backslash\text{LWR@doublerulesepcolornexttoken}$  The version for use inside a tabular.

```

38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
39
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}

```

$[\langle cmds \rangle] \{ \langle startrow \rangle \} \{ \langle odd color \rangle \} \{ \langle even color \rangle \}$

```

41 \newcommand*{\LWR@xcolortempcolor}{%
42
43 \VerifyCommand[lwarp][colortbl]{\rowc@l@rs}{A66C3974E0C5BD5C3DDE033367D197A4}
44
45 \def\rowc@l@rs[#1]#2#3#4%
46 {%

```

The lwarp emulation starts at row 1 instead of 0.

```

47 % \global\rownum=\z@
48 \global\rownum=1% lwarp

49 \global\@rowcolorstrue%
50 \ifxempty{#3}%
51 {\def\@oddrowcolor{\@norowcolor}}%
52 {%
53 \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor% lwarp
54 \edef\@oddrowcolor{%
55 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}% lwarp
56 }%
57 }%
58 \ifxempty{#4}%
59 {\def\@evenrowcolor{\@norowcolor}}%
60 {%
61 \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor% lwarp
62 \edef\@evenrowcolor{%
63 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}% lwarp
64 }%
65 }%
66 \if@rowcmd

```

```

67 \def\@rowcolors
68 {%
69 % #1%
70 \if@rowcolors
71 % \noalign{%
72 % \relax\ifnum\rownum<#2\@norowcolor\else
73 % \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
74 % }%
75 % \fi%
76 %}%
77 \else
78 \def\@rowcolors
79 {%
80 \if@rowcolors
81 \ifnum\rownum<#2%
82 % \noalign{%
83 % \@norowcolor
84 % }
85 % \else
86 % #1%
87 % \noalign{%
88 % \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
89 % }%
90 % \fi
91 % \fi%
92 %}%
93 \fi
94 \ignorespaces%
95 }

```

\@norowcolor

Turns off color for this row.

```

96 \def\@norowcolor{%
97 \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
98 }

```

\@rowc@lors

Executed at the end of each row.

```

99 \def\@rowc@lors{%
100 % \noalign{%
101 % \advance\rownum\@ne%
102 % }%
103 % \@rowcolors%
104 }

```

For MATHJAX, use the MATHJAX package. The unused macro options are ignored.

```

105 \begin{warpMathJax}
106
107 \CustomizeMathJax{\require{colortbl}}
108 \CustomizeMathJax{\let\LWRorigcolumncolor\columncolor}
109 \CustomizeMathJax{\renewcommand{\columncolor}[2][named]{%
110 \LWRorigcolumncolor[#1]{#2}%
111 \LWRabsorbtwoptions%
112 }}
113
114 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
115 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
116 \LWRorigrowcolor[#1]{#2}%
117 \LWRabsorbtwoptions%

```

---

```

118 }}
119
120 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
121 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
122 \LWRorigcellcolor[#1]{#2}%
123 \LWRabsorbtwooptions%
124 }}
125
126 \end{warpMathJax}

```

---

## File 101 **lwarp-continue.sty**

### § 216 Package **continue**

`continue` (*Pkg*) `continue` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}}[2018/12/09]

```

2 \newcommand*{\flagcont}{}
3 \newcommand*{\flagend}{}
4 \newcommand*{\flagword}{}
5 \newcommand*{\preflagword}{}
6 \newcommand*{\postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop

```

---

## File 102 **lwarp-copyrightbox.sty**

### § 217 Package **copyrightbox**

*(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)*

`copyrightbox` (*Pkg*) `copyrightbox` is emulated for use by `lwarp`.

The entire copyright box is placed inside a `<div>` of class `copyrightbox`.

The contents are placed inside a `<div>` of class `copyrightboxcontents`.

The copyright notice is placed inside a `<div>` of class `copyrightboxnote`.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{copyrightbox}}[2011/11/27]

```

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4 display: inline-flex;
5 flex-direction: column ;
6]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}

```

```

14 }
15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

---

## File 103 **lwarp-crop.sty**

### § 218 Package **crop**

(Emulates or patches code by MELCHIOR FRANZ.)

`crop (Pkg)` `crop` is ignored.

**for HTML output:** Discard all options for `lwarp-crop`:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*\crop}[1][]{ }
3 \newcommand*\cropdef}[6][]{ }

```

---

## File 104 **lwarp-ctable.sty**

### § 219 Package **ctable**

(Emulates or patches code by WYBO DEKKER.)

`ctable (Pkg)` `ctable` is patched for use by `lwarp`.

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

**for HTML output:** `1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]`

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][]{%
3 \let\@CTtaborfig \@dfLTtaborfig
4 \let\@CTalign \@dfLTalign
5 \let\@CTsideways \@dfLTsideways
6 \let\@CTcontinued \empty
7 \let\@CTpos \@dfLTpos
8 \let\@CTcaption \empty
9 \let\@CTcap \undefined
10 \let\@CTlabel \empty
11 \let\@CTbotcap \@dfLTbotcap
12 \let\@CTstarred \@dfLTstarred
13 \let\@CTsuper \@dfLTsuper
14 \let\@CTnotespar \@dfLTnotespar
15 \let\@CTdoinside \@dfLTdoinside
16 \let\@CTbgopacity \@dfLTbgopacity
17 \@CTframerule \@dfLTframerule
18 \@CTcaptionskip \@dfLTcaptionskip
19 \@CTframesep \@dfLTframesep
20 \@CTwidth \@dfLTwidth

```

```

21 \CTmaxwidth \@dflyCTmaxwidth
22 \CTmincapwidth \@dflyCTmincapwidth
23 \CTfooterwidth \@dflyCTfooterwidth
24 \def\CTfgactual {\@dflyCTframefg}%
25 \def\CTbgactual {\@dflyCTframebg}%
26 \def\CTbeg {\begin{\@CTsideways\CTtaborfig\CTstarred}}%
27 \def\CTbegin {\@CTbeg}%
28 \def\CTend {\end{\@CTsideways\CTtaborfig\CTstarred}}%
29 \setkeys{CT}{#1}%
30 \ifx\CTcap\undefined\let\CTcap\CTcaption\fi
31 \ifx\CTcap\empty
32 \ifCTcaptionloaded\else
33 \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34 An empty cap= option prevents lot/loc entry only\MessageBreak
35 if the caption package is loaded!}
36 \fi
37 \fi
38 \ifCTinmemoir\else
39 \ifx\CTbotcap\undefined
40 \PackageError{lwarp-ctable}{\MessageBreak
41 You can, currently, use the sidecap option only with\MessageBreak
42 memoir documents. Use topcap or botcap only}
43 {}
44 \fi
45 \fi
46 \ifdim\CTwidth=0pt\else
47 \ifdim\CTmaxwidth=0pt\else
48 \PackageError{lwarp-ctable}{\MessageBreak
49 You may not use the width and maxwidth options together\MessageBreak
50 Use either width or maxwidth}
51 {}
52 \fi
53 \fi
54 \ifx\CTpos\empty
55 \ifx\CTsideways\empty\else
56 \PackageError{lwarp-ctable}{\MessageBreak
57 You may not use the pos and sideways options together\MessageBreak
58 Rotated tables and figures are always typeset on a separate page}
59 {}
60 \fi
61 \fi
62 \ifx\CTcaption\empty
63 \ifx\CTlabel\empty\else
64 \PackageError{lwarp-ctable}{\MessageBreak
65 You may not label a captionless table\MessageBreak
66 Such a label can't be referenced}
67 {}
68 \fi
69 \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```

70 \CTbegin
71 \ifx\CTcontinued\empty\else\addtocounter{\CTtaborfig}{-1}\fi
72 \CTAlign

```

lwarp's patches begin here:

```

73 \begin{center}

```

```

74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}% lwarp
77 \convertcolorspec{named}{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle{named}{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{%
85 background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86 }%
87]{fminipage}% lwarp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% lwarp
94 #4%
95 \end{tabularx}% lwarp
96 \def\@CTfootnotes{#3}%
97 \ifx#3\empty\else{% append footnotes, if any
98 \begin{BlockClass}{tnotes}% lwarp
99 #3
100 \end{BlockClass}% lwarp
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104 \ifx\@CTbotcap\CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}%
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117 \tmark[#1]\,,#2\par
118 }
119 \LWR@formatted{tnote}

```

---

File 105 **lwarp-cuted.sty**

§ 220      Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

cuted (*Pkg*)    **cuted** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{cuted}[2021/10/04]

```

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \newtoks\preCutedStrip \preCutedStrip{}
5 \newtoks\postCutedStrip \postCutedStrip{}
6 \def\oldcolsbreak#1{}

```

---

File 106 **lwarp-cutwin.sty**

§ 221      Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

cutwin (*Pkg*)    **cutwin** is emulated.

**for HTML output:**    Discard all options for lwarp-cutwin:

```

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*\opencutleft{}
3 \newcommand*\opencutright{}
4 \newcommand*\opencutcenter{}
5 \newcommand*\cutfuzz{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22
23 \newcommand*\putstuffinpic{}
24
25 \newcommand*\picinwindow{%
26 \begin{picture}(0,0)

```

```

27 \putstuffinpic
28 \end{picture}}

```

---

File 107 **lwarp-dblfloatfix.sty**

§ 222     Package **dblfloatfix**

`dblfloatfix` (*Pkg*) `dblfloatfix` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 108 **lwarp-dblfnote.sty**

§ 223     Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

`dblfnote` (*Pkg*) `dblfnote` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNrulboth{}
10 \def\DFNruleleft{}

```

---

File 109 **lwarp-dcolumn.sty**

§ 224     Package **dcolumn**

`dcolumn` (*Pkg*) `dcolumn` is used as-is in a lateximage, and is emulated by the `lwarp` core.

`dcolumn` used to be `\LWR@ProvidesPackageDrop` in prior versions of `lwarp`, but is now supported for print mode.

1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]

Due to how the D column is created, cannot use `\HTMLnewcolumn` type here. An HTML version neutralizes the lower-level macros, leaving a c column type.

```

2 \newcommand*{\LWR@HTML@DC@}[3]{}
3 \LWR@formatted{DC@}
4
5 \providecommand*\DC@end{}{}
6
7 \newcommand*{\LWR@HTML@DC@end}{}
8 \LWR@formatted{DC@end}

```

---

File 110 **lwarp-decimal.sty**

§ 225     Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*

decimal (*Pkg*) **decimal** works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\{\mbox{.}\}}
4 \end{warpMathJax}
```

---

File 111 **lwarp-decorule.sty**

§ 226     Package **decorule**

*(Emulates or patches code by PETER FLYNN.)*

decorule (*Pkg*) **decorule** is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]

```

2 \xpretocmd{\decorule}
3 {\begin{lateximage}*{decorule}}
4 {}
5 {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{decorule}{decorule B}}
```

---

File 112 **lwarp-diagbox.sty**

§ 227     Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

diagbox (*Pkg*) **diagbox** is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a lateximage:

```

2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
```

```

5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }

```

\LWR@diagbox@AB

```

 {\langle E/W \rangle} {\langle A \rangle} {\langle E/W \rangle} {\langle B \rangle}

9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }

```

\LWR@diagboxNW

```

 {\langle A \rangle} {\langle B \rangle}

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }

```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```

\diagbox@double

```

 {\langle keys \rangle} {\langle A \rangle} {\langle B \rangle}

26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \@nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

```

\LWR@diagboxTNW

```

 {\langle title \rangle} {\langle A \rangle} {\langle B \rangle}

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }

```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44

```

```

45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }

```

\diagbox@triple

```

 {\langle keys \rangle} {\langle A \rangle} {\langle T \rangle} {\langle B \rangle}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{\LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

File 113 **lwarp-dingbat.sty**

§ 228 Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

dingbat (*Pkg*) dingbat is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

2 \newcommand*\LWR@dingbatsymbol[1]{\HTMLunicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}

```

---

```

36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

## File 114 **lwarp-doipubmed.sty**

### § 229 Package **doipubmed**

*(Emulates or patches code by NICOLA TALBOT.)*

doipubmed (*Pkg*) **doipubmed** is patched for use by lwarp.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{doipubmed}[2007/08/20]

2 \VerifyCommand[lwarp][doipubmed]{\doi}{13FFCBAF4F1414B838B6C3AD344117A8}
3
4 \renewcommand*{\doi}[1]{%
5 \def\@doi@code{%
6 \@doi@linksubs#1\#\@@\@doi@code
7 \@onelevel@sanitize{\@doi@code}%
8 \def\@doi@text{%
9 \@doi@textsubs#1\@nil\@@\@doi@text%
10 \xpretocmd{\@doi@code}{http://dx.doi.org/}{}}}%
11 \expandafter\href\expandafter{\@doi@code}{\doitext{\@doi@text}}

```

Must not modify catcodes before using \url:

```

12 \DeclareDocumentCommand{\LWR@citeurlb}{m}{%
13 \LWR@ensuredoingapar%
14 \textless%
15 \LWR@href@sanitized{#1}{#1}%
16 \textgreater%
17 \endgroup%
18 }
19
20 \renewrobustcmd*{\citeurl}{%
21 \begingroup%
22 \LWR@linkcatcodes%
23 \LWR@citeurlb%
24 }

```

---

## File 115 **lwarp-DotArrow.sty**

### § 230 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

DotArrow (*Pkg*) **DotArrow** is patched for use by lwarp, and emulated for MATHJAX.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

```

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{\scriptstyle}{\#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}

```

File 116 **lwarp-dotlessi.sty**

§ 231 Package **dotlessi**

(*Emulates or patches code by* JAVIER BEZOS.)

`dotlessi (Pkg)` `dotlessi` is used as-is for `svg math`, and is emulated for `MATHJAX`.

⚠ **HTML \dotlessj** Use `\usepackage{cmap}` if `\dotlessj` does not appear in HTML in text mode. See section 7.4.

 **not bold** For MATHJAX, use `\boldsymbol` instead of `\mathbf`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}
```

File 117 **lwarp-dprogress.sty**

§ 232 Package **dprogress**

dprogress (*Pkg*)    dprogress is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

File 118 **lwarp-draftcopy.sty**

§ 233 Package **draftcopy**

draftcopy (*Pkg*) draftcopy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```
2 \newcommand{\draftcopyVersion}[1]{}
```

```
3 \newcommand{\draftcopySetGrey}[1]{}
```

```
4 \newcommand{\draftcopySetScale}[1]{}
```

```
5 \newcommand{\draftcopySetScaleFactor}[1]{}
```

```
6 \newcommand{\draftcopyFirstPage}[1]{}
```

---

```

7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

## File 119 **lwarp-draftfigure.sty**

### § 234 Package **draftfigure**

`draftfigure` (*Pkg*) **draftfigure** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]
2 \RequirePackage{xkeyval}

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

## File 120 **lwarp-draftwatermark.sty**

### § 235 Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

`draftwatermark` (*Pkg*) **draftwatermark** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

---

## File 121 **lwarp-drftcite.sty**

### § 236 Package **drftcite**

*(Emulates or patches code by DONALD ARSENEAU.)*

drftcite (*Pkg*) drftcite is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

2 \VerifyCommand[lwarp][drftcite]{\@lbibitem}{43265BD7F1B9C9818D873D651C19485C}
3
4 \def\@lbibitem[#1]#2{\global\@HighCite\z@
5 \item[
6 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
7 \@biblabel{\@ifundefined{DCN@#2\@extra@b@citeb}{\@warning
8 {Reference `#2' on page \thepage\space was never cited}}}{%
9 \DC@llap{$^\@nameuse{DCN@#2\@extra@b@citeb}}$\ \ }%%o
10 \citeverb{#2}}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
11 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

File 122 **lwarp-easy-todo.sty**

§ 237 Package **easy-todo**

(Emulates or patches code by JUAN RADA-VILELA.)

easy-todo (*Pkg*) easy-todo is patched for use by lwarp.

To remove the “P.” heading for HTML:

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

```

`\listoftodos` Modified to correct buggy use of `\flushright`.

```

2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{%
7 \LWR@easytodo@origlistoftodos
8 }
9 }

```

`\todoii` Modified to use `\textcolor` instead of `\color`.

```

10 \VerifyCommand[lwarp][easy-todo]{\todoii}{04C63A894C30C706AC60DD6B58FDEDA2}
11
12 \renewcommand{\todoii}[2]{%
13 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
14 {%
15 \ifoptionfinal{\todoenable{false}}{\todoenable{true}}}%
16 }%
17 }%
18 \ifthenelse{\equal{\@todoenable}{true}}{%
19 {%
20 \refstepcounter{todos}%
21 \noindent{%
22 \todocolor%

```

---

```

23 \LWR@textcurrentcolor{%
24 \normalfont\scriptsize{\bfseries{\thetodos.#1}}}%
25 }%
26 }%
27 \addcontentsline{lod}{todos}{\protect{\thetodos. } \LWR@isolate{#2}}%
28 }%
29 {}%
30 }

```

---

## File 123 **lwarp-ebook.sty**

### § 238 Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

ebook (*Pkg*) **ebook** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ebook}

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefilll}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }

```

---

## File 124 **lwarp-econometrics.sty**

### § 239 Package **econometrics**

*(Emulates or patches code by ERIK KOLE.)*

econometrics (*Pkg*) **econometrics** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}

```

```

17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{}% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit{*{m}}{ }% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{_\mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^\mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][]{%
74 \frac{\mathrm{d}^{\mathrm{#1}}\mathrm{#2}}{\mathrm{d}\mathrm{#3}^{\mathrm{#1}}}%
75 }}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%

```

```

77 \frac{\partial^{#1}#2}{\partial #3^{#1}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\mathrm{rf}}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\mathrm{rb}}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\mathrm{calI}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\mathrm{calH}}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\mathrm{imath}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
126 \CustomizeMathJax{\newcommand{\mply}{\mathrm{cdot}}}
127 \CustomizeMathJax{\newcommand{\rW}{\mathrm{W}}}
128 \end{warpMathJax}

```

---

File 125 **lwarp-ed.sty**

§ 240 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

`ed` (*Pkg*) `ed` is patched for use by `lwarp`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{ed}[2012/01/29]`

Bugs:

1. `todolist` fails with the `hide` option, as does `\edexplanation`.
2. `\edstubURI` is actually `\edstuURI`.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6 \def\@test{#1}%
7 \begin{center}%
8 \huge%
9 \textcolor{red}{%
10 #1 is only a provisional stub\\Large
11 the Office document
12 \ifx\ed@stubURI\@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi\
13 contains more text\\which will be merged for the final document%
14 }%
15 \end{center}%
16 \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

File 126 **lwarp-ellipsis.sty**

§ 241    Package **ellipsis**

*(Emulates or patches code by PETER J. HESLIN.)*

`ellipsis` (*Pkg*) `ellipsis` is emulated.

```

1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\textellipsis\,}

```

---

File 127 **lwarp-embrac.sty**

§ 242    Package **embrac**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

`embrac` (*Pkg*) `embrac` is patched for HTML and used as-is for print.

It seems that `\textsi` used to be provided by `fontspec`, but is no longer. `lwarp` provides it for print and HTML modes.

**for HTML output:**

**embrac** patches the original meaning of `\textsi \AtBeginDocument`. Revert the meaning here before loading **embrac**. This undoes **lwarp**'s modification to handle the HTML version. Then, after **embrac**'s `\AtBeginDocument`, **lwarp** must `\AtBeginDocument` patch it again to consume the star and handle HTML formatting.

```

1 \AtBeginDocument{\DeclareCommandCopy{\textsi}{\LWR@print@textsi}}

2 \LWR@ProvidesPackagePass{embrac}[2021/02/20]

3 \ExplSyntaxOn
4 \NewDocumentCommand{\LWR@HTML@embrac_kern:n}{m}{}
5 \LWR@formatted{embrac_kern:n}
6 \ExplSyntaxOff

7 \LWR@absorbstar{\LWR@HTML@emph}
8 \LWR@absorbstar{\LWR@HTML@textit}
9 \LWR@absorbstar{\LWR@HTML@textsl}
10
11 \AfterEndPreamble{
12 \LWR@formatted{emph}
13 \LWR@formatted{textit}
14 \LWR@formatted{textsl}
15 \ifdef{\textsi}
16 {
17 \LWR@absorbstar{\LWR@HTML@textsi}
18 \LWR@formatted{textsi}
19 }{}
20 }
21
22 \newcommand{\LWR@HTML@EmbracOff}{}
23 \LWR@formatted{EmbracOff}
24
25 \newcommand{\LWR@HTML@EmbracOn}{}
26 \LWR@formatted{EmbracOn}

```

---

File 128 **lwarp-emptypage.sty**

§ 243     Package **emptypage**

`emptypage (Pkg)`    **emptypage** is ignored.

**for HTML output:**    Discard all options for **lwarp-emptypage**:

```

1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]

```

---

File 129 **lwarp-endfloat.sty**

§ 244     Package **endfloat**

`endfloat (Pkg)`    **endfloat** is ignored.

**for HTML output:**    `1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]`

---

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

---

File 130 **lwarp-endheads.sty**

§ 245    Package **endheads**

endheads (*Pkg*)    endheads is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13 \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotesttrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19 \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22 \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

File 131 **lwarp-endnotes.sty**

§ 246 Package **endnotes**

*(Emulates or patches code by JOHN LAVAGNINO.)*

endnotes (*Pkg*) Patched for HTML.

If using `cleveref`, `endnotes` displays as a link to an endnote, rather than a section. A comma-separated list of end notes does not work with `\cref` and related. (In print mode, such as `list` simply displays a link to the section.)

**table of contents** To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

**HTML page** To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

 **\endnotemark numbering** If using `MATHJAX`, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{endnotes}[2020-01-02]

2 \def\enoteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }

9 \def\LWR@HTML@makeenmark{\hbox{\LWR@htmlspan{sup}{\normalfont\theenmark}}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{@makeenmark}
```

To nullify the endnotes:

```
13 \apptocmd{\LWR@nullifyfootnotes}{%
14 \renewcommand{\endnote}[2][{}]{%
15 \renewcommand{\endnotemark}[1]{}%
16 }{}{}
```

Modified for updated L<sup>A</sup>T<sub>E</sub>X labels.

```
17 \def\theendnotes{\immediate\closeout{@enotes \global\@enotesopenfalse
18 \begingroup
19 \makeatletter
```

```

20 %
21 % The machinery with \@ResetGT and > here ensures that
22 % \@doanenote works properly even if > is an active character
23 % at the point where \theendnotes is invoked. > needs to have
24 % catcode 12 when the arguments of \@doanenote are scanned, so
25 % that the > in the string "macro:->" is matched. The actual
26 % footnote text is not an argument to \@doanenote, but just
27 % follows it in the .ent file; so \@ResetGT can reset the
28 % category code for > that should be used when processing
29 % that text. That resetting takes place within a
30 % \begingroup-\endgroup block set up by \@doanenote and
31 % \@endanenote, so the catcode for > is back to 12 for the
32 % next note.
33 %
34 \edef\@tempa{\string >}%
35 \ifnum\catcode\@tempa=12%
36 \let\@ResetGT\relax
37 \else
38 \edef\@ResetGT{\noexpand\catcode\@tempa=\the\catcode\@tempa}%
39 \@makeother\>%
40 \fi
41 \def\@doanenote##1##2>{\def\@thenmark{##1}\par\begingroup
42 \@ResetGT

43 \def\@currentcounter{endnote}%

44 \edef\@currentlabel{\csname p@endnote\endcsname\@thenmark}%
45 \enoteformat}
46 \def\@endanenote{\par\endgroup}%
47 \enoteheading
48 \enotesize
49 \InputIfFileExists{\jobname.ent}{}{}%
50 \PackageWarning{endnotes}{No endnotes found (file \jobname.ent does not exist)\MessageBreak}
51 }%
52 \endgroup}

```

For MATHJAX:

```

53 \begin{warpMathJax}
54 \def\endnotename{endnote}
55 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWRendnote}{\theendnote}}
56 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRendnote}{\endnotename}}
57 \CustomizeMathJax{\def\LWRendnote{1}}
58 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\mathrm{#1}}}
59 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{\mathrm{#1}}}
60 \end{warpMathJax}

```

---

File 132 **lwarp-engt1c.sty**

§ 247 Package **engt1c**

(Emulates or patches code by CLAUDIO FIANDRINO.)

engt1c (*Pkg*) engt1c is patched for use by lwarp. MATHJAX is emulated.



For MATHJAX, \sight, \signf, \signn, and \signz do not force letter case as they

do in svg math.

for HTML output:

```

1 \LWR@ProvidesPackagePass{engtlc}[2012/12/18]

2 \newcommand{\LWR@HTML@finees}{%
3 \begin{BlockClass}[text-align:right]{exerend}%
4 \HTMLUnicode{220E}%
5 \end{BlockClass}%
6 }
7 \LWR@formatted{finees}
8
9 \newcommand{\LWR@HTML@exerend}{\finees}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engtlc}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\,\mathrm{#1}}}%
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV}}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %

```

```

58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{Mib}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsunit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109 \hspace{.25cm}\Longrightarrow \hspace{.25cm}}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114 #1\mathopen{}\left\lbrace#2\right\rbrace\mathclose{}}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}{#1}}}

```

```

118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi\#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi\#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert\right.\#1\right\vert\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert\right.\#1\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129 \mathopen{}\left.\#1\right\vert\right\vert_{\mathrm{dB}}\mathclose{}}}%
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\#1\right\vert\right\vert_{\#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{}\mathopen{}\mathrm{d}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(\#1\right)}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{\#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\{\}^{\mathrm{V}}\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacor}{\{\}^{\mathrm{I}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\{\}^{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
145 \CustomizeMathJax{\newcommand{\gammacorin}[1]{\{\}^{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammain}[1]{\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\{\}^{\mathrm{k}}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{\#1}}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{\#1}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{\#1}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{\#1}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{\#1}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{\#1}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty\#1}}
166 \CustomizeMathJax{\newcommand{\zinf}[1]{z_{\infty\#1}}}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty\#1}}
168 \CustomizeMathJax{\newcommand{\yinf}[1]{y_{\infty\#1}}}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoe fas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campoh fas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\sigt}[1]{\{#1\}(t)}}

```

```

178 \CustomizeMathJax{\newcommand{\signf}[1]{\{#1\}(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\{#1\}(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\{#1\}(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\,,\,}}
186 \CustomizeMathJax{\newcommand{\dato}{\,,\,}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoe}
223 \CustomizeMathJax{\let\phasorHfield\campoh}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 133 **lwarp-enotez.sty**

§ 248 Package **enotez**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

enotez (*Pkg*) enotez is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by lwarp, so it is forced on for enotez:

```
2 \ExplSyntaxOn
3 \AtBeginDocument{
4 \bool_set_true:N \l__enotez_hyperref_bool
5 \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }
```

Do not move or \hbox the \hypertarget:

```
7 % typeset the actual mark:
8 % #1: id
9 % #2: mark
10 \VerifyCommand[\lwarp][enotez]{\enotez_write_mark:nn}{61DA2A7B03A7D9F55E3E2E2D2498FB32}
11
12 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
13 {
14 \bool_if:NTF \l__enotez_hyperfootnotes_bool
15 {
16 \enotezwritemark { \hyperlink {enz.#1} { \enmarkstyle #2 } }
17 \bool_if:NT \l__enotez_hyperbackref_bool
18 {
19 \box_move_up:nn {1em} {
20 \hbox:n {
21 \hypertarget {enz.#1.backref} { }
22 }
23 }
24 }
25 }
26 { \enotezwritemark { \enmarkstyle #2 } }
27 }
28 \cs_generate_variant:Nn \enotez_write_mark:nn {x}
```

Do not move or \hbox the \hypertarget:

```
29 \VerifyCommand[\lwarp][enotez]{\enotez_write_list_number:n}{9793BEC2766E17864C6391209599DD84}
30
31 \cs_gset_protected:Npn \enotez_write_list_number:n #1
32 {
33 \bool_if:NT \l__enotez_hyperfootnotes_bool
34 {
35 \box_move_up:nn {1em} { \hbox:n {
36 \hypertarget {enz.#1} { }
37 } }
38 }
39 \tl_use:N \l__enotez_list_number_format_tl
40 \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
41 {
42 \bool_if:nTF
43 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
44 {
45 \exp_args:Nnx
46 \hyperlink {enz.#1.backref}
47 { \exp_not:V \l__enotez_endnote_mark_tl }
48 }
49 { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
50 }
```

```

51 {
52 \bool_if:nTF
53 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
54 {
55 \exp_args:Nnx
56 \hyperlink {enz.#1.backref}
57 { \exp_not:V \l__enotez_endnote_mark_tl }
58 }
59 { \tl_use:N \l__enotez_endnote_mark_tl }
60 }
61 }

```

Do not move the label to the left:

```

62 \DeclareTemplateCode {enotez-list} {paragraph} {1}
63 {
64 heading = \enotez_list_heading:n ,
65 format = \l__enotez_list_format_tl ,
66 number = \enotez_list_number:n ,
67 number-format = \l__enotez_list_number_format_tl ,
68 notes-sep = \l__enotez_list_notes_sep_dim
69 }
70 {
71 \AssignTemplateKeys
72 \enotez_set_totoc:
73 \enotez_list_heading:n { \l__enotez_list_name_tl }
74 \enotez_list_preamble:
75 \enotez_build_print_list:nnnn {#1}
76 {}
77 {
78 \par\noindent
79 \group_begin:
80 \tl_use:N \l__enotez_list_format_tl
81 \hbox_overlap_left:n
82 {
83 \enotez_list_number:n
84 { \enotez_write_list_number:n {##1} }
85 \tl_use:N \c_space_tl
86 }
87 % \cs_set:cpn {@currentlabel}
88 % { \p@endnote \l__enotez_endnote_mark_tl }
89 \tl_use:N \g__enotez_endnote_text_tl
90 \par
91 \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
92 { \addvspace { \l__enotez_list_notes_sep_dim } }
93 \group_end:
94 }
95 {}
96 \enotez_list_postamble:
97 }
98
99 \ExplSyntaxOff

```

For MATHJAX:

```

100 \begin{warpMathJax}
101 \def\endnotename{endnote}
102 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRendnote}{\theendnote}}
103 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRendnote}{\endnotename}}
104 \CustomizeMathJax{\def\LWRendnote{1}}

```

---

```

105 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\{}^{\mathrm{#1}}}}
106 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{\{}^{\mathrm{#1}}}}
107 \end{warpMathJax}

```

---

File 134 **lwarp-enumerate.sty**

§ 249     Package **enumerate**

enumerate (*Pkg*)     enumerate is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by lwarp and thus must no longer be dropped.

**for HTML output:**     1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

File 135 **lwarp-enumitem.sty**

§ 250     Package **enumitem**

*(Emulates or patches code by JAVIER BEZOS.)*

enumitem (*Pkg*)     enumitem is supported with minor adjustments.

**for HTML output:**     1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```

\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}

```

For enumitem lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```

2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}

```

---

File 136 **lwarp-epigraph.sty**

§ 251     Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

epigraph (*Pkg*)     epigraph is emulated for HTML, and used as-is for print output.

Use css to format epigraphs.

for HTML output:

```
1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4 \begin{BlockClass}{qitem}%
5 #1%
6 \LWR@stoppars%
7 \ifbool{FormatWP}%
8 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9 {\begin{BlockClass}{epigraphsource}}%
10 #2%
11 \end{BlockClass}%
12 \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}
```

epigraph: Added ARIA role.

```
15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}%
18 \qitem{#1}{#2}%
19 \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24 {\LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}%
25 {\endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}}
```

The following cannot be used in print mode while generating HTML:

```
27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*\undodrop{}
```

---

File 137 **lwarp-epsf.sty**

§ 252      Package **epsf**

(Emulates or patches code by TOM ROKICKI.)

epsf (*Pkg*)    epsf is patched for use by lwarp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{epsf}% not date given

2 \xpretocmd{\epsfsetgraph}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8 {\end{lateximage}}
```

---

```

9 {}
10 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-end}}

```

---

### File 138 **lwarp-epsfig.sty**

#### § 253 Package **epsfig**

`epsfig` (*Pkg*) `epsfig` is emulated for use by `lwarp`.



Only the L<sup>A</sup>T<sub>E</sub>X2e syntax is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5 \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9 \xdef\LWR@epsfig@filename{#1}%
10 }
11
12 \define@key{igraph}{prolog}{%}
13
14 \define@key{igraph}{silent}{%}

```

The captured filename is used as the argument to `\includegraphics`:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}
17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
19 \LWR@formatted{psfig}

```

---

### File 139 **lwarp-epstopdf.sty**

#### § 254 Package **epstopdf**

`epstopdf` (*Pkg*) Previous versions of `lwarp` had a nullfied version, but now `epstopdf-base` is supported. `lwarp-epstopdf` becomes a placeholder to overwrite previous versions.

See package `epstopdf-base` for details.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

---

### File 140 **lwarp-epstopdf-base.sty**

#### § 255 Package **epstopdf-base**

`epstopdf-base` (*Pkg*)

⚠ convert to .svg

Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

for HTML output:

```
1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]
```

Redefine to remember the image filename, replacing .pdf with .svg. Use the epstopdf print version inside a lateximage.

```
2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3 \edef\LWR@tempone{#3}%
4 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6 \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}
```

\includegraphics in HTML mode redefines \Gin@setfile to be \LWR@HTML@Gin@setfile, which is now redirected to epstopdf's version:

```
10 \renewcommand*{\LWR@HTML@Gin@setfile}[3]{%
11 \ETE@Gin@setfile{#1}{#2}{#3}%
12 }
```

Allow .eps images to be found if a suffix is not provided:

```
13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15 .eps, .EPS, .svg, .SVG, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }
```

Likewise when inside a lateximage:

```
20 \appto\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22 .eps, .EPS, .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
23 }%
24 }
```

---

File 141 **lwarp-eqlist.sty**

§ 256 Package **eqlist**

eqlist (*Pkg*) eqlist is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
```

---

```

4 \newenvironment{EqList}[2][\description]{\enddescription}
5 \newenvironment{EqList*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]]
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}
9 \newcommand*\eqlistinitpar{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

## File 142 **lwarp-eqparbox.sty**

### § 257 Package **eqparbox**

*(Emulates or patches code by SCOTT PAKIN.)*

eqparbox (*Pkg*) **eqparbox** is patched for use by **lwarp**.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{ } O{t} m +m}{%
3 {%
4 \minipagefullwidth%
5 \parbox[#1][#2][#3]{\linewidth}{#5}%
6 }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11 \makebox[#2][#3]%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16 \framebox[#2][#3]%
17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{O{t} O{ } O{t} m}
21 {%
22 \begingroup%
23 \minipagefullwidth%
24 \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27 \endminipage%
28 \endgroup%
29 }
30
31 \newcommand*\LWR@HTML@eqboxwidth[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*\LWR@HTML@eqsetminwidth[2]{}
35 \newcommand*\LWR@HTML@eqsetmaxwidth[2]{}
36
37 \newcommand*\LWR@HTML@eqsetminwidthto[2]{}
38 \newcommand*\LWR@HTML@eqsetmaxwidthto[2]{}

```

---

File 143 **lwarp-errata.sty**

§ 258      Package **errata**
*(Emulates or patches code by MICHAEL KOHLHASE.)*

errata (*Pkg*) **errata** is patched for use by lwarp.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarp** version will have to be updated.

**for HTML output:**

Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```
3 \VerifyCommand[lwarp][errata]{\erratumAdd}{777B919444DA9C70140B71E0C9EDEEBF}
4
5 \xpatchcmd{\erratumAdd}
6 {$_a^{\arabic{erratum}}}$}
7 % {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
8 {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
9 {}
10 {\LWR@patcherror{erratum}{erratumAdd}}
11
12 \VerifyCommand[lwarp][errata]{\erratumDelete}{057CF8E4B6A0DBECF95C009E9DC44FBA}
13
14 \xpatchcmd{\erratumDelete}
15 {$_d^{\arabic{erratum}}}$}
16 % {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
17 {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
18 {}
19 {\LWR@patcherror{erratum}{erratumDelete}}
20
21 \VerifyCommand[lwarp][errata]{\erratumReplace}{0E24E5FE5415E6038089ABF21C6933D7}
22
23 \xpatchcmd{\erratumReplace}
24 {$_r^{\arabic{erratum}}}$}
25 % {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
26 {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
27 {}
28 {\LWR@patcherror{erratum}{erratumReplace}}
29
30 \VerifyCommand[lwarp][errata]{\erratum}{A430F080689BC6FF47E7C905800D2028}
31
32 \xpatchcmd{\erratum}
33 {$_a$}
34 % {\inlinemathother$_a$\inlinemathnormal}
35 {\textsubscript{a}}
36 {}
```

```

37 {\LWR@patcherror{erratum}{erratumDelete}}
38 \xpatchcmd{\erratum}
39 {$_d^{\@thefnmark}$}
40 % {\inlinemathother$_d^{\@thefnmark}$\inlinemathnormal}
41 {\textsubscript{d}\@thefnmark}
42 {}
43 {\LWR@patcherror{erratum}{eDelete}}
44 \xpatchcmd{\erratum}
45 {$_r^{\@thefnmark}$}
46 % {\inlinemathother$_r^{\@thefnmark}$\inlinemathnormal}
47 {\textsubscript{r}\@thefnmark}
48 {}
49 {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
50 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
51 \StopDefiningMath
```

---

File 144 **lwarp-eso-pic.sty**

§ 259      Package **eso-pic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

eso-pic (*Pkg*)    **eso-pic** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

2 \newcommand*{\LenToUnit}{}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*{\ClearShipoutPictureBG}{}
16 \newcommand*{\ClearShipoutPicture}{}
17 \newcommand*{\ClearShipoutPictureFG}{}
18 \newcommand{\gridSetup}[6][[]]{}

```

§ 260 Package **esvect**

`esvect (Pkg)` `esvect` is used as-is for `svg math`, and emulated for `MATHJAX`.

```

for HTML output: 1 \LWR@ProvidesPackagePass{esvect}% no date given

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRResvectvv}[1]{\overrightarrow{\#1}}}
4 \CustomizeMathJax{\newcommand{\LWRResvectvstar}[2]{\overrightarrow{\#1}\!-_{\#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRResvectvstar\LWRResvectvv}}
6 \end{warpMathJax}

```

\$ 261 Package **etoc**

⚠ `\tableofcontents with \ref` The `etoc` package uses a non-standard syntax which looks ahead after a `\tableofcontents` for a following `\ref`. These `\refs` appear in the HTML result unless they are removed. Where a `\tableofcontents` is followed by `\ref`, and perhaps also `\label` as well, enclose all of them inside `\warpprintonly`:

or place all code related to a local `\tableofcontents` inside a `warpprint` environment.

⚠ **home page** Be sure to keep the initial `\tableofcontents` on the home page, perhaps in its own `\warphTMLonly` macro or `warphTML` environment.

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*{\etocname} {}
12 \DeclareRobustCommand*{\etocnumber}{}
13 \DeclareRobustCommand*{\etocpage} {}
14 \DeclareRobustCommand*{\etoclink} {\@firstofone}
15 \DeclareRobustCommand*{\etocifnumbered}{\@firstoftwo}
16 \DeclareRobustCommand*{\etociffirst}{\@firstoftwo}

```

```

17 \DeclareRobustCommand*\etocifwasempty{\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etocstableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocseppone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocsepthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etococlineleaders
48 {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabbrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcol{2}
60 \def\etocinnerbottomsep{2ex}
61 \newcommand\etocmulticolstyle[2][1]{}
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etocoprul{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulcolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][1]{}
74 \def\etocframedmhook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][1]{}

```

```

77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtotocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etocstyle[3][section]{}
98 \newcommand\etocstylewithmarks[4][section]{}
99 \newcommand\etocstylewithmarksnouc[4][section]{}
100 \def\etocignoretocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etoclines {}
114 \let\etocaftertohook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}

```

---

File 147 **lwarp-eurosym.sty**

§ 262 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

eurosym (*Pkg*) eurosym is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

```

2 \renewrobustcmd\officialeuro{\HTMLentity{euro}}
3 \let\geneuro\officialeuro
4 \let\geneuronarrow\officialeuro
5 \let\geneurowide\officialeuro
6 \let\euro\officialeuro
7 \renewrobustcmd\eurobars{}

```

---

```
8 \renewrobustcmd\eurobarsnarrow{}
9 \renewrobustcmd\eurobarswide{}
```

---

File 148 **lwarp-everypage.sty**

§ 263      Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

everypage (*Pkg*) **everypage** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

```
2 \newcommand*\AddEverypageHook}[1]{}
3 \newcommand*\AddThispageHook}[1]{}

```

---

File 149 **lwarp-everyshi.sty**

§ 264      Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

everyshi (*Pkg*) **ignored**.

**for HTML output:**    Discard all options for lwarp-everyshi:

```
1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout}[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout}[1]{}

```

---

File 150 **lwarp-extarrows.sty**

§ 265      Package **extarrows**

*(Emulates or patches code by HUYNH KY ANH.)*

extarrows (*Pkg*) **extarrows** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLonglefttrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlonglefttrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightharrow{10,10}{0x2194}}

```

---

```

9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

---

File 151 **lwarp-extramarks.sty**

§ 266 Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

extramarks (*Pkg*) extramarks is ignored.

**for HTML output:** Discard all options for lwarp-extramarks:

```

1 \LWR@ProvidesPackageDrop{extramarks}[2025/02/07]

2 \newcommand*{\extramarks}[2]{}
3 \newcommand\extramarksleft[1]{}
4 \newcommand\extramarksright[1]{}
5 \newcommand*{\firstleftxmark}{}
6 \newcommand*{\lastleftxmark}{}
7 \newcommand*{\firstrightxmark}{}
8 \newcommand*{\lastrightxmark}{}
9 \newcommand*{\firstxmark}{}
10 \newcommand*{\lastxmark}{}
11 \newcommand*{\topxmark}{}
12 \newcommand*{\topleftxmark}{}
13 \newcommand*{\toprightxmark}{}
14 \newcommand*{\firstleftmark}{}
15 \newcommand*{\lastrightmark}{}
16 \newcommand*{\firstrightmark}{}
17 \newcommand*{\lastleftmark}{}

```

---

File 152 **lwarp-fancybox.sty**

§ 267 Package **fancybox**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

fancybox (*Pkg*) fancybox is supported with some patches.

**framed equation example** fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

**framing alternatives** `\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

**framed table example** The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

 **framed verbatim** `lwarp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}
```

**framed \VerbBox** `fancybox`'s `\VerbBox` may be used inside `\fbox`.

**indented alignment** `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

`lwarp` sanitizes HTML for `fancybox` verbatims, except for the contents of `\VerbBox` and any `\verb` inside.

**fancybox, fancyvrb** If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:



**\VerbatimFootnotes**



**sectioning or  
displaymath**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

```
1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]
```

After the preamble is loaded, after any patches to `Verbatim`:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

`\VerbatimFootnotes`

Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let\@footnotetext\V@footnotetext%
6 \let\LWR@footnotetext\V@footnotetext% lwarp
7 }
```

`\V@@footnotetext`

Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@@footnotetext`.

```
8 \def\V@@footnotetext{%
9 \LWR@traceinfo{V@footnotetext}%
```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
10 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
11 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
12 \unvbox\LWR@footnotebox%
```

Remember the footnote number for `\ref`:

```
13 \protected@edef\@currentlabel{%
14 \csname p@footnote\endcsname\@thefnmark%
15 }% \@currentlabel
16 % \ifdef{cref@currentlabel}{% cleveref
17 %% \protected@edef\cref@currentlabel{%
18 %% [footnote]%
19 %% [\arabic{footnote}]}%
20 %% []%
21 %% \csname p@footnote\endcsname\@thefnmark}%
22 %% \cref@constructprefix{footnote}{\cref@result}%
23 %% \ifundefined{cref@footnote@alias}%
24 %% {\def\@tempa{footnote}}%
25 %% {\def\@tempa{\csname cref@footnote@alias\endcsname}}%
26 %% \protected@edef\cref@currentlabel{%
27 %% [\@tempa][\arabic{footnote}][\cref@result]%
28 %% \csname p@footnote\endcsname\csname thefootnote\endcsname}%
29 %% }{}}%
```

Use HTML superscripts in the footnote even inside a `lateximage`:

```
30 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
31 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Append the footnote to the list:

```
32 \@makefntext{}}%
```

The footnote text will follow after `\V@@@footnotetext` has completed.

```
33 \bgroup%
34 \aftergroup\V@@@footnotetext%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
35 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```

36 \ignorespaces%
37 }%

```

\V@@@footnotetext

```

38 \def\V@@@footnotetext{%
39 \LWR@orignobreakspace\LWR@orignewline%
40 \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
41 \strut\egroup%
42 }

43 }% AfterEndPreamble

44 \renewcommand*{\@shadowbox}[1]{%
45 \ifbool{FormatWP}%
46 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
47 {\InlineClass{shadowbox}{#1}}%
48 }
49
50 \renewcommand*{\@doublebox}[1]{%
51 \ifbool{FormatWP}%
52 {\InlineClass[border:1px double black]{doublebox}{#1}}%
53 {\InlineClass{doublebox}{#1}}%
54 }
55
56 \renewcommand*{\@ovalbox}[2]{%
57 \ifbool{FormatWP}%
58 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
59 {%
60 \ifthenelse{\isequivalentto{#1}{\thinlines}}%
61 {\InlineClass{ovalbox}{#2}}%
62 {\InlineClass{Ovalbox}{#2}}%
63 }%
64 }

```

Convert minipages, parboxes, and lists into linear text using the LWR@nestspan environment:

```

65 \let\LWR@origSbox\Sbox
66
67 \def\Sbox{\LWR@origSbox\LWR@nestspan}
68
69
70 \let\LWR@origendSbox\endSbox
71
72 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}

```

Beqarray is adapted for MATHJAX or enclosed inside a lateximage:

```

73 \RenewEnviron{Beqarray}
74 {\LWR@eqnarrayfactor}
75
76 \csgpreto{Beqarray*}{\boolfalse{LWR@numbereqnarray}}

```

\GenericCaption is enclosed in an HTML block:

```

77 \renewcommand{\GenericCaption}[1]{%
78 \LWR@figcaption%

```

```

79 \LWR@isolate{#1}%
80 \endLWR@figcaption%
81 }

```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

```

\trivlist
 {\l/c/r} [\t/c/b]
82 \RenewDocumentEnvironment{Btrivlist}{m o}
83 {%
84 \LWR@stoppars%
85 \begin{BlockClass}{Btrivlist}%
86 \tabular{#1}%
87 }
88 {%
89 \endtabular%
90 \end{BlockClass}%
91 \LWR@startpars%
92 }

```

Btrivlist is also neutralized when used inside a span:

```

93 \AtBeginEnvironment{LWR@nestspan}{%
94 \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
95 }

```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```

96 \let\LWRFB@origitemizeitem\LWR@itemizeitem
97 \let\LWRFB@origdescitem\LWR@descitem
98
99 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
100 \IfValueTF{#2}{%
101 \LWRFB@origitemizeitem[#2]%
102 }{%
103 \LWRFB@origitemizeitem%
104 }%
105 }
106
107 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
108 \IfValueTF{#2}{%
109 \LWRFB@origdescitem[#2]~%
110 }{%
111 \LWRFB@origdescitem%
112 }%
113 }

114 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
115 \if@newlist\else{
116 \LWR@htmltagc{br /}%
117 \LWR@orignewline%
118 }\fi%
119 \LWR@origitem%
120 }

```

The various boxed lists become regular lists:

```

121 \renewenvironment{Bitemize}[1][]
122 {%
123 \LWR@spanwarnformat{Bitemize}%
124 \booltrue{LWR@starting@fancybox}%
125 \begin{itemize}%
126 \boolfalse{LWR@starting@fancybox}%
127 }
128 {\end{itemize}}
129
130 \renewenvironment{Benumerate}[1][]
131 {%
132 \LWR@spanwarnformat{Benumerate}%
133 \booltrue{LWR@starting@fancybox}%
134 \begin{enumerate}%
135 \boolfalse{LWR@starting@fancybox}%
136 }
137 {\end{enumerate}}
138
139 \renewenvironment{Bdescription}[1][]
140 {%
141 \LWR@spanwarnformat{Bdescription}%
142 \booltrue{LWR@starting@fancybox}%
143 \begin{description}%
144 \boolfalse{LWR@starting@fancybox}%
145 }
146 {\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

147 \RenewDocumentCommand{\boxput}{s d() m m}{%
148 \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
149 }

```

Neutralized commands:

```

150 \RenewDocumentCommand{\fancyput}{s d() m}{%}
151 \RenewDocumentCommand{\thisfancyput}{s d() m}{%}
152
153 \RenewDocumentCommand{\fancypage}{m m}{%}
154 \RenewDocumentCommand{\thisfancypage}{m m}{%}
155
156 \def\LandScape#1{%}
157 \def\endLandScape{%}
158 \def\@Landscape#1#2#3{%}
159 \def\endLandscape{%}

```

Low-level patches for UseVerbatim and friends:

```

160 \VerifyCommand[lwarp][fancybox]{\Verbatim@List}{A85522266594F8C0D846AEB1F72232FF}
161
162 \def\Verbatim@List#1{%
163 \if@minipage\else\vskip\parskip\fi
164 \leftskip\@totalleftmargin
165 \@rightskip\@flushglue \rightskip\@rightskip
166 \parindent\z@
167 \parskip\z@
168 \parfillskip\@flushglue

```

```

169 \hfuzz\VerbatimFuzz\relax
170 \@@par
171 \global\@inlabelfalse %Prevents vspace from being inserted when
172 \Verbatim@Prep %first line exceeds \hsize.
173 % #1%
174 \expandafter\def\expandafter\tmpb\expandafter{#1}% lwarp
175 \LWR@HTMLsanitize@tmpb% lwarp
176 \tmpb% lwarp
177 \Verbatim@Par}%
178
179 \VerifyCommand[lwarp][fancybox]{\Verbatim@Input}{3DCC957D04BC5060FF70DD0FF2928D55}
180
181 \def\Verbatim@Input{%
182 \let\protect\noexpand
183 \let\LtxMacro\tmpb\The@Verbatim% lwarp
184 \LWR@HTMLsanitize@tmpb% lwarp
185 \edef\The@Verbatim{%
186 \noexpand\Every@VerbatimLine
187 % \The@Verbatim
188 \tmpb% lwarp
189 \ifeof\Verbatim@Infile\else\noexpand\Verbatim@Par\fi}%
190 \let\protect\relax
191 \The@Verbatim
192 \ifeof\Verbatim@Infile\else
193 \let\The@Verbatim\The@GVerbatim
194 \def\The@GVerbatim{\Verbatim@NextLine
195 \expandafter\Verbatim@Input
196 \fi}%
197
198
199
200 \let\LWRFB@UseVerbatim\UseVerbatim
201 \renewcommand*{\UseVerbatim}[1]{%
202 \LWR@atbeginverbatim{Verbatim}%
203 \LWRFB@UseVerbatim{#1}%
204 \LWR@afterendverbatim%
205 }
206
207 \let\LWRFB@LUseVerbatim\LUseVerbatim
208
209 \renewcommand*{\LUseVerbatim}[1]{%
210 \LWR@atbeginverbatim{LVerbatim}%
211 \noindent%
212 \LWRFB@LUseVerbatim{#1}%
213 \LWR@afterendverbatim%
214 }
215
216 \def\@BUseVerbatim[#1]#2{%
217 \LWR@atbeginverbatim{BVerbatim}%
218 \LWRFB@UseVerbatim{#2}%
219 \LWR@afterendverbatim%
220 }

```

---

File 153 **lwarp-fancyhdr.sty**

§ 268 Package **fancyhdr**

(Emulates or patches code by PIET VAN OOSTRUM.)

fancyhdr (*Pkg*) fancyhdr is ignored.

for HTML output: Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2025/02/07]

2 \newcommand*\fancyhead[2][]{ }
3 \newcommand*\fancyfoot[2][]{ }
4 \newcommand*\fancyhf[2][]{ }
5
6 \newcommand*\lhead[2][]{ }
7 \newcommand*\chead[2][]{ }
8 \newcommand*\rhead[2][]{ }
9 \newcommand*\lfoot[2][]{ }
10 \newcommand*\cfoot[2][]{ }
11 \newcommand*\rfoot[2][]{ }
12 \newcommand*\headrulewidth{ }
13 \newcommand*\footrulewidth{ }
14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*\headrule{ }
20 \newcommand*\footrule{ }
21 \newlength{\headwidth}
22 \newcommand*\fancycenter[1][1em]{ }
23 \newcommand*\fancyheadoffset[2][]{ }
24 \newcommand*\fancyfootoffset[2][]{ }
25 \newcommand*\fancyhfoffset[2][]{ }
26 \newcommand{\fancyheadinit}[1]{ }
27 \newcommand{\fancyfootinit}[1]{ }
28 \newcommand{\fancyhfinit}[1]{ }
29 \newcommand*\iffloatpage[2]{#2}
30 \newcommand*\ifftopfloat[2]{#2}
31 \newcommand*\iffbotfloat[2]{#2}
32 \newcommand*\iffootnote[2]{#2}
33
34 \NewDocumentCommand{\fancypagestyle}{s m o m}{ }
35
36 \newcommand\fancyhdrsettoheight[2]{ }
37 \newcommand{\fancyfootalign}[1]{ }
38 \NewDocumentCommand{\fancyhdrbox}{ O{cl} o m }{ }
39 \newcommand\fancypagestyleassign[2]{ }
40
41 \NewDocumentCommand {\fancyheadwidth}{ s O{ } O{ } m }{ }
42 \NewDocumentCommand {\fancyfootwidth}{ s O{ } O{ } m }{ }
43 \NewDocumentCommand {\fancyhfwidth}{ { s O{ } O{ } m } }{ }

```

---

File 154 **lwarp-fancypar.sty**

§ 269 Package **fancypar**

(Emulates or patches code by GONZALO MEDINA.)

fancypar (*Pkg*) fancypar is used as-is for print output, and emulated for HTML.

⚠ **css classes** \NotebookPar and related are used as-is inside a lateximage, but for HTML these

are emulated as a <div> of class NotebookPar, etc. For HTML, the package options and the macro optional arguments are ignored. The user must provide custom css for each if visual effects are required. See section 7.7.

 **custom styles** If using a custom paragraph style, such as \MyStylePar from the documentation, use the following to generate an HTML <div> of class MyStylePar:

```
... (existing definiton of \MyStylePar, print version) ...
\begin{warpHTML}
\AddFancyParClass{MyStyle}
\end{warpHTML}
```

\MyStylePar is then modified to emulate HTML. An optional argument is allowed, which is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{fancy}[2019/01/18]

2 \begin{warpHTML}
3 \makeatletter
4
5 \newcommand{\LWR@fancy}[2]{%
6 \begin{BlockClass}{#1Par}
7 #2
8 \end{BlockClass}
9 }
10
11 \newcommand{\LWR@HTML@NotebookPar}[2][\LWR@fancy{Notebook}{#2}]
12 \LWR@formatted{NotebookPar}
13
14 \newcommand{\LWR@HTML@ZebraPar}[2][\LWR@fancy{Zebra}{#2}]
15 \LWR@formatted{ZebraPar}
16
17 \newcommand{\LWR@HTML@DashedPar}[2][\LWR@fancy{Dashed}{#2}]
18 \LWR@formatted{DashedPar}
19
20 \newcommand{\LWR@HTML@MarkedPar}[2][\LWR@fancy{Marked}{#2}]
21 \LWR@formatted{MarkedPar}
22
23 \newcommand{\LWR@HTML@UnderlinedPar}[2][\LWR@fancy{Underlined}{#2}]
24 \LWR@formatted{UnderlinedPar}
25
26
27 \newcommand{\LWR@HTML@add@fancy@format}{}
28 \LWR@formatted{add@fancy@format}
29
30
31 \newcommand{\AddFancyParClass}[1]{%
32 \expandafter\newcommand\csname LWR@HTML@#1Par\endcsname[2][\LWR@fancy{#1}{##2}]
33 \LWR@fancy{#1}{##2}%
34 }
35 \LWR@formatted{#1Par}
36 }
37
38 \makeatother
39 \end{warpHTML}
```

---

File 155 **lwarp-fancyref.sty**

§ 270      Package **fancyref**

*(Emulates or patches code by AXEL REICHERT.)*

fancyref (*Pkg*)    fancyref is modified for HTML output.

**for HTML output:**    1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

\fancyrefhook (*Hook*) []    To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

```
2 \newcommand*\LWRfref@parenfancyrefhook}[1]{(#1)}
3
4 \ifdefstrequal{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6 \renewcommand*\fancyrefhook}[1]{#1}%
7 }
```

---

File 156 **lwarp-fancytabs.sty**

§ 271      Package **fancytabs**

fancytabs (*Pkg*)    fancytabs is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```
2 \newcommand{\fancytab}[3][RIGHT]{}
3 \newcommand{\fancytabsStyle}[1]{}
4 \newcommand{\fancytabsHeight}[1]{}
5 \newcommand{\fancytabsWidth}[1]{}
6 \newcommand{\fancytabsCount}[1]{}
7 \newcommand{\fancytabsLeftColor}[1]{}
8 \newcommand{\fancytabsRightColor}[1]{}
9 \newcommand{\fancytabsTop}[1]{}
10 \newcommand{\fancytabsTextVPos}[1]{}
11 \newcommand{\fancytabsTextHPos}[1]{}
12 \newcommand{\fancytabsGap}[1]{}
13 \newcommand{\fancytabsFloor}[1]{}
14 \newcommand{\fancytabsRotate}[1]{}

```

---

File 157 **lwarp-fancyvrb.sty**

§ 272      Package **fancyvrb**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

fancyvrb (*Pkg*) fancyvrb is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a <div> of class fancyvrb. The label is placed inside a <div> of class fancyvrblabel. The verbatim text itself is placed inside a <div> of class verbatim.

For an inline \Verb, the verbatim is placed inside a <span> of class fancyvrb.

**fancybox, fancyvrb** If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

 \VerbatimFootnotes

 sectioning or displaymath

```
\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

```
1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2024/01/20]
```

For fvextra, to support background colors.

```
4 \newcommand*{\LWR@currentFVbackstyle}{}
5
6 \newcommand*{\LWR@find@currentFVbackstyle}{%
7 \renewcommand*{\LWR@currentFVbackstyle}{}%
8 }%
```

Initial default patch for fancyvrb:

```
9 \fvset{frame=none}%
```

Gobble does not work with HTML sanitization, so if gobbling is non-zero then turn off HTML sanitization.

```
10 \define@key{FV}{gobble}{%
11 \@tempcnta=#1\relax
12 \ifnum\@tempcnta<\@ne
13 \let\FV@Gobble\relax
14 \else
15 \ifnum\@tempcnta>9
16 \FV@Error{gobble parameter must be less than 10}\FV@eha
17 \else
18 \renewcommand{\FV@@@Gobble}[\@tempcnta]{}%
19 \let\FV@Gobble\FV@@@Gobble%
20 \boolfalse{\LWR@HTMLsanitize@tmpb@enable}% lwarp
21 \fi
22 \fi}
```

\FancyVerbSpace

Force the use of a visible space instead of an empty box.

```
23 \ifxetexorluatex
24 \def\LWR@HTML@FancyVerbSpace{\textvisiblespace}
25 \else
26 \@ifundefined{verbvisiblespace}%
27 {%
28 \@ifundefined{textvisiblespace}%
```

```

29 {\begingroup\catcode`\ =12 \gdef\LWR@HTML@FancyVerbSpace{\tt }\endgroup}
30 {\def\LWR@HTML@FancyVerbSpace{\textvisiblespace}}
31 }%
32 {\def\LWR@HTML@FancyVerbSpace{\verbvisiblespace}}
33 \fi
34 \LWR@formatted{FancyVerbSpace}

```

## \FancyVerbTab

Set the visible tab. Unicode 240B (SYMBOL FOR HORIZONTAL TABULATION) and 21E5 (RIGHTWARDS ARROW TO BAR) both gave unindented new lines at each tab, so a simple pipe character is used instead.

For the print mode, the `fancyvrb` definition does not copy, so a simplified version is used.

```

35 \def\LWR@print@FancyVerbTab{||}
36 \def\LWR@HTML@FancyVerbTab{||}%
37 \LWR@formatted{FancyVerbTab}

38 \fvset{tabsize=8,showtabs=false}

```

## \FV@CatCodes

```

39 \VerifyCommand[lwarp][fancyvrb]{\FV@CatCodes}{BF2C1F38D5FEF0658C18B636ACBDA40E}
40
41 \def\FV@CatCodes{%
42 \let\do\@makeother\dospecials % The usual stuff.
43 \FV@ActiveWhiteSpace % See below.
44 \FV@FontScanPrep % See below.
45 \FV@CatCodesHook % A style hook.
46 \FancyVerbCodes % A user-defined hook.
47 \catcode`\>=12% % lwarp
48 \catcode`\<=12% % lwarp
49 }

```

## \FV@GetLine

Added the catcode changes for < and > to avoid the effect of \@noligs for these characters. They were being made active and thus would not be sensed by the search/replace to sanitize.



This code is sensitive to the use of %, and for some reason does not work if \expandafter immediately follows the < catcode change.

```

50 \VerifyCommand[lwarp][fancyvrb]{\FV@GetLine}{9B86134119C575F099B5B567A9B65A9F}
51
52 \def\FV@GetLine{%
53 \@noligs%
54 \catcode`\>=12% lwarp, and the next line as well
55 % for some reason, there must not be a % after the following 12:
56 \catcode`\<=12
57 %
58 \expandafter\FV@CheckScan\FancyVerbGetLine%
59 }

```

Modified to sanitize HTML. \LWR@HTMLsanitize@tmpb is included in \FV@Line, so it will adjust if used inside an lateximage.

```

60 \VerifyCommand[lwarp][fancyvrb]{\FancyVerbGetLine}{498B88BACBD0811BAC0791BDF4F3B335}
61
62 \begingroup
63 \catcode`\^^M=\active%
64 \gdef\FancyVerbGetLine#1^^M{%

```

```

65 \@nil%
66 \FV@CheckEnd{#1}%
67 \ifx\@tempa\FV@EnvironName% % True if end is found
68 \ifx\@tempb\FV@@@CheckEnd\else\FV@BadEndError\fi%
69 \let\next\FV@EndScanning%
70 \else%
71 \ifbool{LWR@HTMLsanitize@tmpb@enable}% lwarp
72 \def\FV@Line{LWR@HTMLsanitize@use@tmpb{#1}}}% lwarp
73 \def\FV@Line{#1}}}% lwarp
74 \def\next{FV@PreProcessLine\FV@GetLine}%
75 \fi%
76 \next}%
77 \endgroup

```

\FV@List

{\<R/L margin 0/1>}

Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```

78 \VerifyCommand[lwarp][fancyvrb]{\FV@List}{8FB649FAF7C9487B257B76AF4FFB27D1}
79
80 \def\FV@List#1{%
81 \begingroup
82 \FV@UseKeyValues
83 \FV@LeaveVMode
84 \if@inlabel\else\setbox\@labels=\box\voidb@x\fi
85 \FV@ListNesting{#1}%
86 \FV@ListParameterHook
87 \FV@ListVSpace
88 \FV@SetLineWidth
89 \FV@InterLinePenalty
90 % \let\FV@ProcessLine\FV@ListProcessLine@i
91 \let\FV@ProcessLine\FV@ListProcessLine% lwarp
92 \FV@CatCodes
93 \FV@FormattingPrep
94 \FV@ObeyTabsInit
95 \FV@BeginListFrame}

```

\FV@ListProcessLine

{\<text>}

Processes each line, adding optional line numbers. Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```

96 \VerifyCommand[lwarp][fancyvrb]{\FV@ListProcessLine}{660F9938234FC1043ACF7B02B3F37372}
97
98 \def\FV@ListProcessLine#1{%
99 \hbox to \hsize{%
100 % \kern\leftmargin
101 \hbox to \VerbatimHTMLWidth {%
102 \ifcvoid{FV@LeftListNumber}}{\kern 2.5em}%
103 \FV@LeftListNumber%
104 % \FV@LeftListFrame
105 \FancyVerbFormatLine{#1}%
106 \hss%
107 % \FV@RightListFrame
108 \FV@RightListNumber%
109 }%
110 \hss% required to avoid underfull hboxes
111 }

```

112 }

\FVC@SaveVerb

{\langle name \rangle}{\langle character \rangle}

Modified to sanitize HTML when stored. Sanitizing on use would be too late to adjust catcodes. \LWR@HTMLsanitize@tmpb is included in the saved macro, so if inside a lateximage, \LWR@HTMLsanitize@tmp does nothing.

```

113 \VerifyCommand[lwarp][fancyvrb]{\FVC@SaveVerb}{68373ED055890622906844A5611810C8}
114
115 \begingroup
116 \catcode\^^M=\active%
117 \gdef\FVC@SaveVerb#1#2{%
118 \@namedef{FV@SV@#1}{}%
119 \begingroup%
120 \FV@UseKeyValues%
121 \FV@CatCodes%
122 \outer\def^^M{\FV@EOL}%
123 \global\let\@tempg\FancyVerbAfterSave%
124 \catcode\#2=12%
125 \def\@tempa{\def\FancyVerbGetVerb####1####2}%
126 % \expandafter\@tempa\string#2\endgroup\@namedef{FV@SV@#1}{##2}\@tempg}%
127 \expandafter\@tempa\string#2{%
128 \endgroup%
129 \@namedef{FV@SV@#1}{%
130 % ##2%
131 \LWR@HTMLsanitize@use@tmpb{##2}% lwarp
132 }\@tempg%
133 }%
134 \FancyVerbGetVerb\FV@EOL}%
135 \endgroup

```

\FV@UseVerb

{\langle macro \rangle}

Adds a <span>.

```

136 \VerifyCommand[lwarp][fancyvrb]{\FV@UseVerb}{A3A9D802CCDBEC8D2FDAB626346B5EDD}
137
138 \def\FV@UseVerb#1{%
139 \ifbool{LWR@verbtags}% lwarp
140 {\LWR@htmltag{span class=\textquotedbl}{fancyvrb\textquotedbl}}% lwarp
141 {}% lwarp
142 \mbox{\FV@UseKeyValues\FV@FormattingPrep#1}%
143 \ifbool{LWR@verbtags}% lwarp
144 {\LWR@htmltag{/span}}% lwarp
145 {}% lwarp
146 }

```

\FVC@Verb

{\langle character \rangle}

Modified to sanitize HTML.

```

147 \VerifyCommand[lwarp][fancyvrb]{\FVC@Verb}{806B03D5A78CAB39E0514667991695C9}
148
149 \begingroup
150 \catcode\^^M=\active%
151 \gdef\FVC@Verb#1{%
152 \begingroup%
153 \FV@UseKeyValues%
154 \FV@FormattingPrep%
155 \FV@CatCodes%

```

```

156 \outer\def^M{%
157 \catcode`#1=12%
158 \def\@tempa{\def\FancyVerbGetVerb####1####2}%
159 \expandafter\@tempa\string#1{%
160 \ifbool{LWR@verbtags}% lwarp
161 {% lwarp
162 \LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}% lwarp
163 \def\tmpb{##2}% lwarp
164 \LWR@HTMLSanitize@tmpb% lwarp
165 \mbox{\tmpb}% lwarp
166 \LWR@htmltag{/span}% lwarp
167 }% lwarp
168 {\mbox{##2}}%
169 \endgroup%
170 }%
171 \FancyVerbGetVerb\FV@EOL%
172 }%
173 \endgroup

```

\FV@ReadLine

Modified to sanitize HTML.

```

174 \VerifyCommand[lwarp][fancyvrb]{\FV@ReadLine}{E5CFCD0096325139ED8443E3A517BC77}
175
176 \begingroup
177 \catcode`\^M=\active
178 \gdef\FV@ReadLine{%
179 \ifeof\FV@InFile\else
180 % \immediate\read\FV@InFile to\@tempa%
181 % \expandafter\FV@@ReadLine\@tempa^M\relax^M\@nil%
182 \immediate\read\FV@InFile to\tmpb%
183 \LWR@HTMLSanitize@tmpb%
184 \expandafter\FV@@ReadLine\tmpb^M\relax^M\@nil%
185 \fi}
186 \endgroup

```

\LWR@FVstyle

Holds the style of the verbatim.

```
187 \newcommand*{\LWR@FVstyle}{}
```

\LWR@new@FVstyle

Starts a new style for the next verbatim.

```
188 \newcommand*{\LWR@new@FVstyle}{\renewcommand*{\LWR@FVstyle}{}}
```

\LWR@addto@FVstyle

{*<style text>*} Adds to the style for the next verbatim.

```

189 \newcommand*{\LWR@addto@FVstyle}[1]{%
190 \apptocmd{\LWR@FVstyle}{\protect\LWR@indentHTMLtwo#1}%
191 {}%
192 {%
193 \PackageWarning{lwarp}{%
194 \string\LWR@addto@FVstyle\space was not
195 able to patch an HTML style.\MessageBreak
196 Patching !#1!\MessageBreak%
197 Currently is !\LWR@FVstyle!\MessageBreak%
198 HTML styles may be not be complete%
199 }%
200 }%
201 }

```

`\LWR@addFVtextcolorstyle` Adds a color style for the current color.

```
202 \newcommand*{\LWR@addFVtextcolorstyle}{%
203 \LWR@findcurrenttextcolor%
204 \ifdefstring{\LWR@tempcolor}{000000}%
205 {}%
206 {\LWR@addto@FVstyle{color: \LWR@origpound\LWR@tempcolor ; }}%
207 }
```

`\LWR@addFVbackgroundstyle`

```
208 \newcommand*{\LWR@addFVbackgroundstyle}{%
209 \ifdefempty{\LWR@currentFVbackstyle}%
210 {}%
211 {\LWR@addto@FVstyle{\LWR@currentFVbackstyle}}%
212 }
```

`\LWR@addFVborderstyle` `{\edge}`

```
213 \newcommand*{\LWR@addFVborderstyle}[1]{%
214 \LWR@addto@FVstyle{\LWR@FVborderstyle{#1}}%
215 }
```

`\LWR@addFVborderstyles` Redefined on the fly to do `\LWR@addFVborderstyle`, possibly several times, each with its own edge argument.

```
216 \newcommand*{\LWR@addFVborderstyles}{{}}
```

After the preamble is loaded, after any patches to `Verbatim`, such as by `fvextra`:

```
217 \AfterEndPreamble{
218
219 \LWR@traceinfo{Patching fancyvrb.}
```

`\VerbatimFootnotes` Patched to use the new version.

```
220 \VerifyCommand[\lwrap][fancyvrb]{\VerbatimFootnotes}{931C9BE6284EB9D8B1516D566C997A87}
221
222 \def\VerbatimFootnotes{%
223 \let\@footnotetext\V@footnotetext%
224 \let\footnote\V@footnote%
225 \let\LWR@footnotetext\V@footnotetext% \lwrap
226 }
```

`\V@footnotetext`

Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@footnotetext`.

Note: Regular  $\text{\LaTeX}$  footnotes and minipage notes have normal paragraph handling turned off while generating the footnotes, but verbatim footnotes have normal paragraph handling turned on, which generates the closing paragraph tags automatically.

While inside a `lateximage`, normal paragraph handling is turned off, and so the closing tag must be generated below manually.

```
227 \VerifyCommand[\lwrap][fancyvrb]{\V@footnotetext}{89E1586855997F951F57C3936CBDF87E}
228
229 \def\V@footnotetext{%
230 \LWR@traceinfo{V@footnotetext}%
```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
231 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
232 \LWR@ensuredoingapar%
233 \LWR@save@doingapar%
234 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
235 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
236 \protected@edef\@currentlabel{%
237 \csname p@footnote\endcsname\@thefnmark%
238 }% \@currentlabel
```

Use HTML superscripts in the footnote even inside a lateximage:

```
239 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Verbatim tags and HTML sanitization will have been turned off inside a lateximage, such as in SVG math, so turn them on here so they will be active in the HTML footnotes.

```
240 \booltrue{LWR@verbtags}%
241 \booltrue{LWR@HTMLsanitize@tmpb@enable}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
242 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Append the footnote mark to the list:

```
243 \@makefnctext{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```
244 \bgroup%
245 \aftergroup\V@@@footnotetext%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
246 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```
247 \ignorespaces%
```

```
248 }%
```

\V@@@footnotetext

Improves <par>.

```
249 \def\V@@@footnotetext{%
250 % \LWR@orignobreakspace\LWR@orignewline%
```

If inside a lateximage, paragraph handling is turned off, so the closing tag must be generated here.

```
251 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
252 {%
253 \LWR@orignobreakspace\LWR@orignewline%
254 \LWR@htmltagc{/LWR@tagregularparagraph}\LWR@orignewline%
255 }{%
256 \strut\egroup%
257 \LWR@restore@doingapar%
258 }
```

\FVB@Verbatim

\FVB@LVerbatim

Prevents unexpected page break in the PDF output before HTML conversion.

```
259 \preto\FVB@Verbatim{\LWR@forcenewpage}
260 \preto\FVB@LVerbatim{\LWR@forcenewpage}
261 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.
```

Simplified to remove PDF formatting:

```
262 \def\LWR@HTML@FV@BeginListFrame@Single{%
263 \FV@SingleFrameLine{\z}%
264 }
265 \LWR@formatted{FV@BeginListFrame@Single}
266
267 \def\LWR@HTML@FV@EndListFrame@Single{%
268 \FV@SingleFrameLine{\@ne}%
269 }
270 \LWR@formatted{FV@EndListFrame@Single}
271
272 \def\LWR@HTML@FV@BeginListFrame@Lines{%
273 \FV@SingleFrameLine{\z}%
274 }
275 \LWR@formatted{FV@BeginListFrame@Lines}
276
277 \def\LWR@HTML@FV@EndListFrame@Lines{%
278 \FV@SingleFrameLine{\@ne}%
279 }
280 \LWR@formatted{FV@EndListFrame@Lines}
281
282 \newcommand*{\LWR@HTML@FV@SingleFrameSep}{}%
283 \LWR@formatted{FV@SingleFrameSep}
```

The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame.

\LWR@fvstartnone

Wraps label in a <div> of class fancyvrblabel.

```
284 \newcommand*{\LWR@fvstartnone}{%
285 \LWR@traceinfo{fvstartnone}%
286 % \hbox to\z@{
```

Accumulate the style settings. Text color, background color, and background style are detected now. Border styles are selected earlier by the choice of verbatim frames.

If the current text style is empty, do not print an HTML style.

```
287 \LWR@find@currentFVbackstyle% lwarp
288 \LWR@new@FVstyle% lwarp
289 \LWR@addFVtextcolorstyle% lwarp
290 \LWR@addFVbackgroundstyle% lwarp
291 \LWR@addFVborderstyles% lwarp
292 \ifdefempty{\LWR@FVstyle}%
293 {\BlockClass{fancyvrb}}%
294 {\BlockClass[\LWR@FVstyle]{fancyvrb}}%

295 \LWR@stoppars
296 \ifx\FV@LabelPositionTopLine\relax\else
297 \ifx\FV@LabelBegin\relax\else
```

```

298 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
299 \ifbool{LWR@verbtags}% lwarp
300 {% lwarp
301 \LWR@findcurrenttextcolor%
302 \LWR@htmltagc{% lwarp
303 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
304 style=\textquotedbl{}%
305 color: \LWR@origpound\LWR@tempcolor%
306 \textquotedbl%
307 }%
308 \LWR@orignewline% lwarp
309 }% lwarp
310 {% lwarp
311 \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
312 \LWR@orignewline% lwarp
313 \ifbool{LWR@verbtags}% lwarp
314 {% lwarp
315 \LWR@htmltagc{/div}% lwarp
316 \LWR@orignewline% lwarp
317 }% lwarp
318 }% lwarp
319 \fi
320 \fi
321 \LWR@atbeginverbatim{verbatim}%
322 % }% hbox
323 }

```

\LWR@fvendnone

Wraps label in a &lt;div&gt; of class fancyvrblabel.

```

324 \newcommand*{\LWR@fvendnone}{%
325 \LWR@traceinfo{fvendnone}%
326 % \hbox to\z@{
327 \LWR@afterendverbatim%
328 \LWR@stoppars%
329 \ifx\FV@LabelPositionBottomLine\relax\else
330 \ifx\FV@LabelEnd\relax\else
331 \FancyVerbRuleColor{\LWR@FVfindbordercolor}% lwarp
332 \ifbool{LWR@verbtags}% lwarp
333 {% lwarp
334 \LWR@findcurrenttextcolor%
335 \LWR@htmltagc{% lwarp
336 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
337 style=\textquotedbl{}%
338 color: \LWR@origpound\LWR@tempcolor%
339 \textquotedbl%
340 }%
341 \LWR@orignewline% lwarp
342 }% lwarp
343 {% lwarp
344 \LWR@print@textrm{\FV@LabelEnd}% lwarp
345 \LWR@orignewline% lwarp
346 \ifbool{LWR@verbtags}% lwarp
347 {% lwarp
348 \LWR@htmltagc{/div}% lwarp
349 \LWR@orignewline% lwarp
350 }% lwarp
351 }% lwarp
352 \fi
353 \fi
354 \endBlockClass% lwarp

```

```

355 % }% hbox
356 }

357 \newcommand*{\LWR@fvstartsingle}{%
358 \LWR@traceinfo{fvstartsingle}%
359 \LWR@fvstartnone%
360 \FV@BeginListFrame@Single%
361 }
362
363 \newcommand*{\LWR@fvendsingle}{%
364 \LWR@traceinfo{fvendsingle}%
365 \FV@endListFrame@Single%
366 \LWR@fvendnone%
367 }
368
369 \newcommand*{\LWR@fvstartline}{%
370 \LWR@traceinfo{fvstartline}%
371 \LWR@fvstartnone%
372 % \setlength{\LWR@templengthone}{\baselineskip}%
373 \FV@BeginListFrame@Lines%
374 % \setlength{\baselineskip}{\LWR@templengthone}%
375 % \setlength{\baselineskip}{5pt}%
376 }
377
378 \newcommand*{\LWR@fvendline}{%
379 \LWR@traceinfo{fvendline}%
380 \FV@endListFrame@Lines%
381 \LWR@fvendnone%
382 }

```

The following patches select the start/left/right/end behaviors depending on frame.

```

383 \newcommand*{\LWR@FVfindbordercolor}{%
384 \FancyVerbRuleColor%
385 \LWR@findcurrenttextcolor%
386 \color{black}%
387 }

```

\LWR@FVborderstyle

{<edge>} Border width of \FV@FrameRule. Edge is empty, -top, etc.

```

388 \newcommand*{\LWR@FVborderstyle}[1]{%
389 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
390 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
391 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
392 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
393 }

394 \VerifyCommand[\lwarp][fancyvrb]{\FV@Frame@none}{C60E1656944AB4C4D2B74410E88FE7C0}
395
396 \def\LWR@HTML@FV@Frame@none{%
397 \let\FV@BeginListFrame\LWR@fvstartnone%
398 \let\FV@LeftListFrame\relax%
399 \let\FV@RightListFrame\relax%
400 \let\FV@endListFrame\LWR@fvendnone%
401 \LWR@formatted{\FV@Frame@none}
402
403 \FV@Frame@none% default values

```

```

404 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@single}{CDF78DB9C6408F48D05302D07091C629}
405
406 \def\LWR@HTML@FV@Frame@single{%
407 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{}}% lwarp
408 \let\FV@BeginListFrame\LWR@fvstartsingle%
409 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
410 \let\FV@RightListFrame\FV@RightListFrame@Single%
411 \let\FV@EndListFrame\LWR@fvendsingle}
412
413 \LWR@formatted{FV@Frame@single}

414 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@lines}{1AADD6691DA93C9A66227F5C5B34EAE4}
415
416 \def\LWR@HTML@FV@Frame@lines{%
417 \renewcommand{\LWR@addFVborderstyles}{%
418 \LWR@addFVborderstyle{-top}%
419 \LWR@addFVborderstyle{-bottom}%
420 }% lwarp
421 \let\FV@BeginListFrame\LWR@fvstartline%
422 \let\FV@LeftListFrame\relax%
423 \let\FV@RightListFrame\relax%
424 \let\FV@EndListFrame\LWR@fvendline}
425
426 \LWR@formatted{FV@Frame@lines}

427 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@topline}{7E102D81F4FD367B398B8E85F48A7754}
428
429 \def\LWR@HTML@FV@Frame@topline{%
430 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-top}}% lwarp
431 \let\FV@BeginListFrame\LWR@fvstartline%
432 \let\FV@LeftListFrame\relax%
433 \let\FV@RightListFrame\relax%
434 \let\FV@EndListFrame\LWR@fvendnone}
435
436 \LWR@formatted{FV@Frame@topline}

437 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@bottomline}{A51600F812F57F4211EF9E34F261564A}
438
439 \def\LWR@HTML@FV@Frame@bottomline{%
440 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-bottom}}% lwarp
441 \let\FV@BeginListFrame\LWR@fvstartnone%
442 \let\FV@LeftListFrame\relax%
443 \let\FV@RightListFrame\relax%
444 \let\FV@EndListFrame\LWR@fvendline}
445
446 \LWR@formatted{FV@Frame@bottomline}

Seems to be required in some situations. Is not \LWR@formatted because it is
defined as needed.

447 \def\FV@FrameFillLine{}

448 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@leftline}{2A77982C6520FD64F6DBFA1C03B670BA}
449
450 \def\LWR@HTML@FV@Frame@leftline{%
451 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-left}}% lwarp

```

To define the `\FV@FrameFillLine` macro (from `\FV@BeginListFrame`)

```

452 \ifx\FancyVerbFillColor\relax%
453 \let\FV@FrameFillLine\relax%
454 \else%
455 \@tempdima\FV@FrameRule\relax%
456 \multiply\@tempdima-\tw@%
457 \edef\FV@FrameFillLine{%
458 {\noexpand\FancyVerbFillColor{\vrule\@width\number\@tempdima sp}%
459 \kern-\number\@tempdima sp}}%
460 \fi%
461 \let\FV@BeginListFrame\LWR@fvstartnone%
462 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
463 \let\FV@RightListFrame\relax%
464 \let\FV@EndListFrame\LWR@fvendnone%
465
466 \LWR@formatted{FV@Frame@leftline}

```

`\FV@SingleFrameLine`

Adds the optional label to the top and bottom edges.

```

467 \VerifyCommand[lwarp][fancyvrb]{\FV@SingleFrameLine}{2D8B1DAED851500F255E357437FF065C}
468
469 \def\LWR@HTML@FV@SingleFrameLine#1{%
470 % \hbox to\z@{%
471 % \kern\leftmargin
472 \ifnum#1=\z@\relax
473 \let\FV@Label\FV@LabelBegin
474 \else
475 \let\FV@Label\FV@LabelEnd
476 \fi
477 \ifx\FV@Label\relax
478 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
479 \else
480 \ifnum#1=\z@
481 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
482 \ifx\FV@LabelPositionTopLine\relax
483 \else
484 \fi
485 \else
486 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
487 \ifx\FV@LabelPositionBottomLine\relax
488 \else
489 \fi
490 \fi
491 \fi
492 % \hss
493 % }
494 }
495 \LWR@formatted{FV@SingleFrameLine}

```

Env BVerbatim

Adds `lwarp` verbatim patches.

```

496 \xpretocmd{\FV@BeginVBox}
497 {%
498 \LWR@forcenewpage%
499 \LWR@atbeginverbatim{bverbatim}%
500 }
501 {}
502 {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}

```

```

503
504 \xapptocmd{\FV@EndVBox}
505 {%
506 \LWR@afterendverbatim%
507 }
508 {}
509 {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

End of the modifications to make at the end of the preamble:

510 } % \AfterEndPreamble

511 \VerifyCommand[lwarp][fancyvrb]{\FVB@VerbatimOut}{A0AC591D2DB283DCEBCCC75968FF88CF}
512
513 \def\FVB@VerbatimOut#1{%
514 \@bsphack
515 \begingroup
516 \FV@UseKeyValues
517 \FV@DefineWhiteSpace
518 \def\FV@Space{\space}%
519 \FV@DefineTabOut
520 \def\FV@ProcessLine{\immediate\write\FV@OutFile}%
521 \immediate\openout\FV@OutFile #1\relax
522 \let\FV@FontScanPrep\relax
523 %% DG/SR modification begin - May. 18, 1998 (to avoid problems with ligatures)
524 \let\@noligs\relax
525 %% DG/SR modification end
526 \boolfalse{LWR@HTMLsanitize@tmpb@enable}% lwarp
527 \FV@Scan}

```

---

## File 158 **lwarp-fbox.sty**

### § 273 Package **fbox**

(Emulates or patches code by HERBERT VOSS.)

**fbox** (*Pkg*) **fbox** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fbox}[2022/02/20]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro\LWR@HTML@fbox\fbox
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*{\orig@fbox}{\FBox@i[tblr]}
```

\WR@fboxpkg@border

{\langle 1: top/bottom/left/right \rangle} {\langle 2: t/b/l/r \rangle} {\langle 3: padding, or empty \rangle}

Accumulates HTML styles for border, and padding if given:

```

4 \newcommand*{\LWR@fboxpkg@border}[3]{%
5 \colorlet{LWR@border@color}{\csuse{fbox@#2color}}%
6 \protect\convertcolorspec{named}{LWR@border@color}{HTML}\LWR@tempbordercolor\relax%
7 \appto\LWR@tempone{%

```

```

8 border-#1: % space
9 \LWR@printlength{\LWR@atleastonept} % space
10 solid \LWR@origpound%
11 }%
12 \expandafter\appto\expandafter\LWR@tempone\expandafter{\LWR@tempbordercolor}%
13 \appto\LWR@tempone{ ;\LWR@indentHTML}%
14 \ifblank{#3}{\}%
15 \appto\LWR@tempone{%
16 padding-#1: \LWR@printlength{#3} ;\LWR@indentHTML
17 }%
18 }%
19 }

```

A hack to reuse the same code for inline and blocks:

```

20 \newbool{\LWR@fboxpkg@ispar}
21 \boolfalse{\LWR@fboxpkg@ispar}

```

Accumulate HTML styles for left and right padding, depending on \if@fbox@space@left, \if@fbox@space@right:

```

22 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
23 \csuse{\if@fbox@space@#1}%
24 \appto\LWR@tempone{%
25 padding-#1: \LWR@printlength{\fbox@sep};\LWR@indentHTML
26 }
27 \else%
28 \appto\LWR@tempone{%
29 padding-#1: 0pt;\LWR@indentHTML
30 }
31 \fi%
32 }

```

The HTML version, modified to use HTML styles and either an \InlineClass or BlockClass:

```

33 \newcommand{\LWR@HTML@FBox@iii}[1]{%

```

Find and set the text color, rule width, margin:

```

34 \LWR@forceminwidth{\fbox@rule}%
35 \LWR@findcurrenttextcolor%
36 \def\LWR@tempone{%
37 color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
38 margin: 1ex ; \LWR@indentHTML
39 }%

```

Add left/right padding:

```

40 \LWR@fboxpkg@lrpadding{left}%
41 \LWR@fboxpkg@lrpadding{right}%

```

Per the original to decode the borders, in a new way:

```

42 \ifnum\the\@tempcntb>8\relax
43 \advance\@tempcntb by -8\relax
44 \LWR@fboxpkg@border{top}{t}{\fbox@sep}%
45 \fi
46 \ifnum\@tempcntb>3

```

```

47 \advance\@tempcntb by -4\relax
48 \LWR@fboxpkg@border{left}{l}{}%
49 \fi
50 \ifnum\@tempcntb>1\relax
51 \LWR@fboxpkg@border{right}{r}{}%
52 \fi
53 \ifodd\@tempcntb
54 \LWR@fboxpkg@border{bottom}{b}{\fbox@sep}%
55 \fi

```

Generate a BlockClass or \InlineClass with the contents:

```

56 \color@begingroup
57 \ifbool{LWR@fboxpkg@ispar}%
58 {%
59 \begin{BlockClass}[LWR@tempone]{fboxpkg}%
60 #1%
61 \end{BlockClass}%
62 }%
63 {%
64 \InlineClass[LWR@tempone]{fboxpkg}{%
65 #1%
66 }%
67 }%
68 \color@endgroup
69 \boolfalse{LWR@fboxpkg@ispar}% globally
70 }
71 \LWR@formatted{FBox@iii}

```

For \fparbox, set the use of BlockClass, then reuse the above:

```

72 \long\def\LWR@HTML@FParBox@i[#1]#2{%
73 \booltrue{LWR@fboxpkg@ispar}%
74 \FBox@i[#1]{#2}
75 }
76 \LWR@formatted{FParBox@i}
77
78 \long\def\LWR@HTML@FParBox@ii#1{%
79 \booltrue{LWR@fboxpkg@ispar}%
80 \FBox@i[tblr]{#1}%
81 }
82 \LWR@formatted{FParBox@ii}

```

For MATHJAX, absorb and ignore star and optional arguments:

```

83 \CustomizeMathJax{\let\LWRorigfbox\fbox}
84 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][\LWRorigfbox{#2}}
85 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
86 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

---

File 159 **lwarp-fewerfloatpages.sty**

§ 274 Package **fewerfloatpages**

fewerfloatpages (*Pkg*) fewerfloatpages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

---

```

2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}

```

---

File 160 **lwarp-figcaps.sty**

§ 275      Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

figcaps (*Pkg*)    figcaps is ignored.

**for HTML output:**    Discard all options for lwarp-figcaps:

```

1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}

```

---

File 161 **lwarp-figsize.sty**

§ 276      Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

figsize (*Pkg*)    figsize is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```

2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 162 **lwarp-fitbox.sty**

§ 277      Package **fitbox**

fitbox (*Pkg*)    fitbox is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3 \begin{BlockClass}{fitbox}
4 #3
5 \end{BlockClass}
6 }
7
8 \newcommand*{\fitboxset}[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][[]]{}

```

---

File 163 **lwarp-fix2col.sty**

§ 278 Package **fix2col**

`fix2col (Pkg)` `fix2col` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---

File 164 **lwarp-fixmath.sty**

§ 279 Package **fixmath**

*(Emulates or patches code by WALTER SCHMIDT.)*

`fixmath (Pkg)` `fixmath` is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}

```

---

File 165 **lwarp-fixme.sty**

§ 280 Package **fixme**

*(Emulates or patches code by DIDIER VERNA.)*

`fixme (Pkg)` `fixme` is patched for use by `lwarp`.

⚠ **external layouts** External layouts (`\fxloadlayouts`) are not supported.

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

**for HTML output:** 1 `\LWR@ProvidesPackagePass{fixme}[2019/01/03]`

Restore `lwarp`'s version of `\@wrindex`, ignoring the `fixme` package's target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by `lwarp`:

```
3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6 \hypertocfloat{1}{fixme}{lox}%
7 {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8 {#2}
9 }
```

Other modifications. Done `\AtBeginDocument` to hopefully work if the user customizes the layouts.

```
10 \AtBeginDocument{
11
12 \def\FXFaceInlineHTMLStyle{font-weight:bold}
13
14 \renewcommand*{\FXLayoutInline[3]{ % space
15 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
16 {\@fxttextstd{#1}{#2}{#3}}%
17 }
18
19 \def\FXFaceEnvHTMLStyle{font-weight:bold}
20
21 \renewcommand*{\FXEnvLayoutPlainBegin[2]{%
22 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23 \ignorespaces#2 \fxnotename{#1}: \ignorespaces%
24 }
25
26 \renewcommand*{\FXEnvLayoutPlainEnd[2]{\endBlockClass}
27
28 \renewcommand*{\FXEnvLayoutSignatureBegin[2]{%
29 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
30 \fxnotename{#1}: \ignorespaces%
31 }
32
33 \renewcommand*{\FXEnvLayoutSignatureEnd[2]{\@fxsignature{#2}\endBlockClass}
34
35 \def\FXFaceSignatureHTMLStyle{font-style:italic}
```

---

```

36
37 \DeclareRobustCommand*\@fxsignature[1]{%
38 \ifthenelse{\equal{#1}{}}{%
39 {}%
40 { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}}%
41 }
42
43
44 \def\FXFaceTargetHTMLStyle{font-style:italic}
45
46 \renewcommand\FXTargetLayoutPlain[2]{%
47 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
48 }
49
50}% \AtBeginDocument

```

---

File 166 **lwarp-fixmetodonotes.sty**

§ 281 Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

fixmetodonotes (*Pkg*) fixmetodonotes is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

```

2 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@addtolist}{C8CA636EF295D370F26A278FFAE28B2F}
3
4 \renewcommand{\NOTES@addtolist}[2]{%
5 \refstepcounter{NOTES@note}%
6 \phantomsection% REMOVED
7 \addcontentsline{notes}{NOTES@note}{%
8 \protect\numberline{\theNOTES@note}{#1}: {#2}}%
9 }%
10 }
11
12 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@marker}{B5B482E83AB149A1B7F0CCFB4099C61E}
13
14 \renewcommand{\NOTES@marker}[2]{\fbox{%
15 \textcolor{#2}{% WAS \color
16 \textbf{#1}}}%
17 }}
18
19 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@colorline}{816FF1D31286EA4825FE3F2BA58E99C}
20
21 \renewcommand{\NOTES@colorline}[2]{%
22 \bgroup%
23 \ULon{\LWR@backgroundcolor{#1}{#2}}%
24 }

```

---

File 167 **lwarp-flafter.sty**

§ 282 Package **flafter**

flafter (*Pkg*) flafter is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}
```

---

File 168 **lwarp-flippdf.sty**

§ 283      Package **flippdf**

flippdf (*Pkg*) flippdf is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]

2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}
```

---

File 169 **lwarp-float.sty**

§ 284      Package **float**

*(Emulates or patches code by ANSELM LINGNAU.)*

float (*Pkg*) float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML <figure> class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

 **not seem to be a floating environment** Always declare a \newfloat before modifying it with \floatname, etc.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{float}[2001/11/08]
```

\LWR@floatstyle The default float style.

```
2 \newcommand*{\LWR@floatstyle}{plain}
```

\newfloat

```
{\langle 1: type \rangle} {\langle 2: placement \rangle} {\langle 3: ext \rangle} [\langle 4: within \rangle]
```

Emulates the \newfloat command from the float package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}%}
```

Remember the float style:

```
7 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}%}
```

**newfloat** package automatically creates the `\listof` command for new floats, but **float** does not, so remove `\listof` here in case it is manually created later.

```
8 \cslet{listof#1s}\relax%
9 \cslet{listof#1es}\relax%
```

Like **size**, **newfloat** also creates `\l@<type>`, but **float** does not, so remove it here:

```
10 \cslet{l@#1}\relax%
11 }
```

`\floatname`

`{<type>} {<name>}`

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from **trivfloat**.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13 \def\LWR@tempone{#2}%
14 \def\LWR@temptwo{\@nameuse{#1name}}%
15 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{ }{%
16 \SetupFloatingEnvironment{#1}{name=#2}%
17 }%
18 }
```

`\floatplacement`

`{<type>} {<placement>}`

Float placement is ignored.

```
19 \newcommand*{\floatplacement}[2]{%
20 \SetupFloatingEnvironment{#1}{placement=#2}%
21 }
```

`\floatstyle`

`{<style>}`

Remember the style for future floats:

```
22 \newcommand{\floatstyle}[1]{%
23 \def\LWR@floatstyle{#1}%
24 }
```

`\restylefloat`

`* {<type>}`

Remember the style for this float:

```
25 \NewDocumentCommand{\restylefloat}{s m}{%
26 \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }
```

`\listof`

See section 81.2 for the `\LWR@listof` command in the **lwarp** core.

```
28 \newcommand{\listof}{\LWR@listof}
```

---

File 170 **lwarp-floatflt.sty**

§ 285 Package **floatflt**

(Emulates or patches code by MATS DAHLGREN.)

`floatflt (Pkg)` **floatflt** is emulated.

for HTML output:

Discard all options for lwarp-floatflt:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

Env  $\langle \rangle$ offset  $\langle type \rangle$   $\langle width \rangle$  Borrowed from the lwarp version of keyfloat:

```
2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4 \begin{LWR@setvirtualpage}*%
5 \ifblank{#3}{%
6 \LWR@BlockClassWP{%
7 float:right; %
8 width: 1.5in; % reasonable dummy width for word processor
9 margin:10pt%
10 }{%
11 (note)%
12 {marginblock}%
13 }{%
14 \setlength{\LWR@templengthone}{#3}%
15 \LWR@BlockClassWP{%
16 float:right; %
17 width:\LWR@printlength{\LWR@templengthone}; % extra space
18 margin:10pt%
19 }{%
20 width:\LWR@printlength{\LWR@templengthone}%
21 }%
22 (note)%
23 {marginblock}%
24 }%
25 \renewcommand*{\@capttype}{#2}%
26 }
27 {%
28 \endLWR@BlockClassWP%
29 \end{LWR@setvirtualpage}%
30 }
```

Env floatingfigure

 $\langle placement \rangle$   $\langle width \rangle$ 

```
31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatflt@marginfloat}}
```

Env floatingtable

 $\langle placement \rangle$ 

```
34 \DeclareDocumentEnvironment{floatingtable}{o}
35 {\begin{KFLTfloatflt@marginfloat}{table}{}}
36 {\end{KFLTfloatflt@marginfloat}}
```

File 171 **lwarp-floatpag.sty**

§ 286

Package

**floatpag***(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*floatpag (*Pkg*) floatpag is ignored.

for HTML output:

Discard all options for `lwarp-floatpag`:

```
1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*{\floatpagestyle}[1]{}
3 \newcommand*{\rotfloatpagestyle}[1]{}
4 \newcommand*{\thisfloatpagestyle}[1]{}

```

## File 172 `lwarp-floatrow.sty`

### § 287 Package `floatrow`

(Emulates or patches code by OLGA LAPKO.)

`floatrow (Pkg)` `floatrow` is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

⚠ **subfig package** When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

⚠ **\FBwidth, \FBheight** The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether `subcaption` was loaded. If not, it is assumed that `subfig` is used instead:

```
2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \IfPackageLoadedTF{subcaption}
6 {\booltrue{LWR@subcaptionloaded}}
7 {\boolfalse{LWR@subcaptionloaded}}
8 }

```

`\floatbox` [`<1 preamble>`] [`<2 captype>`] [`<3 width>`] [`<4 height>`] [`<5 vert pos>`] [`<6 caption>`] [`<7 object>`]

Only parameters for `captype`, `width`, `caption`, and `object` are used.

`LWR@insubfloatrow` is true if inside a `subfloatrow` environment.

There are two actions, depending on the use of subcaption or subfig.

```
9 \NewDocumentCommand{\floatbox}{o m o o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption
```

For subcaption:

```
12 \ifbool{LWR@insubfloatrow}%
13 {% subcaption in a subfloatrow
```

subfigure and subtable environments take width as an argument.

```
14 \IfValueTF{#3}%
15 {\@nameuse{sub#2}{#3}}%
16 {\@nameuse{sub#2}{\linewidth}}%
17 }% subcaption in a subfloatrow
18 {% subcaption not in subfloatrow
```

figure and table environments do not take a width argument.

```
19 \@nameuse{#2}%
20 }% subcaption not in subfloatrow
21 #6
22
23 #7
```

End the environments:

```
24 \ifbool{LWR@insubfloatrow}%
25 {\@nameuse{endsub#2}}%
26 {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig
```

For subfig:

```
29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow
```

\subfloat is a macro, not an environment.

Package subfig's \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```
31 \begingroup
32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 {% subfig package, but not a subfig
```

figure and table are environments:

```
37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }
```

Not used:

```

45 \newcommand*{\nocapbeside}{}
46 \newcommand*{\capbeside}{}
47 \newcommand*{\captop}{}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*{\useFCwidth}{}
53 \newcommand{\floatsetup}[2][{}]{
54 \newcommand{\thisfloatsetup}[1]{
55 \newcommand{\clearfloatsetup}[1]{
56 \newcommand*{\killfloatstyle}{}

```

`\newfloatcommand`      [*<1 command>*] [*<2 captype>*] [*<3 preamble>*] [*<4 default width>*]  
Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }

```

`\renewfloatcommand`      [*<1 command>*] [*<2 captype>*] [*<3 preamble>*] [*<4 default width>*]  
Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }

```

`\ffigbox`      [*<width>*] [*<height>*] [*<vposn>*] [*<caption commands>*] [*<contents>*]  
67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][

`\ttabbox`      [*<width>*] [*<height>*] [*<vposn>*] [*<caption commands>*] [*<contents>*]  
68 \newfloatcommand{ttabbox}{table}[\captop][\FBwidth]

`\fcapside`      [*<width>*] [*<height>*] [*<vposn>*] [*<caption commands>*] [*<contents>*]  
69 \newfloatcommand{fcapside}{figure}[\capbeside][

Env `floatrow`      [*<numfloats>*]  
The row of floats is placed into a <div> of class floatrow.

```

70 \newenvironment*{floatrow}[1][2]
71 {%
72 \begin{LWR@setvirtualpage}%
73 \BlockClass{floatrow}%
74 }
75 {
76 \endBlockClass%
77 \end{LWR@setvirtualpage}%
78 }

```

Keys for \DeclareNewFloatType:

```

79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%

```

\DeclareNewFloatType

{<type>} {<options>}

Use \listof{type}{Title} to print a list of the floats.

```

90 \newcommand*{\DeclareNewFloatType}[2]{%

```

Reset key values:

```

91 \renewcommand*{\LWR@frowkeyplacement}{}%
92 \renewcommand*{\LWR@frowkeyname}{}%
93 \renewcommand*{\LWR@frowkeyfileext}{}%
94 \renewcommand*{\LWR@frowkeywithin}{}%
95 \renewcommand*{\LWR@frowkeycapstyle}{}%

```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{} }{%
100 {%
101 \DeclareFloatingEnvironment[
102 placement=\LWR@frowkeyplacement,
103 fileext=\LWR@frowkeyfileext
104]{#1}%
105 }%
106 {%
107 \DeclareFloatingEnvironment[
108 placement=\LWR@frowkeyplacement,
109 fileext=\LWR@frowkeyfileext,
110 within=\LWR@frowkeywithin
111]{#1}%
112 % \LWR@traceinfo{finished newfloat #1}%
113 }%

```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{} }{%
115 {}%
116 {%
117 \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
118 }%
119 }

```

Not used:

```

120 \newcommand{\buildFBBOX}[2]{}
121 \newcommand*\CenterFloatBoxes{}
122 \newcommand*\TopFloatBoxes{}
123 \newcommand*\BottomFloatBoxes{}
124 \newcommand*\PlainFloatBoxes{}
125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

`\RawCaption``{\text{}}`

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}
```

`\floatfoot``{\text{}}`

Places additional text inside a float, inside a CSS <div> of class floatfoot.

```

130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}
132 #2
133 \end{BlockClass}
134 }

```

Used to compute `\linewidth`.

```

135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}

```

`Env subfloatrow``[\num_floats]`

```

137 \newenvironment*{subfloatrow}[1][2]
138 {

```

The row of floats is placed into a <div> of class floatrow:

```

139 \LWR@forcenewpage
140 \BlockClass{floatrow}

```

While inside the floatrow, `LWR@insubfloatrow` is set true, which tells `\floatbox` to use `\subfigure` or `\subtable`.

```

141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }

```

---

File 173 **lwarp-fltrace.sty**

§ 288      Package **fltrace**

`fltrace (Pkg)` `fltrace` is ignored.

for HTML output:

---

```
1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]
```

```
2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}
```

---

## File 174 **lwarp-flushend.sty**

### § 289 Package **flushend**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

`flushend (Pkg)` `flushend` is ignored.

**for HTML output:** Discard all options for `lwarp-flushend`:

```
1 \LWR@ProvidesPackageDrop{flushend}[2021/10/04]
```

```
2 \newcommand*{\flushend}{}
3 \newcommand*{\raggedend}{}
4 \newcommand*{\flushcolsend}{}
5 \newcommand*{\raggedcolsend}{}
6 \newtoks\atColsBreak \atColsBreak={}
7 \newtoks\atColsEnd \atColsEnd={}
8 \newcommand*{\showcolsendrule}{}

```

---

## File 175 **lwarp-fnbreak.sty**

### § 290 Package **fnbreak**

`fnbreak (Pkg)` `fnbreak` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]`

```
2 \newcommand*{\fnbreakverbose}{}
3 \newcommand*{\fnbreaknonverbose}{}
4 \newcommand*{\fnbreaklabel}{}
5 \newcommand*{\fnbreaknolabel}{}

```

---

## File 176 **lwarp-fncychap.sty**

### § 291 Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

`fncychap (Pkg)` `fncychap` is ignored.

**for HTML output:** Discard all options for `lwarp-fncychap`:

```
1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]
```

---

```

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}

```

---

File 177 **lwarp-fnlineno.sty**

§ 292      Package **fnlineno**

fnlineno (*Pkg*)    fnlineno is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 178 **lwarp-fnpara.sty**

§ 293      Package **fnpara**

fnpara (*Pkg*)    fnpara is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fnpara}

---

File 179 **lwarp-fnpos.sty**

§ 294      Package **fnpos**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

fnpos (*Pkg*)    fnpos is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```

2 \newcommand*{\makeFNbottom}{}
3 \newcommand*{\makeFNmid}{}
4 \newcommand*{\makeFNbelow}{}
5 \newcommand*{\makeFNabove}{}

```

---

File 180 **lwarp-fontawesome.sty**

§ 295      Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

fontawesome (*Pkg*) fontawesome is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning** If using PDF L<sup>A</sup>T<sub>E</sub>X, *poppler* may issue a syntax warning regarding parsing a ligature component. X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For PDF L<sup>A</sup>T<sub>E</sub>X, the `alt` tag includes the icon (symbol) number. For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X, the `alt` tag is generic.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*{\LWR@fontawesome@xelatex@symbol}[1]{%
9 \LWR@findcurrenttextcolor%
10 \begin{lateximage}*[icon]%
11 [fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
12 \csuse{\LWR@font@size}%
13 \LWR@orig@FA%
14 \LWR@orig@symbol{#1}%
15 \end{lateximage}%
16 }
17
18 \RenewDocumentCommand{\FA}{}{}%
19 \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
20 }
21
22 \else
23
24 \newcommand*{\LWR@fontawesome@symbolX}[2]{%
25 \LWR@findcurrenttextcolor%
26 \begin{lateximage}*[icon #1]?%
27 [fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
28 \csuse{\LWR@font@size}%
29 \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
30 \LWR@orig@symbol{#1}%
31 \end{lateximage}%
32 }

```

```

33
34 \newcommand*{\LWR@fontawesome@symbolone}[1]{%
35 \LWR@fontawesome@symbolX{#1}{one}%
36 }
37
38 \newcommand*{\LWR@fontawesome@symboltwo}[1]{%
39 \LWR@fontawesome@symbolX{#1}{two}%
40 }
41
42 \newcommand*{\LWR@fontawesome@symbolthree}[1]{%
43 \LWR@fontawesome@symbolX{#1}{three}%
44 }
45
46 \renewrobustcmd\FAone{%
47 \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
48 }
49
50 \renewrobustcmd\FAtwo{%
51 \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
52 }
53
54 \renewrobustcmd\FAthree{%
55 \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
56 }
57 \fi

```

---

## File 181 **lwarp-fontawesome5.sty**

### § 296 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

fontawesome5 (*Pkg*) fontawesome5 is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The `alt` tag has the name of the icon.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome5}[2022/05/02]

This used to contain code, but now it is split into the related two packages.

---

## File 182 **lwarp-fontawesome5-generic-helper.sty**

### § 297 Package **fontawesome5-generic-helper**

*(Emulates or patches code by MARCEL KRÜGER.)*

fontawesome5-generic-helper (*Pkg*) fontawesome5-generic-helper is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The `alt` tag has the name of the icon.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome5-generic-helper}[2022/05/02]

---

```

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][fontawesome5-generic-helper]{\fontawesome_use_icon:nn}
5 {0260A9C94303C43957AAEBEA2B4D3DB1}
6
7 \cs_set:Nn\fontawesome_use_icon:nn{
8 \LWR@findcurrenttextcolor
9 \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
10 \begin{lateximage}*[#2]?% lwarp
11 [fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]% lwarp
12 \csuse{\LWR@font@size}% lwarp
13 \bool_if:NTF\c__fontawesome_fixed_bool{
14 \makebox[1.5em][c]
15 }{
16 \use:n
17 }
18 {
19 \exp_last_unbraced:Nv
20 __fontawesome_icon_at:nnnn
21 {c__fontawesome_slot_#2_tl}
22 {#1}{#2}
23 }
24 \end{lateximage}% lwarp
25 }{
26 \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
27 }
28 }
29 \ExplSyntaxOff

```

---

File 183 **lwarp-fontawesome5-utex-helper.sty**

§ 298     Package **fontawesome5-utex-helper**

(Emulates or patches code by MARCEL KRÜGER.)

fontawesome5-utex-helper     fontawesome5-utex-helper is patched for use by lwarp.

(Pkg)

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome5-utex-helper}[2022/05/02]

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][fontawesome5-utex-helper]{\fontawesome_use_icon:nn}
5 {8452FF2BF0A317552B0920628ADD8C18}
6
7 \cs_set:Nn\fontawesome_use_icon:nn{
8 \group_begin:
9 \LWR@findcurrenttextcolor
10 \usefont
11 {TU}
12 {fontawesome\c__fontawesome_kind_tl}
13 {#1}
14 {n}
15 \bool_set:Nn \l__fontawesome_duotone_bool {

```

```

16 \str_if_eq_p:ee {#1} {duotone}
17 }
18 \int_set:Nn\l_tmpa_int{
19 __fontawesome_glyphindex:n{
20 #2
21 \bool_if:NT \l__fontawesome_duotone_bool { -primary }
22 }
23 }
24 \int_compare:nNnT{\l_tmpa_int}={0}{
25 \fontseries{solid}
26 \selectfont
27 \bool_set_false:N \l__fontawesome_duotone_bool
28 \int_set:Nn\l_tmpa_int{__fontawesome_glyphindex:n{#2}}
29 \int_compare:nNnTF{\l_tmpa_int}={0}{
30 \fontfamily{fontawesomebrands}
31 \fontseries{regular}
32 \selectfont
33 \int_set:Nn\l_tmpa_int{__fontawesome_glyphindex:n{#2}}
34 \int_compare:nNnT{\l_tmpa_int}={0}{
35 \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
36 }
37 }{
38 \msg_warning:nnxx{fontawesome5}{style-substitution}{#2}{#1}
39 }
40 }
41 \begin{lateximage}*[#2]?% lwarp
42 [fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]% lwarp
43 \csuse{\LWR@font@size}% lwarp
44 \bool_if:NTF\c__fontawesome_fixed_bool{
45 \makebox[1.5em][c]
46 }{
47 \use:n
48 }
49 {
50 \bool_if:NTF \l__fontawesome_duotone_bool {
51 __fontawesome_glyph:w \l_tmpa_int
52 \int_set:Nn\l_tmpa_int{ __fontawesome_glyphindex:n{ #2-secondary } }
53 \int_compare:nNnF { \l_tmpa_int } = { 0 } {
54 \llap {
55 \l_fontawesome_duotone_secondary_style_tl
56 { __fontawesome_glyph:w \l_tmpa_int }
57 }
58 }
59 % \oalign {
60 % \hss __fontawesome_glyph:w \l_tmpa_int \hss \cr
61 % \hss
62 % \int_set:Nn\l_tmpa_int{ __fontawesome_glyphindex:n{ #2-secondary } }
63 % \int_compare:nNnF { \l_tmpa_int } = { 0 } {
64 % \color{gray}__fontawesome_glyph:w \l_tmpa_int
65 % }
66 % \hss \cr
67 % }
68 } {
69 __fontawesome_glyph:w \l_tmpa_int
70 }
71 }
72 \end{lateximage}% lwarp
73 \group_end:
74 }
75 \ExplSyntaxOff

```

---

File 184 **lwarp-fontaxes.sty**

§ 299      Package **fontaxes**

*(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)*

fontaxes (*Pkg*) fontaxes is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the lwarp core. Swashes and figure styles are ignored for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

2 \ifdef{\LWR@HTML@swshape}{\% duplicated by nfssect-cfr
3 \newcommand{\LWR@HTML@swshape}{\}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{\%
10 \LetLtxMacro\swshape\empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }
```

---

File 185 **lwarp-fontenc.sty**

§ 300      Package **fontenc**

fontenc (*Pkg*) If using PDF L<sup>A</sup>T<sub>E</sub>X, lwarp used to require fontenc be loaded before lwarp, but now lwarp itself loads \fontenc with T1 encoding, which lwarp requires. fontenc is now allowed to be loaded with another encoding after lwarp.

lwarp-fontenc is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]
```

---

File 186 **lwarp-footmisc.sty**

§ 301      Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

footmisc (*Pkg*) footmisc is emulated.

lwarp incidentally happens to emulate the stable option.

```

1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```

2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNSymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker}{3sp}
17 \providecommand*\multfootsep}{,}

```

Using `cleveref`. `\labelcref` only prints the number of the object, not its type.

```

18 \providecommand*\footref}[1]{\labelcref{#1}}

```

The following work as-is:

```

19 \newcommand\mpfootnotemark{%
20 \ifnextchar[%
21 \xmpfootnotemark%
22 {%
23 \stepcounter\@mpfn%
24 \protected@xdef\@thefnmark{\thempfn}%
25 \@footnotemark%
26 }%
27 }
28 \def\xmpfootnotemark[#1]{%
29 \begingroup
30 \csname c@\mpfn\endcsname #1\relax%
31 \unrestored@protected@xdef\@thefnmark{\thempfn}%
32 \endgroup%
33 \@footnotemark%
34 }

```

---

File 187 **lwarp-footnote.sty**

§ 302      Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

`footnote (Pkg)` `footnote` is used with minor patches.

**for HTML output:**

`footnote` patches `\@makefnstext` in a strange way. It must be restored to the expected definition before loading `footnote`, then replaced again after.

```

1 \long\def\@makefnstext#1{\@thefnmark~#1}
2
3 \LWR@ProvidesPackagePass{footnote}[1997/01/28]
4

```

```

5 \long\def\@makefntext#1{\@thefnmark~{#1}}

6 \VerifyCommand[lwarp][footnote]{\spewnotes}{BCC4919F5404BADA8F1CF486E5709072}
7
8 \def\spewnotes{%
9 \endgroup%
10 \if@savingnotes\else\ifvoid\fn@notes\else\begin{group}%
11 \let\@makefntext\@empty%
12 \let\@finalstrut\@gobble%
13 \let\rule\@gobbletwo%
14 \booltrue{LWR@spewingnotes}% lwarp
15 \@footnotetext{\unvbox\fn@notes}%
16 \endgroup\fi\fi%
17 }
18 \let\endsavenotes\spewnotes
19
20 \VerifyCommand[lwarp][footnote]{\fn@fntext}{4C750987515F28FE665A08AB710193BA}
21
22 \def\fn@fntext#1{%
23 \ifx\ifmeasuring@\@undefined%
24 \expandafter\@secondoftwo\else\expandafter\@iden%
25 \fi%
26 {\ifmeasuring@\expandafter\@gobble\else\expandafter\@iden\fi}%
27 {%
28 \LWR@ensuredoingapar% lwarp
29 \setcounter{LWR@saved@spandepth}{\value{LWR@spandepth}}% lwarp
30 \setcounter{LWR@spandepth}{0}% lwarp
31 \LWR@save@doingapar% lwarp
32 \global\setbox\fn@notes\box{%
33 \unvbox\fn@notes%
34 \LWR@htmltagc{\LWR@tagregularparagraph}% lwarp
35 \LWR@orignewline% lwarp
36 \fn@startnote%
37 \@makefntext{%
38 \rule{z}{\footnotesep}%
39 \ignorespaces%
40 #1%
41 \@finalstrut\strutbox%
42 }%
43 \fn@endnote%
44 \global\boolfalse{LWR@doingapar}% lwarp
45 }%
46 \setcounter{LWR@spandepth}{\value{LWR@saved@spandepth}}% lwarp
47 \LWR@restore@doingapar% lwarp
48 }%
49 }

```

Removed print-version formatting:

```

50 \VerifyCommand[lwarp][footnote]{\fn@startnote}{D101A3D1B9653A6FDD7E9CF37BD5A4DD}
51
52 \def\fn@startnote{%
53 \@parboxrestore%
54 \protected@edef\@currentlabel{\csname p@\@mpfn@endcsname\@thefnmark}%
55 \color@begin{group} *** conflicts with lwarp
56 }
57
58 \let\fn@endnote\color@endgroup *** conflicts with lwarp
59 \def\fn@endnote{%

```

```

60 \LWR@orignobreakspace\LWR@orignewline%
61 \LWR@htmltagc{/LWR@tagregularparagraph}\LWR@orignewline%
62 \LWR@orignobreakspace\LWR@orignewline%
63 }

```

Removed print-version formatting:

```

64 \VerifyCommand[lwarp][footnote]{\fn@startfntext}{7270AD27C28391C41DA1FE47C49B5E7A}
65
66 \def\fn@startfntext{%
67 \setbox\z@\vbox\bgroup%
68 \LWR@htmltagc{/LWR@tagregularparagraph}% lwarp
69 \LWR@orignewline% lwarp
70 \fn@startnote%
71 \fn@prefntext% Req'd for numbering.
72 % \rule\z@\footnotesep%
73 \ignorespaces%
74 }
75

```

Removed print-version formatting, added closing paragraph tag:

```

76 \VerifyCommand[lwarp][footnote]{\fn@endfntext}{17BC1D2CD9A84BAFFBE765CC1618C36D}
77
78 \def\fn@endfntext{%
79 \fn@postfntext%
80 \LWR@orignobreakspace\LWR@orignewline%
81 \egroup%
82 \begingroup%
83 \let\@makefntext\@empty%
84 \let\@finalstrut\@gobble%
85 \renewcommand*{\rule}[3][{}]{%
86 \booltrue{LWR@spewingnotes}% lwarp
87 \global\booltrue{LWR@doingapar}%
88 \@footnotetext{\unvbox\z@}%
89 \endgroup%
90 }

```

These have been redefined, so re-\let them again:

```

91 \let\endfootnote\fn@endfntext
92 \let\endfootnotetext\endfootnote

```

---

File 188 **lwarp-footnotebackref.sty**

§ 303     Package **footnotebackref**

footnotebackref (*Pkg*) footnotebackref is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 189 **lwarp-footnotehyper.sty**

§ 304      Package **footnotehyper**

footnotehyper (*Pkg*) footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

**for HTML output:** Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2
3 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 190 **lwarp-footnoterange.sty**

§ 305      Package **footnoterange**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

footnoterange (*Pkg*) footnoterange is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 191 **lwarp-footnpag.sty**

§ 306      Package **footnpag**

footnpag (*Pkg*) footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

File 192 **lwarp-foreign.sty**

§ 307      Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

foreign (*Pkg*) foreign is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]

```
2 \renewcommand\foreignabbrfont{\emph}
```

---

File 193 **lwarp-forest.sty**

§ 308      Package **forest**
*(Emulates or patches code by SAŠO ŽIVANOVIĆ.)*

forest (*Pkg*)    forest is patched for use by lwarp.

 **\Forest\*** The starred version of the macro `\Forest*` is not supported. `lwarp` encases each `lateximage` in an environment, so the global results of the starred `\Forest*` are lost.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{forest}[2017/07/14]

2 \BeforeBeginEnvironment{forest}{%
3 \begin{lateximage}[-forest~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \VerifyCommand[lwarp][forest]{\Forest}{D44A6D1EAFFC86653905CC666F563E6D}
9
10 \RenewDocumentCommand{\Forest}{s D(){} m}{%
11 \forest@config{#2}%
12 \IfBooleanTF{#1}{%
13 \PackageError{lwarp-forest}%
14 {\protect\Forest* is not supported}%
15 {\Lwarp uses an environment for images,\MessageBreak
16 but \protect\Forest* cannot work in an environment.}%
17 \let\forest@next\forest@env%
18 }{\let\forest@next\forest@group@env}%
19 \begin{lateximage}[-forest~\PackageDiagramAltText]?% lwarp
20 \forest@next{#3}%
21 \end{lateximage}% lwarp
22 }
```

---

File 194 **lwarp-fouridx.sty**

§ 309      Package **fouridx**
*(Emulates or patches code by STEFAN KARRMANN.)*

fouridx (*Pkg*)    fouridx works as-is with `svg math`, and is emulated for `MATHJAX`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourIdx}[5]{%
5 \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{\#4}%
6 }%
7 }
8 \end{warpMathJax}
```

---

File 195 **lwarp-fourier.sty**

§ 310 Package **fourier**
*(Emulates or patches code by MICHEL BOVANI.)*

`fourier (Pkg)` `fourier` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \IfPackageLoadedWithOptionsTF{fourier}{sloped}
11 {
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \LWR@mathjax@addgreek@u@it*{other}{}
14 }% sloped
15 {% not sloped
16 \IfPackageLoadedWithOptionsTF{fourier}{upright}
17 {% upright option
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 }
23 {% neither sloped nor upright
24 \LWR@mathjax@addgreek@l@up{other}{}
25 \LWR@mathjax@addgreek@u@it*{other}{}
26 }
27 }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

```

`lwarp_mathjax.txt` adds `\left/\right` support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}

```

---

```

36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45 \mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordtdown}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wide0arc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

---

File 196 **lwarp-framed.sty**

## § 311 Package **framed**

(Emulates or patches code by DONALD ARSENEAU.)

framed (*Pkg*) **framed** is supported and patched by **lwarp**.

**for HTML output:** Accept all options for **lwarp-framed**:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2
3 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

4 \renewenvironment{framed}
5 {%
6 \LWR@forcenewpage
7 \BlockClass{framed}%
8 }
9 {\endBlockClass}
10
11 \renewenvironment{oframed}
12 {%
13 \LWR@forcenewpage
14 \BlockClass{framed}%
15 }

```

```

16 {\endBlockClass}
17
18
19 \renewenvironment{shaded}
20 {%
21 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
22 \LWR@forcenewpage
23 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
24 }
25 {\endBlockClass}
26
27 \renewenvironment{shaded*}
28 {%
29 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
30 \LWR@forcenewpage
31 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
32 }
33 {\endBlockClass}
34
35
36 \renewenvironment{leftbar}{%
37 \LWR@forcenewpage
38 \BlockClass{framedleftbar}
39 \def\FrameCommand{%
40 \MakeFramed {}
41 }%
42 {\endMakeFramed\endBlockClass}
43
44
45 \renewenvironment{snugshade}
46 {%
47 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
48 \LWR@forcenewpage
49 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
50 }
51 {\endBlockClass}
52
53 \renewenvironment{snugshade*}
54 {%
55 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
56 \LWR@forcenewpage
57 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
58 }
59 {\endBlockClass}
60
61 \let\oframed\framed
62 \let\endoframed\endframed
63
64
65 \RenewEnviron{titled-frame}[1]{%
66 \CustomFBox{#1}{}{0pt}{0pt}{0pt}{0pt}{\BODY}
67 }

\CustomFBox

 {\langle toptitle \rangle} {\langle bottitle \rangle} {\langle thicknessstop \rangle} {\langle bottom \rangle} {\langle left \rangle} {\langle right \rangle} {\langle text
 contents \rangle}

68 \renewcommand{\CustomFBox}[7]{%
69 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
70 \LWR@forcenewpage

```

```

71 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
72 \ifthenelse{\isempty{#1}}{\}% not empty
73 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
74 \textcolor{TFTitleColor}{\textbf{#1}}%
75 \end{BlockClass}%
76 }% not empty
77
78 #7
79
80 \ifthenelse{\isempty{#2}}{\}% not empty
81 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
82 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
83 \textcolor{TFTitleColor}{\textbf{#2}}%
84 \end{BlockClass}%
85 }% not empty
86 \end{BlockClass}%
87 }

```

```

\TitleBarFrame [⟨marker⟩] {⟨title⟩} {⟨contents⟩}

88 \renewcommand\TitleBarFrame[3][1]{%
89 \CustomFBox%
90 {#2}}%
91 \fboxrule\fboxrule\fboxrule\fboxrule%
92 {#3}%
93 }

94 \renewcommand{\TF@Title}[1]{#1}

```

```

Env MakeFramed {⟨settings⟩}

95 \let\MakeFramed\relax
96 \let\endMakeFramed\relax
97
98 \NewEnviron{MakeFramed}[1]{%
99 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
100 }

```

```

\fb@put@frame {⟨frame cmd no split⟩} {⟨frame cmd split⟩}

101 \renewcommand*\fb@put@frame[2]{%
102 \relax%
103 \@tempboxa%
104 }

```

---

File 197 **lwarp-froufrou.sty**

§ 312 Package **froufrou**

(Emulates or patches code by NELSON LAGO.)

froufrou (Pkg) **froufrou** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{froufrou}[2020/12/22]

2 \ExplSyntaxOn

---

```

3 \xpretocmd{\setfroufrou}
4 {\edef\LWR@latestfroufrou{\detokenize{#1}}}
5 {}
6 {\LWR@patcherror{froufrou}{setfroufrou}}
7 \ExplSyntaxOff
8
9 \VerifyCommand[lwarp][froufrou]{\froufrou}{E60D7F93008BB892149BBBC2E09983D6}
10
11 \RenewDocumentCommand{\froufrou}{s O{}}{%
12 \nopagebreak[4]\par
13
14 \IfBooleanTF{#1}{\@afterindenttrue}{\@afterindentfalse}
15
16 \nopagebreak[4]\@froufrou spacebefore\nopagebreak[4]
17
18 \bgroup
19 \setfroufrou{#2}%
20 \normalsize
21 \ifdefvoid{\setstretch}{\setstretch{\setstretch@spacespace}}% normally 1
22 \setlength{\parskip}{0pt}
23 \noindent\centering\bgroup%
24 \begin{center}%
25 \begin{lateximage}*[froufrou][\LWR@latestfroufrou]%
26 \@froufrouOrnament%
27 \end{lateximage}%
28 \end{center}%
29 \egroup\par
30 \egroup
31
32 \nopagebreak[4]\@froufrou spaceafter\nopagebreak[4]
33
34 \@froufrouFixSpacingAfter
35
36 \nopagebreak[3]
37
38 \@afterheading
39 }

```

---

File 198 **lwarp-ftcap.sty**

§ 313 Package **ftcap**

`ftcap` (*Pkg*) `ftcap` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 199 **lwarp-ftnright.sty**

§ 314 Package **ftnright**

`ftnright` (*Pkg*) `ftnright` is ignored.

**for HTML output:** Discard all options for `lwarp-ftnright`:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

---

File 200 **lwarp-fullminipage.sty**

§ 315     Package **fullminipage**

`fullminipage (Pkg)` `fullminipage` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

                         2 \newenvironment{fullminipage}[1][{}]{}

---

File 201 **lwarp-fullpage.sty**

§ 316     Package **fullpage**

`fullpage (Pkg)` `fullpage` is ignored.

**for HTML output:**    Discard all options for `lwarp-fullpage`:

                         1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]

---

File 202 **lwarp-fullwidth.sty**

§ 317     Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

`fullwidth (Pkg)` `fullwidth` is emulated.

A minipage is used, of no HTML width.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]

                         2 \newenvironment\*{fullwidth}[1][{}]{%

                         3 \minipagefullwidth%

                         4 \minipage{\linewidth}%

                         5 }

                         6 {%

                         7 \endminipage%

                         8 }

---

File 203 **lwarp-fvextra.sty**

§ 318     Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

`fvextra (Pkg)` `fvextra` is patched for use by `lwarp`.

**for HTML output:**    1 \LWR@ProvidesPackagePass{fvextra}[2025/02/09]

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```
2 \define@booleankey{FV}{obeytabs}%
3 % {\let\FV@ObeyTabsInit\FV@ObeyTabsInit}%
4 {\let\FV@ObeyTabsInit\relax}% lwarp
5 {\let\FV@ObeyTabsInit\relax}
```

`tabcolor` causes extra HTML tags, destroying the verbatim text alignment, so `tabcolor` is ignored.

```
6 \define@key{FV}{tabcolor}{}%

7 \define@booleankey{FV}{showtabs}%
8 {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
9 {\let\FV@TabChar\relax}

10
11 \newbool{LWR@FV@breaklines}
12
13 \define@booleankey{FV}{breaklines}%
14 {\boolfalse{FV@breaklines}%
15 \booltrue{LWR@FV@breaklines}% lwarp
16 % \let\FV@ListProcessLine\FV@ListProcessLine@Break}%
17 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}% lwarp
18 {\boolfalse{FV@breaklines}%
19 \boolfalse{LWR@FV@breaklines}% lwarp
20 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
21 % \fvset{breaklines}
22
23 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
24 \fvset{breakanywheresymbolpre={}}
25
26 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
27 \fvset{breakanywheresymbolpost={}}
28
29 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
30 \fvset{breakbeforesymbolpre={}}
31
32 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
33 \fvset{breakbeforesymbolpost={}}
34
35 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
36 \fvset{breakaftersymbolpre={}}
37
38 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
39 \fvset{breakaftersymbolpost={}}
40
41 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
42
43 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
44
45 \fvset{breaksymbolleft={}}
46
47 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
48 \fvset{breaksymbolright={}}
```

Modified to insert a fixed-width space (`\nobreakspace`) to indent the left margin on indented code, but also allow a line break if needed (`\allowbreak`), to allow for break lines.

```

49 \def\FV@DefFVSpace{%
50 \ifbool{FV@showspaces}%
51 {%
52 \def\FV@Space{%
53 \FV@SpaceColor{\FancyVerbSpace}%
54 \allowbreak%
55 }%
56 }%
57 {\def\FV@Space{\nobreakspace\allowbreak}}%
58 }

```

`\FancyVerbSpace`

Force the use of a visible space instead of an empty box. From `fancyvrb`.

```

59 \ifxetexorluatex
60 \def\FancyVerbSpace{\textvisiblespace}
61 \else
62 \@ifundefined{verbvisiblespace}%
63 {%
64 \@ifundefined{textvisiblespace}%
65 {\begingroup\catcode`\ =12 \gdef\FancyVerbSpace{\tt }\endgroup}
66 {\def\FancyVerbSpace{\textvisiblespace}}
67 }%
68 {\def\FancyVerbSpace{\verbvisiblespace}}
69 \fi

```

`\LWR@currentFVbackstyle`

Contains the style text for the background of the current environment. This is defined in `lwarp-fancyvrb`.

`\LWR@find@currentFVbackstyle` Figures out the style text for the background of the current environment. This is initially defined in `lwarp-fancyvrb`, and enhanced here.

```

70 \renewcommand*{\LWR@find@currentFVbackstyle}{%
71 \ifundef{\FancyVerbBackgroundColor}%
72 {%
73 \renewcommand*{\LWR@currentFVbackstyle}{}%
74 }%
75 {%
76 \protect\colorlet{\LWR@current@color}{\FancyVerbBackgroundColor}%
77 \protect\convertcolorspec%
78 {named}{\LWR@current@color}{HTML}%
79 \LWR@currentFVbackcolor\relax%
80 \renewcommand*{\LWR@currentFVbackstyle}{%
81 background:\LWR@origpound\LWR@currentFVbackcolor ; %
82 }%
83 }%
84 }%

```

`\FV@BGColor@List`

```

85 \def\FV@BGColor@List#1{%
86 \ifx\FancyVerbBackgroundColor\relax
87 \expandafter\@firstoftwo
88 \else
89 \expandafter\@secondoftwo

```

```

90 \fi
91 {#1}%
92 {%
93 % \setlength{\FV@TmpLength}{\fboxsep}%
94 % \setlength{\fboxsep}{0pt}%
95 % \colorbox{\FancyVerbBackgroundColor}{%
96 % \setlength{\fboxsep}{\FV@TmpLength}%
97 % #1% lwarp
98 % \rlap{\FancyVerbBackgroundColorVPhantom\strut#1}%
99 % \hspace{\linewidth}%
100 % \ifx\FV@RightListFrame\relax\else
101 % \hspace{-\FV@FrameSep}%
102 % \hspace{-\FV@FrameRule}%
103 % \fi
104 % \ifx\FV@LeftListFrame\relax\else
105 % \hspace{-\FV@FrameSep}%
106 % \hspace{-\FV@FrameRule}%
107 % \fi%
108 % }%
109 % \hss%
110 }}

```

{\text{}}

\FV@ListProcessLine@NoBreak

Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```

111 \VerifyCommand[lwarp][fvextra]{\FV@ListProcessLine@NoBreak}
112 {1BD7CF18A442D2F988127C6BE726517B}
113
114 \def\FV@ListProcessLine@NoBreak#1{%
115 % \hbox to \hsize{%
116 % \kern\leftmargin
117 % \hbox to \linewidth{%
118 % \FV@LeftListNumber%
119 % \FV@LeftListFrame%
120 % \FV@BGColor@List{%
121 % \FancyVerbFormatLine{%
122 % \FancyVerbHighlightLine{%
123 % \FV@ObeyTabs{\FancyVerbFormatText{#1}}}}}%\hss
124 % \FV@RightListFrame%
125 % \FV@RightListNumber%
126 % }%
127 % \hss}%
128 \null\par% lwarp
129 \FV@bgcoloroverlap%
130 }

131 \newcommand*{\LWR@FV@linethensep}{%
132 \ifbool{LWR@FV@breaklines}%
133 {\theFancyVerbLine\kern\FV@NumberSep}%
134 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
135 }
136
137 \newcommand*{\LWR@FV@sephenline}{%
138 \ifbool{LWR@FV@breaklines}%
139 {\kern\FV@NumberSep\theFancyVerbLine}%
140 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
141 }
142

```

```

143 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@left}
144 {57A16473A8AA4214529F6BABEC435311}
145
146 \xpatchcmd{\FV@Numbers@left}%
147 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
148 {\LWR@FV@linethensep}
149 {}
150 {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
151
152 \xpatchcmd{\FV@Numbers@left}%
153 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
154 {\LWR@FV@linethensep}
155 {}
156 {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
157
158 \xpatchcmd{\FV@Numbers@left}%
159 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
160 {\LWR@FV@linethensep}
161 {}
162 {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
163
164 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@right}
165 {6D0F98326BCB22695874D94BEC12E32F}
166
167 \xpatchcmd{\FV@Numbers@right}%
168 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
169 {\LWR@FV@sephenline}
170 {}
171 {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
172
173 \xpatchcmd{\FV@Numbers@right}%
174 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
175 {\LWR@FV@sephenline}
176 {}
177 {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
178
179 \xpatchcmd{\FV@Numbers@right}%
180 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
181 {\LWR@FV@linethensep}
182 {}
183 {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
184
185 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@both}
186 {C349DC2B800D5DD085FFB7620A6289EA}
187
188 \xpatchcmd{\FV@Numbers@both}%
189 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
190 {\LWR@FV@linethensep}
191 {}
192 {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
193
194 \xpatchcmd{\FV@Numbers@both}%
195 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
196 {\LWR@FV@linethensep}
197 {}
198 {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
199
200 \xpatchcmd{\FV@Numbers@both}%
201 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
202 {\LWR@FV@linethensep}

```

```

203 {}
204 {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
205
206 \xpatchcmd{\FV@Numbers@both}%
207 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
208 {\LWR@FV@septhenline}
209 {}
210 {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
211
212 \xpatchcmd{\FV@Numbers@both}%
213 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
214 {\LWR@FV@septhenline}
215 {}
216 {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
217
218 \xpatchcmd{\FV@Numbers@both}%
219 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
220 {\LWR@FV@linethensep}
221 {}
222 {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

\FVC@SaveVerb@Extra@ii      {\langle name \rangle} {\langle raw text \rangle} {\langle text \rangle}

Modified to add \LWR@HTMLsanitize@use@tmb to the stored macro. This is used on recall to sanitize for HTML unless in a lateximage.

```

223 \VerifyCommand[lwarp][fvextra]{\FVC@SaveVerb@Extra@ii}
224 {BCE88217BA577F70BAC8158E110E404C}
225
226 \def\FVC@SaveVerb@Extra@ii#1#2#3{%
227 \global\let\FV@AfterSave\FancyVerbAfterSave
228 \endgroup
229 % \@namedef{FV@SV@#1}{#3}%
230 \@namedef{FV@SV@#1}{\LWR@HTMLsanitize@use@tmb{#3}}% lwarp
231 % \@namedef{FV@SVRaw@#1}{#2}%
232 \@namedef{FV@SVRaw@#1}{\LWR@HTMLsanitize@use@tmb{#2}}% lwarp
233 \FV@AfterSave}%

```

\FVC@Verb@Extra@ii      {\langle text \rangle}

Adds the opening and closing tags.

```

234 \VerifyCommand[lwarp][fvextra]{\FVC@Verb@Extra@ii}
235 {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
236
237 \def\FVC@Verb@Extra@ii#1{%
238 \def\tmpb{#1}% lwarp
239 \ifbool{LWR@verbtags}% lwarp
240 {\LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}}% lwarp
241 {}% lwarp
242 \LWR@HTMLsanitize@tmb% lwarp
243 \ifx\FancyVerbBackgroundColor\relax
244 \expandafter\@firstoftwo
245 \else
246 \expandafter\@secondoftwo
247 \fi
248 {\ifbool{FV@breaklines}%
249 % {\FV@InsertBreaks{\FancyVerbFormatInline}{#1}}%
250 % {\mbox{\FancyVerbFormatInline{#1}}}%
251 {\FV@InsertBreaks{\FancyVerbFormatInline}{\tmpb}}% lwarp

```

```

252 {\mbox{\FancyVerbFormatInline{\tmpb}}}% lwarp
253 {\setlength{\FV@TmpLength}{\fboxsep}%
254 \ifx\FancyVerbBackgroundColorPadding\relax
255 \setlength{\fboxsep}{0pt}%
256 \else
257 \setlength{\fboxsep}{\FancyVerbBackgroundColorPadding}%
258 \fi
259 \colorbox{\FancyVerbBackgroundColor}{%
260 \setlength{\fboxsep}{\FV@TmpLength}%
261 \FancyVerbBackgroundColorVPhantom\FancyVerbFormatInline{#1}}}%
262 \FancyVerbBackgroundColorVPhantom\FancyVerbFormatInline{\tmpb}}}% lwarp
263 \ifbool{LWR@verbtags}% lwarp
264 {\LWR@htmltag{/span}}}% lwarp
265 {}}% lwarp
266 \endgroup}

```

\FV@UseVerb@Extra

{\text{}}

Adds the opening and closing tags.

```

267 \VerifyCommand[lwarp][fvextra]{\FV@UseVerb@Extra}
268 {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
269
270 \let\FV@UseVerb@Extra\FVC@Verb@Extra@ii%

```

\FVC@EscVerb@ii

{\text{}}

Adds the opening and closing tags.

```

271 \VerifyCommand[lwarp][fvextra]{\FVC@EscVerb@ii}
272 {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
273
274 \let\FVC@EscVerb@ii\FVC@Verb@Extra@ii%

```

\FVB@VerbatimWrite

Disable santizing HTML while writing the file. HTML will be sanitized on \VerbatimInput.

```

275 \VerifyCommand[lwarp][fvextra]{\FVB@VerbatimWrite}
276 {B092E8AB57DB2ABBA815BC39DB5256DC}
277
278 \xpatchcmd{\FVB@VerbatimWrite}
279 {\FV@Scan}
280 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
281 {}
282 {\LWR@patcherror{fvextra}{FVB@VerbatimWrite}}

```

\FVB@VerbatimBuffer

Disable santizing HTML while writing the buffer. HTML will be sanitized on \VerbatimInsertBuffer.

```

283 \VerifyCommand[lwarp][fvextra]{\FVB@VerbatimBuffer}
284 {C93C8D3CFD5AD692F8A1A202F07FD771}
285
286 \xpatchcmd{\FVB@VerbatimBuffer}
287 {\FV@Scan}
288 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
289 {}
290 {\LWR@patcherror{fvextra}{FVB@VerbatimBuffer}}

```

\VerbatimInsertBuffer@def@FV@Line

---

```

291 \VerifyCommand[lwarp][fvextra]{\VerbatimInsertBuffer@def@FV@Line}
292 {5C6EACB0FB4432BEA081C784456845CD}
293
294 \def\VerbatimInsertBuffer@def@FV@Line#1{%
295 \FVExtraRetokenizeVArg{\def\FV@Line}{\#1}%
296 \LetLtxMacro\tmpb\FV@Line% lwarp
297 \LWR@HTMLsanitize@tmpb% lwarp
298 \LetLtxMacro\FV@Line\tmpb% lwarp
299 }%
```

---

## File 204 **lwarp-fwlw.sty**

### § 319 Package **fwlw**

`fwlw` (*Pkg*) `fwlw` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fwlw}

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

---

## File 205 **lwarp-gensymb.sty**

### § 320 Package **gensymb**

*(Emulates or patches code by WALTER SCHMIDT.)*

`gensymb` (*Pkg*) `gensymb` works as-is for SVG math, and uses the MATHJAX package.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}

```

---

## File 206 **lwarp-gentombow.sty**

### § 321 Package **gentombow**

`gentombow` (*Pkg*) `gentombow` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

---

File 207 **lwarp-geometry.sty**

§ 322      Package **geometry**

*(Emulates or patches code by HIDEO UMEKI.)*

geometry (*Pkg*) **geometry** is preloaded by **lwarp**, but must be nullified as seen by the user's source code.

**for HTML output:** Discard all options for **lwarp-geometry**:

```
1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If **geometry** is never loaded by the user, it will be loaded by **lwarp** `\AtBeginDocument`. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` **lwarp** will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@ptionlist{\@currname.\@currentt}}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*{\geometry}[1]{}
7 \renewcommand*{\newgeometry}[1]{}
8 \renewcommand*{\restoregeometry}{}
9 \renewcommand*{\savegeometry}[1]{}
10 \renewcommand*{\loadgeometry}[1]{}

```

---

File 208 **lwarp-ghsystem.sty**

§ 323      Package **ghsystem**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

ghsystem (*Pkg*) **ghsystem** is patched for use by **lwarp**.

 **\ghspic images** Images must be provided in SVG format, unless JPG is specified. It is recommended to create a local images directory, copy into it the relevant PDF **ghsystem** images, and then convert them with

Enter ⇒ **lwarpmk pdftosvg images/\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]

```
2 \ExplSyntaxOn
3
```

```

4 \VerifyCommand[lwarp][ghsystem]{\ghsystem_filler:n}{2B8CCE2EC0EC4AB8FA4C4E4A68FFCE70}
5
6 \cs_set_protected:Npn \ghsystem_filler:n #1
7 { \emph { \textless #1 \textgreater } }
8
9 \VerifyCommand[lwarp][ghsystem]{\ghsystem_pic:n}{950F001D9FCDAFF7A9154739DC8025BB}
10
11 \cs_set_protected:Npn \ghsystem_pic:n #1
12 {
13 __ghsystem_includegraphics:xn
14 {
15 % scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
16 width = 1.25cm
17 \exp_not:V \l__ghsystem_picture_includegraphics_tl
18 }
19 { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
20 }
21
22 \ExplSyntaxOff

```

---

File 209 **lwarp-gindex.sty**

## § 324 Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

`gindex (Pkg)` `gindex` is patched for use by `lwarp`.

See section [8.6.16](#).

**for HTML output:** 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the `lwarp` core looks for the tokens instead of their expanded contents, since the \*.ind files will contain \indexpagesep and \indexrangesep instead of their literal contents. Finally, `lwarp` is told of the `gindex` macros.

```

2 \AtBeginDocument{
3 \robustify{\indexpagesep}
4 \robustify{\indexrangesep}
5 \renewcommand*{\IndexPageSeparator}{\indexpagesep}
6 \renewcommand*{\IndexRangeSeparator}{\indexrangesep}
7 }

```

\hyperindexref is added:

```

8 \def\addindexitem#1#2{%
9 \indexflushitem
10 \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13 \stepcounter{indexsubitems}%
14 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}

```

Uses a <div> of class indexheading:

```
18 \renewcommand\indexheading[1]{%
19 \begin{BlockClass}{indexheading}
20 \MakeUppercase{#1}%
21 \end{BlockClass}
22 }
```

---

## File 210 **lwarp-gloss.sty**

### § 325 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

`gloss (Pkg)` **gloss** is patched for use by **lwarp**.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\BaseJobname is added to the label in case `xr` or `xr-hyper` are used.

```
2 \VerifyCommand[lwarp][gloss]{\gls@gloss@iii}{96590CC8FAE12295596B9F664BE4AF8C}
3
4 \xpatchcmd{\gls@gloss@iii}
5 {\thepage}
6 {\theLWR@previousautopagelabel}
7 {}
8 {\LWR@patcherror{gloss}{\gls@gloss@iii}}
9
10 \VerifyCommand[lwarp][gloss]{\gls@page@i}{C05FCEACF0A1F96FC09A218684543574}
11
12 \def\gls@page@i#1#2{%
13 \endgroup%
14 \global\@namedef{glsp@#1}{\nameref{\BaseJobname-autopage-#2}}}%

```

---

## File 211 **lwarp-glossaries.sty**

### § 326 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

`glossaries (Pkg)` **lwarpmk** has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package's **makeglossaries** program.

`GlossaryCmd (Opt)`

Default: **makeglossaries**

`printglossary (Opt)` []

`htmlglossary (Opt)` []

The shell command to execute is set by the **lwarp** option `GlossaryCmd`, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

 **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
 GlossaryCmd={perl makeglossaries},
] {lwarp}
```

*xindy* language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
 GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

**Numbered section, on its own HTML page:**

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

**Unnumbered section, inline with the current HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

**Unnumbered section, on its own HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default style=item option for glossaries conflicts with lwarp, so the style is forced to index instead.

⚠ **number list** The page number list in the printed form would become \namerefs in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

**for HTML output:**

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix toc pointing to the previous page:

```
7 \VerifyCommand[lwarp][glossaries]{\@pglossarysection}{129DC9CFB9484FC34C7B81E32BBB0452}
8
9 \renewcommand*{\@pglossarysection}[2]{%
10 \glsclearpage
11 \LWR@phantomsection
12 \ifdefempty\@pglossarysecstar
13 {%
```

```

14 \csname\@glossarysec\endcsname{#2}%
15 }%
16 {%

```

In the original, the toc entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the toc entry is made after the section is created:

```

17 \csname\@glossarysec\endcsname*{#2}%
18 \@gls@toc{#1}{\@glossarysec}% Moved after the previous line.
19 }%
20 \@glossaryseclabel
21 }

```

lwarp's sectioning commands cannot handle robust macros when splitting HTML into named filenames. glossaries uses \translate in sectioning names, and \translate is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of \translatelet.

```

22 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
23
24 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
25 \translatelet\LWR@translatetemp{Glossary}
26 \edef\glossaryname{\LWR@translatetemp}
27 }{}
28
29 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
30
31 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
32 \translatelet\LWR@translatetemp{Acronym}
33 \edef\acronymname{\LWR@translatetemp}
34 }{}
35
36 \newcommand*{\LWR@comp@glssymbolsgroupname}{\translate{Symbols (glossaries)}}
37
38 \ifdefstrequal{\glssymbolsgroupname}{\LWR@comp@glssymbolsgroupname}{
39 \translatelet\LWR@translatetemp{Symbols (glossaries)}
40 \edef\glssymbolsgroupname{\LWR@translatetemp}
41 }{}
42
43 \newcommand*{\LWR@comp@glslnumbersgroupname}{\translate{Numbers (glossaries)}}
44
45 \ifdefstrequal{\glslnumbersgroupname}{\LWR@comp@glslnumbersgroupname}{
46 \translatelet\LWR@translatetemp{Numbers (glossaries)}
47 \edef\glslnumbersgroupname{\LWR@translatetemp}
48 }{}

```

---

File 212 **lwarp-gmeometric.sty**

§ 327 Package **gmeometric**

gmeometric (*Pkg*) gmeometric is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

```

File 213 **lwarp-graphics.sty**

§ 328 Package **graphics**

*(Emulates or patches code by D. P. CARLISLE.)*

graphics (*Pkg*) **graphics** is emulated for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2024/08/06]

### § 328.1 Graphics extensions

\DeclareGraphicsExtensions {*<list>*}

\AtBeginDocument allow SVG files instead of PDF:

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a lateximage, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12 \ifXeTeX
13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16 \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20 \fi
21 \fi
```

### § 328.2 Length conversions and graphics options



**whitespace**

A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to “inlineimage” unless changed by a `class=xyx` option.

```
22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*{\LWR@igwidthstyle}{}
25 \newcommand*{\LWR@igheightstyle}{}
26 \newcommand*{\LWR@igorigin}{}

```

```

27 \newcommand*\LWR@igangle{}
28 \newcommand*\LWR@igxscale{1}
29 \newcommand*\LWR@igyscale{1}
30
31 \newbool\LWR@igkeepaspectratio
32 \boolfalse\LWR@igkeepaspectratio
33
34 \newcommand*\LWR@igclass{\inlineimage}

```

```

35 %\newcommand*\LWR@igalt{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
39 {%

```

Default to use the converted fixed length given:

```

40 \renewcommand*\LWR@igwidthstyle{\width:\LWR@printlength{\LWR@igwidth}}%

```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}%
42 {\renewcommand*\LWR@igwidthstyle{\width:#1}}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}%
45 {\renewcommand*\LWR@igwidthstyle{\width:#1}}% yes em
46 {}% not em
47 \IfEndWith{#1}{\}%
48 {\renewcommand*\LWR@igwidthstyle{\width:#1}}% yes percent
49 {}% not percent
50 \IfEndWith{#1}{px}%
51 {\renewcommand*\LWR@igwidthstyle{\width:#1}}% yes px
52 {}% not px
53 }{}% end of length > 0pt
54 }

```

If an optional height was given, set an HTML style:

```

55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
58 {%

```

Default to use the converted fixed length given:

```

59 \renewcommand*\LWR@igheightstyle{%
60 height:\LWR@printlength{\LWR@igheight} % extra space
61 }%

```

If ex or em dimensions were given, use those instead:

```

62 \IfEndWith{#1}{ex}%

```

```

63 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes ex
64 {}% not ex
65 \IfEndWith{#1}{em}%
66 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes em
67 {}% not em
68 \IfEndWith{#1}{\}%
69 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes percent
70 {}% not percent
71 \IfEndWith{#1}{px}%
72 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes px
73 {}% not px
74 }{}% end of length > 0pt
75 }

```

Handle keepaspectratio key:

```

76 \define@key{igraph}{keepaspectratio}[false]{%
77 \booltrue{\LWR@igkeepaspectratio}%
78 }

```

Handle origin key:

```

79 \define@key{igraph}{origin}[c]{%
80 \renewcommand*{\LWR@igorigin}{#1}%
81 }

```

Handle angle key:

```

82 \define@key{igraph}{angle}{\renewcommand*{\LWR@igangle}{#1}}

```

Handle class key:

```

83 \define@key{igraph}{class}{\renewcommand*{\LWR@igclass}{#1}}

```

Handle alt key:

```

84 \define@key{igraph}{alt}{\renewcommand*{\LWR@ThisAltText}{#1}}
85 \define@key{igraph}{actualtext}{\renewcommand*{\LWR@ThisAltText}{#1}}
86 \define@key{igraph}{artifact}[false]{}

```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```

87 \define@key{igraph}{scale}{%
88 \ifthenelse{\equal{#1}{1}}{}{% must expand #1
89 \PackageNote{\lwarp}{%
90 It is recommended to use ``[width=xx\protect\linewidth]''\MessageBreak
91 instead of ``[scale=yy]'' ,%
92 }%
93 }%
94 \renewcommand*{\LWR@igxscale}{#1}%
95 \renewcommand*{\LWR@igyscale}{#1}%
96 }

```

Numerous ignored keys:

```

97 \define@key{igraph}{bb}{}
98 \define@key{igraph}{bblx}{}

```

```

99 \define@key{igraph}{bblly}{}
100 \define@key{igraph}{bburx}{}
101 \define@key{igraph}{bbury}{}
102 \define@key{igraph}{natwidth}{}
103 \define@key{igraph}{natheight}{}
104 \define@key{igraph}{hiresbb}[true]{}
105 \define@key{igraph}{viewport}{}
106 \define@key{igraph}{trim}{}
107 \define@key{igraph}{totalheight}{}
108 \define@key{igraph}{clip}[true]{}
109 \define@key{igraph}{draft}[true]{}
110 \define@key{igraph}{type}{}
111 \define@key{igraph}{ext}{}
112 \define@key{igraph}{read}{}
113 \define@key{igraph}{command}{}

```

New in v1.1a:

```

114 \define@key{igraph}{quite}{}
115 \define@key{igraph}{page}{}
116 \define@key{igraph}{pagebox}{}
117 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```

118 \define@key{igraph}{decodearray}{}

```

### § 328.3 Printing HTML styles

\LWR@rotstyle

$\{\langle prefix \rangle\} \{\langle degrees \rangle\}$

Prints the rotate style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:rotate style.

```

119 \newcommand*\LWR@rotstyle}[2]{%
120 \edef\LWR@tempone{#2}%
121 \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
122 #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
123 }

```

\LWR@scalestyle

$\{\langle prefix \rangle\} \{\langle xscale \rangle\} \{\langle yscale \rangle\}$

Prints the scale style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:scale style.

```

124 \newcommand*\LWR@scalestyle}[3]{%
125 #1transform:scale(#2,#3);
126 }

```

§ 328.4 **\includegraphics****\LWR@opacity**

For HTML, used only for \includegraphics.

\LWR@opacity may be set by the transparent package.

```
127 \def\LWR@opacity{1}
```

**\LWR@imagesizebox**

Used to determine the actual image size if needed.

```
128 \newsavebox{\LWR@imagesizebox}
```

**\LWR@HTML@Gin@setfile** $\langle w \rangle$   $\langle h \rangle$   $\langle filename \rangle$  Sets the parsed filename for HTML output.

```
129 \newcommand*\LWR@HTML@Gin@setfile[3]{%
130 \xdef\LWR@parsedfilename{#3}%
131 }
```

**class (*Key*) []** css class for the image.

Define the new class key for the print-mode version of \includegraphics, which is enabled inside a lateximage.

```
132 \AtBeginDocument{
133 \define@key{Gin}{class}{}
134 }
```

**\LWR@replaceEPSSVG**

Usually, references to EPS files become SVG files, but if the epstopdf package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```
135 \AtBeginDocument{
136 \IfPackageLoadedTF{epstopdf}
137 {
138 \newcommand*\LWR@replaceEPSSVG{}
139 }{%
140 \newcommand*\LWR@replaceEPSSVG{%
141 \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
142 \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
143 }
144 }%
145 }
```

**\* [*2: options*] [*3: options*]  $\langle 4: filename \rangle$** **\LWR@ig@useactualimagesize**

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of svg to find the original bounding box:

```
146 \newcommand*\LWR@ig@useactualimagesize[4]{%
147 \begingroup%
148 \LWR@restoreorigformatting%
149 \ifpdf%
150 \appto\LWR@restoreorigformatting{%
151 \DeclareGraphicsExtensions{%
152 .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
153 }%
154 }%
155 \else% \ifpdf
156 \ifXeTeX%
```

```

157 \appto\LWR@restoreorigformatting{%
158 \DeclareGraphicsExtensions{%
159 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
160 }%
161 }%
162 \else%
163 \appto\LWR@restoreorigformatting{%
164 \DeclareGraphicsExtensions{%
165 .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
166 }%
167 }%
168 \fi%
169 \fi% \ifpdf

```

For a word processor, do not use rotation:

```

170 \ifbool{FormatWP}{\define@key{Gin}{angle}{}}{}%

171 \IfBooleanTF{#1}%
172 {% starred
173 \IfValueTF{#3}%
174 {%
175 \global\abox{\LWR@imagesizebox}{%
176 \LWR@originincludegraphics*[#2][#3]{#4}%
177 }%
178 }%
179 {%
180 \IfValueTF{#2}%
181 {%
182 \global\abox{\LWR@imagesizebox}{%
183 \LWR@originincludegraphics*[#2]{#4}%
184 }%
185 }{%
186 \global\abox{\LWR@imagesizebox}{%
187 \LWR@originincludegraphics*{#4}%
188 }%
189 }%
190 }%
191 }% starred
192 {% not starred
193 \IfValueTF{#3}%
194 {%
195 \global\abox{\LWR@imagesizebox}{%
196 \LWR@originincludegraphics[#2][#3]{#4}%
197 }%
198 }%
199 {%
200 \IfValueTF{#2}%
201 {%
202 \global\abox{\LWR@imagesizebox}{%
203 \LWR@originincludegraphics[#2]{#4}%
204 }%
205 }{%
206 \global\abox{\LWR@imagesizebox}{%
207 \LWR@originincludegraphics{#4}%
208 }%
209 }%
210 }%
211 }% not starred
212 \endgroup%
213 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%

```

```

214 \global\renewcommand*{\LWR@igwidthstyle}{%
215 width:\LWR@printlength{\LWR@igwidth}%
216 }%
217 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
218 \global\renewcommand*{\LWR@igheightstyle}{%
219 height:\LWR@printlength{\LWR@igheight}%
220 }%
221 }

```

\LWR@ig@htmltag

For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

222 \newcommand*{\LWR@ig@htmltag}{%
223 img\LWR@indentHTML%
224 src=\textquotedbl%
225 \detokenize\expandafter{\LWR@parsedfilename}%
226 \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

227 \ifthenelse{
228 \NOT\equal{\LWR@igwidthstyle}{ } \OR
229 \NOT\equal{\LWR@igheightstyle}{ } \OR
230 \NOT\equal{\LWR@igorigin}{ } \OR
231 \NOT\equal{\LWR@igangle}{ } \OR
232 \NOT\equal{\LWR@igxscale}{1} \OR
233 \NOT\equal{\LWR@igyscale}{1}
234 }%
235 {%
236 style=\textquotedbl\LWR@indentHTML
237 \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{ }}%
238 {\LWR@igwidthstyle;\LWR@indentHTML}{ }%
239 \ifthenelse{\NOT\equal{\LWR@igheightstyle}{ }}%
240 {\LWR@igheightstyle;\LWR@indentHTML}{ }%
241 \ifthenelse{\NOT\equal{\LWR@igorigin}{ }}%
242 {%
243 transform-origin: \LWR@originnames{\LWR@igorigin};%
244 \LWR@indentHTML%
245 }{}%
246 \ifthenelse{\NOT\equal{\LWR@igangle}{ }}%
247 {%
248 \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
249 \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
250 \LWR@rotstyle{}{\LWR@igangle }\LWR@indentHTML
251 }{}%
252 \ifthenelse{%
253 \NOT\equal{\LWR@igxscale}{1}\OR%
254 \NOT\equal{\LWR@igyscale}{1}%
255 }%
256 {%
257 \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
258 \LWR@indentHTML
259 \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
260 \LWR@indentHTML
261 \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
262 \LWR@indentHTML
263 }{}%
264 %
265 \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%

```

```

266 {opacity:\LWR@opacity;\LWR@indentHTML}{}%
267 %
268 \textquotedbl\LWR@indentHTML%
269 }{%

```

Set the class and alt tag:

```

270 class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
271 \ifdefempty{\LWR@ThisAltText}%
272 {%
273 %
274 alt=\textquotedbl%
275 \AltTextOpen\LWR@ThisAltText\AltTextClose%
276 \textquotedbl%
277 \gdef\LWR@ThisAltText{%
278 }%
279 \ \LWR@orignewline%
280 }% end of image tags

```

`\LWR@includegraphicsb`

\* [*<2: options>*] [*<3: options>*] [*<4: filename>*]

**graphics** syntax is `\includegraphics * [<llx, lly>] [<urx, ury>] {<filename>}`

**graphicx** syntax is `\includegraphics [<key values>] {<filename>}`

If #3 is empty, only one optional argument was given, thus **graphicx** syntax.

If using `\epsfig` or `\psfig` from the **epsfig** package, #4 will be `\LWR@epsfig@filename`, which will have been set by the file or figure keys. Therefore, #4 must not be used until after the keys have been processed.

```

281 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
282 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```

283 \LWR@orignobreakspace \LWR@orignewline%

```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```

284 \begin{\LWR@setvirtualpage}%

```

For correct em sizing during the width and height conversions:

```

285 \large%

```

Temporarily prevent underfull `\hbox` warnings.

```

286 \hbadness=10000\relax%

```

Reset some defaults, possibly will be changed below if options were given:

```

287 \setlength{\LWR@igwidth}{0pt}%
288 \setlength{\LWR@igheight}{0pt}%
289 \renewcommand*{\LWR@igwidthstyle}{}%
290 \renewcommand*{\LWR@igheightstyle}{}%
291 \renewcommand*{\LWR@igorigin}{}%
292 \renewcommand*{\LWR@igangle}{}%
293 \renewcommand*{\LWR@igxscale}{1}%
294 \renewcommand*{\LWR@igyyscale}{1}%
295 \renewcommand*{\LWR@igclass}{inlineimage}%
296 \boolfalse{\LWR@igkeepaspectratio}%

```

If #3 is empty, only one optional argument was given, thus **graphicx** syntax:

```

297 \IfValueF{#3}{%

```

```

298 \IfValueTF{#2}%
299 {\setkeys{igraph}{#2}}%
300 {\setkeys{igraph}{}}%
301 }%

```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

Note that uppercase file extensions are detected and reported as lowercase, so **lwarp** can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```

302 \begingroup%
303 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
304 \edef\LWR@tempone{#4}%

```

PDF extensions are removed to allow a search for another graphics format such as SVG or PNG.

```

305 \StrSubstitute{\LWR@tempone}{.pdf}{\LWR@tempone}%
306 \StrSubstitute{\LWR@tempone}{.PDF}{\LWR@tempone}%
307 \LWR@replaceEPS SVG%
308 \xdef\LWR@parsedfilename{\LWR@tempone}%
309 \Gin@include@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
310 \endgroup%
311 \filename@parse{\LWR@parsedfilename}%

```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

312 \StrSubstitute{\LWR@parsedfilename}{//}{/}{\LWR@parsedfilename}%
313 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, or if using `keepaspectratio`, find and set the actual image size, without rotation, using PDF instead of svg to find the original bounding box:

```

314 \ifbool{expr{
315 bool {FormatWP} or
316 bool {LWR@igkeepaspectratio}
317 }}{\LWR@ig@useactualimagesize{#1}{#2}{#3}{#4}}{}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class.

`\LWR@ThisAltText` is used and consumed while creating the title, so it is preserved here to be used again for the alt text.

```

318 \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
319 \boolfalse{\LWR@HTML@sanitize@tmppb@removebackslash}%
320 \edef\LWR@prev@ThisAltText{\LWR@ThisAltText}%
321 \LWR@href@partsanitized{\LWR@parsedfilename}%
322 {% start of href
323 \LWR@traceinfo{\LWR@includegraphicsb: about to LWR@htmltag}%

```

The alt text was absorbed when creating the link title, so reassign it here, or assign the default if blank.

```

324 \edef\LWR@ThisAltText{\LWR@prev@ThisAltText}%
325 \ifvoid{\LWR@ThisAltText}{\edef\LWR@ThisAltText{\ImageAltText}}{}%
326 \LWR@htmltag{\LWR@ig@htmltag}%
327 }% end of href

```

Return to original page size and font size:

```
328 \end{LWR@setvirtualpage}%
```

Clear the single-use alt text:

```
329 \gdef\LWR@ThisAltText{%
330 \LWR@traceinfo{LWR@includegraphicsb done}%
331 }
```

```
\includegraphics [<key=val>] {<filename>}
```

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```
332 \AtBeginDocument{
333
334 \LWR@traceinfo{Patching includegraphics.}
335
336 \LetLtxMacro\LWR@originincludegraphics\includegraphics

337 \renewrobustcmd*{\includegraphics}
338 {%
```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
339 \LWR@traceinfo{includegraphics}%
340 \LWR@ensuredoingapar%
341 \LWR@includegraphicsb%
342 }% includegraphics
343 }% AtBeginDocument
```

## § 328.5 Boxes

`\LWR@rotboxorigin`

Holds the origin key letters.

```
344 \newcommand*{\LWR@rotboxorigin}{}
```

`\LWR@originname`

`{<letter>}`

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

```
345 \newcommand*{\LWR@originname}[1]{%
346 \ifthenelse{\equal{#1}{t}}{top}{}%
347 \ifthenelse{\equal{#1}{b}}{bottom}{}%
348 \ifthenelse{\equal{#1}{c}}{center}{}%
349 \ifthenelse{\equal{#1}{l}}{left}{}%
350 \ifthenelse{\equal{#1}{r}}{right}{}%
351 }
```

`\LWR@originnames`

`{<letters>}`

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```
352 \newcommand*{\LWR@originnames}[1]{%
353 \StrChar{#1}{1}[\LWR@strresult]%
354 \LWR@originname{\LWR@strresult}
355 \StrChar{#1}{2}[\LWR@strresult]%
```

```

356 \LWR@originname{\LWR@strresult}
357 }

```

Handle the origin key for \rotatebox:

```

358 \define@key{krotbox}{origin}{%
359 \renewcommand*\LWR@rotboxorigin}{#1}%
360 }

```

These keys are ignored:

```

361 \define@key{krotbox}{x}{}
362 \define@key{krotbox}{y}{}
363 \define@key{krotbox}{units}{}

```

\rotatebox [*<keyval list>*] [*<angle>*] [*<text>*]

```

364 \AtBeginDocument{

```

The HTML version:

```

365 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%

```

Reset the origin to “none-given”:

```

366 \renewcommand*\LWR@rotboxorigin{}

```

Process the optional keys, which may set \LWR@rotateboxorigin:

```

367 \setkeys{krotbox}{#1}%

```

Select inline-block so that HTML will transform this span:

```

368 \LWR@htmltagc{%
369 span\LWR@indentHTML
370 style=\textquotedbl\LWR@indentHTML
371 display: inline-block;\LWR@indentHTML

```

If an origin was given, translate and print the origin information:

```

372 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}{%
373 {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
374 {}%

```

Print the rotation information:

```

375 \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
376 \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
377 \LWR@rotstyle{}{#2}\textquotedbl\LWR@orignewline%
378 }\LWR@orignewline%

```

Print the text to be rotated:

```

379 \begin{LWR@nestspan}%
380 #3%

```

Close the span:

```
381 \LWR@htmltagc{/span}%
382 \end{LWR@nestspan}%
383 }
```

The high-level interface:

```
384 \LWR@formatted{rotatebox}
385
386 }% AtBeginDocument
```

`\scalebox {<h-scale>} [<v-scale>] {<text>}`

```
387 \AtBeginDocument{
```

The HTML version:

```
388 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
389 \LWR@htmltagc{%
390 span\LWR@indentHTML
391 style=\textquotedbl\LWR@indentHTML
392 display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
393 \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
394 \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
395 \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
396 \textquotedbl\LWR@orignewline
397 }\LWR@orignewline%
```

Print the text to be scaled:

```
398 \begin{LWR@nestspan}%
399 #3%
```

Close the span:

```
400 \LWR@htmltagc{/span}%
401 \end{LWR@nestspan}%
402 }
```

The high-level interface:

```
403 \LWR@formatted{scalebox}
404
405 }% AtBeginDocument
```

`\reflectbox {<text>}`

```
406 \AtBeginDocument{
407
```

```

408 \newcommand{\LWR@HTML@reflectbox}[1]{%
409 \scalebox{-1}[1]{#1}%
410 }% \reflectbox
411
412 \LWR@formatted{reflectbox}
413
414 }% AtBeginDocument

```

`\resizebox { $\langle h-length \rangle$  } { $\langle v-length \rangle$  } { $\langle text \rangle$  }`

Simply prints its text argument.

```

415 \AtBeginDocument{
416
417 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
418 #4%
419 }
420
421 \LWR@formatted{resizebox}
422
423 }% AtBeginDocument

```

---

#### File 214 **lwarp-graphicx.sty**

### § 329 Package **graphicx**

`graphicx (Pkg)` `graphicx` is emulated.

`graphicx` loads `graphics`, which also loads `lwarp-graphics`, which remembers the original `graphics` definitions for use inside a `lateximage`, and then patches them `\AtBeginDocument` for HTML output.

`lwarp-graphics` handles the syntax of either `graphics` or `graphicx`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{graphicx}[2024/12/31]`

---

#### File 215 **lwarp-grffile.sty**

### § 330 Package **grffile**

`grffile (Pkg)` `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.



**matching PDF and SVG**

`lwarp-grffile` now exists as a placeholder since `grffile` used to be emulated by `lwarp`, and thus older versions of `lwarp-grffile` may exist and should be overwritten by this newer version.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]`

File 216 **lwarp-grid.sty**§ 331 Package **grid**

`grid (Pkg)` `grid` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

2 \newenvironment\*{gridenv}{}{}

File 217 **lwarp-grid-system.sty**§ 332 Package **grid-system**

*(Emulates or patches code by MARCUS BITZL.)*

`grid-system (Pkg)` `grid-system` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}

3

4 \ifdef{\endrow}{

5     \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}

6 }{}

7

8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}

File 218 **lwarp-gridset.sty**§ 333 Package **gridset**

`gridset (Pkg)` `gridset` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

2 \newcommand\*{\gridbase}{}

3 \newcommand\*{\gridinterval}{}

4 \newcommand\*{\SavePos}[1]{}

5 \ifLuaTeX

6 \else

7 \let\savepos\SavePos

8 \fi

9 \newcommand\*{\vskipnextgrid}{}

10 \newcommand\*{\thegridinfo}[1]{(thegridinfo)}

11 \newcommand\*{\theposinfo}[1]{(theposinfo)}

12 \newcommand\*{\theypos}[1]{(theypos)}

---

File 219 **lwarp-hang.sty**

§ 334     Package **hang**
*(Emulates or patches code by ANDREAS NOLDA.)*

hang (*Pkg*) **hang** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14 \LWR@findhangingleftmargin%
15 \BlockClass[%
16 \LWR@print@box{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17 \LWR@print@box{text-indent:-\LWR@printlength{\hangingindent}}%
18]%
19 {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25 \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
26 \renewcommand*\LWR@printopenlist{%
27 \LWR@findhangingleftmargin%
28 ul % space
29 class=\textquotedbl{}hanging\textquotedbl{} % space
30 style=\textquotedbl%
31 \LWR@print@box{list-style-type:none;} % extra space
32 \LWR@print@box{%
33 margin-left:\LWR@printlength{\LWR@templengthone}%
34 } ; % extra space
35 \LWR@print@box{%
36 text-indent:-\LWR@printlength{\hangingindent}%
37 }%
38 \textquotedbl%
39 }%
40 \LetLtxMacro\item\LWR@itemizeitem%
41 \list{}{}%
42 }
43 {\endlist}
44
45 \newenvironment{compacthang}

```

---

```

46 {\hanginglist}
47 {\endhanginglist}
48
49 \newlength{\labeledleftmargin}
50 \setlength{\labeledleftmargin}{0em}
51
52 \newenvironment{labeledpar}[2]
53 {%
54 \BlockClass[%
55 \LWR@findhangingleftmargin%
56 \LWR@print@box{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
57 \LWR@print@box{text-indent:-\LWR@printlength{\hangingindent}}%
58]{labeledpar}%
59 \InlineClass{labeledparlabel}{#2}%
60 }
61 {\endBlockClass}
62
63 \newenvironment{labeledlist}[1]
64 {\hanginglist}
65 {\endhanginglist}
66
67 \newenvironment{compactlabel}[1]
68 {\hanginglist}
69 {\endhanginglist}

```

---

File 220 **lwarp-hanging.sty**

§ 335      Package **hanging**

hanging (*Pkg*)    hanging is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \IfClassLoadedTF{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}

```

\hangpara                    {<indent>} {<afternum>}

**Use hangparas instead.**

```

9 \newcommand*{\hangpara}[2]{}

```

Env    hangparas                    {<indent>} {<afternum>}

```

10 \newenvironment*{hangparas}[2]
11 {%
12 \BlockClass[%
13 \LWR@print@box{margin-left:\LWR@printlength{#1}} ; %
14 \LWR@print@box{text-indent:-\LWR@printlength{#1}}%
15]%
16 {hangpar}%
17 }

```

```
18 {\endBlockClass}
```

```
19 \newenvironment*{hangpunct}
20 {\BlockClass{hangpunct}}
21 {\endBlockClass}
```

```
22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{‘}
24 \newcommand{\nhrq}{’}
```

---

File 221 **lwarp-hepunits.sty**

§ 336 Package **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

hepunits (*Pkg*) hepunits is used as-is, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
```

---

```

37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltcsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\evc\electronvoltc}
45 \CustomizeMathJax{\let\evcsq\electronvoltcsq}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\ev}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\ev}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\ev}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\ev}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\ev}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\evc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\evc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\evc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\evc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\evc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\evcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\evcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\evcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\evcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\evcsq}}
63 \fi
64 \end{warpMathJax}

```

---

File 222 **lwarp-hhline.sty**

§ 337 Package **hhline**

(Emulates or patches code by DAVID CARLISLE.)

hhline (*Pkg*) hhline is patched for use by lwarp.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

for HTML output:

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3 \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4 \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For MATHJAX. A simple \hline is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

---

File 223 **lwarp-hhtensor.sty**

§ 338      Package **hhtensor**

*(Emulates or patches code by HARALD HARDERS.)*

hhtensor (*Pkg*)    hhtensor is used as-is, and emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

```

2 \begin{warpMathJax}
3 \iftensor@bold
4 \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5 \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6 \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8 \iftensor@uline
9 \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10 \CustomizeMathJax{\newcommand{\matr}[1]{\ushortd{#1}}}
11 \CustomizeMathJax{\newcommand{\tens}[2]{
12 \underset{
13 \raise{.5ex}{\underset{#2}{\sim}}
14 }{#1}
15 }}
16 \else
17 \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18 \CustomizeMathJax{\newcommand{\tens}[2]{
19 \underset{
20 \raise{.5ex}{\underset{#2}{\sim}}
21 }{#1}
22 }}
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{\mathrm{T}}}
27 \end{warpMathJax}
```

---

File 224 **lwarp-hypbmsec.sty**

§ 339      Package **hypbmsec**

hypbmsec (*Pkg*)    hypbmsec is emulated by the lwarp core.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 225 **lwarp-hypcap.sty**

§ 340      Package **hypcap**

hypcap (*Pkg*)    hypcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```
2 \newcommand*\capstart{}
3 \newcommand*\hypcapspace{}
4 \newcommand*\hypcapredef[1]{}
5 \newcommand*\capstartfalse{}
6 \newcommand*\capstarttrue{}
```

---

File 226 **lwarp-hypdestopt.sty**

§ 341 Package **hypdestopt**

hypdestopt (*Pkg*) hypdestopt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 227 **lwarp-hypernat.sty**

§ 342 Package **hypernat**

hypernat (*Pkg*) hypernat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 228 **lwarp-hyperref.sty**

§ 343 Package **hyperref**

*(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

hyperref (*Pkg*) hyperref is emulated.

**for HTML output:**

```
1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed
2 % \ProvidesPackage{lwarp-#1-#2}% not allowed
3 \PackageInfo{lwarp}{%
4 Using the lwarp HTML version of package `hyperref',\MessageBreak
5 and discarding options except backref, pagebackref.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch lwarp's version of `hyperref'.)\MessageBreak}
```

The following options are copied from the alphabetic list from the hyperref documentation.

```
8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{allbordercolors}[]{}
13 \define@key{LWR@hyperref}{allcolors}[]{}
14 \define@key{LWR@hyperref}{anchorcolor}[]{}
15 \define@key{LWR@hyperref}{backref}[]{}

```

```
16 \define@key{LWR@hyperref}{baseurl}[]{}
17 \define@key{LWR@hyperref}{bookmarks}[]{}
18 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
19 \define@key{LWR@hyperref}{bookmarksopen}[]{}
20 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
21 \define@key{LWR@hyperref}{bookmarkstype}[]{}
22 \define@key{LWR@hyperref}{breaklinks}[]{}
23 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
24 \define@key{LWR@hyperref}{citebordercolor}[]{}
25 \define@key{LWR@hyperref}{citecolor}[]{}
26 \define@key{LWR@hyperref}{colorlinks}[]{}
27 \define@key{LWR@hyperref}{debug}[]{}
28 \define@key{LWR@hyperref}{destlabel}[]{}
29 \define@key{LWR@hyperref}{draft}[]{}
30 \define@key{LWR@hyperref}{driverfallback}[]{}
31 \define@key{LWR@hyperref}{dvipdfm}[]{}
32 \define@key{LWR@hyperref}{dvipdfmx}[]{}
33 \define@key{LWR@hyperref}{dvips}[]{}
34 \define@key{LWR@hyperref}{dvipsone}[]{}
35 \define@key{LWR@hyperref}{dviwindo}[]{}
36 \define@key{LWR@hyperref}{encap}[]{}
37 \define@key{LWR@hyperref}{extension}[]{}
38 \define@key{LWR@hyperref}{filebordercolor}[]{}
39 \define@key{LWR@hyperref}{filecolor}[]{}
40 \define@key{LWR@hyperref}{final}[]{}
41 \define@key{LWR@hyperref}{frenchlinks}[]{}
42 \define@key{LWR@hyperref}{hidelinks}[]{}
43 \define@key{LWR@hyperref}{hyperfigures}[]{}
44 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
45 \define@key{LWR@hyperref}{hyperindex}[]{}
46 \define@key{LWR@hyperref}{hypertex}[]{}
47 \define@key{LWR@hyperref}{hypertexnames}[]{}
48 \define@key{LWR@hyperref}{implicit}[]{}
49 \define@key{LWR@hyperref}{latex2html}[]{}
50 \define@key{LWR@hyperref}{linkbordercolor}[]{}
51 \define@key{LWR@hyperref}{linkcolor}[]{}
52 \define@key{LWR@hyperref}{linktoc}[]{}
53 \define@key{LWR@hyperref}{linktocpage}[]{}
54 \define@key{LWR@hyperref}{menubordercolor}[]{}
55 \define@key{LWR@hyperref}{menucolor}[]{}
56 \define@key{LWR@hyperref}{nativepdf}[]{}
57 \define@key{LWR@hyperref}{naturalnames}[]{}
58 \define@key{LWR@hyperref}{nesting}[]{}
59 \define@key{LWR@hyperref}{next-anchor}[]{}
60 \define@key{LWR@hyperref}{pageanchor}[]{}
61 \define@key{LWR@hyperref}{pagebackref}[]{}
62 \define@key{LWR@hyperref}{pdfauthor}[]{}
63 \define@key{LWR@hyperref}{pdfborder}[]{}
64 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
65 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
66 \define@key{LWR@hyperref}{pdfcreator}[]{}
67 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
68 \define@key{LWR@hyperref}{pdfdirection}[]{}
69 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
70 \define@key{LWR@hyperref}{pdfduplex}[]{}
71 \define@key{LWR@hyperref}{pdffitwindow}[]{}
72 \define@key{LWR@hyperref}{pdfhighlight}[]{}
73 \define@key{LWR@hyperref}{pdfinfo}[]{}
74 \define@key{LWR@hyperref}{pdfkeywords}[]{}
75 \define@key{LWR@hyperref}{pdflang}[]{}

```

```

76 \define@key{LWR@hyperref}{pdfmark}[]{}
77 \define@key{LWR@hyperref}{pdfmenubar}[]{}
78 \define@key{LWR@hyperref}{pdfmoddate}[]{}
79 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
80 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}[]{}
81 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
82 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
83 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
84 \define@key{LWR@hyperref}{pdfpagemode}[]{}
85 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
86 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
87 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
88 \define@key{LWR@hyperref}{pdfprintarea}[]{}
89 \define@key{LWR@hyperref}{pdfprintclip}[]{}
90 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
91 \define@key{LWR@hyperref}{pdfprintscaling}[]{}
92 \define@key{LWR@hyperref}{pdfproducer}[]{}
93 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
94 \define@key{LWR@hyperref}{pdfstartpage}[]{}
95 \define@key{LWR@hyperref}{pdfstartview}[]{}
96 \define@key{LWR@hyperref}{pdfsubject}[]{}
97 \define@key{LWR@hyperref}{pdftex}[]{}
98 \define@key{LWR@hyperref}{pdftitle}[]{}
99 \define@key{LWR@hyperref}{pdftoolbar}[]{}
100 \define@key{LWR@hyperref}{pdftrapped}[]{}
101 \define@key{LWR@hyperref}{pdfview}[]{}
102 \define@key{LWR@hyperref}{pdfviewarea}[]{}
103 \define@key{LWR@hyperref}{pdfviewclip}[]{}
104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{plainpages}[]{}
106 \define@key{LWR@hyperref}{ps2pdf}[]{}
107 \define@key{LWR@hyperref}{psdextra}[]{}
108 \define@key{LWR@hyperref}{raiselinks}[]{}
109 \define@key{LWR@hyperref}{runbordercolor}[]{}
110 \define@key{LWR@hyperref}{runcolor}[]{}
111 \define@key{LWR@hyperref}{setpagesize}[]{}
112 \define@key{LWR@hyperref}{tex4ht}[]{}
113 \define@key{LWR@hyperref}{textures}[]{}
114 \define@key{LWR@hyperref}{unicode}[]{}
115 \define@key{LWR@hyperref}{urlbordercolor}[]{}
116 \define@key{LWR@hyperref}{urlcolor}[]{}
117 \define@key{LWR@hyperref}{verbose}[]{}
118 \define@key{LWR@hyperref}{vtex}[]{}
119 \define@key{LWR@hyperref}{xetex}[]{}
120
121 \DeclareStringOption[false]{backref}[section]
122
123 \DeclareBoolOption{pagebackref}
124
125 \DeclareDefaultOption{}
126
127 \ProcessKeyvalOptions*\relax

```

Maybe load backref:

```

128 \ifdefstring{LWR@hyperref@backref}{section}
129 {\RequirePackage{backref}}
130 {}
131
132 \ifdefstring{LWR@hyperref@backref}{slide}

```

```

133 {\RequirePackage{backref}}
134 {}
135
136 \ifdefstring{\LWR@hyperref@backref}{page}
137 {\RequirePackage{backref}}
138 {}
139
140 \ifLWR@hyperref@pagebackref
141 \RequirePackage{backref}
142 \fi

```

### Emulated:

```

143 \newdimen\XeTeXLinkMargin
144 \newcommand*{\XeTeXLinkBox}[1]{#1}

145 \LetLtxMacro\href\LWR@href
146 \LetLtxMacro\nolinkurl\LWR@nolinkurl
147 \LetLtxMacro\url\LWR@url
148 \LetLtxMacro\phantomsection\LWR@phantomsection

149 \newcommand*{\hyperbaseurl}[1]{ }

```

### No application for lwarp:

```

150 \newcommand*{\HyperDestNameFilter}[1]{#1}
151 \newcommand*{\HyperDestLabelReplace}[1]{#1}
152 \newcommand*{\HyperDestRename}[2]{ }

```

### No application for lwarp:

```

153 \newcommand*{\hyperget}[2]{ }

```

### \hyperimage

$\{\langle URL \rangle\} \{\langle alt \text{ text} \rangle\}$

Insert an image with ALT text. The given ALT text need not be sanitized because `\&`, `\%`, `\textless`, `\textgreater` are already sanitized.

```

154 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
155 \LWR@ensuredoingapar%
156 \edef\tmpb{#1}%
157 \LWR@HTMLsanitize@tmpb%
158 \LWR@htmltag{%
159 img src=\textquotedbl\tmpb\textquotedbl\ %
160 alt=\textquotedbl#2\textquotedbl\ %
161 class=\textquotedbl{}\hyperimage\textquotedbl%
162 }%
163 \LWR@ensuredoingapar%
164 \endgroup%
165 }
166
167 \newrobustcmd*{\hyperimage}{%
168 \begingroup%
169 \LWR@linkcatcodes%
170 \LWR@hyperimageb%
171 }
172

```

`\hyperdef``{\langle 1: category\rangle}{\langle 2: name\rangle}{\langle 3: text\rangle}`Creates an HTML anchor to `category.name` with the given text.

```

173 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
174 \LWR@ensuredoingapar%
175 \LWR@label@createtag{\#1.\#2}%
176 \#3%
177 \endgroup%
178 }
179
180 \newcommand*\hyperdef{%
181 \begingroup%
182 \LWR@linkcatcodes%
183 \LWR@hyperdefb%
184 }
185

```

`\LWR@hyperreffinish``{\langle text\rangle}`

```

186 \newcommand{\LWR@hyperreffinish}[1]{%
187 \begingroup%
188 \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{\##2}}%
189 \#1%
190 \endgroup%
191 \LWR@htmltag{/a}%
192 \addtocounter{\LWR@linkdepth}{-1}%
193 }

```

`\LWR@hyperrefbb``{\langle 1: URL\rangle}{\langle 2: category\rangle}{\langle 3: name\rangle}{\langle 4: text\rangle}`

```

194 \newcommand*\LWR@hyperrefbb[3]{%
195 \ifnumcomp{\value{\LWR@linkdepth}}{>}{0}%
196 {%
197 \endgroup%
198 \let\LWR@tempnext\@gobble%
199 }%
200 {%
201 \addtocounter{\LWR@linkdepth}{1}%
202 \LWR@htmltag{%
203 a href=\textquotedbl%
204 \detokenize\expandafter{\#1}\LWR@hashmark%
205 \detokenize\expandafter{\#2}.\detokenize\expandafter{\#3}%
206 \textquotedbl%
207 \LWR@addlinktitle%
208 }%
209 \endgroup%
210 \let\LWR@tempnext\LWR@hyperreffinish%
211 }%
212 \LWR@tempnext%
213 }

```

`\LWR@hyperrefb``{\langle 1: URL\rangle}{\langle 2: category\rangle}{\langle 3: name\rangle}{\langle 4: text\rangle}`Creates an HTML link to `URL#category.name` with the given text.

```

214 \newrobustcmd*\LWR@hyperrefb{%
215 \begingroup%
216 \LWR@linkcatcodes%

```

```
217 \LWR@hyperrefbb%
218 }
```

`\LWR@hyperrefc`

`[<label>]{<text>}`

Creates text as an HTML link to the L<sup>A</sup>T<sub>E</sub>X label.

```
219 \NewDocumentCommand{\LWR@hyperrefcb}{0{label}}{%
220 \ifnumcomp{\value{LWR@linkdepth}}{>}{0}%
221 {%
222 \endgroup%
223 \let\LWR@tempnext\@gobble%
224 }%
225 {%
226 \addtocounter{LWR@linkdepth}{1}%
227 \LWR@startref{#1}%
228 \endgroup%
229 \let\LWR@tempnext\LWR@hyperreffinish%
230 }%
231 \LWR@tempnext%
232 }
233
234 \newcommand*{\LWR@hyperrefc}{%
235 \begingroup%
236 \LWR@linkcatcodes%
237 \LWR@hyperrefcb%
238 }
```

`\hyperref`

`{<1: URL>}{<2: category>}{<3: name>}{<4: text>}` — or —  
`[<1: label>]{<2: text>}`

```
239 \DeclareRobustCommand*\hyperref{%
240 \LWR@ensuredoingapar%
241 \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
242 }
```

`\hypertarget`

`{<name>}{<text>}`

Creates an anchor to name with the given text.

```
243 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
244 \label{LWR-ht-#1}%
245 #2%
246 \endgroup%
247 }
248
249 \newcommand*{\hypertarget}{%
250 \LWR@ensuredoingapar%
251 \begingroup%
252 \LWR@linkcatcodes%
253 \LWR@hypertargetb%
254 }
```

`\hyperlink`

`{<name>}{<text>}`

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```
255 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
256 \ifbool{LWR@insidemathcomment}%
257 {\LWR@hyperrefc{#1}{\hyperlink{#1}{#2}}}%
258 {\LWR@hyperrefc{#1}{#2}}}
```

```

257 {\endgroup}%
258 {\LWR@hyperrefcb[LWR-ht-#1]}%
259 }
260
261 \DeclareDocumentCommand{\hyperlink}{}{}%
262 \LWR@ensuredoingapar%
263 \begingroup%
264 \LWR@linkcatcodes%
265 \LWR@hyperlinkb%
266 }

```

`\LWR@nullify@hyperref`       $\{\langle 1: URL \rangle\} \{\langle 2: category \rangle\} \{\langle 3: name \rangle\} \{\langle 4: text \rangle\}$  — or —  $[\langle 1: label \rangle] \{\langle 2: text \rangle\}$

```

267 \newcommand{\LWR@nullify@hyperrefb}[2][{}]{
268
269 \newcommand*{\LWR@nullify@hyperref}{}%
270 \ifnextchar[\LWR@nullify@hyperrefb\@fourthoffour%
271 }

```

To nullify in a lateximage or svg math. `\hypertarget` must be left active for references to work, and does not harm.

```

272 \appto\LWR@restoreorigformatting{%
273 \LetLtxMacro\hyperdef\@thirdofthree
274 \LetLtxMacro\hyperlink\@secondoftwo%
275 \LetLtxMacro\hyperref\LWR@nullify@hyperref%
276 }

```

`\autoref`       $* \{\langle label \rangle\}$

For HTML, `\cleveref` is used instead.

```

277 \NewDocumentCommand{\autoref}{s m}{%
278 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
279 }

```

`\autopageref`       $\{\langle label \rangle\}$

For HTML, `\cleveref` is used instead.

```

280 \NewDocumentCommand{\autopageref}{s m}{%
281 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
282 }

```

Default names:

```

283 \def\equationautorefname{Equation}%
284 \def\footnoteautorefname{footnote}%
285 \def\itemautorefname{item}%
286 \def\figureautorefname{Figure}%
287 \def\tableautorefname{Table}%
288 \def\partautorefname{Part}%
289 \def\appendixautorefname{Appendix}%
290 \def\chapterautorefname{chapter}%
291 \def\sectionautorefname{section}%
292 \def\subsectionautorefname{subsection}%
293 \def\subsubsectionautorefname{subsubsection}%
294 \def\paragraphautorefname{paragraph}%
295 \def\subparagraphautorefname{subparagraph}%

```

```

296 \def\FancyVerbLineautorefname{line}%
297 \def\theoremautorefname{Theorem}%
298 \def\pageautorefname{page}%

```

`\pdfstringdef`                     $\{\langle macroname \rangle\} \{\langle T\!E\!Xstring \rangle\}$

```

299 \newcommand{\pdfstringdef}[2]{}

```

`\pdfbookmark`                     $[\langle level \rangle] \{\langle text \rangle\} \{\langle name \rangle\}$

```

300 \newcommand{\pdfbookmark}[3][1]{}

```

`\currentpdfbookmark`             $\{\langle text \rangle\} \{\langle name \rangle\}$

```

301 \newcommand{\currentpdfbookmark}[2]{}

```

`\subpdfbookmark`                 $\{\langle text \rangle\} \{\langle name \rangle\}$

```

302 \newcommand{\subpdfbookmark}[2]{}

```

`\belowpdfbookmark`             $\{\langle text \rangle\} \{\langle name \rangle\}$

```

303 \newcommand{\belowpdfbookmark}[2]{}

```

`\texorpdfstring`                 $\{\langle T\!E\!Xstring \rangle\} \{\langle PDFstring \rangle\}$

```

304 \let\texorpdfstring\relax
305 \newcommand{\texorpdfstring}[2]{\#1}

```

$\{\langle commands \rangle\}$

`\pdfstringdefDisableCommands`     $\{\langle commands \rangle\}$

```

306 \newcommand{\pdfstringdefDisableCommands}[1]{}

```

`\hypercalcbp`                     $\{\langle dimen \rangle\}$     From hyperref.

```

307 \def\hypercalcbp#1{%
308 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
309 }%

```

`\Acrobatmenu`                     $\{\langle menuoption \rangle\} \{\langle text \rangle\}$

```

310 \newcommand{\Acrobatmenu}[2]{}

```

`\TextField`                       $[\langle parameters \rangle] \{\langle label \rangle\}$

```

311 \DeclareRobustCommand{\TextField}[2][1]{}

```

`\CheckBox`                       $[\langle parameters \rangle] \{\langle label \rangle\}$

```

312 \DeclareRobustCommand{\CheckBox}[2][1]{}

```

`\ChoiceMenu`                     $[\langle parameters \rangle] \{\langle label \rangle\} \{\langle choices \rangle\}$

```

313 \DeclareRobustCommand{\ChoiceMenu}[3][1]{}

```

|                                 |                                                            |
|---------------------------------|------------------------------------------------------------|
| <code>\PushButton</code>        | $[\langle parameters \rangle] \{\langle label \rangle\}$   |
|                                 | 314 <code>\DeclareRobustCommand{\PushButton}[2][]{}</code> |
| <code>\Submit</code>            | $[\langle parameters \rangle] \{\langle label \rangle\}$   |
|                                 | 315 <code>\DeclareRobustCommand{\Submit}[2][]{}</code>     |
| <code>\Reset</code>             | $[\langle parameters \rangle] \{\langle label \rangle\}$   |
|                                 | 316 <code>\DeclareRobustCommand{\Reset}[2][]{}</code>      |
| <code>\Gauge</code>             | $[\langle parameters \rangle] \{\langle label \rangle\}$   |
|                                 | 317 <code>\DeclareRobustCommand{\Gauge}[2][]{}</code>      |
| <code>\LayoutTextField</code>   | $\{\langle label \rangle\} \{\langle field \rangle\}$      |
|                                 | 318 <code>\newcommand*\LayoutTextField[2]{}</code>         |
| <code>\LayoutChoiceField</code> | $\{\langle label \rangle\} \{\langle field \rangle\}$      |
|                                 | 319 <code>\newcommand*\LayoutChoiceField[2]{}</code>       |
| <code>\LayoutCheckField</code>  | $\{\langle label \rangle\} \{\langle field \rangle\}$      |
|                                 | 320 <code>\newcommand*\LayoutCheckField[2]{}</code>        |
| <code>\MakeRadioField</code>    | $\{\langle width \rangle\} \{\langle height \rangle\}$     |
|                                 | 321 <code>\newcommand*\MakeRadioField[2]{}</code>          |
| <code>\MakeCheckField</code>    | $\{\langle width \rangle\} \{\langle height \rangle\}$     |
|                                 | 322 <code>\newcommand*\MakeCheckField[2]{}</code>          |
| <code>\MakeTextField</code>     | $\{\langle width \rangle\} \{\langle height \rangle\}$     |
|                                 | 323 <code>\newcommand*\MakeTextField[2]{}</code>           |
| <code>\MakeChoiceField</code>   | $\{\langle width \rangle\} \{\langle height \rangle\}$     |
|                                 | 324 <code>\newcommand*\MakeChoiceField[2]{}</code>         |
| <code>\MakeFieldButton</code>   | $\{\langle text \rangle\}$                                 |
|                                 | 325 <code>\newcommand{\MakeFieldButton}[1]{}</code>        |

---

File 229 **lwarp-hyperxmp.sty**

§ 344      Package **hyperxmp**

hyperxmp (*Pkg*)    hyperxmp is ignored.

for HTML output:

Discard all options for lwarp-hyperxmp:

```

1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}[]{}
4 \define@key{LWR@hyperref}{pdfmetadata}[]{}
5 \define@key{LWR@hyperref}{pdfcopyright}[]{}
6 \define@key{LWR@hyperref}{pdftype}[]{}
7 \define@key{LWR@hyperref}{pdflicenseurl}[]{}
8 \define@key{LWR@hyperref}{pdfauthortitle}[]{}
9 \define@key{LWR@hyperref}{pdfcaptionwriter}[]{}
10 \define@key{LWR@hyperref}{pdfmetalang}[]{}
11 \define@key{LWR@hyperref}{pdfapart}[]{}
12 \define@key{LWR@hyperref}{pdfaconformance}[]{}
13 \define@key{LWR@hyperref}{pdfuapart}[]{}
14 \define@key{LWR@hyperref}{pdfxstandard}[]{}
15 \define@key{LWR@hyperref}{pdfsource}[]{}
16 \define@key{LWR@hyperref}{pdfdocumentid}[]{}
17 \define@key{LWR@hyperref}{pdfinstanceid}[]{}
18 \define@key{LWR@hyperref}{pdfversionid}[]{}
19 \define@key{LWR@hyperref}{pdfrendition}[]{}
20 \define@key{LWR@hyperref}{pdfpublication}[]{}
21 \define@key{LWR@hyperref}{pdfpubtype}[]{}
22 \define@key{LWR@hyperref}{pdfbytes}[]{}
23 \define@key{LWR@hyperref}{pdfnumpages}[]{}
24 \define@key{LWR@hyperref}{pdfissn}[]{}
25 \define@key{LWR@hyperref}{pdfeissn}[]{}
26 \define@key{LWR@hyperref}{pdfisbn}[]{}
27 \define@key{LWR@hyperref}{pdfbookedition}[]{}
28 \define@key{LWR@hyperref}{pdfpublisher}[]{}
29 \define@key{LWR@hyperref}{pdfvolumenum}[]{}
30 \define@key{LWR@hyperref}{pdfissuenum}[]{}
31 \define@key{LWR@hyperref}{pdfpagerange}[]{}
32 \define@key{LWR@hyperref}{pdfdoi}[]{}
33 \define@key{LWR@hyperref}{pdfurl}[]{}
34 \define@key{LWR@hyperref}{pdfidentifier}[]{}
35 \define@key{LWR@hyperref}{pdfsubtitle}[]{}
36 \define@key{LWR@hyperref}{pdfpubstatus}[]{}
37 \define@key{LWR@hyperref}{pdfcontactaddress}[]{}
38 \define@key{LWR@hyperref}{pdfcontactcity}[]{}
39 \define@key{LWR@hyperref}{pdfcontactregion}[]{}
40 \define@key{LWR@hyperref}{pdfcontactpostcode}[]{}
41 \define@key{LWR@hyperref}{pdfcontactcountry}[]{}
42 \define@key{LWR@hyperref}{pdfcontactphone}[]{}
43 \define@key{LWR@hyperref}{pdfcontactemail}[]{}
44 \define@key{LWR@hyperref}{pdfcontacturl}[]{}
45 \define@key{LWR@hyperref}{keeppdfinfo}[]{}
46 \define@key{LWR@hyperref}{pdfauthor}[]{}
47 \define@key{LWR@hyperref}{pdfkeywords}[]{}

```

---

File 230 **lwarp-hyphenat.sty**

## § 345 Package **hyphenat**

hyphenat (*Pkg*) **hyphenat** is emulated during HTML output, while the print-mode version is used inside a lateximage.

for HTML output:

```

1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

```

```

2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@orignhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@orignohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonhyp\colonhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16 \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@orignhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@orignohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonhyp\LWRHYNAT@origcolonhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }

```

---

File 231 **lwarp-idxlayout.sty**

§ 346      Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

idxlayout (*Pkg*) **idxlayout** is emulated.

**for HTML output:** Discard all options for lwarp-idxlayout:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
2 \newcommand{\LWR@indexprenote}{}

```

\AtBeginDocument to help with package load order.

```

3 \AtBeginDocument{
4 \preto\printindex{
5
6 \LWR@maybe@orignewpage
7 \LWR@startpars
8
9 \LWR@indexprenote
10
11 }
12 }

```

---

```

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{}}
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*{\indexfont}{}
18 \newcommand*{\indexjustific}{}
19 \newcommand*{\indexsubselim}{}
20 \newcommand*{\indexstheadcase}{}

```

---

File 232 **lwarp-ifoddpag.sty**

§ 347      Package **ifoddpag**

*(Emulates or patches code by MARTIN SCHARRER.)*

ifoddpag (*Pkg*) ifoddpag is emulated.

**for HTML output:** Discard all options for lwarp-ifoddpag:

```

1 \LWR@ProvidesPackageDrop{ifoddpag}[2016/04/23]

2 \newif\ifoddpag
3
4 \newif\ifoddpagoroneside
5
6 \DeclareRobustCommand{\checkoddpag}{\oddpagetrue\oddpagoronesidettrue}
7
8 \def\oddpag@page{1}
9
10 \def\@ifoddpag{%
11 \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpagoroneside{%
15 \expandafter\@firstoftwo
16 }

```

---

File 233 **lwarp-imakeidx.sty**

§ 348      Package **imakeidx**

*(Emulates or patches code by ENRICO GREGORIO.)*

imakeidx (*Pkg*) imakeidx is patched for use by lwarp.

**letter headings** When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the lwarp.ist style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the lwarp.ist style is used automatically, which displays letter headings. When using *xindy* the default style also displays letter headings.)

**index setup** See section 8.6.19 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

for HTML output: 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```
2 \catcode`_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode`_ =8%
```

\printindex

The HTML version of \printindex:

```
5 \catcode`_ =12%
6
7 \renewcommand*\printindex}[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \ifundefined{#1@idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \ifundefined{#1_html@idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%
19 }
20
21 \catcode`_ =8%
```

\@index

The HTML version of \@index:

```
22 \VerifyCommand[lwarp][imakeidx]{\@index}{443B697F3326243540BE3FB7665606F6}
23
24 \catcode`_ =12%
25
26 \def\@index[#1]{%
27 \ifstrequal{#1}{\imki@jobname}%
28 {%
29 \@ifundefined{#1@idxfile}%
30 {%
31 \PackageWarning{lwarp-imakeidx}{Undefined index file `#1'}%
32 \begingroup
33 \@sanitize
34 \imki@nowrindex%
35 }%
36 {%
37 \edef\@idxfile{#1}%
38 \begingroup
39 \@sanitize
40 \@wrindex\@idxfile%
41 }%
42 }%
43 {%
44 \@ifundefined{#1_html@idxfile}%
45 {%
46 \PackageWarning{lwarp-imakeidx}{Undefined index file `#1_html'}%
47 \begingroup
48 \@sanitize
49 \imki@nowrindex%
50 }%
51 }
```

```

51 {%
52 \edef\@idxfile{#1_html}%
53 \begingroup
54 \@sanitize
55 \@wrindex\@idxfile%
56 }%
57 }%
58 }
59
60 \catcode`_ =8%

```

\item

\subitem

\subsubitem

HTML versions of \item, etc.:

```

61 \appto\theindex{%
62 \DeclareCommandCopy{\item}{\LWR@indexitem}%
63 \DeclareCommandCopy{\subitem}{\LWR@indexsubitem}%
64 \DeclareCommandCopy{\subsubitem}{\LWR@indexsubsubitem}%
65 }

```

\imki@wrindexentrysplit     {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}

\imki@wrindexentryunique    {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

66 \VerifyCommand[lwarp][imakeidx]{\imki@wrindexentrysplit}{D8ABE70A4355F52E36723AFAB74F71E7}
67
68 \renewcommand\imki@wrindexentrysplit[3]{%
69 \addtocounter{LWR@autoindex}{1}%
70 \expandafter\protected@write\csname#1@idxfile\endcsname{%
71 {\string\indexentry{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

72 \label{LWRindex-\arabic{LWR@autoindex}}%
73 }
74
75 \VerifyCommand[lwarp][imakeidx]{\imki@wrindexentryunique}{9131E144394D273F316D03FA91BA0E2B}
76
77 \renewcommand\imki@wrindexentryunique[3]{%
78 \addtocounter{LWR@autoindex}{1}%
79 \protected@write\@indexfile{%
80 {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

81 \label{LWRindex-\arabic{LWR@autoindex}}%
82 }

```

\LWR@imki@setxdydefopts

Sets the *xindy* HTML options, ignoring the user's settings.

```

83 \newcommand*{\LWR@imki@setxdydefopts}{%
84 \edef\imki@options{ \space %
85 -M \space \LWR@xindyStyle\space %
86 -L \space \LWR@xindyLanguage\space %
87 -C \space \LWR@xindyCodepage\space %
88 }%

```

89 }

\LWR@imki@setdefopts

{*<user options>*}

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the lwarp version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the lwarp version is appended.

```
90 \newcommand*\LWR@imki@setdefopts}[1]{%
91 \ifblank{#1}{%
92 \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
93 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
94 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
95 \ifdefstring{\imki@progdefault}{truexindy}{\LWR@imki@setxdydefopts}{}%
96 }{%
97 \edef\imki@options{\space #1 \space}%
98 }%
99 }
```

\imki@makeindex

Use the new HTML options:

```
100 \VerifyCommand[lwarp][imakeidx]{\imki@makeindex}{83AEF6DF7A13F7D0565457DFB83D42B5}
101
102 \xpatchcmd{\imki@makeindex}
103 {\let\imki@options\space}
104 {\LWR@imki@setdefopts{}}%
105 {}
106 {\LWR@patcherror{imakeidx}{makeindex}}
```

Use the new HTML options.

```
107 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}
```

\imki@resetdefaults

Use the new HTML options:

```
108 \VerifyCommand[lwarp][imakeidx]{\imki@resetdefaults}{3D417615569AC35F199A3FBD03B640E3}
109
110 \xpatchcmd{\imki@resetdefaults}
111 {\def\imki@options{ }}
112 {\LWR@imki@setdefopts{}}
113 {}
114 {\LWR@patcherror{imakeidx}{resetdefaults}}
```

theindex was already defined \AtBeginDocument by the lwarp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```
115 \AtBeginDocument{
116 \renewenvironment*{theindex}{%
117 \imki@maybeaddtotoc
118 \imki@indexlevel{\indexname}
119 \DeclareCommandCopy{\item}{\LWR@indexitem}%
120 \DeclareCommandCopy{\subitem}{\LWR@indexsubitem}%
121 \DeclareCommandCopy{\subsubitem}{\LWR@indexsubsubitem}%
122 }{}
123 }% \AtBeginDocument
```

Update to the new defaults:

```
124 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the lwarp core.

```
125 \ifimki@splitindex
126 \let\imki@startidx\imki@startidxunique
127 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
128 \let\imki@putindex\imki@putindexunique
129 \let\imki@wrindexentry\imki@wrindexentryunique
130 \let\imki@startidxsplit\@undefined
131 \let\imki@wrindexsplit\@undefined
132 \let\imki@putindexsplit\@undefined
133 \else
134 \let\imki@startidx\imki@startidxsplit
135 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
136 \let\imki@putindex\imki@putindexsplit
137 \let\imki@wrindexentry\imki@wrindexentrysplit
138 \let\imki@startidxunique\@undefined
139 \let\imki@wrindexunique\@undefined
140 \let\imki@putindexunique\@undefined
141 \fi
```

---

File 234 **lwarp-impnatty.sty**

§ 349    Package **impnatty**

impnatty (*Pkg*)    impnatty is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{impnatty}[2019/03/04]

---

File 235 **lwarp-index.sty**

§ 350    Package **index**

*(Emulates or patches code by DAVID M. JONES.)*

index (*Pkg*)    index is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempwattrue is used to force an immediate write to the index file instead of waiting until the end of the page.

```
2 \VerifyCommand[lwarp][index]{\newindex}{F714216FA78BCC8DB70B7BB92BE05F3C}
3
4 \xpatchcmd{\newindex}
5 {\x@newindex[thepage]}
6 {%
```

```

7 \@tempwattrue%
8 \@xnewindex[theLWR@autoindex]%
9 }
10 {}
11 {\LWR@patcherror{index}{newindex}}
12
13 \VerifyCommand[lwarp][index]{\renewindex}{B81B08BFE7A2F5CA7D84D4A5A40E7A44}
14
15 \xpatchcmd{\renewindex}
16 {\@xrenewindex[thepage]}
17 {%
18 \@tempwattrue%
19 \@xrenewindex[theLWR@autoindex]%
20 }
21 {}
22 {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

23 \VerifyCommand[lwarp][index]{\@windex}{C58C10ACFC42D711D0DA8F4759BA951D}
24
25 \xpatchcmd{\@windex}
26 {\begingroup}
27 {%
28 \addtocounter{LWR@autoindex}{1}%
29 \label{LWRindex-\arabic{LWR@autoindex}}%
30 \begingroup%
31 }
32 {}
33 {\LWR@patcherror{index}{@windex}}

```

\AtBeginDocument lwarp core \lets \@windex to \LWR@windex. Since the index package has been loaded, \let to its version instead:

```

34 \let\LWR@index@windex\@windex
35
36 \AtBeginDocument{
37 \let\@windex\LWR@index@windex
38 }

```

Modified to add \index@prologue:

```

39 \AtBeginDocument{
40 \renewenvironment*{theindex}{%
41 \LWR@indexsection{\indexname}%
42 \ifx\index@prologue\empty\else
43 \index@prologue
44 \bigskip
45 \fi
46 \DeclareCommandCopy{\item}{\LWR@indexitem}%
47 \DeclareCommandCopy{\subitem}{\LWR@indexsubitem}%
48 \DeclareCommandCopy{\subsubitem}{\LWR@indexsubsubitem}%
49 }{}
50 }% AtBeginDocument

```

Disabled:

```

51 \def\@showidx#1{}
52 \let\@texttop\relax

```

---

```

53 \renewcommand*{\raggedbottom}{}
54 \renewcommand*{\flushbottom}{}
55 \renewcommand*{\markboth}[2]{}
56 \renewcommand*{\markright}[1]{}

```

---

File 236 **lwarp-inputtrc.sty**

§ 351 Package **inputtrc**

*(Emulates or patches code by UWE LÜCK.)*

inputtrc (*Pkg*) inputtrc is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a `lateximage`.

```

2 \VerifyCommand[lwarp][inputtrc]{\IT@prim@input}{03F74081468CFB6308896BDEB61D1E23}
3
4 \renewcommand*{\IT@prim@input}[1]{%
5 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
6 %% ... TODO: option to write to `.log' only.
7 \xdef\IT@filestack{{\IT@currfile}\IT@filestack}%
8 \xdef\IT@currfile{#1}%
9 \expandafter \gdef\expandafter \IT@indent\expandafter{%
10 \IT@indent \IT@indent@unit}% lwarp
11 \@input#1% lwarp
12 \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
13 \expandafter\IT@pop@file \IT@filestack \@nil% lwarp
14 \IT@maybe@returnmessage%% v0.2 lwarp
15 }

```

---

File 237 **lwarp-intopdf.sty**

§ 352 Package **intopdf**

intopdf (*Pkg*) intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```

2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{#2}{#5}%
4 }

```

---

File 238 **lwarp-isomath.sty**

§ 353 Package **isomath**

*(Emulates or patches code by GÜNTER MILDE.)*

isomath (*Pkg*) isomath is used as-is for svg math, and emulated for MATHJAX.

⚠ **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbfit\boldsymbol}
4 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
5 \CustomizeMathJax{\let\mathsf{it}\mathbfit}% not sans
6 \CustomizeMathJax{\let\mathsf{it}\mathbfit}% not sans
7 \CustomizeMathJax{\let\mathsf{it}\mathbfit}% not sans
8 \CustomizeMathJax{\let\mathsf{it}\mathbfit}% not sans
9 \CustomizeMathJax{\let\mathsf{it}\mathbfit}% not sans
10 \CustomizeMathJax{\let\mathsf{it}\mathbfit}% not sans
11 \CustomizeMathJax{\let\mathsf{it}\mathbfit}% not sans
12 \end{warpMathJax}

```

---

File 239 **lwarp-isotope.sty**

§ 354 Package **isotope**

(Emulates or patches code by HEIKO BAUKE.)

isotope (*Pkg*) isotope is patched for use by lwarp with svg math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

2 \newcommand{\LWR@HTML@isotope@two}[2][{}]{%
3 \renewcommand{\isotope@atomicnumber}{#1}%
4 \edef\LWR@isotope@alttag{%
5 \textbackslash
6 \textbackslash{isotope
7 [\isotope@nucleonnumber]%
8 [\isotope@atomicnumber]%
9 \{#2\}
10 \textbackslash}%
11 }%
12 \ifbool{mathjax}%
13 {\LWR@isotope@alttag}%
14 {% SVG
15 \m@th%
16 \LWR@subsingledollar*%
17 {% alt tag
18 \LWR@isotope@alttag%
19 }%
20 {isotope}% add'l hashing
21 {% contents
22 \settowidth\@tempdimb{%
23 \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24 }%
25 \settowidth\@tempdimc{%
26 \ensuremath{\scriptstyle\isotope@atomicnumber}%
27 }%
28 \ifdim\@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi%
29 \ensuremath{
30 {

```

```

31 ^{\makebox[\@tempdimb][r]{%
32 \ensuremath{%
33 \scriptstyle\isotope@nucleonnumber%
34 }% \ensuremath
35 }}%
36 _{\makebox[\@tempdimb][r]{%
37 \ensuremath{%
38 \scriptstyle\isotope@atomicnumber%
39 }% \ensuremath
40 }}%
41 \isotopestyle{#2}%
42 }% \ensuremath
43 }% contents
44 }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51 \newcommand{\LWRisotopetwo}[2][]{%
52 {%
53 \vphantom{\mathrm{#2}}%
54 {}^{\LWRisotopenucleonnumber}_{#1}%
55 \mathrm{#2}%
56 }%
57 }%
58 }
59
60 \CustomizeMathJax{%
61 \newcommand{\isotope}[1][]{%
62 \def\LWRisotopenucleonnumber{#1}%
63 \LWRisotopetwo%
64 }%
65 }
66 \end{warpMathJax}

```

---

File 240 **lwarp-jurabib.sty**

§ 355     Package **jurabib**

*(Emulates or patches code by JENS BERGER.)*

jurabib (*Pkg*)    jurabib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]

2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \VerifyCommand[lwarp][jurabib]{\jb@biblaw@item}{F93545B67E684787264DA900F185A25A}
7
8 \renewcommand*{\jb@biblaw@item}{%
9 \hspace{0.5em}%
10 $\triangleright$
11 \HTMLUnicode{25B7}% lwarp%

```

```

12 \hspace{0.5em}%
13 }
14
15 \VerifyCommand[lwarp][jurabib]{\jbarchsig}{8D821FA370CBD0A61325D5A278E0A369}
16
17 \renewrobustcmd{\jbarchsig}[2]{%
18 \ifjbwareinbib
19 \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
20 \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
21 % \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%
22 #1\ifjb@dot\unskip\unskip\unskip.\fi
23 % &
24 \quad% lwarp
25 \ifthenelse{\equal{#2}{}}{\jbarchnameformat{#2}}%
26 % \end{tabular}
27 \fi
28 }%
29
30
31 \VerifyCommand[lwarp][jurabib]{\jb@do@post@item}{4FD79AF40E8460C52306C33CF825B63F}
32
33 \xpatchcmd{\jb@do@post@item}
34 {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
35 {}
36 {}
37 {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
38
39 \xpatchcmd{\jb@do@post@item}
40 {\multicolumn{2}{p{\columnwidth}}{\jb@@name}}
41 {\jb@@name}
42 {}
43 {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
44
45 \xpatchcmd{\jb@do@post@item}
46 {\jb@biblaw@item & \jb@@fulltitle}
47 {\jb@biblaw@item \quad \jb@@fulltitle}
48 {}
49 {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
50
51 \xpatchcmd{\jb@do@post@item}
52 {\end{tabular}}
53 {}
54 {}
55 {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
56
57 \xpatchcmd{\jb@do@post@item}
58 {\begin{minipage}[t]{\bibnumberwidth}}
59 {}
60 {}
61 {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
62
63 \xpatchcmd{\jb@do@post@item}
64 {\end{minipage}}
65 {\quad}
66 {}
67 {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 241 **lwarp-karnaugh-map.sty**

§ 356      Package **karnaugh-map**
*(Emulates or patches code by MATTIAS JACOBSSON.)*

karnaugh-map (*Pkg*)    karnaugh-map is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because **lwarp** changes the definition of `\&`, and the original uses `\ifnum` to compare 0 with `\&`. It is hard to patch this environment, so the entire thing is redefined here, with the **lwarp** modifications identified in comments.

```

2 \VerifyEnvironment[lwarp][karnaugh-map]{karnaugh-map}
3 {FFA0270032620E79C8344E63AEDBF925}{08A76B622DBB34F033284513743C5F8C}
4
5 \RenewDocumentEnvironment{karnaugh-map}{s O{4} O{4} O{1} O{X_1X_0} O{X_3X_2} O{X_5X_4}} {%
6 \begingroup
7 % store map size {[START]
8 \renewcommand{\@karnaughmap@var@mapsize@}{#2}%
9 \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
10 \renewcommand{\@karnaughmap@var@mapsizez@}{#4}%
11 % [END]}
12 % determinate if markings should be color or black and white
13 \IfBooleanTF{#1}{%
14 % should be black and white
15 \renewcommand{\@karnaughmap@var@bw@}{1}%
16 }{%
17 % should be color
18 \renewcommand{\@karnaughmap@var@bw@}{0}%
19 }%
20 %
21 % find matching matrix template and alignment parameters {[START]
22 \newcommand{\@karnaughmap@local@matrixtemplate@}{0}% '0' is considered as missing matrix template
23 \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
24 \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
25 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizez@=221
26 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
27 \& 0 \& 1 \& \& \\
28 0 \& |(000000)| \& |(000001)| \& \& \& \\
29 1 \& |(000010)| \& |(000011)| \& \& \& \\
30 \& \& \& \& \& \& \\
31 }%
32 \fi
33 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizez@=241
34 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
35 \& 0 \& 1 \& \& \\
36 00 \& |(000000)| \& |(000001)| \& \& \& \\
37 01 \& |(000010)| \& |(000011)| \& \& \& \\
38 11 \& |(000110)| \& |(000111)| \& \& \& \\
39 10 \& |(000100)| \& |(000101)| \& \& \& \\
40 \& \& \& \& \& \& \\
41 }%

```

```

42 \fi
43 \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=421
44 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
45 \& 00 \& 01 \& 11 \& 10 \& \&
46 0 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& |(000011)|
47 1 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& |(000111)|
48 \& \& \& \& \&
49 }%
50 \fi
51 \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=441
52 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
53 \& 00 \& 01 \& 11 \& 10 \& \&
54 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& |(000011)|
55 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& |(000111)|
56 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)| \& |(001111)|
57 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)| \& |(001011)|
58 \& \& \& \& \&
59 }%
60 \fi
61 \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=442
62 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
63 \& 00 \& 01 \& 11 \& 10 \& \&
64 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& |(000011)|
65 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& |(000111)|
66 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)| \& |(001111)|
67 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)| \& |(001011)|
68 \& \& \& \& \&
69 }%
70 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
71 \fi
72 \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=444
73 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
74 \& 00 \& 01 \& 11 \& 10 \& \&
75 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& |(000011)|
76 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& |(000111)|
77 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)| \& |(001111)|
78 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)| \& |(001011)|
79 \& \& \& \& \&
80 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(100010)| \& |(100011)|
81 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(100110)| \& |(100111)|
82 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(101110)| \& |(101111)|
83 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(101010)| \& |(101011)|
84 \& \& \& \& \&
85 }%
86 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
87 \renewcommand{\@karnaughmap@local@maprealignmenty@}{-2.5}%
88 \fi
89 % [END]}
90 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
91 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
92 % \ifnum0=\@karnaughmap@local@matrixtemplate@% original
93 % print error if no template could be found
94 \PackageError{lwarp-karnaugh-map}{%
95 Can not find a template fitting your specification
96 (\@karnaughmap@var@mapsize@x\space x \@karnaughmap@var@mapsize@y\space x
97 \@karnaughmap@var@mapsize@)%
98 }{%
99 Existing templates have the following dimensions:
100 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
101 }%

```

```

102% \fi original
103 }{\relax}% lwarp
104 \begin{tikzpicture}
105 % grid
106 % for all dimensions
107 \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex@,\@karnaughmap@var@mapsizex@);
108 % when there are 2 sub maps
109 \ifnum\@karnaughmap@var@mapsizex@=2
110 \draw[color=black, ultra thin] (5,0) grid (9,4);
111 \fi
112 % when there are 4 sub maps
113 \ifnum\@karnaughmap@var@mapsizex@=4
114 \draw[color=black, ultra thin] (5,0) grid (9,4);
115 \draw[color=black, ultra thin] (0,-5) grid (4,-1);
116 \draw[color=black, ultra thin] (5,-5) grid (9,-1);
117 \fi
118 % labels
119 % for all dimensions
120 \node[above] at (\@karnaughmap@var@mapsizex@*0.5,\@karnaughmap@var@mapsizex@*0.9) {\small{#5}};
121 \node[left] at (-0.9,\@karnaughmap@var@mapsizex@*0.5) {\small{#6}};
122 % when there are 2 sub maps
123 \ifnum\@karnaughmap@var@mapsizex@=2
124 \node[above] at (7,4.9) {\small{#5}};
125 % extra sub maps labels
126 \node[below] at (2,-0.1) {\small{#7$=0$}};
127 \node[below] at (7,-0.1) {\small{#7$=1$}};
128 \fi
129 % when there are 4 sub maps
130 \ifnum\@karnaughmap@var@mapsizex@=4
131 \node[above] at (7,4.9) {\small{#5}};
132 \node[left] at (-0.9,-3) {\small{#6}};
133 % extra sub maps labels
134 \node[below] at (2,-0.1) {\small{#7$=00$}};
135 \node[below] at (7,-0.1) {\small{#7$=01$}};
136 \node[below] at (2,-5.1) {\small{#7$=10$}};
137 \node[below] at (7,-5.1) {\small{#7$=11$}};
138 \fi
139 % data
140 \matrix[
141 matrix of nodes,
142 ampersand replacement=\&,
143 column sep={1cm,between origins},
144 row sep={1cm,between origins},
145] at (\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignmentx@,\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignmenty@)
146 \@karnaughmap@local@matrixtemplate@%
147 };
148 }{
149 \end{tikzpicture}
150 \endgroup
151 }

```

---

File 242 **lwarp-keyfloat.sty**

§ 357 Package **keyfloat**

*(Emulates or patches code by BRIAN DUNN.)*

keyfloat (*Pkg*) **keyfloat** is supported with a considerable amount of hacking. (It's a mashup of

lwarp, keyfloat, and tocdata.)

 **keywrap** If placing a `\keyfig[H]` inside a keywrap, use an absolute width for `\keyfig`, instead of `lw-proportional` widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keyfloat}[2024/01/12]
2
3 \IfPackageAtLeastTF{keyfloat}{2019/09/23}{\relax}{
4 \PackageError{lwarp-keyfloat}
5 {%
6 The keyfloat package is out of date.\MessageBreak
7 Update to keyfloat v2.01 2019/09/23 or later%
8 }
9 {%
10 Please update the keyfloat package. It's worth it!%
11 }
12 }
```

After keyfloat has loaded:

```
13 \AtBeginDocument{
```

`\KFLT@LWR@hook@boxouter` Integration for keyfloat.  
(Hook) []

```

14 \providecommand*\KFLT@LWR@hook@boxouter{}
15
16 \renewcommand*\KFLT@LWR@hook@boxouter{%
17 \ifbool{KFLT@keywrap}{%
18 {%
19 \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
20 \setlength{\linewidth}{6in}%
21 \setlength{\textwidth}{6in}%
22 \setlength{\textheight}{9in}%
23 }{%
24 }%
25 \normalcolor%
26 }
```

`\KFLT@LWR@hook@keysubfloats` Integration for keyfloat.  
(Hook) []

```
27 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
```

`\KFLT@LWR@hook@keyfloatsminipage` Integration for keyfloat.  
(Hook) []

```

28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}
```

`\KFLT@LWR@hook@keyfloats` Integration for keyfloat.  
(Hook) []

```

31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \VerifyCommand[lwarp][keyfloat]{\KFLT@maybeendfloatrow}
34 {ABD652AC104E3CF79D66B92BC7E4E2D7}
```

```

35
36 \renewcommand*{\KFLT@maybeendfloatrow}{%
37 \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}%
38 {}% thiscol < numcols
39 {% >=
40 \defcounter{KFLT@thiscol}{0}%
41 }%
42 }%
43
44 \VerifyCommand[lwarp][keyfloat]{\KFLT@trackrows}
45 {8F99A9FB9A491C471A77041CFA37BAE2}
46
47 \renewcommand{\KFLT@trackrows}%
48 {%

```

If are nested inside a keyfloats or a subfloat:

```

49 \ifboolexpr{%
50 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
51 bool{KFLT@inkeysubfloats}%
52 }%
53 {% nested

```

Tracks row start and end:

```

54 \KFLT@maybestartfloatrow%

```

Possibly fill space between columns:

```

55 \ifnumgreater{\value{KFLT@thiscol}}{1}%
56 {%
57 % \hfill%
58 }%
59 {}%
60 }% nested
61 {}% not nested
62 }

63 \VerifyCommand[lwarp][keyfloat]{\KFLT@onefigureimage}
64 {803E82896F8D49700946B1A6CB132A55}
65
66 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
67 {%
68 \LWR@traceinfo{KFLT@onefigureimage}%
69 % \begin{lrbox}{\KFLT@envbox}%
70 \ifthenelse{\NOT\equal{\KFLT@lw}{}}%
71 {%

72 \ifdimgreater{\KFLT@h}{0pt}%
73 {%
74 \KFLT@frame{%
75 \includegraphics%
76 [%
77 scale=\KFLT@s,%
78 width=\KFLT@imagewidth,%
79 height=\KFLT@h,%
80 \KFLT@keepaspectratio,%
81]{#1}%

```

```

82 }%
83 }%
84 {%
85 \KFLT@frame{\includegraphics%
86 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
87 }%
88 }%
89 {% not linewidth
90 \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
91 {% width is given
92 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
93 {% w and h
94 \KFLT@frame{\includegraphics[%
95 scale=\KFLT@s,%
96 width=\KFLT@imagewidth,%
97 height=\KFLT@h,%
98 \KFLT@keepaspectratio,%
99]{#1}}%
100 }% w and h
101 {% only w
102 \KFLT@frame{\includegraphics%
103 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
104 }% only w
105 }% width is given
106 {% width is not given
107 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
108 {%
109 \KFLT@frame{\includegraphics%
110 [scale=\KFLT@s,height=\KFLT@h]{#1}}%
111 }%
112 {%
113 \KFLT@frame{\includegraphics%
114 [scale=\KFLT@s]{#1}}%
115 }%
116 }% width is not given
117 }% not linewidth
118 % \end{lrbox}%
119 % \unskip%
120 % \KFLT@findenvboxwidth%
121 % \begin{turn}{\KFLT@r}%
122 % \KFLT@frame{\usebox{\KFLT@envbox}}%
123 % \unskip%
124 % \end{turn}%
125 \LWR@traceinfo{KFLT@onefigureimage: done}%
126 }

127 \VerifyEnvironment[lwarp][keyfloat]{KFLT@boxinner}
128 {44BA9E3F4EA1B3E533F47377BA47F145}{590DE3AADA8DF85EF6E1589B41F0D4F6}
129
130 \RenewDocumentEnvironment{KFLT@boxinner}{}
131 {%
132 \LWR@traceinfo{KFLT@boxinner}%
133 \LWR@stoppars%
134 \minipagefullwidth%
135 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
136 \fminipage{\KFLT@imagewidth}%
137 }{%
138 \minipage{\KFLT@imagewidth}%
139 }%
140 }

```

```

141 {%
142 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
143 \endfminipage%
144 }{%
145 \endminipage%
146 }%
147 \LWR@startpars%
148 \LWR@traceinfo{KFLT@boxinner: done}%
149 }

150 \newcommand*{\LWR@KFLT@settextalign}[1]{%
151 \def\LWR@KFLT@textalign{justify}%
152 \ifcsstring{KFLT@#1textalign}{\centering}%
153 {\def\LWR@KFLT@textalign{center}}%
154 {}%
155 \ifcsstring{KFLT@#1textalign}{\raggedleft}%
156 {\def\LWR@KFLT@textalign{right}}%
157 {}%
158 \ifcsstring{KFLT@#1textalign}{\raggedright}%
159 {\def\LWR@KFLT@textalign{left}}%
160 {}%
161 }
162
163 \VerifyCommand[lwarp][keyfloat]{\KFLT@addtext}{C086CC818525A9B03EDEACC02609A3BE}
164
165 \renewcommand{\KFLT@addtext}[1]
166 {%

```

Is there text to add?

```

167 \ifcseempty{KFLT@#1t}%
168 {}% no text
169 {% text to add
170 {% local

```

Add some space, then create a <div> to contain the text:

```

171 \addvspace{\smallskipamount}%
172 \LWR@KFLT@settextalign{#1}%
173 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

174 % \csuse{KFLT@#1textalign}%
175 % \footnotesize%
176 \setlength{\parskip}{1.5ex}%
177 \setlength{\parindent}{0em}%

```

Typeset the actual text:

```

178 \csuse{KFLT@#1t}%

```

Close it all out with a little more space:

```

179 \end{BlockClass}%
180 % \par\addvspace{2ex}%
181 }% local
182 }% text to add

```

```

183 }
184
185 \IfPackageLoadedTF{tocdata}
186 {}
187 {% tocdata not loaded
188
189 \newcommand*\LWR@KFLT@setnamealign}[1]{%
190 \def\LWR@KFLT@textalign{justify}%
191 \ifstrequal{#1}{\centering}%
192 {\def\LWR@KFLT@textalign{center}}%
193 }%
194 \ifstrequal{#1}{\raggedleft}%
195 {\def\LWR@KFLT@textalign{right}}%
196 }%
197 \ifstrequal{#1}{\raggedright}%
198 {\def\LWR@KFLT@textalign{left}}%
199 }%
200 }
201
202 \VerifyCommand[lwarp][keyfloat]{\KFLT@addartisttext}
203 {35968ED08D9BE09FF1B45E1E40AFE9A7}
204
205 \renewcommand*\KFLT@addartisttext}[3]{%

```

Add space and create the name inside a <div>:

```

206 % \addvspace{\medskipamount}%
207 % \begin{minipage}{\linewidth}%
208 % \LWR@KFLT@setnamealign{#3}%
209 % \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Text alignment is #3, and depends on artist or author:

```

210 % #3%

```

#1 is empty or 'subgrp'  
 #2 is empty for artist, 'u' for author:

```

211 \footnotesize\textsc{%
212 \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
213 \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
214 \csuse{KFLT@#1a#2l}%
215 \csuse{KFLT@#1a#2s}%
216 }%
217 % \end{minipage}%
218 % \end{BlockClass}
219 % \par\addvspace{2ex}%
220 % }
221
222 }% tocdata not loaded

```

Env KFLT@marginfloat

[<offset>] {<type>}

```

223 \DeclareDocumentEnvironment{KFLT@marginfloat}{O{-1.2ex} m}
224 {%
225 \uselengthunit{PT}%
226 \LWR@BlockClassWP%
227 {float:right; width:2in; margin:10pt}%
228 }%

```

```

229 (note)%
230 {marginblock}%
231 \renewcommand*{\@capttype}{#2}%
232 \minipage{1.2\LWR@usersmarginparwidth}%
233 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
234 }
235 {%
236 \endminipage%
237 \endLWR@BlockClassWP%
238 }

239 \DeclareDocumentEnvironment{marginfigure}{o}
240 {\begin{KFLT@marginfloat}{figure}}
241 {\end{KFLT@marginfloat}}
242
243 \DeclareDocumentEnvironment{margintable}{o}
244 {\begin{KFLT@marginfloat}{table}}
245 {\end{KFLT@marginfloat}}

Env keywrap

 {\width} {\keyfloat}}

246 \DeclareDocumentEnvironment{keywrap}{m +m}
247 {%
248 \begin{LWR@setvirtualpage}*
249 \setlength{\LWR@templelengthone}{#1}%
250 \begin{LWR@BlockClassWP}%
251 {%
252 float:right; width:\LWR@printlength{\LWR@templelengthone}; % extra space
253 margin:10pt%
254 }%
255 {}%
256 (note)%
257 {marginblock}%
258 \setlength{\linewidth}{.95\LWR@templelengthone}%
259 \booltrue{KFLT@keywrap}%
260 #2%
261 \end{LWR@BlockClassWP}%
262 \end{LWR@setvirtualpage}%
263 }
264 {}

265 }% AtBeginDocument

```

---

File 243 **lwarp-keystroke.sty**

§ 358     Package **keystroke**

(Emulates or patches code by WERNER FINK.)

keystroke (*Pkg*)    **keystroke** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

2 \newcommand*{\LWR@HTML@keystroke}[1]{
3 \InlineClass{keystroke}{#1}
4 }

```

```
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*{\LWR@HTML@Return}{\keystroke{\HTMLUnicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*{\LWR@HTML@BSpace}{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*{\LWR@HTML@Tab}{\keystroke{\HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*{\LWR@HTML@UArrow}{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*{\LWR@HTML@DArrow}{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*{\LWR@HTML@LArrow}{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*{\LWR@HTML@RArrow}{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \VerifyCommand[lwarp][keystroke]{\Shift}{F86359C350A5BC1D264A4997F86C2DC2}
31
32 \LetLtxMacro\LWR@HTML@Shift\Shift
33 \xpatchcmd{\LWR@HTML@Shift}
34 {\$Uparrow$}
35 {\HTMLUnicode{21D1}}
36 {}
37 {}
38 \LWR@formatted{Shift}
39
40 \VerifyCommand[lwarp][keystroke]{\PgUp}{CBB81948EFB5940DAD2B51644BB4B2BF}
41
42 \LetLtxMacro\LWR@HTML@PgUp\PgUp
43 \xpatchcmd{\LWR@HTML@PgUp}
44 {\$Uparrow$}
45 {\HTMLUnicode{2191}}
46 {}
47 {}
48 \LWR@formatted{PgUp}
49
50 \VerifyCommand[lwarp][keystroke]{\PgDown}{B55C849642BE07904975EC7E4D649CAD}
51
52 \LetLtxMacro\LWR@HTML@PgDown\PgDown
53 \xpatchcmd{\LWR@HTML@PgDown}
54 {\$Downarrow$}
55 {\HTMLUnicode{2193}}
56 {}
57 {}
58 \LWR@formatted{PgDown}
```

File 244 **lwarp-kpfonts.sty**

§ 359 Package **kpfonts**

*(Emulates or patches code by CHRISTOPHE CAIGNAERT.)*

kpfonts (*Pkg*) kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreek`s, `slantedGreeks`, and `mathcalasscript`.

The dedicated macros for Greek work correctly.

svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13 \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14 \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15 \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19 \LWR@mathjax@addgreek@l@up{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22 \LWR@mathjax@addgreek@l@up{other}{}
23 \fi
24
25 \ifkp@slGrk
26 \LWR@mathjax@addgreek@u@it*{}{}
27 \LWR@mathjax@addgreek@u@up*{other}{}
28 \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30 \LWR@mathjax@addgreek@u@it*{other}{}
31 \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it*{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
```

---

```

41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50 \ifkp@upRm%
51 \CustomizeMathJax{
52 \def\D#1{\mathclose{\,\,\mathrm{d}}\#1}
53 }
54 \else
55 \CustomizeMathJax{
56 \def\D#1{\mathclose{\,\,\mathit{d}}\#1}
57 }
58 \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}

```

---

File 245 **lwarp-kpfonts-otf.sty**

§ 360    Package **kpfonts-otf**

*(Emulates or patches code by DANIEL FLIPO.)*

kpfonts-otf (*Pkg*)    kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations**    The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for unicode-math, which is loaded by kpfonts-otf.

The unicode-math dedicated macros for Greek work correctly.

 **\mathversion**    The MATHJAX emulation does not change with the use of \mathversion. Whatever emulation is established at the begin of the document will remain.

svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10

```

```

11 \ifkp@calasscr
12 \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14 \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm
23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30 \def\D#1{\mathclose{\,\,\mathrm{d}}\#1}
31 }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrclockwise}{%
41 \mathop{\unicode{x2939}}\!\!\unicode{x022E}}}%
42 }}
43
44 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
45 \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}}%
46 }}
47
48 \CustomizeMathJax{\newcommand{\oiintctrclockwise}{%
49 \mathop{\unicode{x2939}}\!\!\unicode{x0222F}}}%
50 }}
51
52 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
53 \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}}%
54 }}
55
56 \CustomizeMathJax{\newcommand{\varoiintctrclockwise}{%
57 \mathop{\unicode{x2939}}\!\!\unicode{x0222F}}}%
58 }}
59
60 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
61 \mathop{\unicode{x02230}}\!\!\unicode{x2938}}}%
62 }}
63
64 \CustomizeMathJax{\newcommand{\oiintctrclockwise}{%
65 \mathop{\unicode{x2939}}\!\!\unicode{x02230}}}%
66 }}
67
68 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
69 \mathop{\unicode{x02230}}\!\!\unicode{x2938}}}%
70 }}

```

---

```

71
72 \CustomizeMathJax{\newcommand{\varoiintctr clockwise}{%
73 \mathop{\unicode{x2939}\!\!\unicode{x02230}}%
74 }}
75
76 \CustomizeMathJax{\newcommand{\sqiint}{%
77 \mathop{\unicode{x2A16}\!\!\unicode{x2A16}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\sqiint}{%
81 \mathop{\unicode{x2A16}\!\!\unicode{x2A16}\!\!\unicode{x2A16}}%
82 }}
83
84 \CustomizeMathJax{\let\widearc\overparen}
85 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
86 \CustomizeMathJax{\let\overrightarc\overrightarrow}
87
88 \end{warpMathJax}

```

---

File 246 **lwarp-layaureo.sty**

§ 361 Package **layaureo**

layaureo (*Pkg*) layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

File 247 **lwarp-layout.sty**

§ 362 Package **layout**

layout (*Pkg*) layout is ignored.

**for HTML output:** Discard all options for lwarp-layout:

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

2 \NewDocumentCommand{\layout}{s}{}

---

File 248 **lwarp-layouts.sty**

§ 363 Package **layouts**

layouts (*Pkg*) layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```

2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse

```

```
6 \newif\ifdrawmarginpars
7 \drawmarginparstrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparameterstextfont}[1]{}
24 \newcommand{\setvaluetextsize}[1]{}
25 \newcommand{\setlayoutscales}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinmargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}

```

```
66 \newcommand{\tryleftmargin}[1]{
67 \newcommand{\tryrightmargin}[1]{
68 \newcommand{\trylistparindent}[1]{
69 \newcommand{\trytopsep}[1]{
70 \newcommand{\tryparskip}[1]{
71 \newcommand{\trypartopsep}[1]{
72 \newcommand{\tryparsep}[1]{
73 \newcommand{\tryitemsep}[1]{
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{
80 \newcommand{\tryfootnotesepp}[1]{
81 \newcommand{\tryfootnotebaseline}[1]{
82 \newcommand{\tryfootruleheight}[1]{
83 \newcommand{\tryfootrulefrac}[1]{
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{
90 \newcommand{\tryparlinewidth}[1]{
91 \newcommand{\tryparbaselineskip}[1]{
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{
98 \newcommand{\tryafterskip}[1]{
99 \newcommand{\tryindent}[1]{
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{
106 \newcommand{\tryfloatsep}[1]{
107 \newcommand{\tryintextsep}[1]{
108 \newcommand{\trytopfigrule}[1]{
109 \newcommand{\trybotfigrule}[1]{
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{
116 \newcommand{\trytopnumber}[1]{
117 \newcommand{\trybottomnumber}[1]{
118 \newcommand{\trytopfraction}[1]{
119 \newcommand{\trytextfraction}[1]{
120 \newcommand{\trybottomfraction}[1]{
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
```

---

```

126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframeLabel}[1]{}

```

---

#### File 249 **lwarp-leading.sty**

### § 364 Package **leading**

leading (*Pkg*) **leading** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand\leading[1]{}

---

#### File 250 **lwarp-leftidx.sty**

### § 365 Package **leftidx**

*(Emulates or patches code by HARALD HARDERS.)*

leftidx (*Pkg*) **leftidx** works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{\!#1}{}}}
5 \end{warpMathJax}

```

---

#### File 251 **lwarp-letterspace.sty**

### § 366 Package **letterspace**

*(Emulates or patches code by R SCHLICHT.)*

letterspace (*Pkg*) **letterspace** is a subset of microtype, which is pre-loaded by **lwarp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **lwarp-letterspace**:

1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]

---

```

2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][{}{}
4 \def\textls#1#{}
5 \newcommand*\lslig[1]{#1}

```

---

File 252 **lwarp-lettrine.sty**

§ 367 Package **lettrine**

*(Emulates or patches code by DANIEL FLIPO.)*

lettrine (*Pkg*) **lettrine** is emulated.

**for HTML output:** Discard all options for lwarp-lettrine:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a `<span>` of class `lettrine`, and the following text is in a `<span>` of class `lettrinetext`. `\lettrine [keys] {letter} {additional text}`

```

2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*\DefaultOptionsFile{\relax}
10 \newcommand*\DefaultLoversize{0}
11 \newcommand*\DefaultLraise{0}
12 \newcommand*\DefaultLhang{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*\LettrineTextFont{\scshape}
26 \newcommand*\LettrineFontHook{}
27 \newcommand*\LettrineFont[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*\LettrineFontEPS[1]{\includegraphics[height=1.5ex]{#1}}

```

---

File 253 **lwarp-libertinust1math.sty**

§ 368 Package **libertinust1math**

*(Emulates or patches code by MICHAEL SHARPE.)*

libertinust1math (*Pkg*) **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors frenchmath for Greek but not Latin characters, and slantedGreek, uprightGreek, and ISO also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsfbf` do not use a sans font because MATHJAX does not yet have sans Greek.

svg math honors all font choices, and should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \iflibus@slantedG
9 \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{}{up}
17
18 \iflibus@frenchm
19 \LWR@mathjax@addgreek@l@up{}{}
20 \else
21 \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it{}{}{it}
25 \LWR@mathjax@addgreek@l@up{}{}{up}
26 \LWR@mathjax@addgreek@l@up{}{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
30 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 % }}% not sans
33
34 % \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
39 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
40 % }}%

41 \CustomizeMathJax{\let\mathsf{it}\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsf{it}}[1]{%
```

```

43 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
44 % }}
45
46 \CustomizeMathJax{\let\vectorsym\mathbfit}
47 \CustomizeMathJax{\let\matrixsym\mathbfit}
48 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\iintslop}{\mathop{\unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiintslop}{\mathop{\unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiiintslop}{\mathop{\unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\ointlop\oint}
75 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiiintslop}{\mathop{\unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}
79 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\unicode{x2A0C}}\limits}}
82 \CustomizeMathJax{\let\ointupop\oint}
83 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiiintupop}{\mathop{\unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiiint}{\mathop{\unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\intop\int}
93 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiiintop}{\mathop{\unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\ointop\oint}
97 \CustomizeMathJax{\newcommand{\oiintop}{\mathop{\unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiiintop}{\mathop{\unicode{x2230}}\limits}}
99

```

```

100 \CustomizeMathJax{\newcommand{\vooint}{\mathop{\unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}
111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\xbsolop\xbsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\unicode{x020D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightharpoonaccent}[1]{\mathord{\#1\unicode{x020E1}}}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x020E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x020E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x020F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceld}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{~}}
158 \CustomizeMathJax{\newcommand{\rhook}{~}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}

```

```

160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
167 \CustomizeMathJax{\newcommand{\smblkcrcircle}{\mathbin{\unicode{x02022}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\unicode{x02025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
170 \CustomizeMathJax{\newcommand{\matheellipsis}{\mathinner{\unicode{x02026}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\unicode{x02034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x02037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x02043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x0220C}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}
202 \CustomizeMathJax{\newcommand{\vysmbkcircle}{\mathbin{\unicode{x02219}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
208 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\unicode{x0223A}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}

```

```

220 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
230 \CustomizeMathJax{\newcommand{\circlequal}{\mathbin{\unicode{x0229C}}}}
231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
248 \CustomizeMathJax{\newcommand{\nqssubseteq}{\mathrel{\unicode{x022E2}}}}
249 \CustomizeMathJax{\newcommand{\nqsupseteq}{\mathrel{\unicode{x022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubseteq}{\mathrel{\unicode{x022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupseteq}{\mathrel{\unicode{x022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodeddots}{\mathord{\unicode{x022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
271 \CustomizeMathJax{\newcommand{\wedgqq}{\mathrel{\unicode{x02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeqq}{\mathrel{\unicode{x0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\unicode{x02263}}}}

```

```

280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x000B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x000A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x000B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}
291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicode{x025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwhtsquare}{\mathord{\unicode{x025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Narrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321
322 \CustomizeMathJax{\let\ngets\leftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsimeq}
324 \CustomizeMathJax{\let\ngle\ngle}
325 \CustomizeMathJax{\let\nge\ngeq}
326
327 \end{warpMathJax}

```

---

File 254 **lwarp-lineno.sty**

§ 369 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

lineno (*Pkg*) **lineno** is partly emulated, but mostly ignored.

for HTML output: 1 LWR@ProvidesPackageDrop{lineno}[2005/11/02]

---

```

2 \newcommand*\resetlinenumber[1][\@ne]{%
3
4 \def\linenumbers{%
5 \ifnextchar[{\resetlinenumber}%
6 {\ifstar{\resetlinenumber}{}}}%
7 }
8
9 \newcommand*\nolinenumbers{}
10
11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{\ifstar{}}{}
37 \def\setmakelinenumbers#1{\ifstar{}}{}
38
39 \def\leftlinenumbers{\ifstar{}}{}
40 \def\rightlinenumbers{\ifstar{}}{}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internalllinenumbers{}
58 \let\endinternalllinenumbers\endlinenumbers
59 \@namedef{internalllinenumbers*}{\internalllinenumbers}
60 \expandafter\let\csname endinternalllinenumbers*\endcsname\endlinenumbers
61

```

---

```

62 \newcommand*{\linenoplaceholder}[1]{% redefine per language
63 (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*{\lineref}[2][\linenoplaceholder{#2}]
67 \newcommand*{\linerefp}[2][\linenoplaceholder{#2}]
68 \newcommand*{\linerefr}[2][\linenoplaceholder{#2}]
69
70 \newcommand\quotelinenumbers
71 {\@ifstar\linenumbers{\ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumbersep
76
77 \quotelinenumbersep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote} {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*} {\quote}{\endquote}
100 \newenvironment{numquotation*} {\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110 \LWR@forceminwidth{\bframerule}%
111 \BlockClass[
112 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113 padding:\LWR@printlength{\bframesep}%
114]{bframe}
115 }
116 {\endBlockClass}

```

---

File 255 **lwarp-lips.sty**

§ 370      Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

`lips (Pkg)` **lips** is emulated.

```

1 % \LWR@ProvidesPackageDrop{lips}
2 \LWR@ProvidesPackageDrop{lips}[2001/08/31]
3
4 \NewDocumentCommand{\Lips}{}{\textellipsis}
5
6 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
7
8 \let\lips\Lips
9 \let\olips\lips
10
11 \DeclareOption*{}
12 \DeclareOption{mla}{
13 \let\lips\BracketedLips
14 }
15 \ProcessOptions\relax
16
17 \newcommand \LPNobreakList {}

```

---

File 256 **lwarp-lipsum.sty**

§ 371      Package **lipsum**

*(Emulates or patches code by PATRICK HAPPEL.)*

`lipsum (Pkg)` **lipsum** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lipsum}[2021-09-20]
2
3 \ExplSyntaxOn
4 \xapptocmd{__lipsum_do:nnnn}
5 {\warpHTMLonly{\LWR@closeparagraph\leavevmode\LWR@orignewline}}
6 {}
7 {\LWR@patcherror{lipsum}{lipsum_do:nnnn}}
8 \ExplSyntaxOff

```

---

File 257 **lwarp-listings.sty**

§ 372      Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

`listings (Pkg)` **listings** is supported with some limitations. Text formatting and escape characters

are not yet supported.

```
1 \LWR@ProvidesPackagePass{listings}[2024/09/23]
```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
2 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```
3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlsthkEveryPar\lsthk@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{lol}{#1}{#2}}
```

\lstset

*{<options>}*

Use the listings literate option to replace HTML entities:

```
9 \def\lstset@#1{\endgroup%
10 % \ifx\@empty#1%
11 % \@empty%
12 % \else%
13 \setkeys{lst}{%
14 #1%
15 ,literate=%
16 {<}{\HTMLentity{lt}}{4}%
17 {>}{\HTMLentity{gt}}{4}%
18 {'}{\HTMLentity{apos}}{6}%
19 {~}{\HTMLentity{grave}}{7}%
```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to &amp; elsewhere. Sanitizing the double quote interferes with listings' conversion of visible spaces inside strings.

```
20 }%
21 % \fi%
22 }
```

\lst@Init

*{<backslash-processing>}* Done at the start of a listing.

```
23 \VerifyCommand[lwarp][listings]{\lst@Init}{A4D103298A6AC8230F525C61F1E1E541}
24
25 \renewcommand{\lst@Init}[1]{%
```

Perform the listings initialization:

```
26 \LWR@traceinfo{\lst@Init}% lwarp
```

\LWR@forcenewpage is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```
27 \lst@ifdisplaystyle% lwarp
28 \LWR@forcenewpage% lwarp
29 \fi% lwarp
```

Escapes do not work yet, and are disabled:

```
30 \let\lst@ifmathescape\iffalse% lwarp
```

```

31 \let\lst@DefEsc\relax% lwarp
32 \def\lst@escapebegin{ }% lwarp
33 \def\lst@escapeend{ }% lwarp

34 \renewcommand*{\@capttype}{\lstlisting}% lwarp
35 \let\lst@aboveskip\z@\let\lst@belowskip\z@% lwarp
36 \gdef\lst@boxpos{t}% lwarp
37 \let\lst@frame\@empty% lwarp
38 \let\lst@frametshape\@empty% lwarp
39 \let\lst@framershape\@empty% lwarp
40 \let\lst@framebshape\@empty% lwarp
41 \let\lst@framelshape\@empty% lwarp
42 \lstframe@lst@framaround ffff\relax% lwarp
43 \lst@multicols\@empty% lwarp
44 \begingroup%

```

Inside the listing, temporarily prevent underfull \hbox warnings.

```

45 \hbadness=10000\relax%

46 \ifx\lst@float\relax\else%
47 \edef\@tempa{\noexpand\lst@beginfloat{\lstlisting}[\lst@float]]%
48 \expandafter\@tempa%
49 \fi%
50 \ifx\lst@multicols\@empty\else%
51 \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
52 \expandafter\lst@next%
53 \fi%
54 \ifhmode\ifinner \lst@boxtrue \fi\fi%
55 \lst@ifbox%
56 \lsthk@BoxUnsafe%
57 \hbox to\z@\bgroup%
58 $\if t\lst@boxpos \vtop%
59 \else \if b\lst@boxpos \vbox%
60 \else \vcenter \fi\fi%
61 \bgroup \par\noindent%
62 \else%
63 \lst@ifdisplaystyle%
64 \lst@EveryDisplay%
65 \par\penalty-50\relax%
66 \vspace\lst@aboveskip%
67 \fi%
68 \fi%
69 \normalbaselines%
70 \abovecaptionskip\lst@abovecaption\relax%
71 \belowcaptionskip\lst@belowcaption\relax%
72 \lst@MakeCaption t%

```

Use the overall listing label instead of the line number label:

```

73 \LWR@traceinfo{\lst@Init: defining current label !\@currentlabel!}%
74 \let\LWR@listings@currentlabel\@currentlabel% lwarp
75 \LWR@traceinfo{\lst@Init: defining current label !\cref@currentlabel!}%
76 \let\LWR@listings@cref@currentlabel\cref@currentlabel% lwarp

77 \LWR@traceinfo{\lst@Init: preinit and init}%
78 \lsthk@PreInit \lsthk@Init%

79 \let\@currentlabel\LWR@listings@currentlabel% lwarp
80 \let\cref@currentlabel\LWR@listings@cref@currentlabel% lwarp

81 \LWR@traceinfo{\lst@Init: M}%
82 \lst@ifdisplaystyle

```

```

83 \global\let\lst@ltxlabel\@empty
84 \if@inlabel
85 \lst@ifresetmargins
86 \leavevmode
87 \else
88 \xdef\lst@ltxlabel{\the\everypar}%
89 \lst@AddTo\lst@ltxlabel{%
90 \global\let\lst@ltxlabel\@empty
91 \everypar{\lsthk@EveryLine\lsthk@EveryPar}}%
92 \fi
93 \fi
94 \everypar\expandafter{\lst@ltxlabel
95 \lsthk@EveryLine\lsthk@EveryPar}%
96 \else
97 \everypar{}
98 \let\lst@NewLine\@empty
99 \fi
100 \LWR@traceinfo{lst@Init: P}%
101 \lsthk@InitVars \lsthk@InitVarsBOL
102 \lst@Let{13}\lst@MProcessListing
103 \let\lst@Backslash#1%
104 \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
105 \lst@InitFinalize%
106 \LWR@traceinfo{lst@Init: S}%

```

Avoids extra horizontal space:

```

107 \def\lst@frame{r}% lwarp

108 \LWR@traceinfo{lst@Init: finished origlst@Init}%
109 \lst@ifdisplaystyle% lwarp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenale line numbers.

```

110 \LWR@traceinfo{lst@Init: About to create verbatim.}% lwarp
111 \let\lsthk@EveryPar\relax% lwarp

112 \LWR@atbeginverbatim{programlisting}% lwarp
113
114 \let\lsthk@EveryPar\LWR@origlsthkEveryPar% lwarp
115 \else% lwarp

```

Inline, so open a <span>:

```

116 \ifbool{LWR@verbtags}{\LWR@htmltag{% lwarp
117 span class=\textquotedbl{}inlineprogramlisting\textquotedbl% lwarp
118 }}{}% lwarp
119 \fi% lwarp
120 \LWR@traceinfo{lst@Init: done}%
121 }
122 \def\LWR@listings@synaxdollar{$}% lwarp editor syntax highlighting

```

\lst@DeInit

Done at the end of a listing.

```

123 %\renewcommand*{\lst@DeInit}{%
124 \xpretocmd{\lst@DeInit}
125 {%
126 \LWR@traceinfo{lst@DeInit}%
127 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `</pre>`, then reenable line numbers:

```
128 \let\lsthk@EveryPar\relax%
129 \LWR@afterendverbatim%
130 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
131 \else%
```

Inline, so create the closing `</span>`:

```
132 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{}}{}%
133 \fi%
134 }
135 {}
136 {\LWR@patcherror{listings}{lst@DeInit}}
```

`\lst@MakeCaption`

`{</t/b>}`

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```
137 \VerifyCommand[lwarp][listings]{\lst@MakeCaption}
138 {2B8D898FA33039FBAB7D1772D544153D}
139
140 \def\lst@MakeCaption#1{%
141 \LWR@traceinfo{lst@MakeCaption at #1}%
142 \lst@ifdisplaystyle
143 \LWR@traceinfo{lst@MakeCaption: making a listings display caption}%
144 \ifx #1t%
145 % \allowbreak
146 \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
147 \expandafter\refstepcounter
148 \fi {lstlisting}%
149 % \LWR@traceinfo{About to assign label: !\lst@label!}%
150 % \ifx\lst@label\@empty\else \label{\lst@label}\fi
151 % \LWR@traceinfo{Finished assigning the label.}%
152 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
153 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
154 \lst@ifnolol\else
155 \ifx\lst@caption\@empty
156 \ifx\lst@caption\@empty
157 \ifx\lst@intname\@empty
158 \else
159 \def\lst@temp{ }%
160 \ifx\lst@intname\lst@temp \else
```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```
161 \LWR@traceinfo{lst@MakeCaption: addcontents lst@name: -\lst@name-}%
162 % \addcontentsline{lol}{lstlisting}{\lst@name}
163 \fi
164 \fi
165 \fi
166 \else
```

This would have to be modified for lwarp:

```
167 \LWR@traceinfo{lst@MakeCaption: addcontents lst@@caption: -\lst@@caption-}%
168 \addcontentsline{\ext@lstlisting}{lstlisting}%
169 {\protect\numberline{\thelstlisting}%
170 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}}%
171 \fi
172 \fi
```

```

173 \fi
174 \ifx\lst@caption\@empty\else
175 \LWR@traceinfo{\lst@MakeCaption: lst@caption not empty-}%
176 \lst@ifSubstring #1\lst@captionpos
177 {\begingroup
178 \LWR@traceinfo{\lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

179 % \let\@vskip\vskip
180 % \def\vskip{\afterassignment\lst@vskip \@tempskipa}%
181 % \def\lst@vskip{\nobreak\@vskip\@tempskipa\nobreak}%
182 % \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
183 % \ifx #1t\allowbreak \fi
184 \ifx\lst@title\@empty

```

New lwarp code to create a caption:

```

185 \LWR@stoppars% lwarp
186 \lst@makecaption\fnm@lstlisting{\ignorespaces \lst@caption}
187 \else

```

New lwarp code to create a title:

```

188 % \lst@maketitle\lst@title % (AS)
189 \LWR@traceinfo{\lst@MakeCaption: Making title: \lst@title}%
190 \begin{BlockClass}{\lstlistingtitle}% lwarp
191 \lst@maketitle\lst@title% lwarp
192 \end{BlockClass}% lwarp
193 \fi%
194 \LWR@traceinfo{\lst@MakeCaption: About to assign label: !\lst@label!}%
195 \ifx\lst@label\@empty\else% lwarp
196 \leavevmode% gets rid of bad space factor error
197 \GetTitleStringExpand{\lst@caption}% lwarp
198 \edef\LWR@lntemp{\GetTitleStringResult}% lwarp
199 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}% lwarp
200 \label{\lst@label}\fi% lwarp
201 \LWR@traceinfo{\lst@MakeCaption: Finished assigning the label.}% lwarp

```

Not needed for lwarp:

```

202 % \ifx #1b\allowbreak \fi
203 \endgroup}{}%
204 \fi
205 \LWR@traceinfo{\lst@MakeCaption: end of making a listings display caption}%
206 \else
207 \LWR@traceinfo{\lst@MakeCaption: INLINE}%
208 \fi
209 \LWR@traceinfo{\lst@MakeCaption: done at #1}%
210 }
211
212 \renewcommand{\lst@maketitle}[1]{%
213 \LWR@isolate{#1}%
214 }%
215

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field \VerbatimHTMLWidth wide.

```

216 \lst@Key{numbers}{none}{%
217 \let\lst@PlaceNumber\@empty
218 \lstKV@SwitchCases{#1}%
219 {none:\\%
220 left:\def\lst@PlaceNumber{%

```

For now, **lwarp** places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

221 % \LWR@origllap{
222 \LWR@orignormalfont%
223 \lst@numberstyle{\the\lstnumber}\kern\lst@numbersep%
224 % }
225 % }\\%
226 % right:\def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont
227 % \kern 6in \kern\lst@numbersep
228 % \lst@numberstyle{\the\lstnumber}}}%
229 % }{\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}

```

---

## File 258 **lwarp-listliketab.sty**

### § 373 Package **listliketab**

`listliketab (Pkg)` `listliketab` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

2 \newcommand*\storestyleof[1]{ }
3 \newcommand*\storeliststyle[1]{ }
4 \newenvironment{listliketab}{}{ }

```

---

## File 259 **lwarp-lltjext.sty**

### § 374 Package **lltjext**

*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)*

`lltjext (Pkg)` `lltjext` is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

2 \protected\def\yoko{%
3 \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20

```

```

21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{ }
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{ } O{t} m}
25 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26 {\endLWR@HTML@sub@minipage}
27
28 \RenewDocumentCommand{LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{ }%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }

```

---

File 260 **lwarp-lltjp-siunitx.sty**

§ 375      Package **lltjp-siunitx**

*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)*

lltjp-siunitx (*Pkg*)    lltjp-siunitx is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{lltjp-siunitx}% 2022-12-14, no date assigned in file

This is the siunitx v3 file, as patched by lltjp-siunitx.

```

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][lltjp-siunitx]{\siunitx_print_text:n}
5 {A248D4314D135CB0AC3E6678F331CFF2}
6
7 \cs_set_protected:Npn \siunitx_print_text:n #1
8 {
9 \text
10 {
11 \ltj@allalchar % <--- LuaTeX-ja
12 \bool_if:NT \l__siunitx_print_text_family_bool
13 { \fontfamily { \familydefault } }
14 \bool_if:NT \l__siunitx_print_text_series_bool
15 { \fontseries { \seriesdefault } }
16 \bool_if:NT \l__siunitx_print_text_shape_bool
17 { \fontshape { \shapedefault } }
18 \bool_lazy_any:nTF lwarp: factors for a single \selectfont
19 { % lwarp
20 { \l__siunitx_print_text_family_bool }% lwarp
21 { \l__siunitx_print_text_series_bool }% lwarp
22 { \l__siunitx_print_text_shape_bool }% lwarp
23 }% lwarp
24 { \selectfont }% lwarp
25 \tl_use:N \l__siunitx_print_text_font_tl% lwarp
26 \exp_args:NnV \tl_if_head_eq_meaning:nTF {#1} \l__siunitx_unit_fraction_tl% lwarp

```

---

```

27 {% lwarp
28 __siunitx_print_text_fraction:Nnn #1% lwarp
29 }% lwarp
30 {% lwarp
31 __siunitx_print_text_replace:n {#1}% ORIGINAL
32 }% lwarp
33 }
34 }
35
36 \ExplSyntaxOff

```

---

File 261 **lwarp-lltjp-tascmac.sty**

§ 376 Package **lltjp-tascmac**

lltjp-tascmac (*Pkg*) lltjp-tascmac is a patch for tascmac, and is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

---

File 262 **lwarp-longtable.sty**

§ 377 Package **longtable**

*(Emulates or patches code by DAVID CARLISLE.)*

longtable (*Pkg*) longtable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[...] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[...] \endhead % or \endfirsthead
[...] \endfoot
[<lastfoot macros>] \endlastfoot
}
... table contents ...
\warppHTMLonly{
[<lastfoot macros>] % HTML last footer, without \endfoot
 % or \endlastfoot.
}
\end{longtable}

```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `\warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} ... \end{warpprint}
```

or place it inside `\warpprintonly`.

 **lateximage** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

`longtable (env)` \* [*horizontalignment*] [*colspec*] Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options `[c]`, `[l]`, and `[r]` are ignored.

```
4 \newenvironment{longtable*}[2][{}]{%
5 \LWR@floatbegin{table}%
6 \ifdef{\setcaptiontype}{% caption package:
7 \setcaptiontype{\LTcaptiontype}%
8 \caption@setoptions{longtable}%
9 \caption@setoptions{@longtable}%
10 \caption@LT@setup%
11 }{% w/o caption package:
12 \renewcommand*{\@captiontype}{\LTcaptiontype}%
13 }%
14 \booltrue{LWR@starredlongtable}%
15 \boolfalse{LWR@longtable@havehead}%
16 \let\captionlistentry\LWR@LTcaptionlistentry%
17 \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][{}]{%
22 \LWR@floatbegin{table}%
23 \ifdef{\setcaptiontype}{% caption package:
24 \setcaptiontype{\LTcaptiontype}%
25 \caption@setoptions{longtable}%
26 \caption@setoptions{@longtable}%
27 \caption@LT@setup%
28 }{% w/o caption package:
29 \renewcommand*{\@captiontype}{\LTcaptiontype}%
30 }%
31 \refstepcounter{\LTcaptiontype}%
32 \boolfalse{LWR@longtable@havehead}%
33 \let\captionlistentry\LWR@LTcaptionlistentry%
34 \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}
```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in \warpprintonly:

```

38 \newcommand*{\LWR@longtable@headerror}{%
39 \PackageError{lwarp-longtable}
40 {For longtable:\MessageBreak
41 1: Keep either one of an \protect\endhead\space or\MessageBreak
42 \space\protect\endfirsthead\space phrase as-is,\MessageBreak
43 \space to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45 \space\protect\warpprintonly\space macro,
46 to be ignored by HTML.\MessageBreak
47 3: At the end of the table,\MessageBreak
48 \space add a final footer for HTML\MessageBreak
49 \space inside a \protect\warppHTMLonly\space macro.
50 This can be\MessageBreak
51 \space a copy of an \protect\endfoot\space or
52 \protect\endfirstfoot\space\MessageBreak
53 \space phrase, but without the actual \protect\endfoot\space\MessageBreak
54 \space or \protect\endfirstfoot\space macros.\MessageBreak
55 \space If using threeparttablex, add\MessageBreak
56 \space \protect\insertTableNotes\space here,
57 optionally with\MessageBreak
58 \space \protect\UseMinipageWidths\space in front.\MessageBreak
59 See the Lwarp documentation regarding\MessageBreak
60 longtables and threeparttablex}
61 {See the Lwarp documentation regading longtables and threeparttablex.}
62 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{\LWR@longtable@havehead}%
65 {\LWR@longtable@headerror}%
66 {%
67 \booltrue{\LWR@longtable@havehead}
68 \LWR@tabularendofline% throws away options //[dim] and //*
69 }%
70 }

```

Error if more than one of these is outside of warpprint.

```

71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of warpprint.

```

73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}

75 \let\tabularnewline\
76 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}

78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTRight}
81 \newlength{\LTpre}

```

---

```

82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}

84 \LetLtxMacro\LWR@origkill\kill
85 \renewcommand*{\kill}{\LWR@tabularendofline}
86 \appto\LWR@restoreorigformatting{%
87 \LetLtxMacro\kill\LWR@origkill%
88 }

```

---

### File 263 **lwarp-lpic.sty**

## § 378 Package **lpic**

*(Emulates or patches code by R. MATVEYEV.)*

`lpic` (*Pkg*) `lpic` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

2 \BeforeBeginEnvironment{lpic}{%
3 \begin{lateximage}[-lpic-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}

```

---

### File 264 **lwarp-lscape.sty**

## § 379 Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

`lscape` (*Pkg*) `lscape` is ignored.

**for HTML output:** Discard all options for `lwarp-lscape`.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]

2 \newenvironment*{landscape}{}{}

```

---

### File 265 **lwarp-ltablex.sty**

## § 380 Package **ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

`ltablex` (*Pkg*) `ltablex` is emulated by `lwarp`.

**for HTML output:** Relies on `tabularx`.

```

1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}

```

---

```

3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*{\keepXColumns}{}
15 \newcommand*{\convertXColumns}{}

```

---

File 266 **lwarp-ltcaption.sty**

§ 381      Package **ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

`ltcaption (Pkg)` `ltcaption` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]

`\LTcaptype` is already defined by `lwarp`.

`longtable*` is already defined by `lwarp-longtable`.

```

2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginfalse}{}

```

---

File 267 **lwarp-ltxgrid.sty**

§ 382      Package **ltxgrid**

`ltxgrid (Pkg)` `ltxgrid` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

```

2 \newcommand*{\onecolumngrid}{}
3 \newcommand*{\twocolumngrid}{}
4 \newcommand*{\removestuff}{}
5 \newcommand*{\addstuff}[2]{}
6 \newcommand*{\replacestuff}[2]{}

```

---

File 268 **lwarp-ltxtable.sty**

§ 383      Package **ltxtable**

`ltxtable (Pkg)` `ltxtable` is emulated.

 **table numbering** The print version does not seem to honor `longtable*` from the `caption` package, while `lwarp` does.

**for HTML output:**

```
1 \RequirePackage{tabularx,longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]
```

```
\LTxtable

 {\width}\{file}
3 \newcommand*\LTxtable[2]{%
4 \input{#2}%
5 }
```

---

File 269 **lwarp-lua-check-hyphen.sty**

§ 384 Package **lua-check-hyphen**

lua-check-hyphen (*Pkg*) lua-check-hyphen is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]
2 \newcommand*\LuaCheckHyphen[1]{}
```

---

File 270 **lwarp-lua-visual-debug.sty**

§ 385 Package **lua-visual-debug**

lua-visual-debug (*Pkg*) lua-visual-debug is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]
```

---

File 271 **lwarp-luacolor.sty**

§ 386 Package **luacolor**

luacolor (*Pkg*) luacolor is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]
2 \newcommand*\luacolorProcessBox[1]{}
```

---

File 272 **lwarp-luamplib.sty**

§ 387 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DO-HYUN.)

luamplib (*Pkg*) luamplib is patched for use by `lwarp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]
```

---

```

2 \BeforeBeginEnvironment{mplibcode}{%
3 \begin{lateximage}[-mplibcode-~\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}

```

---

File 273 **lwarp-luatexko.sty**

§ 388      Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

luatexko (*Pkg*)    luatexko is patched for use by lwarp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \uline, etc.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luatexko}[2021/07/10]

2 \protected\def\typesetvertical{}
3 \protected\def\typesethorizontal{}
4
5 \def\verticaltypesetting{\BlockClass{verticalrl}}
6 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
7 \def\endverticaltypesetting{\endBlockClass}
8
9 \protected\def\vertical#1{\BlockClass{verticalrl}}
10 \protected\def\endvertical{\endBlockClass}
11 \protected\def\horizontal#1{\BlockClass{horizontalrb}}
12 \protected\def\endhorizontal{\endBlockClass}
13 \DeclareDocumentCommand{\vertlatin}{m}{#1}

14 \newcommand{\LWR@HTML@dotemph}[1]{%
15 \uline{#1}%
16 \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
17 }
18 \LWR@formatted{dotemph}

19 \newcommand{\LWR@HTML@ruby}[2]{%
20 \LWR@htmltagc{ruby}%
21 #1%
22 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp}%
23 \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
24 \LWR@htmltagc{rp}}\LWR@htmltagc{/rp}%
25 \LWR@htmltagc{/ruby}%
26 }
27 \LWR@formatted{ruby}

```

The following is modified from lwarp-ulem:

```

28 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
29 \InlineClass%
30 (text-decoration:underline; text-decoration-skip: auto)%
31 [%
32 text-underline-offset: \ulinedown ;
33 text-decoration-thickness: \ulinewidth%
34]%

```

```

35 {uline}{\LWR@isolate{#1}}%
36 }
37 \LWR@formatted{uline}
38
39 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
40 \InlineClass%
41 (%
42 text-decoration:underline; text-decoration-skip: auto;%
43 text-decoration-style:double%
44)%
45 [%
46 text-underline-offset: \ulinedown ;
47 text-decoration-thickness: \ulinewidth%
48]%
49 {uline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{uuline}
52
53 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
54 \InlineClass%
55 (%
56 text-decoration:underline; text-decoration-skip: auto;%
57 text-decoration-style:wavy%
58)%
59 [%
60 text-underline-offset: \ulinedown ;
61 text-decoration-thickness: \ulinewidth%
62]%
63 {uwave}{\LWR@isolate{#1}}%
64 }
65 \LWR@formatted{uwave}
66
67 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
68 \InlineClass%
69 (text-decoration:line-through)%
70 [text-decoration-thickness: \ulinewidth]%
71 {sout}{\LWR@isolate{#1}}%
72 }
73 \LWR@formatted{sout}
74
75 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
76 \InlineClass%
77 (text-decoration:line-through)%
78 [text-decoration-thickness: \ulinewidth]%
79 {xout}{\LWR@isolate{#1}}%
80 }
81 \LWR@formatted{xout}
82
83 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
84 \InlineClass%
85 (%
86 text-decoration:underline;%
87 text-decoration-skip: auto;%
88 text-decoration-style:dashed%
89)%
90 [%
91 text-underline-offset: \ulinedown ;
92 text-decoration-thickness: \ulinewidth%
93]%
94 {dashuline}{\LWR@isolate{#1}}%

```

```

95 }
96 \LWR@formatted{dashuline}
97
98 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
99 \InlineClass%
100 (%
101 text-decoration:underline;%
102 text-decoration-skip: auto;%
103 text-decoration-style: dotted%
104)%
105 [%
106 text-underline-offset: \ulinedown ;
107 text-decoration-thickness: \ulinewidth%
108]%
109 {dotuline}{\LWR@isolate{#1}}}%
110 }
111 \LWR@formatted{dotuline}

```

---

## File 274 **lwarp-luatodonotes.sty**

### § 389 Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

luatodonotes (*Pkg*) luatodonotes is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{ldo}{#1}{#2}}

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*\l@todototoc{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19 {\@todonotes@currentbordercolor}
20 {\@todonotes@currentbackgroundcolor}
21 {\arabic{\@todonotes@numberoftodonotes}}

```

```

22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27 {\@todonotes@currentbordercolor}%
28 {\@todonotes@currentbackgroundcolor}%
29 {%
30 \if@todonotes@authorgiven%
31 {\@todonotes@author:\,%
32 \fi%
33 \@todonotes@text%
34 }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38 \if@todonotes@authorgiven%
39 \@todonotes@author\par%
40 \fi%
41 \arabic{\@todonotes@numberoftodonotes}: %
42 \fcolorbox%
43 {\@todonotes@currentbordercolor}%
44 {\@todonotes@currentbackgroundcolor}%
45 {%
46 \@todonotes@sizecommand%
47 \@todonotes@text %
48 }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55 {\@todonotes@currentbordercolor}%
56 {\@todonotes@currentfigcolor}%
57 {%
58 \setlength{\fboxrule}{4pt}%
59 \fcolorbox{red}{white}{Missing figure} \quad #2%
60 }
61 }
62
63 \LetLtxMacro\LWRTODONOTES@orig@todocommon\@todocommon
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }
71
72 \VerifyCommand[lwarp][luatodonotes]{\@todoarea}
73 {3D40C9C729633DA7BB80F7A27E7C2694}
74
75 \renewcommand{\@todoarea}[3][]{%
76 \@todonotes@areaselectedtrue%
77 \@todocommon{#1}{#2}%
78 \@todonotes@textmark@highlight{#3}%
79 \zref@label{\@todonotes@arabic{\@todonotes@numberoftodonotes}@end}%
80 }%
81

```

---

```

82
83 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
84 \InlineClass[background:\LWR@origpound{ }B3FFB3]{highlight}{#1}%
85 }
86
87 \fi% \if@todonotes@disabled

```

---

File 275 **lwarp-luavlna.sty**

§ 390 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

luavlna (*Pkg*) luavlna is patched for use by lwarp.

The package is disabled for HTML output, due to incompatibilities with lwarp's handling of math SVG images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]

2 \preventsingloff
3 \LetLtxMacro\preventsingleon\preventsingloff

```

---

File 276 **lwarp-lyluatex.sty**

§ 391 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)

lyluatex (*Pkg*) lyluatex is patched for use by lwarp.

For the first compile, to set *lwarpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

 **images** After compiling the document with **lwarpmk html**, use **lwarpmk limages** to convert the Lilypond images for HTML.

**CSS** The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

 **insert=fullpage** **CSS** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the **geometry** package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

 **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```

\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluatex}

```

 **raw-pdf** If using raw-pdf, the resulting PDF images must be converted to svg:

Enter  $\Rightarrow$  **lwarpmk pdftosvg tmp-ly/\*.pdf**

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2023/04/18]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond--\PackageDiagramAltText}
```

\ly@compilescore

*{\Lilypond object}*

```
5 \VerifyCommand[lwarp][lyluatex]{\ly@compilescore}
6 {31A1EF1F24F22143AFD302A7C6AD29E6}
7
8 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
9 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
10 \LWR@maybe@orignewpage%
11 \LWR@origloadgeometry{LWR@usergeometry}%
12 \LWR@print@normalsize%
```

A local group holds a redefined \includegraphics which is used by *lyluatex.lua* to insert the *Lilypond* score if insert=systems is used. This is now placed inside a lateximage, which itself is placed inside a <span> of class lyluatex.

\LWR@addbaselinemarker preserves the left margins.

```
13 \renewcommand{\includegraphics}[2][{}]{%
14 \InlineClass{lyluatex}{%
15 \begin{lateximage}[\LyluatexImageAltText]?%
16 \LWR@addbaselinemarker%
17 \LWR@originincludegraphics{##2}%
18 \end{lateximage}%
19 }%
20 }%
```

From the original:

```
21 \ly@setunits%
22 \setluaoption{ly}{currfiledir}{\currfiledir}
23 \setluaoption{ly}{twoside}{\ly@istwosided}
24 \directlua{
25 #1
26 ly.newpage_if_fullpage()
27 }%
28 \ly@resetunits%
29 \ly@currentfonts%
```

The fullpage version is set inside an HTML <div>:

```
30 \directlua{
31 if (ly.score.insert == 'fullpage') then
32 tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
33 end
34 }%
```

Generate the score:

```
35 \directlua{ly.score:process()}%
```

Close the <div>:

```
36 \directlua{
37 if (ly.score.insert == 'fullpage') then
38 tex.print{[[\string\end{BlockClass}]]}
39 end
40 }%
```

Move to a new page and renew the regular page geometry:

```
41 \LWR@maybe@orignewpage%
42 \LWR@origrestoregeometry%
```

End of the local group.

```
43 \endgroup%
44 }
```

In HTML the following generates an error, so is removed:

```
45 \VerifyCommand[lwarp][llyuatex]{\endly@bufferenv}
46 {9B3BA3FC990E03634B57041666E0048D}
47
48 \xpatchcmd{\endly@bufferenv}
49 {\hspace{0pt}}{\}
50 {}
51 {}
52 {\LWR@patcherror{llyuatex}{\endly@bufferenv}}
```

---

File 277 **lwarp-magaz.sty**

§ 392 Package **magaz**

magaz (*Pkg*) magaz is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```
2 \newcommand\FirstLine[1]{%
3 \begingroup
4 \FirstLineFont{%
5 \LWR@textcurrentcolor{%
6 \LWR@textcurrentfont{%
7 #1%
8 }%
9 }%
10 }%
11 \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

---

File 278 **lwarp-makeidx.sty**

§ 393     Package **makeidx**

*(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)*

makeidx (*Pkg*)    makeidx is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.

\printindex

```
2 \preto\printindex{%
3 \LWR@maybe@orignewpage%
4 \LWR@startpars%
5 }
```

---

File 279 **lwarp-manyfoot.sty**

§ 394     Package **manyfoot**

manyfoot (*Pkg*)    manyfoot is emulated.

**bigfoot, manyfoot**    Verbatim footnotes are not yet supported.

 **verbatim**

If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **lwarp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L<sup>A</sup>T<sub>E</sub>X. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X instead of PDF L<sup>A</sup>T<sub>E</sub>X.

lwarp's emulation of **bigfoot** uses **manyfoot**, so some of the **bigfoot** enhancements are included here.

The **bigfoot** “default” footnote is ignored, using the **lwarp** version instead.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

```
2 \RequirePackage{nccfoots}
3
4 \newcommand{\extrafootnoterule}{}
5
```

```

6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule}[2][0]{%
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{%
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{%
16
17 \newcommand*\ExtraParaSkip[1]{%
18
19 \newcommand*\newfootnote}[2][plain]{%
20 \ifstrequal{#2}{default}{%}{% not "default"
21 \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22 \appto{\LWR@printpendingfootnotes}{%
23 \LWR@printpendingfootnotes{footnote#2}%
24 }
25 \long\csdef{Footnotetext#2}##1##2{%
26 \NCC@makefnmark{##1}%
27 \LWR@footnotetext{##2}{LWR@footnote#2box}%
28 }%
29 \long\csdef{Footnotetext#2+}##1##2{%
30 \NCC@makefnmark{##1}%
31 \LWR@footnotetext{##2}{LWR@footnote#2box}%
32 }%
33 }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote}[2][plain]{%
38 \ifnextchar[%
39 {\LWR@manyfoot@declare{#1}{#2}}%
40 {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstrequal{#2}{default}{%}{% not "default"
45 \newfootnote[#1]{#2}%
46 \newcounter{footnote#2}%
47 \newcounter{footnote#2Reset}%
48 \setcounter{footnote#2Reset}{0}%
49 \csdef{thefootnote#2}{%
50 \expandafter\noexpand\csname @#3\endcsname%
51 \expandafter\noexpand\csname c@footnote#2\endcsname%
52 }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54 \stepcounter{footnote#2}%
55 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56 \@footnotemark%
57 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60 \stepcounter{footnote#2}%
61 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%

```

---

```

62 \@footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%
69 \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%
72 \Footnotemark{##1}%
73 \csuse{Footnotetext#2}{##1}%
74 }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

---

#### File 280 **lwarp-marginal.sty**

### § 395    Package **marginal**

`marginal (Pkg)` `marginal` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}
3 \newcommand*{\enlargefreelist}{}
4 \newcommand*{\onesidemarginals}{}

```

---

#### File 281 **lwarp-marginfit.sty**

### § 396    Package **marginfit**

`marginfit (Pkg)` `marginfit` is ignored.

**for HTML output:** Discard all options for `lwarp-marginfit`:

```

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

```

---

#### File 282 **lwarp-marginfix.sty**

### § 397    Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

`marginfix (Pkg)` `marginfix` is ignored.

**for HTML output:** Discard all options for `lwarp-marginfix`:

```

1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

```

---

```

2 \newcommand*\margin skip}[1]{}
3 \newcommand*\clearmargin{}
4 \newcommand*\softclearmargin{}
5 \newcommand*\extendmargin}[1]{}
6 \newcommand*\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*\blockmargin}[1][{}{}
10 \newcommand*\unblockmargin}[1][{}{}
11 \newcommand*\marginphantom}[2][{}{}

```

---

File 283 **lwarp-marginnote.sty**

§ 398      Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

marginnote (*Pkg*)    marginnote is emulated.

**for HTML output:**    Discard all options for lwarp-marginnote:

```

1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*\marginnoteleftadjust{}
4 \newcommand*\marginnoterightadjust{}
5 \newcommand*\marginnotetextwidth{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*\marginnotevadjust{}
8 \newcommand*\marginfont{}
9 \newcommand*\raggedleftmarginnote{}
10 \newcommand*\raggedrightmarginnote{}

11 \appto\LWR@restoreorigformatting{%
12 \RenewDocumentCommand{\marginnote}{+o +m o}{}
13 }

For MATHJAX:

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][{}]}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][{}]{\qqquad\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

---

File 284 **lwarp-marvosym.sty**

§ 399      Package **marvosym**

*(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)*

marvosym (*Pkg*)    marvosym is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]

2 \renewcommand{\mvchr}[1]{%
3 \begin{lateximage}*[symbol #1]?[marvosym #1]%
4 \mvs\char#1%
5 \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9 \begin{lateximage}%
10 \mvs #1%
11 \end{lateximage}%
12 }
```

---

File 285 **lwarp-mathalpha.sty**

§ 400     Package **mathalpha**

(Emulates or patches code by MICHAEL SHARPE.)

mathalpha (*Pkg*)    **mathalpha** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations**    The MATHJAX emulation ignores all package options, and some bold fonts may not be not supported by MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathalpha}[2021/11/18]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbfbfbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbfbfcalf}[1]{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbfbffrak}[1]{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbfbfscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8
9 \IfPackageLoadedWithOptionsTF{mathalpha}{oldbold}
10 {
11 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
12 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}
13 \CustomizeMathJax{\newcommand{\mathbfrak}[1]{\boldsymbol{\mathfrak{#1}}}}
14 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
15 }{}
16 \end{warpMathJax}
```

---

File 286 **lwarp-mathastext.sty**

§ 401     Package **mathastext**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

mathastext (*Pkg*)    **mathastext** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
```

---

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 % \LWR@mathjax@addgreek@l@it{}{}
7 \else
8 \ifmst@upgreek
9 \LWR@mathjax@addgreek@l@up{}{}
10 \else
11 \ifmst@frenchmath
12 \LWR@mathjax@addgreek@l@up{}{}
13 \else
14 \ifmst@italic
15 % \LWR@mathjax@addgreek@l@it{}{}
16 \else
17 \LWR@mathjax@addgreek@l@up{}{}
18 \fi
19 \fi
20 \fi
21 \fi
22
23 \ifcase\mst@greek@select
24 \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 % \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infitypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

---

File 287 **lwarp-mathcomp.sty**

§ 402     Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

mathcomp (*Pkg*)    mathcomp is supported as-is for svg math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}

```

---

```

4 \CustomizeMathJax{\newcommand{\tccelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}

```

---

File 288 **lwarp-mathdesign.sty**

§ 403      Package **mathdesign**

*(Emulates or patches code by PAUL PICHAREAU.)*

mathdesign (*Pkg*)    mathdesign is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations**    The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:**    1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}

```

Adapt to mathdesign inconsistency:

```

20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}

```

Extra symbols:

```

22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWROverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWROverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}

```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}

```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}

```

Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\{}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\}}}
43
44 \end{warpMathJax}

```

---

File 289 **lwarp-mathdots.sty**

§ 404 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

mathdots (*Pkg*) **mathdots** is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}

```

---

```

10 \CustomizeMathJax{\let\originaldddot\dddot}
11 \CustomizeMathJax{\let\originaldddot\dddot}
12 \end{warpMathJax}

```

---

File 290 **lwarp-mathfixs.sty**

§ 405 Package **mathfixs**

(Emulates or patches code by NIKLAS BEISERT.)

`mathfixs` (*Pkg*) `mathfixs` is used as-is for SVG math, and is emulated for MATHJAX.



Greek letters are unchanged.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\#1}\!/_{\#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}

```

---

File 291 **lwarp-mathpazo.sty**

§ 406 Package **mathpazo**

(Emulates or patches code by WALTER SCHMIDT.)

`mathpazo` (*Pkg*) `mathpazo` is used as-is for SVG math, and is emulated for MATHJAX.



**limitations**

The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

```

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}

```

File 292 **lwarp-mathptmx.sty**§ 407 Package **mathptmx***(Emulates or patches code by WALTER SCHMIDT.)*`mathptmx (Pkg)` **mathptmx** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \IfPackageLoadedWithOptionsTF{mathptmx}{slantedGreek}
8 {\LWR@mathjax@addgreek@u@it*{}{}}
9 {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}

```

File 293 **lwarp-mathspec.sty**§ 408 Package **mathspec***(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*`mathspec (Pkg)` **mathspec** is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (`\`" and the `"` character) are removed during MATHJAX emulation, but this also includes inside `\text`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

Neutralize double quotes (`"` and `\`" ):

```
5 \booltrue{LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8 \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10 \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12 \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15 \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17 \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19 \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }

```

Swap definitions according the mathspec conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24 \eu@ifbooltrue{exchangebetaforms}{
25 \CustomizeMathJax{\let\LWRorigbeta\beta}
26 \CustomizeMathJax{\let\beta\varbeta}
27 \CustomizeMathJax{\let\varbeta\LWRorigbeta}
28 }
29 \eu@ifbooltrue{exchangeepsilonforms}{
30 \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31 \CustomizeMathJax{\let\epsilon\varepsilon}
32 \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33 }
34 \eu@ifbooltrue{exchangethetaforms}{
35 \CustomizeMathJax{\let\LWRorigtheta\theta}
36 \CustomizeMathJax{\let\theta\vartheta}
37 \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38 }
39 \eu@ifbooltrue{exchangekappaforms}{
40 \CustomizeMathJax{\let\LWRorigkappa\kappa}
41 \CustomizeMathJax{\let\kappa\varkappa}
42 \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43 }
44 \eu@ifbooltrue{exchangepiforms}{
45 \CustomizeMathJax{\let\LWRorigpi\pi}
46 \CustomizeMathJax{\let\pi\varpi}
47 \CustomizeMathJax{\let\varpi\LWRorigpi}
48 }
49 \eu@ifbooltrue{exchangerhoforms}{
50 \CustomizeMathJax{\let\LWRorigrho\rho}
51 \CustomizeMathJax{\let\rho\varrho}
52 \CustomizeMathJax{\let\varrho\LWRorigrho}
53 }
54 \eu@ifbooltrue{exchangephiforms}{
55 \CustomizeMathJax{\let\LWRorigphi\phi}
56 \CustomizeMathJax{\let\phi\varphi}
57 \CustomizeMathJax{\let\varphi\LWRorigphi}
58 }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61 \eu@ifbooltrue{exchangeThetaforms}{
62 \CustomizeMathJax{\let\LWRorigTheta\Theta}

```

```

63 \CustomizeMathJax{\let\Theta\varTheta}
64 \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65 }
66 }
67 }

```

Append new action to `mathspec`'s `\AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69 {\AtBeginDocument{\LWR@mathspec@varforms}}
70 {}
71 {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```

---

## File 294 **lwarp-mathtools.sty**

### § 409 Package **mathtools**

*(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

 **equation numbering** `mathtools (Pkg)` `mathtools` is patched for use by `lwarp`. Emulation macros are provided for MATHJAX.

`showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.

 **italic correction** `mathic` is not emulated for HTML.

 **MATHJAX** If using MATHJAX:

- Recent changes may not yet be updated in the MATHJAX extension, which is used by `lwarp`.
- `mathtools disallowspace` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:
 

```

\begin{gathered}{}
[p]=1 \dots
\end{gathered}

```
- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- `alignat` in MATHJAX requires math mode, but in L<sup>A</sup>T<sub>E</sub>X it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.
- `\MakeAboxedCommand` uses `\Aboxed` for all commands made.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mathtools}[2024/10/04]`

`2 \RequirePackage{graphicx}`

`3 \MHInternalSyntaxOn`

Forces showonlyrefs off because lwarp uses cleveref, which is not compatible with showonlyrefs.

```

4 \renewcommand*{\MT_showonlyrefs_true:}{%
5 \PackageWarningNoLine{lwarp}
6 {%
7 Mathtools \space showonlyrefs \space conflicts \space
8 with \space cleveref,\MessageBreak
9 which \space is \space used \space by \space lwarp, \space
10 so \space showonlyrefs \space is\MessageBreak
11 forced \space off. \space\space
12 Equation \space numbers \space may \space not \space match%
13 }
14 \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for lwarp.

```

17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

19 \MHInternalSyntaxOff

```

For MATHJAX.

The MATHJAX package is used, and improvements are added.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
26
27 \CustomizeMathJax{\newcommand{\approxcolon}{\approx\vcentcolon}}
28 \CustomizeMathJax{\newcommand{\Approxc colon}{\approx\dblcolon}}
29
30 \CustomizeMathJax{\newcommand{\simcolon}{\sim\vcentcolon}}
31 \CustomizeMathJax{\newcommand{\Simcolon}{\sim\dblcolon}}
32
33 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{-}\vcentcolon}}
34 \CustomizeMathJax{\newcommand{\Dashcolon}{\mathrel{-}\dblcolon}}
35
36 \CustomizeMathJax{\newcommand{\colondash}{\vcentcolon\mathrel{-}}}
37 \CustomizeMathJax{\newcommand{\Colondash}{\dblcolon\mathrel{-}}}
38
39 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
40
41 \CustomizeMathJax{\newcommand{\smashoperator}[2][\#2\limits]}
42
43 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
44
45 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
46 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
47
48 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
49 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
50 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}

```

```

51 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
52
53 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}]}
54 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
55
56 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
57 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft]}
58 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
59 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright]}
60
61 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\\}}
62
63 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
64 \renewcommand{\DeclarePairedDelimiter}[3]{
65 \LWR@mathtools@orig@DeclarePairedDelimiter{#1}{#2}{#3}
66 % starred:
67 \appto\LWR@customizedMathJax{\LWRbackslash{
68 \appto\LWR@customizedMathJax{%
69 \LWRbackslash{newcommand{\LWRbackslash\macroto{name}{#1}LWRsubstar\}%
70 }}%
71 \appto\LWR@customizedMathJax{[2][\]}%
72 \appto\LWR@customizedMathJax{\{\}%
73 \LWR@subcustomizedmathjax{##1\left##2##1\right##3}%
74 \appto\LWR@customizedMathJax{\}\}%
75 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
76 % not starred:
77 \appto\LWR@customizedMathJax{\LWRbackslash{
78 \appto\LWR@customizedMathJax{%
79 \LWRbackslash{newcommand{\LWRbackslash\macroto{name}{#1}LWRsubnostar\}%
80 }}%
81 \appto\LWR@customizedMathJax{[2][\]}%
82 \appto\LWR@customizedMathJax{\{\}%
83 \LWR@subcustomizedmathjax{##1##2##1##3}%
84 \appto\LWR@customizedMathJax{\}\}%
85 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
86 % user macro:
87 \appto\LWR@customizedMathJax{\LWRbackslash{
88 \appto\LWR@customizedMathJax{%
89 \LWRbackslash{newcommand{\LWRbackslash{\macroto{name}{#1}\}%
90 \{\LWRbackslash\}ifstar%
91 \LWRbackslash{\macroto{name}{#1}LWRsubstar%
92 \LWRbackslash{\macroto{name}{#1}LWRsubnostar%
93 }}%
94 }}%
95 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
96 }
97 \@onlypreamble\DeclarePairedDelimiter
98
99 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
100
101 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
102 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
103 \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}
104 % subsubstar, second opt arg
105 \appto\LWR@customizedMathJax{\LWRbackslash{%
106 \appto\LWR@customizedMathJax{%
107 \LWRbackslash{newcommand{\LWRbackslash\macroto{name}{#1}LWRsubsubstar\}%
108 }}%
109 \appto\LWR@customizedMathJax{[#2]}%
110 \appto\LWR@customizedMathJax{\{\LWRbackslash\}left}%

```

```

111 \LWR@subcustomizedmathjax{#3#4#7}%
112 \appto\LWR@customizedMathJax{\LWRbackslash{right}}%
113 \LWR@subcustomizedmathjax{#5#6}%
114 \appto\LWR@customizedMathJax{\}\}%
115 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
116 % substar, first opt arg
117 \appto\LWR@customizedMathJax{\LWRbackslash}%
118 \appto\LWR@customizedMathJax{%
119 \LWRbackslash{newcommand}\{\LWRbackslash\macroto{name{#1}LWRsubstar}\}[1][1]%
120 }%
121 \appto\LWR@customizedMathJax{%
122 \{
123 \LWRbackslash{def\LWRbackslash{delimsizes}\{#1\}}
124 \LWRbackslash\macroto{name{#1}LWRsubsubstar
125 \}%
126 }%
127 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
128 % subsubnstar, second opt arg
129 \appto\LWR@customizedMathJax{\LWRbackslash}%
130 \appto\LWR@customizedMathJax{%
131 \LWRbackslash{newcommand}\{\LWRbackslash\macroto{name{#1}LWRsubsubnstar}\}%
132 }%
133 \appto\LWR@customizedMathJax{[#2]}%
134 \appto\LWR@customizedMathJax{\{\{\LWRbackslash{delimsizes}\}%
135 \LWR@subcustomizedmathjax{#3#4#7}%
136 \appto\LWR@customizedMathJax{\LWRbackslash{delimsizes}}%
137 \LWR@subcustomizedmathjax{#5#6}%
138 \appto\LWR@customizedMathJax{\}\}%
139 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
140 % subnstar, first opt arg
141 \appto\LWR@customizedMathJax{\LWRbackslash}%
142 \appto\LWR@customizedMathJax{%
143 \LWRbackslash{newcommand}\{\LWRbackslash\macroto{name{#1}LWRsubnstar}\}[1][1]%
144 }%
145 \appto\LWR@customizedMathJax{%
146 \{
147 \LWRbackslash{def\LWRbackslash{delimsizes}\{#1\}}
148 \LWRbackslash\macroto{name{#1}LWRsubsubnstar
149 \}%
150 }%
151 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
152 % user macro:
153 \appto\LWR@customizedMathJax{\LWRbackslash{
154 \appto\LWR@customizedMathJax{%
155 \LWRbackslash{newcommand}\{
156 \LWRbackslash\macroto{name{#1}%
157 \}%
158 \{\LWRbackslash{ifstar%
159 \LWRbackslash\macroto{name{#1}LWRsubstar%
160 \LWRbackslash\macroto{name{#1}LWRsubnstar%
161 \}%
162 }%
163 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
164 }
165 \@onlypreamble\DeclareParedDelimiterXPP
166 \@onlypreamble\DeclareParedDelimiterX
167
168 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
169 \renewcommand{newgathered}[4]{%
170 \LWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}%

```

---

```

171 \appto\LWR@customizedMathJax{\LWRbackslash}%
172 \LWR@subcustomizedmathjax{%
173 \newenvironment{#1}{\begin{gathered}}{\end{gathered}}}%
174 }%
175 \appto\LWR@customizedMathJax{\LWRbackslash)\LWR@orignewline}%
176 }
177 \@onlypreamble\newgathered
178
179
180 \LetLtxMacro\LWR@mathtools@MakeAboxedCommand\MakeAboxedCommand
181 \renewcommand{\MakeAboxedCommand}[2]{%
182 \LWR@mathtools@MakeAboxedCommand{#1}{#2}%
183 \appto\LWR@customizedMathJax{\LWRbackslash(}
184 \appto\LWR@customizedMathJax{%
185 \LWRbackslash}{let%
186 \LWRbackslash\macrotocname{#1}%
187 \LWRbackslash}{Aboxed%
188 }%
189 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
190 }
191
192 \end{warpMathJax}

```

---

File 295 **lwarp-mattens.sty**

§ 410 Package **mattens**

*(Emulates or patches code by DANIE ELS.)*

mattens (*Pkg*) **mattens** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][{}]{%
6 {#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{\boldsymbol{#2}}}}}}}%
7 }}
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][{}]{%
10 {#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{#2}}}}}}}%
11 }}
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{%
14 \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18 \let\LWRmattenscross\LWRmattensnull%
19 \let\LWRmattensovercmd\overrightarrow%
20 \let\LWRmattensundercmd\LWRmattensnull%
21 \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\Sa}{%
25 \let\LWRmattenscross\LWRmattensnull%

```

```

26 \let\LWRmattensovercmd\underrightarrow%
27 \let\LWRmattensundercmd\LWRmattensnull%
28 \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%
32 \let\LWRmattenscross\LWRmattensnull%
33 \let\LWRmattensovercmd\overline%
34 \let\LWRmattensundercmd\LWRmattensnull%
35 \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\bSb}{%
39 \let\LWRmattenscross\LWRmattensnull%
40 \let\LWRmattensovercmd\underline%
41 \let\LWRmattensundercmd\LWRmattensnull%
42 \LWRmattens%
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46 \let\LWRmattenscross\LWRmattensnull%
47 \let\LWRmattensovercmd\overrightarrow%
48 \let\LWRmattensundercmd\underrightarrow%
49 \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53 \let\LWRmattenscross\LWRmattensnull%
54 \let\LWRmattensovercmd\overrightarrow%
55 \let\LWRmattensundercmd\underline%
56 \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60 \let\LWRmattenscross\LWRmattensnull%
61 \let\LWRmattensovercmd\overline%
62 \let\LWRmattensundercmd\underrightarrow%
63 \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67 \let\LWRmattenscross\LWRmattensnull%
68 \let\LWRmattensovercmd\overline%
69 \let\LWRmattensundercmd\underline%
70 \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74 \let\LWRmattenscross\tilde%
75 \let\LWRmattensovercmd\overrightarrow%
76 \let\LWRmattensundercmd\underrightarrow%
77 \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81 \let\LWRmattenscross\tilde%
82 \let\LWRmattensovercmd\overline%
83 \let\LWRmattensundercmd\underline%
84 \LWRmattens%
85 }}

```

---

```
86 \end{warpMathJax}
```

---

File 296 **lwarp-maybemath.sty**

§ 411    Package **maybemath**

*(Emulates or patches code by ANDY BUCKLEY.)*

`maybemath (Pkg)` `maybemath` is used as-is for SVG math, and is emulated for MATHJAX.

 **no effect** MATHJAX is not able to detect the surrounding text font, so all `maybemath` macros are ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}[1]{\{#1\}}}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}
6 \CustomizeMathJax{\let\maybeitrm\mayberm}
7 \CustomizeMathJax{\let\maybeitsubscript\mayberm}
8 \CustomizeMathJax{\let\maybesf\mayberm}
9 \CustomizeMathJax{\let\maybebsf\mayberm}
10 \end{warpMathJax}
```

---

File 297 **lwarp-mcaption.sty**

§ 412    Package **mcaption**

*(Emulates or patches code by STEPHAN HENNIG.)*

`mcaption (Pkg)` `mcaption` is ignored.

**for HTML output:** Discard all options for `lwarp-mcaption`:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*\margincapalign{}
4 \newlength{\margincapsep}
```

---

File 298 **lwarp-mdframed.sty**

§ 413    Package **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

`mdframed (Pkg)` `mdframed` is loaded with options forced to `framemethod=none`.

### § 413.1 Limitations

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

### § 413.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require `TikZ` or `pstricks`:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

### § 413.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 \topsep=\the\topsep\relax%
9 \partopsep=\the\partopsep\relax%
10 \parsep=\the\parsep\relax%
11 }%
12 \setlength{\topsep}{#1}%
13 \topskip\z@%
14 \partopsep\z@%
15 \parsep\z@%
```

```

16 % \enmbrlistfalse%
17 % \@trivlist%
18 % \labelwidth\z@%
19 % \leftmargin\z@%
20 % \itemindent\z@%
21 \let\@itemlabel\@empty%
22 \def\makelabel##1{##1}%
23 % \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*\{endmdf@trivlist}{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 % \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument

```

#### § 413.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. \LWR@print@raggedright helps avoid hyphenation.

```

32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }

```

#### § 413.5 Color and length HTML conversion

\LWR@mdfprintcolor      {<mdfcolorkey>}

Given the mdframed key, print the color.

```

38 \newcommand*\{LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }

```

\LWR@mdfprintlength      {<mdflengthkey>}

Given the mdframed key, print the length.

```

42 \newcommand*\{LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }

```

#### § 413.6 Environment encapsulation

\LWR@mdframedstart      Actions before an mdframe starts.

Encapsulate a frame inside a <div> of the desired class.

```

46 \newcommand*\{LWR@mdframedstart}{%
47 \LWR@traceinfo{LWR@mdframedstart start}%

```

Warn if starting a frame inside a <span>:

```

48 \LWR@spanwarninvalid{mdframe}%

```

Turn off paragraph handling during the generation of the encapsulating tags:

49 \LWR@stoppars%

Open a <div> and with custom class and custom style. A BlockClass environment is not used because this <div> is created by the mdframed startcode and endcode settings, which do not properly nest the <div> inside the mdframed environment.

```
50 \LWR@htmltagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline
```

```
68 \textquotedbl}
69 \LWR@htmldivclass{\LWR@mdthisenv}
```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```
70 \let\hspace\LWR@print@hspace%
71 \renewcommand*{\rule}{\LWR@print@rule}
72 \let\LTxMacro\makebox\LWR@print@makebox%

73 \LWR@startpars%
74 \LWR@traceinfo{\LWR@mdframedstart done}%
75 }
```

\LWR@mdframedend

Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```
76 \newcommand*{\LWR@mdframedend}{
77 \LWR@traceinfo{\LWR@mdframedend start}%
```

Close the custom <div>:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{LWR@mdframedend done}%
82 }
```

### § 413.7 Mdfamed environment

```
83 \renewenvironment{mdframed}[1][]{%
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifdefempty{\mdf@firstframetitle}{}%
89 {\let\mdf@frametitlesave\mdf@frametitle%
90 \let\mdf@frametitle\mdf@firstframetitle%
91 }%
92 \ifvmode\nointerlineskip\fi%
93 \ifdefempty{\mdf@frametitle}{}%
94 {\mdfframedtitleenv{\mdf@frametitle}%
95 \mdf@@frametitle@use%
96 }%
97 \mdf@trivlist{\mdf@skipabove@length}%%
98 \mdf@settings%
99 \mdf@lrbox{\mdf@splitbox@one}%
100 \mdf@startinnercode%
101 }%
102 {%
103 \mdf@ignorelastdescenders%
104 \par%
105 \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserveda{%
108 \mdf@footnoteoutput%
109 \mdf@endinnercode%
110 \endmdf@lrbox%
111 \ifdefempty{\mdf@frametitle}{}%
112 {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 \detected@mdf@put@frame%
114 }%
115 \else%
116 \def\mdf@reserveda{%
117 \mdf@endinnercode%
118 \endmdf@lrbox%
119 \ifdefempty{\mdf@frametitle}{}%
120 {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 \detected@mdf@put@frame%
122 \mdf@footnoteoutput%
123 }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }
```

\mdf@footnoteoutput

```
130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
```

132 }

### §413.8 Titles and subtitles

\mdfframedtitleenv

{\langle title \rangle}

Place the title inside a <div> of class mdfframedtitle:

```
133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%
```

Open a <div> with a custom class and custom style:

```
137 \begin{BlockClass}[%
```

Convert and print the title background color:

```
138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}
140 ; \LWR@orignewline
```

Convert and print the title rule:

```
141 \ifbool{mdf@frametitle rule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitle rule width}
144 solid
145 \LWR@mdfprintcolor{frametitle rule color}
146 ; \LWR@orignewline
147 }{}%
```

Finish the custom style and the opening <div> tag:

```
148]{mdfframedtitle}%
```

Print the title inside the <div>:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
```

Close the <div>:

```
150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdfframedtitleenv end}%
152 }
```

\LWR@mdfsubtitlecommon

{\langle sub — or — subsub \rangle} [\langle options \rangle] {\langle title \rangle}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdfframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {% the following empty line is required
155
156 \LWR@traceinfo{\LWR@mdfframedsubtitlecommon start}%
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}[%
```

Convert and print the background color:

```
158 background:
159 \LWR@mdfprintcolor{#1titlebackgroundcolor}
160 ; \LWR@orignewline
```

Convert and print the above line:

```

161 \ifbool{mdf@#1titleaboveline}{%
162 border-top:
163 \LWR@mdfprintlength{#1titleabovelinewidth}
164 solid
165 \LWR@mdfprintcolor{#1titleabovelinecolor}
166 ; \LWR@orignewline
167 }{}%

```

Convert and print the below line:

```

168 \ifbool{mdf@#1titlebelowline}{%
169 border-bottom:
170 \LWR@mdfprintlength{#1titlebelowlinewidth}
171 solid
172 \LWR@mdfprintcolor{#1titlebelowlinecolor}
173 ; \LWR@orignewline
174 }{}%

```

Finish the custom style and the opening <div> tag:

```

175]{mdframed#1title}%

```

Perform the original subtitle action:

```

176 \IfNoValueTF{#2}
177 {\@nameuse{LWR@origmdf#1title}}{\csuse{mdf@#1titlefont}}{\LWR@textcurrentfont{#3}}}%
178 {\@nameuse{LWR@origmdf#1title}[#2]}{\csuse{mdf@#1titlefont}}{\LWR@textcurrentfont{#3}}}%

```

Close the <div>:

```

179 \end{BlockClass}%
180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%
181 }

```

\LWR@mdfsubtitle

[<options>] {<title>}

```

182 \newcommand*{\LWR@mdfsubtitle}{%
183 \LWR@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LWR@mdfsubtitle

```

\LWR@mdfsubsubtitle

[<options>] {<title>}

```

186 \newcommand*{\LWR@mdfsubsubtitle}{%
187 \LWR@mdfsubsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

```

## § 413.9 New environments

\LWR@mdthisenv

Stores the environment of the frame about to be created:

```

190 \newcommand*{\LWR@mdthisenv}{mdframed}

```

\newmdenv

[<options>] {<env-name>}

Modified from the original to remember the environment.

```

191 \renewrobustcmd*\newmdenv[2][{}]{%
192 \newenvironment{#2}%
193 {%
194 \mdfsetup{#1}%
195 \renewcommand*{\LWR@mdthisenv}{md#2}%
196 \begin{mdframed}%

```

```

197 }
198 {\end{mdframed}}%
199 }

```

\surroundwithmdframed

[<options>] {<environment>}

Modified from the original to remember the environment.

```

200 \renewrobustcmd*{\surroundwithmdframed}[2][]{%
201 \BeforeBeginEnvironment{#2}{%
202 \renewcommand*{\LWR@mdthisenv}{md#2}%
203 \begin{mdframed}[#1]}%
204 \AfterEndEnvironment{#2}{\end{mdframed}}%
205 }

```

\mdtheorem

[<mdframed-options>] {<envname>} [<numberedlike>] {<caption>} [<within>]

Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }%
207 {\ifcsdef{#2}%
208 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209 {%
210 \IfNoValueTF {#3}%
211 {%#3 not given -- number relationship
212 \IfNoValueTF {#5}%
213 {%#3+#5 not given
214 \@definecounter{#2}%
215 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
216 \newenvironment{#2}[1][{%
217 \refstepcounter{#2}%
218 \ifstrepty{##1}%
219 {\let\@temptitle\relax}%
220 {%
221 \def\@temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% lwarp
225 \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228 \@temptitle}}}%
229 {\end{mdframed}}}%
230 \newenvironment{#2*}[1][{%
231 \ifstrepty{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
232 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}}}%
233 {\end{mdframed}}}%
234 }%
235 {%#5 given -- reset counter
236 \@definecounter{#2}\@newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239 \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240 \@thmcounter{#2}}%
241 \newenvironment{#2}[1][{%
242 \refstepcounter{#2}%
243 \ifstrepty{##1}%
244 {\let\@temptitle\relax}%
245 {%
246 \def\@temptitle{\mdf@theoremseparator%
247 \mdf@theoremspace%

```

```

248 \mdf@theoremtitlefont%
249 \LWR@textcurrentfont{##1}}% lwarp
250 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
251 }
252 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253 \@temptitle}]]%
254 {\end{mdframed}}%
255 \newenvironment{#2*}[1][{%
256 \ifstrepty{##1}%
257 {\let\@temptitle\relax}%
258 {%
259 \def\@temptitle{\mdf@theoremseparator%
260 \mdf@theoremspace%
261 \mdf@theoremtitlefont%
262 \LWR@textcurrentfont{##1}}% lwarp
263 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
264 }%
265 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
266 {\end{mdframed}}%
267 }%
268 }%
269 {%#3 given -- number relationship
270 \global\@namedef{the#2}{\@nameuse{the#3}}%
271 \newenvironment{#2}[1][{%
272 \refstepcounter{#3}%
273 \ifstrepty{##1}%
274 {\let\@temptitle\relax}%
275 {%
276 \def\@temptitle{\mdf@theoremseparator%
277 \mdf@theoremspace%
278 \mdf@theoremtitlefont%
279 \LWR@textcurrentfont{##1}}% lwarp
280 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281 }
282 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283 \@temptitle}]]%
284 {\end{mdframed}}%
285 \newenvironment{#2*}[1][{%
286 \ifstrepty{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
287 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
288 {\end{mdframed}}%
289 }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*{\LWR@mdthisenv}{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*{\LWR@mdthisenv}{md#2}}% lwarp
292 }%
293 }

```

\newmdtheoremenv

[<1: *mdframed-options*>] {<2: *envname*>} [<3: *numberedlike*>] {<4: *caption*>}  
 [<5: *within*>]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{O{} m o m o }{%
295 \ifbool{expr}{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
296 {\newtheorem{#2}{#4}}%
297 {%
298 \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299 \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300 }%
301 \BeforeBeginEnvironment{#2}{%

```

---

```

302 \renewcommand*{\LWR@mdthisenv}{md#2}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

---

File 299 **lwarp-mdwmath.sty**

§ 414     Package **mdwmath**

*(Emulates or patches code by MARK WOODING.)*

`mdwmath` (*Pkg*) `mdwmath` is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LWRmdwmathsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar\LWRmdwmathsqrt\LWRmdwmathsqrt}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin{\&}}}
6 \CustomizeMathJax{\def\bitor{\mathbin{\mid}}}
7 \CustomizeMathJax{\def\dblor{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dbland{\mathbin{\mathrel{\bitand}\mathrel{\bitand}}}}
9 \end{warpMathJax}

```

---

File 300 **lwarp-media9.sty**

§ 415     Package **media9**

`media9` (*Pkg*) `media9` is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the text option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

**media9** slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. & is used in the flash variables fields, which are split with xparse \SplitList, which does not seem to work with a catcode 12 divider token, so & is not converted to catcode 12, and will not work in a URL with **media9**. Using & in a URL in a flashvars field may also cause parsing problems with print output, as well.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}

```

\addmediapath

{\path}

Supported.

```

5 \newcommand*{\LWR@medianine@path}{}
6
7 \newcommand*{\addmediapath}[1]{\appto\LWR@medianine@path{{#1}}}

```

The options and poster text are reused in several places.

```

8 \newcommand*{\LWR@medianine@postertext}{}
9 \newcommand*{\LWR@medianine@options}{}

```

Each addressource can generate a multimedia object.

```

10 \define@key{\LWR@medianine}{addressource}{%
11 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12 {\LWR@medianine@postertext}
13 {#1}
14 }

```

Each flashvars source can generate a multimedia object.

```

15 \newcommand*{\LWR@medianine@flashvarsb}[1]{%
16 \IfBeginWith{#1}{source={}%
17 \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19 {\LWR@medianine@postertext}%
20 {\LWR@tempone}%
21 }{}%
22 \IfBeginWith{#1}{src={}%
23 \StrGobbleLeft{#1}{4}[\LWR@tempone]%

```

```

24 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25 {\LWR@medianine@postertext}%
26 {\LWR@tempone}%
27 }{}%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >{\SplitList{&}} m }{%
31 \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{\LWR@medianine}{flashvars}{%
35 \LWR@medianine@flashvars{#1}%
36 }

```

```

\includemediab [⟨options⟩] {⟨poster text⟩} {⟨file or url⟩}

37 \newcommand*{\LWR@includemediab}[3][{}]{%
38 \let\input@path\LWR@medianine@path%
39 \renewcommand*{\LWR@medianine@options}{#1}%
40 \renewcommand*{\LWR@medianine@postertext}{#2}%
41 \setkeys*{\LWR@medianine}{#1}%
42 \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43 \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44 \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%
45 \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46 }}}}
47 \endgroup%
48 }
49
50 \newrobustcmd*{\includemediab}{%
51 \begingroup%
52 \LWR@linkmediacatcodes%
53 \LWR@includemediab%
54 }

```

```

\mediabutton [⟨options⟩] {⟨text⟩}

Ignored.

55 \newcommand*{\mediabutton}[2][{}]{

```

---

File 301 **lwarp-memhfixc.sty**

§ 416     Package **memhfixc**

`memhfixc (Pkg)`    `memhfixc` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

File 302 **lwarp-menukeys.sty**

§ 417     Package **menukeys**

(Emulates or patches code by TOBIAS WEH.)

menukeys (*Pkg*) menukeys is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a lateximage whose alt text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \VerifyCommand[lwarp][menukeys]{\tw@define@menu@macro@}
3 {A3C988E47073504556D744EF08443B1D}
4
5 \xpatchcmd{\tw@define@menu@macro@}
6 {\@nameuse{tw@style@#4@pre}}
7 {%
8 \begin{lateximage}*[\detokenize{##2}]?%
9 \@nameuse{tw@style@#4@pre}%
10 }
11 {}
12 {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
13
14 \xpatchcmd{\tw@define@menu@macro@}
15 {\@nameuse{tw@style@#4@post}}
16 {%
17 \@nameuse{tw@style@#4@post}%
18 \end{lateximage}%
19 }
20 {}
21 {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}
```

Patch the existing macros:

```

22 \renewmenumacro{\menu}[>]{menus}
23 \renewmenumacro{\directory}[/{]{paths}
24 \renewmenumacro{\keys}[+]{roundedkeys}
```

---

File 303 **lwarp-metalogo.sty**

§ 418 Package **metalogo**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

metalogo (*Pkg*) metalogo is used in print mode, and emulated in HTML.

for HTML output: 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2 \newcommand*{\LWR@HTML@setlogokern}[2]{ }
3 \newcommand*{\LWR@HTML@setlogodrop}[2][XeTeX]{ }
4 \newcommand*{\LWR@HTML@setLaTeXa}[1]{ }
5 \newcommand*{\LWR@HTML@setLaTeXee}[1]{ }
6 \newcommand*{\LWR@HTML@seteverylogo}[1]{ }
7 \newcommand*{\LWR@HTML@everylogo}[1]{ }
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
```

```

13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

---

File 304 **lwarp-metalogox.sty**

§ 419      Package **metalogox**

*(Emulates or patches code by BRIAN DUNN.)*

metalogox (*Pkg*)   metalogox is patched for use by lwarp.

**for HTML output:**   1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```

2 \AtBeginDocument{
3 \let\LWR@metalogox@currentformatting\LWR@formatting
4 \renewcommand*\LWR@formatting{\print}%
5 \autoadjustlogos*
6 \let\LWR@formatting\LWR@metalogox@currentformatting
7 }

```

---

File 305 **lwarp-mhchem.sty**

§ 420      Package **mhchem**

*(Emulates or patches code by MARTIN HENSEL.)*

mhchem (*Pkg*)   mhchem is patched for use by lwarp.

**without MATHJAX**   Without MATHJAX, mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

**MATHJAX with mhchem extension**   For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

$$\text{\$}\text{\ce{C6H5-CHO}}\text{\$}$$

To force the use of svg math for an expression which does not work with MATHJAX, place the expression between \displaymathother and \displaymathnormal:

```

\displaymathother
\[\text{\ce{...}}\] ... \text{\ce{...}}
\displaymathnormal

```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into svg math images.



**nested math**

When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|                                            |       |
|--------------------------------------------|-------|
| $\text{NaOH(aq,}\infty\text{)}$            | % old |
| $\text{NaOH(aq,}\infty\text{)}$            | % new |
| $\text{Fe(CN)}_{\frac{6}{2}}$              | % old |
| $\text{Fe(CN)}_{\frac{6}{2}}$              | % new |
| $\text{NO}_x$                              | % old |
| $\text{NO}_x$                              | % new |
| $\text{NO}_x$                              | % old |
| $\text{NO}_x$                              | % new |
| $\text{cis}[\text{PtCl}_2(\text{NH}_3)_2]$ | % old |
| $\text{cis}[\text{PtCl}_2(\text{NH}_3)_2]$ | % new |

for HTML output: 1 \LWR@ProvidesPackagePass{mhchem}[2024/01/29]

The original definition of \ce:

2 \LetLtxMacro\LWR@mhchem@origce\ce

The new definition, called from the new \ce after math shift is set. The starred lateximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```

3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \edef\LWR@mhchemalt{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}}%
6 \ifbool{\LWR@xfakebold}%
7 {\def\LWR@tempone{Y}}%
8 {\def\LWR@tempone{N}}%
9 \begin{lateximage}%
10 *% hash
11 [% alt
12 \textbackslash}%
13 ce%
14 {\LWR@mhchemalt}%
15]%
16 *% no open close tags in alt
17 ?% do not detokenize alt
18 [% add'l alt
19 FM\LWR@f@family%
20 SR\LWR@f@series%
21 SH\LWR@f@shape%
22 SHC\LWR@f@shapecaps%
23 CL\LWR@tempcolor%
24 FB\LWR@tempone% xfakebold
25]%
26 \LWR@setcurrentfont%
27 \LWR@mhchem@origce{#1}%
28 \end{lateximage}%
29 \endgroup%
30 \addtocounter{\LWR@mhchem@cedepth}{-1}%
31 }
```

Only set math shift if outer depth:

```
32 \newcounter{LWR@mhchem@cedepth}
33 \setcounter{LWR@mhchem@cedepth}{0}
```

The new `\ce`. Sets math shift then continues.

```
34 \renewcommand{\ce}{%
35 \begingroup%
36 \ifnumequal{\value{LWR@mhchem@cedepth}}{0}{%
37 \catcode`\$=3% math shift
38 }{%
39 \addtocounter{LWR@mhchem@cedepth}{1}%
40 \LWR@mhchem@HTML@ce%
41 }
```

The original definition of `\cesplit`:

```
42 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit
```

The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```
43 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
44 {%
45 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
46 \ifbool{LWR@xfakebold}%
47 {\def\LWR@tempone{Y}}%
48 {\def\LWR@tempone{N}}%
49 \begin{lateximage}%
50 *% hash
51 [% alt
52 \textbackslash}%
53 cesplit%
54 {\LWR@HTMLsanitizedetokenized{\detokenize{#2}}}%
55]%
56 *% no open/close tags in alt
57 ?% no detokenize alt
58 [% add'l alt
59 FM\LWR@family%
60 SR\LWR@series%
61 SH\LWR@shape%
62 SHC\LWR@shapecaps%
63 CL\LWR@tempcolor%
64 FB\LWR@tempone% xfakebold
65]%
66 \LWR@setcurrentfont%
67 \LWR@mhchem@origcesplit{#1}{#2}%
68 \end{lateximage}%
69 \endgroup%
70 }
```

Only set math shift if outer depth:

```
71 \newcounter{LWR@mhchem@cesplitdepth}
72 \setcounter{LWR@mhchem@cesplitdepth}{0}
```

The new `\cesplit`. Sets math shift then continues.

```
73 \renewcommand{\cesplit}{%
```

```

74 \begingroup%
75 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
76 \catcode`\$=3% math shift
77 }{}%
78 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
79 \LWR@mhchem@HTML@cesplit%
80 }

```

Resore originals inside a lateximage:

```

81 \appto\LWR@restoreorigformatting{%
82 \LetLtxMacro\ce\LWR@mhchem@origce%
83 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
84 }
85
86 \begin{warpMathJax}
87 \CustomizeMathJax{\require{mhchem}}
88 \end{warpMathJax}

```

---

File 306 **lwarp-microtype.sty**

§ 421 Package **microtype**

(Emulates or patches code by R SCHLICHT.)

microtype (*Pkg*) **microtype** is pre-loaded by **lwarp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **lwarp-microtype**:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \IfPackageLoadedTF{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet

```

---

```

27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
31 \@onlypreamble\DeclareMicrotypeBabelHook

```

---

File 307 **lwarp-midfloat.sty**

§ 422      Package **midfloat**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

midfloat (*Pkg*)    midfloat is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```

2 \newenvironment{strip}[1][{}]{%
3 \newskip\stripsep

```

---

File 308 **lwarp-midpage.sty**

§ 423      Package **midpage**

midpage (*Pkg*)    midpage is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```

2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4 \LWR@print@mbox{margin-top:6ex} ; \LWR@print@mbox{margin-bottom:6ex}%
5]{midpage}}
6 {\end{BlockClass}}

```

---

File 309 **lwarp-minibox.sty**

§ 424      Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

minibox (*Pkg*)    minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:**    1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```

2 \ExplSyntaxOn
3 \newcommand\LWR@HTML@minibox[2][{}]{%
4 \LWR@stoppars%
5 \group_begin:

```

---

```

6 \keys_set:nn {minibox} {#1}
7 \bool_if:NTF \l_minibox_frame_bool
8 {
9 \setlength\fbxrule{\l_minibox_rule_dim}
10 \setlength\fbxsep{\l_minibox_pad_dim}
11 \fbxBlock{%
12 \begin{tabular}[\l_minibox_tabular_valign_tl]%
13 {\l_minibox_tabular_preamble_tl}
14 {#2}
15 \end{tabular}
16 }%
17 }
18 {
19 \begin{BlockClass}[display:inline-block]{minibox}
20 \begin{tabular}[\l_minibox_tabular_valign_tl]%
21 {\l_minibox_tabular_preamble_tl}
22 {#2}
23 \end{tabular}
24 \end{BlockClass}
25 }
26 \group_end:
27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

### File 310 **lwarp-minitoc.sty**

#### § 425 Package **minitoc**

minitoc (*Pkg*) minitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

2 \usepackage{mtcoff}

---

### File 311 **lwarp-minted.sty**

#### § 426 Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

minted (*Pkg*) minted is patched for use by lwarp.

 **limitations** mathescape, texcomments, and highlightlines are disabled. Line numbers on the right will not be aligned. Due to *pdfotext*, extra spaces may appear in broken lines if other formatting is included.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minted}[2025/02/12]

Several options are forced, since they are unsupported by lwarp.

mathescape and texcomments are disabled because the result might not be linear characters, so might not be interpreted correctly by *pdftotext*, which is used by *lwarp* to convert from PDF output to HTML text.

breaklines is forced true to use the correctly functioning code in *fvextra*.

highlightlines is forced false because *fvextra* processes highlight lines one line at a time, and *minted* could add a large amount of formatting code, overflowing the line. When set false, *fvextra* can handle the line breaks which prevent line overflow.

LWR@HTMLsanitize@tmpb@enable is used to turn off HTML sanitization early in the verbatim conversion, otherwise *minted* would then colorize the sanitized results, breaking the HTML entities in *lwarp*'s HTML output.

```

2 \newcommand*{\LWR@minted@forcekeys}{%
3 \pgfkeys{/minted/cmd/.cd,mathescape=false}%
4 \pgfkeys{/minted/cmd/.cd,texcomments=false}%
5 \pgfkeys{/minted/cmd/.cd,highlightlines=false}%
6 \pgfkeys{/minted/cmd/.cd,breaklines}%
7 \boolfalse{LWR@HTMLsanitize@tmpb@enable}% lwarp
8 }

```

Used by MintedVerbatim. Force breaklines.

```

9 \VerifyCommand[lwarp][minted]{\minted@highlight@i}
10 {B3E47D0B3B8933CCB16FAB0735F408A8}
11
12 \xpretocmd{\minted@highlight@i}
13 {\fvset{breaklines}}
14 {}
15 {\LWR@patcherror{minted}{minted@highlight@i}}

16 \VerifyCommand[lwarp][minted]{\RobustMintInlineProcess@verbatim}
17 {0786EFAEDB22E40E59ECEBB9DC532FB7}
18
19 \xpatchcmd{\RobustMintInlineProcess@verbatim}
20 {\edef\minted@lexer{#2}}
21 {%
22 \LWR@minted@forcekeys% lwarp
23 \edef\minted@lexer{#2}%
24 }
25 {}
26 {\LWR@patcherror{minted}{RobustMintInlineProcess@verbatim}}
27
28
29 \VerifyCommand[lwarp][minted]{\RobustMintInlineProcess@highlight}
30 {02CC068F5FC0031015293B2CE0425ACB}
31
32 \xpatchcmd{\RobustMintInlineProcess@highlight}
33 {\edef\minted@lexer{#2}}
34 {%
35 \LWR@minted@forcekeys% lwarp
36 \edef\minted@lexer{#2}%
37 }
38 {}
39 {\LWR@patcherror{minted}{RobustMintInlineProcess@highlight}}
40
41

```

```

42 \VerifyCommand[lwarp][minted]{\RobustMintProcess@verbatim}
43 {C1C8E870B5E8E3E8E572CA50ADF69953}
44
45 \xpatchcmd{\RobustMintProcess@verbatim}
46 {\edef\minted@lexer{#2}}
47 {%
48 \LWR@minted@forcekeys% lwarp
49 \edef\minted@lexer{#2}%
50 }
51 {}
52 {\LWR@patcherror{minted}{RobustMintProcess@verbatim}}
53
54
55 \VerifyCommand[lwarp][minted]{\RobustMintProcess@highlight}
56 {D426304D27561EE1139B30E897A7C2CA}
57
58 \xpatchcmd{\RobustMintProcess@highlight}
59 {\edef\minted@lexer{#2}}
60 {%
61 \LWR@minted@forcekeys% lwarp
62 \edef\minted@lexer{#2}%
63 }
64 {}
65 {\LWR@patcherror{minted}{RobustMintProcess@highlight}}
66
67
68 \VerifyCommand[lwarp][minted]{\MintedBegin@verbatim}
69 {B16E0A3A51DBF9F39609F2135572D7C2}
70
71 \xpatchcmd{\MintedBegin@verbatim}
72 {\edef\minted@lexer{#2}}
73 {%
74 \LWR@minted@forcekeys% lwarp
75 \edef\minted@lexer{#2}%
76 }
77 {}
78 {\LWR@patcherror{minted}{MintedBegin@verbatim}}
79
80
81 \VerifyCommand[lwarp][minted]{\MintedBegin@highlight}
82 {A8C3A60BE3C6AF3A401071A9C5FE8B39}
83
84 \xpatchcmd{\MintedBegin@highlight}
85 {\edef\minted@lexer{#2}}
86 {%
87 \LWR@minted@forcekeys% lwarp
88 \edef\minted@lexer{#2}%
89 }
90 {}
91 {\LWR@patcherror{minted}{MintedBegin@highlight}}
92
93 \ifbool{minted@placeholder}%
94 {\let\MintedBegin\MintedBegin@placeholder
95 \let\MintedEnd\MintedEnd@placeholder}%
96 {\ifbool{minted@verbatim}%
97 {\let\MintedBegin\MintedBegin@verbatim
98 \let\MintedEnd\MintedEnd@verbatim}%
99 {\let\MintedBegin\MintedBegin@highlight
100 \let\MintedEnd\MintedEnd@highlight}}
101

```

```

102
103 \VerifyCommand[lwarp][minted]{\RobustInputMintedProcess@verbatim}
104 {C129B2C6AD588C19065A00A64CE6AF0E}
105
106 \xpatchcmd{\RobustInputMintedProcess@verbatim}
107 {\edef\minted@lexer{#2}}
108 {%
109 \LWR@minted@forcekeys% lwarp
110 \edef\minted@lexer{#2}%
111 }
112 {}
113 {\LWR@patcherror{minted}{RobustInputMintedProcess@verbatim}}
114
115
116 \VerifyCommand[lwarp][minted]{\RobustInputMintedProcess@highlight}
117 {AD7408E3B5BEE16A5F1573BBCAE46554}
118
119 \xpatchcmd{\RobustInputMintedProcess@highlight}
120 {\edef\minted@lexer{#2}}
121 {%
122 \LWR@minted@forcekeys% lwarp
123 \edef\minted@lexer{#2}%
124 }
125 {}
126 {\LWR@patcherror{minted}{RobustInputMintedProcess@highlight}}

```

To add sanitization during the final output, adjust several characters to use HTML entities when loading the pygmentized results,

Not using \VerifyCommand here because this is a simple patch, not likely to be affected by other changes to the original.

```

127 \xpatchcmd{\minted@highlight@i}
128 {\input{\minted@highlightfilepath}}
129 {%
130 \LWR@minted@overrides% lwarp
131 \input{\minted@highlightfilepath}%
132 }
133 {}
134 {\LWR@patcherror{minted}{minted@highlight@i}}
135
136 \xpatchcmd{\minted@highlight@create}
137 {\input{\minted@highlightfilepath}}
138 {%
139 \LWR@minted@overrides% lwarp
140 \input{\minted@highlightfilepath}%
141 }
142 {}
143 {\LWR@patcherror{minted}{minted@highlight@create}}

```

These macros are used inside the \*.pygtex files to format several individual characters. These are revised to use HTML entities. The backquote grave is not supported by pygments.

```

144 \newcommand*{\LWR@minted@overrides}{
145 \def\PYGZam{\char`\&}
146 \def\PYGZlt{\char`\<}
147 \def\PYGZgt{\char`\>}
148 \def\PYGZsq{\char`\'}

```

149 }

File 312 **lwarp-mismath.sty**§ 427 Package **mismath***(Emulates or patches code by ANTOINE MISSIER.)*`mismath (Pkg)` **mismath** is patched for SVG math, and emulated for MATHJAX. **MATHJAX** `\enumber`, `\inumber`, `\jnumber`, and `\pinumber` are ignored for MATHJAX, except that `\itpi` is made available as a clone of `\pi`.`\MathUp`, `\MathIt`, `\MathNumbers`, and `\MathNormal` are ignored in MATHJAX.For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.7. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mismath}[2024/06/16]`

For MATHJAX, used in the HTML comment before the environment.

```

2 \ifbool{mathjax}{
3 \RenewEnviron{mathcols}{%
4 \preto\BODY{\begin{aligned}\displaystyle}
5 \appto\BODY{\end{aligned}}
6 \expandafter\(\\BODY\)
7 }
8 }% mathjax

```

For SVG math. The `lateximage` restores the original definition of the math environment.

```

9 {% svg
10 \renewenvironment{mathcols}{
11 \begin{lateximage}
12 \begin{math}
13 \begin{aligned}\displaystyle
14 }{
15 \end{aligned}%
16 \end{math}
17 \end{lateximage}
18 }
19 }% svg

```

```

20
21 \renewcommand{\changecol}{
22 \end{aligned} \quad
23 \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\require{upgreek}}% for \Updelta
28
29 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
30 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
31 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
32 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
33
34 \CustomizeMathJax{\let\mathbfssfit\mathbfit}% not sans
35 \CustomizeMathJax{\let\tensor\mathbfsfit}
36
37 \CustomizeMathJax{\newcommand{\boldvect}}{}
38 \CustomizeMathJax{\newcommand{\arrowvect}}{}
39 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
40 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
41 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
42 \CustomizeMathJax{%
43 \newcommand{\norm}[1]{\left|\right|_{\left|\right|#1\right|\right|}}
44 }
45 \CustomizeMathJax{\newcommand{\di}{\mathop{\!|\!\!|}\nolimits}}
46
47 \CustomizeMathJax{\newcommand{\upDelta}{\Updelta}}
48 \CustomizeMathJax{\newcommand{\opDelta}{\Opdelta}}
49 \CustomizeMathJax{\newcommand{\opdelta}{\updelta}}
50
51 \CustomizeMathJax{\newcommand{\P}{\operatorname{\probastyle{P}}}}
52 \CustomizeMathJax{\newcommand{\E}{\operatorname{\probastyle{E}}}}
53 \CustomizeMathJax{\newcommand{\V}{\operatorname{\probastyle{V}}}}
54 \CustomizeMathJax{\newcommand{\Par}{\unicode{x00B6}}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
57 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
58 \CustomizeMathJax{\DeclareMathOperator{\codim}{codim}}
59 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
60 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
61 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
62 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathrm{curl}}}}}
63 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
64 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
67 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathrm{grad}}}}}
68 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
69 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
70 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
71 \CustomizeMathJax{\let\oldIm\Im}
72 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
73 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
74 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
77 \CustomizeMathJax{\let\oldRe\Re}
78 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
79 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathrm{rot}}}}}

```

```

80 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
81 \CustomizeMathJax{\DeclareMathOperator{\sinc}{sinc}}
82 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
83 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
84 \CustomizeMathJax{\DeclareMathOperator{\var}{var}}
85 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
86 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
87
88 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
89 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
90 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
91 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
92 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
93 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
94 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
95 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
96 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
97
98 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
99 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
100 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
101
102 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
103 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
104 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
105 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
106 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
107 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
108 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
109
110 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
111 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
112 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
113 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
114 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
115 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
116 \CustomizeMathJax{\newcommand{\lbar}{\overline{}}}
117 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}#1}}}
118 \CustomizeMathJax{\newcommand{\LWReqdefstar}{\stackrel{\Delta}{=}}}
119 \CustomizeMathJax{\newcommand{\LWReqdefnstar}{\stackrel{\mathrm{def}}{=}}}
120 \CustomizeMathJax{\newcommand{\eqdef}{\ifstar\LWReqdefstar\LWReqdefnstar}}
121 \CustomizeMathJax{\newcommand{\unbr}{\underbrace{}}}
122 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
123
124 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
125 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{}}}
126 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
127 \CustomizeMathJax{\newcommand{\pow}[2]{\left(#1 \right)^{\!#2}}
128 \CustomizeMathJax{\newcommand{\abs}[1]{\left| \! \! \! \left| \! \! \! \right| \! \! \! \right| \! \! \! \right|}}
129 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!:\!#1\!:\!}{\!:\!#2\!:\!}}}
130
131 \CustomizeMathJax{\newenvironment{system}[1][L]{%
132 {\left\{\begin{array}{@{.15em}#1@{}}
133 {\end{array}}\right.}
134 }
135
136 \CustomizeMathJax{\newenvironment{spmatrix}
137 {\left(\begin{smallmatrix}
138 {\end{smallmatrix}}\right)}
139 }

```

```

140
141 \CustomizeMathJax{%
142 \newenvironment{mathcols}
143 {\begin{aligned}\displaystyle}
144 {\end{aligned}}
145 }
146 \CustomizeMathJax{\newcommand{\changepcol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

147 \AtBeginDocument{
148 \ifdef{\itpi}{
149 \CustomizeMathJax{\let\itpi\pi}
150 }{}
151 \ifdefstring{\boldvectcommand}{\mathbf}{
152 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
153 }{
154 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
155 }
156 \ifbool{arrowvect}{
157 \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
158 }{
159 \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
160 }
161 \ifdefstring{\probastyle}{\mathbb}{
162 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
163 }{
164 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
165 }
166 \ifdefstring{\mathset}{\mathbb}{
167 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
168 }{
169 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
170 }
171 }
172 \end{warpMathJax}

```

---

File 313 **lwarp-mleftright.sty**

§ 428      Package **mleftright**

(Emulates or patches code by HEIKO OBERDIEK.)

**mleftright** (*Pkg*)    **mleftright** is used as-is, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}

```

File 314 **lwarp-morefloats.sty**§ 429      Package **morefloats**

morefloats (*Pkg*)    morefloats is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

File 315 **lwarp-moreverb.sty**§ 430      Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

moreverb (*Pkg*)    moreverb is supported with some patches.

```

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatim}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatim}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatim@input\@verbatim@input
12
13 \renewcommand{\@verbatim@input}[2][{}]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatim@input[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }
```

```

37 \LetLtxMacro\LWRMV@@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][[]]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }

```

---

File 316 **lwarp-movie15.sty**

§ 431      Package **movie15**

`movie15` (*Pkg*)    `movie15` is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*{\LWR@moviefifteen@text}{}
7
8 \define@key{\LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*{\LWR@includemovieb}[4][[]]{%
11 \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12 \setkeys{\LWR@moviefifteen}{#1}%
13 \LWR@multimediab[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*{\includemovie}{%
17 \begingroup%
18 \LWR@linkmediacatcodes%
19 \LWR@includemovieb%
20 }
21
22
23 \newcommand*{\movieref}[3][[]]{}
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][[]]{}

```

---

#### File 317 **lwarp-mparhack.sty**

§ 432     Package **mparhack**

`mparhack (Pkg)`    `mparhack` is ignored.

**for HTML output:**    Discard all options for `lwarp-mparhack`:

```

1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

```

---

#### File 318 **lwarp-multibib.sty**

§ 433     Package **multibib**

*(Emulates or patches code by THORSTEN HANSEN.)*

`multibib (Pkg)`    `multibib` is patched for use by `lwarp`.

**for HTML output:**

---

```

1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

2 \VerifyCommand[lwarp][multibib]{\newcites}{77893319F9935670F2FF2E524075CB71}
3
4 \xpatchcmd{\newcites}
5 {\@suffix}}
6 {\@suffix_html}}
7 {}
8 {\LWR@patcherror{multibib}{newcites}}

```

---

### File 319 **lwarp-multicap.sty**

## § 434 Package **multicap**

multicap (*Pkg*) multicap is emualted.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}

```

---

### File 320 **lwarp-multicol.sty**

## § 435 Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

multicol (*Pkg*) multicol is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multicol}[2021/10/28]

```

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicols heading is placed inside a <div> of class multicolsheading.

The content is placed inside a <div> of class multicols.

Env multicols

```

* {\<numcols>} [\<heading>]

2 \NewDocumentEnvironment{multicols}{s m o}

HTML <div> class to contain everything:

3 {
4 \LWR@forcenewpage
5 \BlockClass{multicols}

Optional HTML <div> class for the heading:

6 \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%

```

Change `\linewidth` to compensate for expected size:

```
7 \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8 \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the `<div>`:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}{}
12 \newcommand*{\newcolumn}{}
13 \newcommand*{\RLmulticolcolumns}{}
14 \newcommand*{\LRmulticolcolumns}{}
15
16 \newlength{\premulticols}
17 \newlength{\postmulticols}
18 \newlength{\multicolsep}
19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*{\columnseprulecolor}{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m m}{%
30 \IfValueTF{#2}{#2}{#3}%
31 }
```

---

File 321 **lwarp-multicolrule.sty**

§ 436     Package **multicolrule**

`multicolrule` (*Pkg*) `multicolrule` is ignored.

**for HTML output:**

```
1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*{\SetMCRule}[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

---

File 322 **lwarp-multimedia.sty**

§ 437     Package **multimedia**

`multimedia` (*Pkg*) `multimedia` is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```
1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][{}]{
8
9 \newcommand{\hyperlinksound}[3][{}]{
10
11 \newcommand{\hyperlinkmute}
```

---

File 323 **lwarp-multiobjective.sty**

§ 438 Package **multiobjective**

(Emulates or patches code by LUIS MARTÍ.)

multiobjective (*Pkg*) **multiobjective** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}

7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}!!\!\!\!\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}!!\!\!\!\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon+}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13 \mathchoice%
14 {\displaystyle\boldsymbol{#1}}%
15 {\textstyle\boldsymbol{#1}}%
16 {\scriptstyle\boldsymbol{#1}}%
17 {\scriptscriptstyle\boldsymbol{#1}}%
18 }}
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21 \mathchoice%
22 {\displaystyle\mathcal{#1}}%
23 {\textstyle\mathcal{#1}}%
24 {\scriptstyle\mathcal{#1}}%
25 {\scriptscriptstyle\mathcal{#1}}%
26 }}
27 \CustomizeMathJax{\def\argmax{\mathop{\mathrm{arg}}\nolimits,\max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\mathrm{arg}}\nolimits,\min}}
29 }}
30 \end{warpMathJax}

```

---

File 324 **lwarp-multirow.sty**

§ 439     Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

multirow (*Pkg*) **multirow** is emulated during HTML output, and used as-is while inside a lateximage.

**vposn** • Note that recent versions of **multirow** include a new optional **vposn** argument.

**multirow cells** • For **multirow**, insert **\mrowcell** into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...

```

**colored cells** • The **multirow** documentation regarding colored cells recommends using a negative number of rows. This will not work with **lwarp**, so **\warpprintonly** and **\warpHTMLonly** must be used to make versions for print and HTML.

with `\multicolumn`

⚠ `\multicolumn` &  
`\multirow`

- See section 439.2 for `\multicolumnrow`.

lwarp does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ skipped cells

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ empty cells

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ MathJax

- MATHJAX does not support `\multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or svg math.

In a `lateximage`, the print versions are restored.

See section 78.24 for the print-mode versions.

for HTML output:

Remove the placeholder macro which was used if `\multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{\multirow}[2021/03/15]
```

`\LWR@multirowborder` Set to left or right to create a thick border for the cell, for use by `\bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}%
```

### § 439.1 Multirow

`\LWR@multirow@par`

`\par` inside a `\multirow`.

```
4 \newcommand*{\LWR@multirow@par}{%
5 \LWR@htmltag{br /}%
6 }%
```

`\multirow` [*1: vpos*] [*2: numrows*] [*3: bigstruts*] [*4: width*] [*5: vmove*] [*6: text*]

```
7 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
8 {%
9 \LWR@traceinfo{\LWR@HTML@multirow #1 #2 #4}%
```

```
10 \booltrue{\LWR@usedmultirow}%
```

```
11 \LWR@maybenewtablerow%
```

```
12 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
13 \LWR@htmltag{%
14 td rowspan=\textquotedbl#2\textquotedbl\ %
```

A class adds the column spec and the rule:

```
15 class=\textquotedbl{}td%
```

Append this column's spec:

```
16 \LWR@gettexpparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag. Also add the vertical bar class.

```
17 \LWR@addcmidruletrim%
18 \LWR@addleftmostbartag%
19 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
20 \textquotedbl%

21 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
22 \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:middle}}{%
23 \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:bottom}}{%
24 \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:top}}{%
```

The left/right border, if given:

```
25 \ifdefvoid{\LWR@multirowborder}{}{%
26 \LWR@tdaddstyle%
27 \LWR@print@mbbox{border-\LWR@multirowborder:} 2px dotted black ; %
28 \LWR@print@mbbox{padding-\LWR@multirowborder:} 2px%
29 }%
```

Additional style elements:

```
30 \LWR@addcmidrulewidth%
31 \LWR@addcdashline%
32 \LWR@addtabularrulecolors%
33 \LWR@tdendstyles%
34 }%
```

The column's < spec:

```
35 \LWR@gettexpparray{LWR@colbeforespec}{\arabic{LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine `\` to generate a new line. If a nested tabular occurs, `\` is redefined to `\LWR@tabularendofline` at the start of the tabular, then `\LWR@endofline` before again printing any `\multirow` contents inside the nested tabular.

`\par` is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```
36 \begingroup%
37 \LetLtxMacro{\}{\LWR@endofline}%
38 \booltrue{LWR@in@multirow@par}%
39 #6%
40 \endgroup%
```

```

41 \LWR@stoppars%
42 \boolfalse{LWR@intabularmetadata}%
43 \renewcommand{\LWR@multirowborder}{}%
44 \LWR@traceinfo{LWR@HTML@multirow done}%
45 }%
46
47 \LWR@formatted{multirow}

```

## § 439.2 Combined multicolumn and multirow

`\multicolumnrow`  $\{\langle 1:cols \rangle\} \{\langle 2:halign \rangle\} [\langle 3:vpos \rangle] \{\langle 4:numrows \rangle\} [\langle 5:bigstruts \rangle] \{\langle 6:width \rangle\} [\langle 7:fixup \rangle] \{\langle 8:text \rangle\}$

`\IfPackageLoadedTF{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

`\AtBeginDocument` because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```

48 \AtBeginDocument{
49
50 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
51 \booltrue{LWR@usedmultirow}%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

52 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{\#1}

```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.

```

53 \LetLtxMacro{\}\{\LWR@endofline}%
54 \LWR@domulticolumn[#3][#4]{#1}{\arabic{LWR@tabhtmlcoltotal}}{\#2}{\#8}%
55 \LetLtxMacro{\}\{\LWR@tabularendofline}%

```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```

56 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
57 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%

```

Skip any trailing @ or ! columns for this cell:

```

58 \booltrue{LWR@skipatbang}%
59 }
60
61 \LWR@expandableformatted{multicolumnrow}
62
63 }% \AtBeginDocument

```

For MATHJAX. Only the text is used. All other parameters are ignored.

```

64 \begin{warpMathJax}
65 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
66 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][\#2]}

```

---

```

67 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][\LWRsubmultirow]}
68 \CustomizeMathJax{\newcommand{\multirow}[2][\LWRmultirow]}
69 %
70 \CustomizeMathJax{\newcommand{\mrowcell}{}{}}
71 \CustomizeMathJax{\newcommand{\mcolrowcell}{}{}}
72 \CustomizeMathJax{\newcommand{\STneed}[1]{}{}}
73 \end{warpMathJax}

```

---

File 325 **lwarp-multitoc.sty**

§ 440 Package **multitoc**

`multitoc (Pkg)` multitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```

2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}

```

---

File 326 **lwarp-musicography.sty**

§ 441 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

`musicography (Pkg)` musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:** 1 \LWR@ProvidesPackagePass{musicography}[2023/09/08]

```

2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}

```

```

17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ O{\musNumFont} m m }{%
36 \begin{lateximage}*[#2/#3]*?[#1#2#3]%
37 \musStack{#2 #3}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*?%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{ }{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{ }{%
60 \begin{lateximage}*[C]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterThree}{ }{%
68 \begin{lateximage}*[3]*%
69 {\musNumFont{3}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterThree}
74
75 \NewDocumentCommand{\LWR@HTML@meterThreeTwo}{ }{%
76 \begin{lateximage}*[3/2]*%

```

```

77 \raisebox{-0.26ex}{\musMeter{3}{2}}%
78 \end{lateximage}%
79 }
80
81 \LWR@formatted{meterThreeTwo}
82
83 \NewDocumentCommand{\LWR@HTML@meterCutCThree}{\}{%
84 \begin{lateximage}*[C|3]*%
85 \meterCutCplus{\meterThree}%
86 \end{lateximage}%
87 }
88
89 \LWR@formatted{meterCutCThree}
90
91 \NewDocumentCommand{\LWR@HTML@meterCutCThreeTwo}{\}{%
92 \begin{lateximage}*[C|3/2]*%
93 \meterCutCplus{\meterThreeTwo}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{meterCutCThreeTwo}
98
99 \NewDocumentCommand{\LWR@HTML@meterCThree}{\}{%
100 \begin{lateximage}*[C3]*%
101 \meterCplus{\meterThree}%
102 \end{lateximage}%
103 }
104
105 \LWR@formatted{meterCThree}
106
107
108 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{\}{%
109 \begin{lateximage}*[C3/2]*%
110 \meterCplus{\musStack{3 2}}%
111 \end{lateximage}%
112 }
113
114 \LWR@formatted{meterCThreeTwo}
115
116 \NewDocumentCommand{\LWR@HTML@meterCZ}{\}{%
117 \begin{lateximage}*[CZ]*%
118 \meterCplus{\meterZsymbol}%
119 \end{lateximage}%
120 }
121
122 \LWR@formatted{meterCZ}
123
124 \NewDocumentCommand{\LWR@HTML@meterO}{\}{\HTMLUnicode{25EF}}
125
126 \LWR@formatted{meterO}
127
128
129 \NewDocumentCommand{\LWR@HTML@noFig}{O{5}}{\}{%
130 \newcommand*\LWR@HTML@musFlat}{\HTMLUnicode{266D}}
131 \newcommand*\LWR@HTML@musDoubleFlat}{\HTMLUnicode{1D12B}}
132 \newcommand*\LWR@HTML@musSharp}{\HTMLUnicode{266F}}
133 \newcommand*\LWR@HTML@musDoubleSharp}{\HTMLUnicode{1D12A}}
134 \newcommand*\LWR@HTML@musNatural}{\HTMLUnicode{266E}}
135
136 \LWR@formatted{noFig}

```

```

137 \LWR@formatted{musFlat}
138 \LWR@formatted{musDoubleFlat}
139 \LWR@formatted{musSharp}
140 \LWR@formatted{musDoubleSharp}
141 \LWR@formatted{musNatural}
142
143
144 \NewDocumentCommand{\LWR@HTML@musFig}{ O{r} m }{%
145 \begin{lateximage}*[%
146 {% ALT text for copy/paste
147 \RenewDocumentCommand{\noFig}{O{5}}{\LWR@HTML@noFig}%
148 \RenewDocumentCommand{\musSharp}{\LWR@HTML@musSharp}%
149 \RenewDocumentCommand{\musDoubleSharp}{\LWR@HTML@musDoubleSharp}%
150 \RenewDocumentCommand{\musFlat}{\LWR@HTML@musFlat}%
151 \RenewDocumentCommand{\musDoubleFlat}{\LWR@HTML@musDoubleFlat}%
152 \RenewDocumentCommand{\musNatural}{\LWR@HTML@musNatural}%
153 {#2}% braces here because \noFig uses []
154 }%
155]*?%
156 {\musFigSize\musStack[\musFigFont]{#2}[#1]}%
157 \end{lateximage}%
158 }
159
160 \LWR@formatted{musFig}
161
162
163 \NewDocumentCommand{\LWR@HTML@musWhole} {}{\HTMLUnicode{1D15D}}
164 \NewDocumentCommand{\LWR@HTML@musHalf} {}{\HTMLUnicode{1D15E}}
165 \NewDocumentCommand{\LWR@HTML@musQuarter} {}{\HTMLUnicode{1D15F}}
166 \NewDocumentCommand{\LWR@HTML@musEighth} {}{\HTMLUnicode{1D160}}
167 \NewDocumentCommand{\LWR@HTML@musSixteenth} {}{\HTMLUnicode{1D161}}
168 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
169 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
170
171 \LWR@formatted{musWhole}
172 \LWR@formatted{musHalf}
173 \LWR@formatted{musQuarter}
174 \LWR@formatted{musEighth}
175 \LWR@formatted{musSixteenth}
176 \LWR@formatted{musThirtySecond}
177 \LWR@formatted{musSixtyFourth}
178
179 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
180 {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
181 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
182 {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
183 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
184 {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
185 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
186 {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
187 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
188 {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
189 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
190 {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
191 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
192 {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
193
194 \LWR@formatted{musWholeDotted}
195 \LWR@formatted{musHalfDotted}
196 \LWR@formatted{musQuarterDotted}

```

```

197 \LWR@formatted{musEighthDotted}
198 \LWR@formatted{musSixteenthDotted}
199 \LWR@formatted{musThirtySecondDotted}
200 \LWR@formatted{musSixtyFourthDotted}

```

---

### File 327 **lwarp-mwe.sty**

#### § 442 Package **mwe**

*(Emulates or patches code by MARTIN SCHARRER.)*

`mwe` (*Pkg*) `mwe` is used as-is, but a warning is issued to copy the images to the local directory.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]

2 \AtEndDocument{%
3 \PackageWarningNoLine{lwarp}{%
4 For package mwe, copy any mwe images to be used for\MessageBreak
5 HTML, such as PNG or JPG, to the document's base\MessageBreak
6 directory. Neither a subdirectory nor the mwe\MessageBreak
7 directory will work, due to the TeX file search\MessageBreak
8 algorithm%
9 }%
10 }%

```

---

### File 328 **lwarp-nameauth.sty**

#### § 443 Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

`nameauth` (*Pkg*) `nameauth` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nameauth}[2025/02/04]

```

`\@nameauth@Hook` (*Hook*) [] `lwarp` formatting is inserted.

```

2 \VerifyCommand[lwarp][nameauth]{\@nameauth@Hook}
3 {5BE7B7B955144DBD91867146263FDE2A}
4
5 \renewcommand*\@nameauth@Hook[1]
6 {%
7 \ifdefined\@nameauth@InParser
8 \protected@edef\test{#1}%
9 \expandafter\@nameauth@TestDot\expandafter{\test}%
10 \if@nameauth@MainFormat
11 \if@nameauth@FirstFormat
12 \bgroup%
13 \@nameauth@InHooktrue%
14 \NamesFormat{%
15 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
16 }\egroup%
17 \else
18 \bgroup%

```

```

19 \@nameauth@InHooktrue%
20 \MainNameHook{%
21 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
22 }\egroup%
23 \fi
24 \else
25 \if@nameauth@FirstFormat
26 \bgroup%
27 \@nameauth@InHooktrue%
28 \FrontNamesFormat{%
29 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
30 }\egroup%
31 \else
32 \bgroup%
33 \@nameauth@InHooktrue%
34 \FrontNameHook{%
35 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
36 }\egroup%
37 \fi
38 \fi
39 \fi
40 }

```

---

#### File 329 **lwarp-nameref.sty**

### § 444 Package **nameref**

nameref (*Pkg*) nameref is nullified here, then emulated by lwarp.

**for HTML output:** Discard all options for lwarp-nameref:

```
1 \LWR@ProvidesPackageDrop{nameref}[2023-08-07]
```

---

#### File 330 **lwarp-natbib.sty**

### § 445 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

natbib (*Pkg*) natbib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{<}
```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {

```

```

6 \renewcommand{\NAT@open}{\textless}
7 \renewcommand{\NAT@close}{\textgreater}
8 }{}
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }

```

Synchronize the autopage labels:

```

17 \xpretocmd{\NAT@reset@parser}
18 {\LWR@newautopagelabel{page}}}%
19 {}
20 {\LWR@patcherror{natbib}{\NAT@reset@parser}}

```

---

File 331 **lwarp-nccfancyhdr.sty**

§ 446 Package **nccfancyhdr**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

nccfancyhdr (*Pkg*) **nccfancyhdr** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

2 \newcommand*{\headrulewidth}{}
3 \newcommand*{\footrulewidth}{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*{\headrule}{}
7 \newcommand*{\footrule}{}
8
9 \newdimen\headwidth
10 \newcommand*{\extendedheaders}{}
11 \newcommand*{\normalheaders}{}
12
13 \newcommand*{\fancyhead}[2][{}]{
14 \newcommand*{\fancyfoot}[2][{}]{
15 \newcommand*{\fancyhf}[2][{}]{
16 \newcommand*{\fancypagestyle}[2]{
17 \newcommand*{\lhead}[2][{}]{
18 \newcommand*{\chead}[2][{}]{
19 \newcommand*{\rhead}[2][{}]{
20 \newcommand*{\lfoot}[2][{}]{
21 \newcommand*{\cfoot}[2][{}]{
22 \newcommand*{\rfoot}[2][{}]{

```

---

```

23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*{\iffloatpage}[2]{#2}
31 \newcommand*{\ifftopfloat}[2]{#2}
32 \newcommand*{\iffbotfloat}[2]{#2}

```

---

File 332 **lwarp-nccfoots.sty**

§ 447    Package **nccfoots**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

nccfoots (*Pkg*)    nccfoots is used as-is, and emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

To nullify the footnotes where necessary:

```

2 \apptocmd{\LWR@nullifyfootnotes}{%
3 \renewcommand*\Footnote}[1]{}%
4 \renewcommand*\Footnotemark}[1]{}%
5 }{}{}

```



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

6 \begin{warpMathJax}
7 \CustomizeMathJax{\newcommand*\Footnotemark}[1]{{}^{\mathrm{#1}}}}
8 \CustomizeMathJax{\newcommand*\Footnote}[2]{\Footnotemark{#1}}}
9 \end{warpMathJax}

```

---

File 333 **lwarp-nccmath.sty**

§ 448    Package **nccmath**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

nccmath (*Pkg*)    nccmath is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs\LWR@origeqnarraystar{eqnarray*}
6 \csletcs\LWR@origendeqnarraystar{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%

```

```

10
11 \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18 \begingroup
19 \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20 \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21 \boolfalse{LWR@numbereqnarray}
22 \LWR@eqnarrayfactor
23 \endgroup
24
25 }
26
27 \def\eqs{%
28 \ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][\begin{eqnarray*}#2\end{eqnarray*}]{}
31 \newcommand*{\LWR@nccmath@eqs}[2][\begin{eqnarray}#2\end{eqnarray}]{}
32
33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][\text{#2}\notag \]}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][{}]}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[1]{#2}}{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3]{#3}}

39 \CustomizeMathJax{\newcommand{\LWRnrmnostar}[1][0.5ex]{\[#1]}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrmnostar\LWRnrmnostar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1][{}]}

\eq, \eqs, \eqalign are created by LATEX, not MATHJAX.

52 \end{warpMathJax}

```

---

File 334 **lwarp-needspace.sty**

§ 449    Package **needspace**

(Emulates or patches code by PETER WILSON.)

needspace (*Pkg*) needspace is ignored.

**for HTML output:** Discard all options for lwarp-needspace:

```
1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```

---

### File 335 **lwarp-newpxmath.sty**

## § 450 Package **newpxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

newpxmath (*Pkg*) newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from newtxmath is used:

```
1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{}{up}{}
15 \LWR@mathjax@addgreek@l@up{}{}{up}{}
16 \LWR@mathjax@addgreek@u@it*{}{}{it}
17 \LWR@mathjax@addgreek@l@it{}{}{it}

```

Optional slanted Greek:

```
18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}{}
20 \fi
21
22 \end{warpMathJax}

```

---

### File 336 **lwarp-newtxmath.sty**

## § 451 Package **newtxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

`newtxmath` (*Pkg*) `newtxmath` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```
1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpctxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it{}{it}{}
22
23 % only newtxmath, not newpctxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}
```

Optional slanted Greek:

```
30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```

---

File 337 **lwarp-newtxsf.sty**

§ 452 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

`newtxsf` (*Pkg*) `newtxsf` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is hon-

ored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

svg math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpxtxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it{}{it}{}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{it}{}
32 \fi
33
34 \end{warpMathJax}

```

---

File 338 **lwarp-nextpage.sty**

§ 453     Package **nextpage**

(Emulates or patches code by PETER WILSON.)

nextpage (*Pkg*)   nextpage is ignored.

for HTML output:

Discard all options for lwarp-nextpage.

```

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}

```

```
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

### File 339 **lwarp-nfssext-cfr.sty**

## § 454 Package **nfssext-cfr**

*(Emulates or patches code by CLEA F. REES.)*

**nfssext-cfr** (*Pkg*) **nfssext-cfr** is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nfssext-cfr}[2017/03/28]

Macros which are present in the **lwarp** core are commented out here.

```
2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embosstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@f@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sishape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rishape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}

```

```
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57 \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embosstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sishape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
```

```
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{% duplicated by fontaxes
117 \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122 \LetLtxMacro\lnstyle\@empty%
123 \LetLtxMacro\osstyle\@empty%
124 \LetLtxMacro\instyle\@empty%
125 \LetLtxMacro\sustyle\@empty%
126 \LetLtxMacro\swstyle\@empty%
127 \LetLtxMacro\pstyle\@empty%
128 \LetLtxMacro\tistyle\@empty%
129 \LetLtxMacro\ostyle\@empty%
130 \LetLtxMacro\postyle\@empty%
131 \LetLtxMacro\ltstyle\@empty%
132 \LetLtxMacro\ofstyle\@empty%
133 \LetLtxMacro\altstyle\@empty%
134 \LetLtxMacro\regstyle\@empty%
135 \LetLtxMacro\embossstyle\@empty%
136 \LetLtxMacro\ornamentalstyle\@empty%
137 \LetLtxMacro\qtstyle\@empty%
138 \LetLtxMacro\shstyle\@empty%
139 \LetLtxMacro\swashstyle\@empty%
140 \LetLtxMacro\tmstyle\@empty%
141 \LetLtxMacro\tvstyle\@empty%
142 \LetLtxMacro\tstyle\@empty%
143 \LetLtxMacro\lstyle\@empty%
144 \LetLtxMacro\tlstyle\@empty%
145 \LetLtxMacro\plstyle\@empty%
146 \LetLtxMacro\tostyle\@empty%
147 % \LetLtxMacro\sihape\@empty%
148 \LetLtxMacro\olshape\@empty%
149 \LetLtxMacro\scolshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\nwwidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%
160 \LetLtxMacro\epwidth\@empty%
```

```

161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\uxwidth\@empty%
163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sbweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \providerobustcmd{\textin}[1]{#1}
183 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
184 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
185 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

186 \ifdef{\LWR@HTML@textsw}{% duplicated by fontaxes
187 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
188 \LWR@formatted{textsw}
189 }
190
191 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
195 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
196 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
199 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
200 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
202 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}
203 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
204 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
205 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
206 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
207 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
208 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
209 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
210 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
214 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
215 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}

```

```
220 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
225 \newrobustcmd{\LWR@HTML@textmb}[1]{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}
226 \newrobustcmd{\LWR@HTML@textdb}[1]{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}
227 \newrobustcmd{\LWR@HTML@textsb}[1]{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}
228 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
229 \newrobustcmd{\LWR@HTML@textub}[1]{\LWR@HTML@ubweight\InlineClass{textub}{#1}}
230 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
231 \newrobustcmd{\LWR@HTML@textel}[1]{\LWR@HTML@elweight\InlineClass{textel}{#1}}
232 \newrobustcmd{\LWR@HTML@textul}[1]{\LWR@HTML@ulweight\InlineClass{textul}{#1}}
233
234 \LWR@formatted{textln}
235 \LWR@formatted{textos}
236 \LWR@formatted{textin}
237 \LWR@formatted{textsu}
238 % \LWR@formatted{textsi}
239 \LWR@formatted{textdf}
240 \LWR@formatted{textti}
241 \LWR@formatted{textlt}
242 \LWR@formatted{textof}
243 \LWR@formatted{textalt}
244 \LWR@formatted{textreg}
245 \LWR@formatted{emboss}
246 \LWR@formatted{textorn}
247 \LWR@formatted{textqt}
248 \LWR@formatted{textsh}
249 \LWR@formatted{texttm}
250 \LWR@formatted{texttv}
251 \LWR@formatted{textl}
252 \LWR@formatted{texto}
253 \LWR@formatted{textp}
254 \LWR@formatted{textt}
255 \LWR@formatted{textpl}
256 \LWR@formatted{textpo}
257 \LWR@formatted{texttl}
258 \LWR@formatted{textto}
259 \LWR@formatted{textol}
260 \LWR@formatted{textswash}
261 \LWR@formatted{textu}
262 \LWR@formatted{textscu}
263 \LWR@formatted{textui}
264 \LWR@formatted{textri}
265 \LWR@formatted{textnw}
266 \LWR@formatted{textcd}
267 \LWR@formatted{textec}
268 \LWR@formatted{textuc}
269 \LWR@formatted{textet}
270 \LWR@formatted{textep}
271 \LWR@formatted{textex}
272 \LWR@formatted{textux}
273 \LWR@formatted{textrw}
274 \LWR@formatted{textmb}
275 \LWR@formatted{textdb}
276 \LWR@formatted{textsb}
277 % \LWR@formatted{texteb}
278 \LWR@formatted{textub}
279 % \LWR@formatted{textlg}
```

```
280 \LWR@formatted{textel}
281 \LWR@formatted{textul}
282
283 \FilenameNullify{%
284 \LetLtxMacro\textln\@firstofone%
285 \LetLtxMacro\textos\@firstofone%
286 \LetLtxMacro\textin\@firstofone%
287 \LetLtxMacro\textsu\@firstofone%
288 % \LetLtxMacro\textsi\@firstofone%
289 \LetLtxMacro\textdf\@firstofone%
290 \LetLtxMacro\textsw\@firstofone%
291 \LetLtxMacro\textti\@firstofone%
292 \LetLtxMacro\textlt\@firstofone%
293 \LetLtxMacro\textof\@firstofone%
294 \LetLtxMacro\textalt\@firstofone%
295 \LetLtxMacro\textreg\@firstofone%
296 \LetLtxMacro\emboss\@firstofone%
297 \LetLtxMacro\textorn\@firstofone%
298 \LetLtxMacro\textqt\@firstofone%
299 \LetLtxMacro\textsh\@firstofone%
300 \LetLtxMacro\texttm\@firstofone%
301 \LetLtxMacro\texttv\@firstofone%
302 \LetLtxMacro\textl\@firstofone%
303 \LetLtxMacro\texto\@firstofone%
304 \LetLtxMacro\textp\@firstofone%
305 \LetLtxMacro\textt\@firstofone%
306 \LetLtxMacro\textpl\@firstofone%
307 \LetLtxMacro\textpo\@firstofone%
308 \LetLtxMacro\texttl\@firstofone%
309 \LetLtxMacro\textto\@firstofone%
310 \LetLtxMacro\textol\@firstofone%
311 \LetLtxMacro\textswash\@firstofone%
312 \LetLtxMacro\textu\@firstofone%
313 \LetLtxMacro\textscu\@firstofone%
314 \LetLtxMacro\textui\@firstofone%
315 \LetLtxMacro\textri\@firstofone%
316 \LetLtxMacro\textnw\@firstofone%
317 \LetLtxMacro\textcd\@firstofone%
318 \LetLtxMacro\textec\@firstofone%
319 \LetLtxMacro\textuc\@firstofone%
320 \LetLtxMacro\textet\@firstofone%
321 \LetLtxMacro\textep\@firstofone%
322 \LetLtxMacro\textex\@firstofone%
323 \LetLtxMacro\textux\@firstofone%
324 \LetLtxMacro\textrw\@firstofone%
325 \LetLtxMacro\textmb\@firstofone%
326 \LetLtxMacro\textdb\@firstofone%
327 \LetLtxMacro\textsb\@firstofone%
328 % \LetLtxMacro\texteb\@firstofone%
329 \LetLtxMacro\textub\@firstofone%
330 % \LetLtxMacro\textlg\@firstofone%
331 \LetLtxMacro\textel\@firstofone%
332 \LetLtxMacro\textul\@firstofone%
333 }
334
335 \providecommand*{\zeroslash}{0}
336 \newrobustcmd*{\LWR@HTMLzeroslash}{0}
337 \LWR@formatted{zeroslash}
```

File 340 **lwarp-nicefrac.sty**§ 455 Package **nicefrac**

*(Emulates or patches code by AXEL REICHERT.)*

nicefrac (*Pkg*) nicefrac is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@UnitsNiceFrac}[3][[%
3 {% localize font selection
4 #1{%
5 \LWR@textcurrentfont{%
6 \InlineClass{numerator}{#2}%
7 /%
8 \InlineClass{denominator}{#3}%
9 }%
10 }%
11 }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@UnitsUglyFrac}[3][[%
17 {% localize font selection
18 #1{\LWR@textcurrentfont{#2/#3}}%
19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

For MATHJAX:

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][{\mathinner{{}^{\#2}\!/_{\#3}}}}
25 \end{warpMathJax}

```

File 341 **lwarp-niceframe.sty**§ 456 Package **niceframe**

niceframe (*Pkg*) niceframe is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

2 \newcommand{\LWR@niceframe}[3]{%
3 \begin{LWR@setvirtualpage}*%
4 \setlength{\LWR@templengthone}{#1}%
5 \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6 #2
7 \end{BlockClass}%

```

---

```

8 \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}

```

---

File 342 **lwarp-nicematrix.sty**

§ 457    Package **nicematrix**

*(Emulates or patches code by F. PANTIGNY.)*

`nicematrix` (*Pkg*) `nicematrix` is used as-is for SVG math, and is emulated for MATHJAX.

 **MATHJAX** Keys/values are ignored in MATHJAX. `\Cdots`, etc. do not span multiple cells. `AutoNiceMatrix`, etc. are not supported for MATHJAX. SVG math output preserves all `nicematrix` features. To force SVG output for one or more consecutive math expressions, for inline math use `\inlinemathother` and `\inlinemathnormal`, or for display math use `\displaymathother` and `\displaymathnormal`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{nicematrix}[2025/02/01]`

`NiceTabular` must be converted to SVG to support the various `nicematrix` options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4 \begin{lateximage}[-nicematrix-~\PackageDiagramAltText]?%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8 \begin{lateximage}[-nicematrix-~\PackageDiagramAltText]?%
9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17 \newenvironment{NiceArray}[2][[%
18 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
19 {\end{array}}}%
20 }
21
22 \CustomizeMathJax{%
23 \newcommand{\LWRnicearraywithdelimitwo}[2][[%
24 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
25 }%
26 }

```

General case with left / right delimiters:

```

27 \CustomizeMathJax{%
28 \newenvironment{NiceArrayWithDelims}[2]%
29 {%
30 \def\LWRnicearrayrightdelim{\right#2}%
31 \left#1%
32 \LWRnicearraywithdelimitwo%
33 }%
34 {\end{array}}\LWRnicearrayrightdelim}%
35 }

```

Instances of specific delimiters:

```

36 \CustomizeMathJax{%
37 \newenvironment{pNiceArray}
38 {\begin{NiceArrayWithDelims}{(){} }}
39 {\end{NiceArrayWithDelims}}
40 }
41
42 \CustomizeMathJax{%
43 \newenvironment{bNiceArray}
44 {\begin{NiceArrayWithDelims}{[]{} }}
45 {\end{NiceArrayWithDelims}}
46 }
47
48 \CustomizeMathJax{%
49 \newenvironment{BNiceArray}
50 {\begin{NiceArrayWithDelims}{\{}{\}} }
51 {\end{NiceArrayWithDelims}}
52 }
53
54 \CustomizeMathJax{%
55 \newenvironment{vNiceArray}
56 {\begin{NiceArrayWithDelims}{\vert}{\vert}}
57 {\end{NiceArrayWithDelims}}
58 }
59
60 \CustomizeMathJax{%
61 \newenvironment{VNiceArray}
62 {\begin{NiceArrayWithDelims}{\Vert}{\Vert}}
63 {\end{NiceArrayWithDelims}}
64 }

```

Ignore optional arg and use standard environments:

```

65 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][\begin{matrix}]{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```

71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%

```

```

75 \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock]%
76 }

```

Form an approximation:

```

77 \CustomizeMathJax{%
78 \newcommand{\diagbox}[2]{%
79 \begin{array}{l}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
80 }%
81 }

```

More approximations:

```

82 \CustomizeMathJax{\let\hdottedline\hdashline}

83 \CustomizeMathJax{\newcommand{\Hline}[1][\hline]}

84 \CustomizeMathJax{\newcommand{\CodeBefore}{}}
85 \CustomizeMathJax{\newcommand{\Body}{}}
86 \CustomizeMathJax{\newcommand{\CodeAfter}{}}
87 \CustomizeMathJax{\newcommand{\line}[3][{}]}
88 \CustomizeMathJax{\newcommand{\RowStyle}[2][{}]}
89 \CustomizeMathJax{\newcommand{\LWRSubMatrix}[1][{}]}
90 \CustomizeMathJax{\newcommand{\SubMatrix}[4]{\LWRSubMatrix}}
91 \CustomizeMathJax{\newcommand{\OverBrace}[4][{}]}
92 \CustomizeMathJax{\newcommand{\UnderBrace}[4][{}]}
93 \CustomizeMathJax{\newcommand{\HBrace}[3][{}]}
94 \CustomizeMathJax{\newcommand{\VBrace}[3][{}]}
95 \CustomizeMathJax{\newcommand{\ShowCellNames}{}}
96 \CustomizeMathJax{\newcommand{\tabularnote}[2][{}]}

97 \CustomizeMathJax{\newcommand{\cellcolor}[3][{}]}
98 \CustomizeMathJax{\newcommand{\rowcolor}[3][{}]}
99 \CustomizeMathJax{\newcommand{\LWRRowcolors}[1][{}]}
100 \CustomizeMathJax{\newcommand{\rowcolors}[4][\LWRRowcolors]}
101 \CustomizeMathJax{\newcommand{\rowlistcolors}[3][\LWRRowcolors]}
102 \CustomizeMathJax{\newcommand{\columncolor}[3][{}]}
103 \CustomizeMathJax{\newcommand{\rectanglercolor}[4][{}]}
104 \CustomizeMathJax{\newcommand{\arraycolor}[2][{}]}
105 \CustomizeMathJax{\newcommand{\chessboardcolors}[3][{}]}

106 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
107 \CustomizeMathJax{\newcommand{\Cdots}[1][\cdots]}
108 \CustomizeMathJax{\newcommand{\Vdots}[1][\vdots]}
109 \CustomizeMathJax{\newcommand{\Ddots}[1][\ddots]}
110 \CustomizeMathJax{\newcommand{\Iddots}[1][\mathinner{\unicode{x22F0}}]}
111
112 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
113 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate AutoNiceMatrix in MATHJAX.

```

114 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
115 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
116 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
117 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
118 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}

```

---

```

119 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
120 \end{warpMathJax}

```

---

File 343 **lwarp-noitcrul.sty**

§ 458    Package **noitcrul**

*(Emulates or patches code by PAUL EBERMANN.)*

noitcrul (*Pkg*) noitcrul is used as-is for svg and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{noitcrul}[2006/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}

```

---

File 344 **lwarp-nolbreaks.sty**

§ 459    Package **nolbreaks**

*(Emulates or patches code by DONALD ARSENEAU.)*

nolbreaks (*Pkg*) nolbreaks is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}

```

---

File 345 **lwarp-nomencl.sty**

§ 460    Package **nomencl**

*(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

nomencl (*Pkg*) nomencl is patched for use by lwarp.

To process the HTML nomenclature:

```

makeindex <project>_html.nlo -s nomencl.ist -o
<project>_html.nls

```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nomencl}[2021/11/10]

```

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

2 \xpatchcmd{\@@@nomenclature}
3 {\thepage}
4 {\theLWR@previousautopagelabel}
5 {}
6 {\LWR@patcherror{nomencl}{@@@nomenclature}}
7
8 \renewcommand*{\pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-#1}}%

```

Force tocbasic off, since it is not fully emulated.

```
9 \@nomencl@tocbasicfalse
```

---

#### File 346 **lwarp-nonfloat.sty**

### § 461 Package **nonfloat**

*(Emulates or patches code by Kai Rascher.)*

nonfloat (*Pkg*) nonfloat is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@captive{figure}\caption}
4 \newcommand{\tabcaption}{\def\@captive{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

---

#### File 347 **lwarp-nonumonpart.sty**

### § 462 Package **nonumonpart**

nonumonpart (*Pkg*) nonumonpart is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]
```

---

#### File 348 **lwarp-nopageno.sty**

### § 463 Package **nopageno**

nopageno (*Pkg*) nopageno is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]
```

---

#### File 349 **lwarp-notes.sty**

### § 464 Package **notes**

notes (*Pkg*) notes is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

2 \newcommand*\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4 {
5 \BlockClass{notes#1}
6 \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}
```

---

```

7 \BlockClass{notescontents}
8 }
9 {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}

```

---

## File 350 **lwarp-notespages.sty**

§ 465    Package **notespages**

notespages (*Pkg*) **notespages** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*{\npnotesname}{}
3 \newcommand*{\npnotestext}{}
4 \newcommand*{\remainingtextheight}{}
5 \newdimen\remainingtextheight
6 \newcommand*{\notestitletext}{}
7 \newcommand*{\notesareatext}{}
8 \newcommand*{\npnpinfo}[1]{}
9 \newcommand*{\tracingnmarks}{}
10 \newcommand*{\notespage}[1][{}]{
11 \newcommand*{\notespages}[1][{}]{
12 \newcommand*{\notesfill}[1][{}]{
13 \newcommand*{\setnotespages}[1]{
14 \newcommand*{\definotesoption}[2]{
15 \newcommand*{\definotesstyle}[2]{
16 \newcommand*{\definetitlestyle}[2]{
17 \newcommand*{\npnpatchchapter}[1]{
18 \newcommand*{\npunpatchchapter}{}

```

---

## File 351 **lwarp-nowidow.sty**

§ 466    Package **nowidow**

*(Emulates or patches code by RAPHAËL PINSON.)*

nowidow (*Pkg*) **nowidow** is ignored.

**for HTML output:**    Discontinued Package for lwarp-nowidow 11/09/20

```

\nowidow [⟨lines⟩]
\setnowidow [⟨lines⟩]

2 \newcommand*{\nowidow}[1][{}]{
3 \newcommand*{\setnowidow}[1][{}]{

```

```

\noclub [\lines]
\setnoclub [\lines]

4 \newcommand*{\noclub}[1][{}]{
5 \newcommand*{\setnoclub}[1][{}]{

```

## File 352 **lwarp-ntheorem.sty**

### § 467 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

ntheorem (*Pkg*) ntheorem is patched for use by lwarp.

Table 20: Ntheorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

#### § 467.1 **Limitations**

 **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

 **Equation numbering** ntheorem has a bug with equation numbering in  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments when the option thref is used. lwarp does not share this bug, so equations with \split, etc, are numbered correctly with lwarp's HTML output, but not with the print output. It is recommended to use cleveref instead of ntheorem's thref option.

#### § 467.2 **Options**

Options amsthm or standard choose which set of theorems and proofs to initialize.

 **Disabled options** The options thmmarks and amsmath are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option thref is disabled because cleveref functions are used instead. \thref is emulated.

Option hyperref is disabled because lwarp emulated hyperref.

**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2 \AtEndDocument{
3 \PackageWarningNoLine{lwarp}{%
4 Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5 referencing, including
6 \protect\label \space and \protect\thref.\MessageBreak
7 Cleveref does not accept ntheorem's optional\MessageBreak
8 argument for \protect\label, so it will appear\MessageBreak

```

```

9 in the text. It is recommended to remove the\MessageBreak
10 thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11 and remove any trailing optional arguments for \protect\label%
12 }%
13 }
14 }
15
16
17 \newbool{LWR@theoremmarks}
18 \boolfalse{LWR@theoremmarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@theoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]

```

### § 467.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \IfPackageLoadedTF{cleveref}{
39 \VerifyCommand[\lwarp][ntheorem-cleveref]{\@thm}
40 {24EBE14DBADF0B9992C3EDE1D70BA897}
41 \gdef\@thm#1#2#3{%
42 \if@thmmarks
43 \stepcounter{end\InTheoType ctr}%
44 \fi
45 \renewcommand{\InTheoType}{#1}%
46 \if@thmmarks
47 \stepcounter{curr#1ctr}%
48 \setcounter{end#1ctr}{0}%
49 \fi
50 \refstepcounter[#1]{#2}% <<< cleveref modification
51 \theorem@prework
52 \LWR@forcenewpage% lwarp

53 \LWR@printpendingfootnotes% lwarp

54 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
55 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
56 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
57 \ifthm@inframe
58 \thm@topsep\theoreminframepreskipamount
59 \thm@topsepadd\theoreminframepostskipamount

```

```

60 \else
61 \thm@topsep\theorempreskipamount
62 \thm@topsepadd\theorempostskipamount
63 \fi
64 \else% oldframeskips
65 \thm@topsep\theorempreskipamount
66 \thm@topsepadd \theorempostskipamount
67 \ifvmode\advance\thm@topsepadd\partopsep\fi
68 \fi
69 \@topsep\thm@topsep
70 \@topsepadd\thm@topsepadd
71 \advance\linewidth -\theorem@indent
72 \advance\linewidth -\theorem@rightindent
73 \advance\@totalleftmargin \theorem@indent
74 \parshape \@ne \@totalleftmargin \linewidth
75 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@exthm{#1}{#2}{#3}}
76 }
77 }{% not @ifpackageloaded{cleveref}
78 % \VerifyCommand[lwarp][ntheorem]{\@thm}{0}
79 \gdef\@thm#1#2#3{%
80 \if@thmmarks
81 \stepcounter{end\InTheoType ctr}%
82 \fi
83 \renewcommand{\InTheoType}{#1}%
84 \if@thmmarks
85 \stepcounter{curr#1ctr}%
86 \setcounter{end#1ctr}{0}%
87 \fi
88 \refstepcounter{#2}%
89 \theorem@prework
90 \LWR@forcenewpage% lwarp

91 \LWR@printpendingfootnotes% lwarp

92 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
93 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
94 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
95 \ifthm@inframe
96 \thm@topsep\theoreminframepreskipamount
97 \thm@topsepadd\theoreminframepostskipamount
98 \else
99 \thm@topsep\theorempreskipamount
100 \thm@topsepadd\theorempostskipamount
101 \fi
102 \else% oldframeskips
103 \thm@topsep\theorempreskipamount
104 \thm@topsepadd \theorempostskipamount
105 \ifvmode\advance\thm@topsepadd\partopsep\fi
106 \fi
107 \@topsep\thm@topsep
108 \@topsepadd\thm@topsepadd
109 \advance\linewidth -\theorem@indent
110 \advance\linewidth -\theorem@rightindent
111 \advance\@totalleftmargin \theorem@indent
112 \parshape \@ne \@totalleftmargin \linewidth
113 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@exthm{#1}{#2}{#3}}
114 }
115 }
116 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

117 \VerifyCommand[lwarp][ntheorem]{\theoremstyle}
118 {A735E431A49EB3A7B4BBD9AEAE7E10}
119 \gdef\theoremstyle#1{%
120 \ifundefined{th@#1}{\@warning
121 {Unknown theoremstyle `#1'. Using `plain'}}%
122 \theoremstyle{plain}
123 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
124 }%
125 {
126 \theoremstyle{#1}
127 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
128 }
129 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

130 \VerifyCommand[lwarp][ntheorem]{\@xnthm}{699CB37D7349C4F062B16B9B890FFE90}
131
132 \gdef\@xnthm#1#2[#3]{%
133 \ifthm@tempif
134 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
135 \expandafter\ifundefined{c@#1}%
136 {\@definecounter{#1}}{%
137 \@newctr{#1}[#3]%
138 \expandafter\xdef\csname the#1\endcsname{%
139 \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
140 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
141 \expandafter\gdef\csname mkheader@#1\endcsname
142 {\csname setparms@#1\endcsname
143 \@thm{#1}{#1}{#2}
144 }%
145 \global\@namedef{end#1}{\@endtheorem}
146 \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{\LWR@thmstyle#1}}}% lwarp
147 \fi
148 }
149
150 \VerifyCommand[lwarp][ntheorem]{\@ynthm}{E0E49F4C2FF76BA3024F2413E2E3DA0D}
151
152 \gdef\@ynthm#1#2{%
153 \ifthm@tempif
154 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
155 \expandafter\ifundefined{c@#1}%
156 {\@definecounter{#1}}{%
157 \expandafter\xdef\csname the#1\endcsname
158 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}%
159 \expandafter\gdef\csname mkheader@#1\endcsname
160 {\csname setparms@#1\endcsname
161 \@thm{#1}{#1}{#2}
162 }%
163 \global\@namedef{end#1}{\@endtheorem}
164 \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{\LWR@thmstyle#1}}}% lwarp
165 \fi
166 }
167
168 \VerifyCommand[lwarp][ntheorem]{\@othm}{A6D2FCC33AB3F7C7F998399F013FB6A8}
169
170 \gdef\@othm#1[#2]#3{%

```

```

171 \ifundefined{c@#2}{\@nocounterr{#2}}%
172 {\ifthm@tempif
173 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
174 \global\@namedef{the#1}{\@nameuse{the#2}}%
175 \expandafter\protected@xdef\csname num@addtheorem#1\endcsname{%
176 \noexpand\@num@addtheoremline{#1}{#3}}%
177 \expandafter\protected@xdef\csname nonum@addtheorem#1\endcsname{%
178 \noexpand\@nonum@addtheoremline{#1}{#3}}%
179 \theoremkeyword{#3}%
180 \expandafter\protected@xdef\csname #1Keyword\endcsname
181 {\the\theoremkeyword}%
182 \expandafter\gdef\csname mkheader@#1\endcsname
183 {\csname setparms@#1\endcsname
184 \@thm{#1}{#2}{#3}
185 }%
186 \global\@namedef{end#1}{\@endtheorem}
187 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
188 \fi}
189 }

```

#### § 467.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

190 \newcommand{\LWR@inctheorem}{%
191 \addtocounter{LWR@thisautoid}{1}%
192 \LWR@stoppars%
193 \LWR@htmltag{%
194 a id=\textquotedbl\LWR@print@mbbox{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
195 }%
196 \LWR@htmltag{/a}\LWR@orignewline%
197 \LWR@startpars%
198 }

```

#### § 467.5 \newtheoremstyle

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader<style>.

```

199 \VerifyCommand[lwarp][ntheorem]{\newtheoremstyle}{8173F61CEBA45226CD3015E5E258C93D}
200
201 \gdef\newtheoremstyle#1#2#3{%
202 \expandafter\ifundefined{th@#1}%
203 {\expandafter\gdef\csname th@#1\endcsname{%
204 \def\@begintheorem####1####2{%
205 \LWR@inctheorem% lwarp
206 #2}%
207 \def\@opargbegintheorem####1####2####3{%
208 \LWR@inctheorem% lwarp
209 #3}%
210 }%
211 }%
212 {\PackageError{basename}{Theorem style #1 already defined}\@eha}

```

213 }

## § 467.6 Standard styles

```

214 \renewtheoremstyle{plain}%
215 {\item[
216 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]]}%
217 {\item[
218 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]]}
219
220 \renewtheoremstyle{break}%
221 {\item[
222 \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
223]}%
224 {\item[
225 \InlineClass{theoremheaderbreak}%
226 {##1\ ##2\ (##3)\theorem@separator}\newline
227]}
228
229 \renewtheoremstyle{change}%
230 {\item[
231 \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]]}%
232 {\item[
233 \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]]}
234
235 \renewtheoremstyle{changebreak}%
236 {\item[
237 \InlineClass{theoremheaderchangebreak}%
238 {##2\ ##1\theorem@separator}\newline
239]}%
240 {\item[
241 \InlineClass{theoremheaderchangebreak}%
242 {##2\ ##1\ (##3)\theorem@separator}\newline
243]}
244
245 \renewtheoremstyle{margin}%
246 {\item[
247 \InlineClass{theoremheadermargin}{##2 \quad ##1\theorem@separator}
248]}%
249 {\item[
250 \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theorem@separator}
251]}
252
253 \renewtheoremstyle{marginbreak}%
254 {\item[
255 \InlineClass{theoremheadermarginbreak}%
256 {##2 \quad ##1\theorem@separator}\newline
257]}%
258 {\item[
259 \InlineClass{theoremheadermarginbreak}%
260 {##2 \quad ##1\ (##3)\theorem@separator}\newline
261]}
262
263 \renewtheoremstyle{nonumberplain}%
264 {\item[
265 \InlineClass{theoremheaderplain}{##1\theorem@separator}]]}%
266 {\item[
267 \InlineClass{theoremheaderplain}{##1\ (##3)\theorem@separator}]]}
268
269 \renewtheoremstyle{nonumberbreak}%

```

```

270 {\item[
271 \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline
272]}%
273 {\item[
274 \InlineClass{theoremheaderbreak}{##1\ (##3)\theorem@separator}\newline
275]}
276
277 \renewtheoremstyle{empty}%
278 {\item[]}%
279 {\item[
280 \InlineClass{theoremheaderplain}{##3}]]}
281
282 \renewtheoremstyle{emptybreak}%
283 {\item[]}%
284 {\item[
285 \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 467.7 Additional objects

The following manually adjust the CSS for the standard configuration objects which are not a purely plain style:

```

286 \ifbool{LWR@theoremamsthm}{\}%

```

Upright text via CSS:

```

287 \newtheoremstyle{plainupright}%
288 {\item[
289 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]]}%
290 {\item[
291 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]]}

```

Upright text and small caps header via CSS:

```

292 \newtheoremstyle{nonumberplainuprightsc}%
293 {\item[
294 \InlineClass{theoremheadersc}{##1\theorem@separator}]]}%
295 {\item[
296 \InlineClass{theoremheadersc}{##1\ (##3)\theorem@separator}]]}
297 }% not amsthm

```

### § 467.8 Renewed standard configuration

The following standard configuration is renewed using the new CSS:

```

298 \ifbool{LWR@theoremamsthm}{\}%

299 \ifx\thm@usestd\@undefined
300 \else
301 \theoremnumbering{arabic}
302 \theoremstyle{plain}
303 \RequirePackage{latexsym}
304 \theoremsymbol{\Box}
305 \theorembodyfont{\itshape}
306 \theoremheaderfont{\normalfont\bfseries}
307 \theoremseparator{}
308 \renewtheorem{Theorem}{Theorem}
309 \renewtheorem{theorem}{Theorem}

```

```

310 \renewtheorem{Satz}{Satz}
311 \renewtheorem{satz}{Satz}
312 \renewtheorem{Proposition}{Proposition}
313 \renewtheorem{proposition}{Proposition}
314 \renewtheorem{Lemma}{Lemma}
315 \renewtheorem{lemma}{Lemma}
316 \renewtheorem{Korollar}{Korollar}
317 \renewtheorem{korollar}{Korollar}
318 \renewtheorem{Corollary}{Corollary}
319 \renewtheorem{corollary}{Corollary}
320
321 \theoremstyle{plainupright}
322 \theorembodyfont{\upshape}
323 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
324 \renewtheorem{Example}{Example}
325 \renewtheorem{example}{Example}
326 \renewtheorem{Beispiel}{Beispiel}
327 \renewtheorem{beispiel}{Beispiel}
328 \renewtheorem{Bemerkung}{Bemerkung}
329 \renewtheorem{bemerkung}{Bemerkung}
330 \renewtheorem{Anmerkung}{Anmerkung}
331 \renewtheorem{anmerkung}{Anmerkung}
332 \renewtheorem{Remark}{Remark}
333 \renewtheorem{remark}{Remark}
334 \renewtheorem{Definition}{Definition}
335 \renewtheorem{definition}{Definition}
336
337 \theoremstyle{nonumberplainuprightsc}
338 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
339 \renewtheorem{Proof}{Proof}
340 \renewtheorem{proof}{Proof}
341 \renewtheorem{Beweis}{Beweis}
342 \renewtheorem{beweis}{Beweis}
343 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
344
345 \theoremsymbol{}
346 \fi
347 }% not amsthm

```

## § 467.9 amsthm option

Many of the following are not `\VerifyCommand` because they are not yet defined.

Only if the `amsthm` option was given:

```

348 \ifbool{LWR@ntheoremamsthm}{
349
350 \VerifyCommand[lwarp][ntheorem-amsthm]{\th@plain}
351 {1FB8AE22BD4090F90D9031CFFC57DAFB}
352 \gdef\th@plain{%
353 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
354 \def\@begintheorem##1##2{%
355 \LWR@intheorem% lwarp
356 \item[
357 \InlineClass{theoremheaderplain}{##1\ ##2.}
358]}%
359 \def\@opargbegintheorem##1##2##3{%
360 \LWR@intheorem% lwarp
361 \item[
362 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}

```

```

363]}}
364
365 \VerifyCommand[lwarp][ntheorem-amsthm]{\th@nonumberplain}
366 {3E82A39A222021777BF8221C490E86EC}
367 \gdef\th@nonumberplain{%
368 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
369 \def\@begintheorem##1##2{%
370 \LWR@intheorem% lwarp
371 \item[
372 \InlineClass{theoremheaderplain}{##1.}
373]}%
374 \def\@opargbegintheorem##1##2##3{%
375 \LWR@intheorem% lwarp
376 \item[
377 \InlineClass{theoremheaderplain}{##1\ (#3).}
378]}}
379
380 \gdef\th@definition{%
381 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
382 \def\@begintheorem##1##2{%
383 \LWR@intheorem% lwarp
384 \item[
385 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
386]}%
387 \def\@opargbegintheorem##1##2##3{%
388 \LWR@intheorem% lwarp
389 \item[
390 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (#3).}
391]}}
392
393 \gdef\th@nonumberdefinition{%
394 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
395 \def\@begintheorem##1##2{%
396 \LWR@intheorem% lwarp
397 \item[
398 \InlineClass{theoremheaderdefinition}{##1.}
399]}%
400 \def\@opargbegintheorem##1##2##3{%
401 \LWR@intheorem% lwarp
402 \item[
403 \InlineClass{theoremheaderdefinition}{##1\ (#3).}
404]}}
405
406 \gdef\th@remark{%
407 \def\theorem@headerfont{\itshape}\normalfont%
408 \def\@begintheorem##1##2{%
409 \LWR@intheorem% lwarp
410 \item[
411 \InlineClass{theoremheaderremark}{##1\ ##2.}
412]}%
413 \def\@opargbegintheorem##1##2##3{%
414 \LWR@intheorem% lwarp
415 \item[
416 \InlineClass{theoremheaderremark}{##1\ ##2\ (#3).}
417]}}
418
419 \gdef\th@nonumberremark{%
420 \def\theorem@headerfont{\itshape}\normalfont%
421 \def\@begintheorem##1##2{%
422 \LWR@intheorem% lwarp

```

```

423 \item[
424 \InlineClass{theoremheaderremark}{##1.}
425]}%
426 \def\@opargbegintheorem##1##2##3{%
427 \LWR@inctheorem% lwarp
428 \item[
429 \InlineClass{theoremheaderremark}{##1\ (##3).}
430]}}
431
432 \gdef\th@proof{%
433 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
434 \def\@begintheorem##1##2{%
435 \LWR@inctheorem% lwarp
436 \item[
437 \InlineClass{theoremheaderproof}{##1.}
438]}%
439 \def\@opargbegintheorem##1##2##3{%
440 \LWR@inctheorem% lwarp
441 \item[
442 \InlineClass{theoremheaderproof}{##1\ (##3).}
443]}}
444
445
446
447 \newcounter{proof}%
448 \if@thmmarks
449 \newcounter{currproofctr}%
450 \newcounter{endproofctr}%
451 \fi
452
453 \gdef\proofSymbol{\openbox}
454
455 \newcommand{\proofname}{Proof}
456
457 \newenvironment{proof}[1][\proofname]{
458 \th@proof
459 \def\theorem@headerfont{\itshape}%
460 \normalfont
461 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
462 \@thm{proof}{proof}{#1}
463 }%
464 {\@endtheorem}
465
466 }{}% amsthm option

```

## § 467.10 Ending a theorem

Patched for css:

```

467 \let\LWR@origendtheorem\@endtheorem
468 \renewcommand{\@endtheorem}{%
469 \ifbool{LWR@nththeoremmarks}{%
470 \ifsetendmark%
471 \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
472 \setendmarkfalse%
473 \fi%
474 }{}%
475 \LWR@origendtheorem% also does \@endtrivlist
476 \ifbool{LWR@nththeoremmarks}{\global\setendmarktrue}{}%

```

```

477 \LWR@printpendingfootnotes% lwarp

478 \endBlockClass%
479 }

```

### § 467.11 \NoEndMark

```
480 \gdef\NoEndMark{\global\setendmarkfalse}
```

### § 467.12 List-of

Redefined to reuse the float mechanism to add list-of-theorem links:

`\thm@thmline` {<1: printed type>} {<2: #>} {<3: optional>} {<4: page>}

```

481 \renewcommand{\thm@@thmline@noname}[4]{%
482 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
483 }
484
485 \renewcommand{\thm@@thmline@name}[4]{%
486 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
487 }

```

This was redefined by `ntheorem` when loaded, so it is now redefined for `lwarp`:

```
488 \def\thm@@thmline{\thm@@thmline@name}
```

Patch for css:

```

489 \xpretocmd{\listtheorems}
490 {\LWR@htmlElementclass{nav}{lothm}}
491 {}
492 {\LWR@patcherror{ntheorem}{listtheorems}}
493
494 \xapptocmd{\listtheorems}
495 {\LWR@htmlElementclassend{nav}{lothm}}
496 {}
497 {\LWR@patcherror{ntheorem}{listtheorems}}

```

### § 467.13 Symbols

Proof QED symbol:

```

498 \newcommand{\qed}{\qquad\the\qedsymbol}
499
500 \AtBeginDocument{
501 \ifundefined{LWR@orig@openbox}{
502 \LetLtxMacro\LWR@orig@openbox\openbox
503 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
504 \LetLtxMacro\LWR@orig@Box\Box
505
506 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
507 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
508 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
509
510 \appto\LWR@restoreorigformatting{%
511 \LetLtxMacro\openbox\LWR@orig@openbox%
512 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%

```

```

513 \LetLtxMacro\Box\LWR@orig@Box%
514 }% appto
515 }{}% @ifundefined
516 }% AtBeginDocument

```

## § 467.14 Cross-referencing

`\thref {<label>}`

```

517 \newcommand*{\thref}[1]{\cref{#1}}%

```

---

## File 353 **lwarp-octave.sty**

## § 468 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

octave (*Pkg*) **octave** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```

2 \VerifyCommand[lwarp][octave]{\@PrintTicks}{3565AEEE32BD9F87397E8C9AD5B6BEA2}
3
4 \RenewDocumentCommand{\@PrintTicks}{ m }{%
5 \kern-1pt% lwarp
6 \@TickNum = #1%
7 \loop
8 \@Tick{}%
9 \advance\@TickNum by -1
10 \ifnum\@TickNum > 0
11 \repeat
12 }

```

Use unicode for the prime character:

```

13 \RenewDocumentCommand{\@Tick}{}{\HTMLUnicode{2032}}

```

Catch the inline font:

```

14 \VerifyCommand[lwarp][octave]{\pitch}{3803E3D6B44EDFF8880F06BBE60571D9}
15
16 \RenewDocumentCommand{\pitch}{ m o m }{%
17 \if@OctaveNumber%
18 {%
19 \pitchfont{%
20 \LWR@textcurrentfont% lwarp
21 \MakeUppercase{#1}%
22 \IfValueTF{#2}{#2}{\textsubscript{#3}}%
23 }%
24 }%
25 }%
26 \else%
27 {%
28 \pitchfont{%

```

```

29 \LWR@textcurrentfont{% lwarp
30 \@GetOctaveTick{#1}[\#2]{\#3}%
31 }%
32 }%
33 }%
34 \fi%
35 }

```

The original was hard to adapt to lwarp's handling of &.

```

36 \StartDefiningTabulars
37 \renewcommand{\octavetable}{%
38 \begin{tabular}{ll}
39 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
40 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
41 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
42 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
43 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
44 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
45 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
46 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
47 \end{tabular}
48 }
49 \StopDefiningTabulars

```

---

## File 354 **lwarp-orcidlink.sty**

### § 469 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

orcidlink (*Pkg*) **orcidlink** is patched for use by lwarp.

**for HTML output:**

```

1 \RequirePackage{lwarp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2024/06/26]
4
5 \xpretocmd{\orcidlogo}
6 {\begin{lateximage}[orcidlogo]}
7 {}
8 {\LWR@patcherror{orcidlink}{orcidlogo pre}}
9
10 \xapptocmd{\orcidlogo}
11 {\end{lateximage}}
12 {}
13 {\LWR@patcherror{orcidlink}{orcidlogo post}}
14
15 \VerifyCommand[lwarp][orcidlink]{\orcidlinkX}
16 {3CDD2DC196F113AE4758968E937D7D08}
17
18 \renewrobustcmd{\orcidlinkX}[3]{%
19 \href%
20 {https://orcid.org/\#2}%
21 {%
22 \ifstrempy{#1}{\#1\,%
23 \begin{lateximage}*[orcid #2]?%

```

---

```

24 \end{lateximage}% lwarp
25 \ifstrempy{#3}{\,\,#3}%
26 }%
27 }
28
29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\orcidlink}[1]{} }
31 \end{warpMathJax}

```

---

## File 355 **lwarp-overpic.sty**

### § 470 Package **overpic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

**overpic** (*Pkg*) **overpic** is patched for use by **lwarp**.

 **scaling** The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the **overpic** and **Overpic** environments.

See section **91.2** for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

2 \newcommand*{\overpicfontsize}{12}
3 \newcommand*{\overpicfontskip}{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6 \begin{lateximage}%
7 \fontsize{\overpicfontsize}{\overpicfontskip}%
8 \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}

```

---

## File 356 **lwarp-pagegrid.sty**

### § 471 Package **pagegrid**

**pagegrid** (*Pkg*) **pagegrid** is ignored.

#### for HTML output:

```

1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

2 \newcommand*{\pagegridsetup}[1]{}

```

---

File 357 **lwarp-pagenote.sty**

§ 472      Package **pagenote**

pagenote (*Pkg*)    pagenote works as-is, but the page option is disabled.

 **labels**    Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:**    1 \DeclareOption{page}{}  
                           2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{\mathrm{#1}}}
7 \end{warpMathJax}
```

There is no \pagenotemark, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@syncnotenames{\LWR@synconenotename{\LWRpagenote}{\pagenotename}}
```

---

File 358 **lwarp-pagesel.sty**

§ 473      Package **pagesel**

pagesel (*Pkg*)    pagesel is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

---

File 359 **lwarp-paralist.sty**

§ 474      Package **paralist**

*(Emulates or patches code by BERND SCHANDL.)*

paralist (*Pkg*)    paralist is supported with minor changes.

**for HTML output:**    1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert `\item` to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{\normalfont\textbf{#1}}
```

---

## File 360 **lwarp-parallel.sty**

### § 475 Package **parallel**

*(Emulates or patches code by MATTHIAS ECKERMANN.)*

`parallel` (*Pkg*) **parallel** is emulated.

Package options are ignored. Footnotes are treated as normal `lwarp` footnotes.

Environment option `c` gives side-by-side `<div>`s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

**for HTML output:** Discard all options for `lwarp-parallel`:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}
5
6 \newenvironment*{Parallel}[3][{}%
7 {%
8 \LWR@printpendingfootnotes%
9 \setlength{\linewidth}{\LWR@userstextwidth}%
10 \setlength{\textwidth}{\LWR@userstextwidth}%
11 \renewcommand*{\LWR@parallel@border}{}%
12 \ifstrequal{#1}{v}%
13 {%
14 \renewcommand*{\LWR@parallel@border}{ ; border-left: 2px solid black}%
15 }%
16 }%
17 \ifblank{#2}{%
18 \ifblank{#3}{% {}{}
19 \setcounter{LWR@parallel@Lwidth}{45}%
20 \setcounter{LWR@parallel@Rwidth}{45}%
21 }% {}{}
22 {% {}{x}
23 \setlength{\LWR@templengthone}{\linewidth-#3}%
24 \setcounter{LWR@parallel@Lwidth}{%
25 90*\ratio{\LWR@templengthone}{\linewidth}%
26 }%
27 \setcounter{LWR@parallel@Rwidth}{%
```

```

28 90*\ratio{#3}{\linewidth}%
29 }%
30 }% {}{x}
31 }% #2 blank
32 {% #2 non-blank
33 \ifblank{#3}{% {}{}}
34 \setcounter{LWR@parallel@Lwidth}{%
35 90*\ratio{#2}{\linewidth}%
36 }%
37 \setlength{LWR@templengthone}{\linewidth-#2}%
38 \setcounter{LWR@parallel@Rwidth}{%
39 90*\ratio{LWR@templengthone}{\linewidth}%
40 }%
41 }% {}{x}{}
42 {% {}{x}{x}
43 \setcounter{LWR@parallel@Lwidth}{%
44 90*\ratio{#2}{\linewidth}%
45 }%
46 \setcounter{LWR@parallel@Rwidth}{%
47 90*\ratio{#3}{\linewidth}%
48 }%
49 }% {}{x}{x}
50 }% #2 non-blank
51 }
52 {%
53 \ParallelAtEnd%
54 \renewcommand*{\ParallelAtEnd}{}%
55 \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*{\ParallelLText}[1]{%
59 \begin{BlockClass}[%
60 width:\arabic{LWR@parallel@Lwidth}\% ; % space
61 padding: .5ex 1\% ; % space
62]{minipage}%
63 #1%
64 \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRText}[1]{%
68 \begin{BlockClass}[%
69 width:\arabic{LWR@parallel@Rwidth}\% ; % space
70 padding: .5ex 1\% ; % space
71 \LWR@parallel@border%
72]{minipage}%
73 #1%
74 \end{BlockClass}%
75 }
76
77 \newcommand*{\ParallelPar}{\LWR@printpendingfootnotes}
78
79 \newcommand*{\ParallelAtEnd}{}

```

---

File 361 **lwarp-parcolumns.sty**

§ 476 Package **parcolumns**

(Emulates or patches code by JONATHAN SAUER.)

`parcolumns (Pkg)` `parcolumns` is emulated.

`rulebetween` is honored. The other keys are ignored, including `colwidths`.

Each column is placed inside a `<div>` of class `minipage`, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, `\linewidth`, `\textwidth`, and `\textheight` are set for a virtual  $6 \times 9$  inch page, with `\linewidth` divided by the number of columns.

for HTML output: Discard all options for `lwarp-parcolumns`:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}
11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13 \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][]
20 {
21 \begin{LWR@setvirtualpage}*[#2]%
22 \setcounter{LWR@parcolumns@numcols}{#2}%
23 \setcounter{LWR@parcolumns@thiscol}{1}%
24 \boolfalse{LWR@parcolumns@started}%
25 \boolfalse{LWR@parcolumns@rule}%
26 \setcounter{LWR@parcolumns@width}{%
27 85/#2
28 }%
29 \setkeys{LWRparcols}{#1}%
30 }
31 {

32 \colplacechunks%
33 \end{LWR@setvirtualpage}%
34 }
35
36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37 \ifbool{LWR@parcolumns@started}%
38 {}%
39 {%
40 \LWR@htmldivclass{parcolumns}%
41 \booltrue{LWR@parcolumns@started}%
42 }%
43 \ifboolexpr{%
44 bool {LWR@parcolumns@rule} and
45 test {%

```

---

```

46 \ifnumgreater
47 {\value{LWR@parcolumns@thiscol}}
48 {1}
49 }%
50 }%
51 {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52 {\renewcommand{\LWR@tempone}{}}%
53 \begin{BlockClass}[%
54 width:\arabic{LWR@parcolumns@width}\% ; % space
55 padding:.5ex 1\% ; % space
56 \LWR@tempone%
57]{minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64 \whileboolexpr{%
65 test {%
66 \ifnumcomp%
67 {\value{LWR@parcolumns@thiscol}}
68 {<}
69 {#1}%
70 }%
71 }{%
72 \LWR@parcolumns@onecol{%
73 }%
74 \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*\colplacechunks{%
78 \ifbool{LWR@parcolumns@started}%
79 {%
80 \LWR@htmldivclassend{div}%
81 \boolfalse{LWR@parcolumns@started}%
82 }%
83 {%
84 \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 362 **lwarp-parnotes.sty**

§ 477     Package **parnotes**

*(Emulates or patches code by CHELSEA HUGHES.)*

parnotes (*Pkg*)    parnotes is supported with some patches.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{parnotes}[2019/07/23]

2 \VerifyCommand[lwarp][parnotes]{\PN@parnote@real}
3 {91361D751D6393BA644478FDE4A764DA}
4
5 \long\def\Pn@parnote@real#1#2{%
6 \parnotemark{#1}%
7 % Unless this is the first parnote in \PN@text, add a separator first

```

```

8 \unless\ifx\PN@text\@empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
9 % Redefine \@currentlabel to the parnote label, so \label works
10 \g@addto@macro\PN@text{%
11 % \phantomsection%
12 % \def\@currentlabel{#1}%
13 % \def\cref@currentlabel{% lwarp
14 % [parnotemark][\arabic{parnotemark}][\the parnotemark%
15 %]%
16 % }%
17 \g@addto@macro\PN@text{%
18 % \LWR@textcurrentfont{% lwarp
19 % \parnotemark{#1}\nolinebreak\thinspace#2%
20 % }%
21 % }%
22 }
23
24 \VerifyCommand[lwarp][parnotes]{\PN@parnotes@real}
25 {AF1257823BFCBC31ADDA4AAE1F3F3710}
26
27 \def\PN@parnotes@real{%

28 \ifPN@inparnotes
29 \else

30 \LWR@stoppars%

```

Avoid nested paragraphs:

```

31 \addtocounter{LWR@spandepth}{1}%

32 % We call \par later, so this avoids recursion with \PN@parnotes@auto
33 \PN@inparnotestruer
34 % \unless\ifvmode\par\fi
35 % % Avoid page breaks between a paragraph and its parnotes
36 % \nopagebreak\addvspace{\parnotevskip}%
37 % \begin{BlockClass}(note){footnotes}% lwarp
38 % \leavevmode\LWR@orignewline%

```

Typeset the parnote inside its own group to avoid global changes:

```

39 {%
40 % \parnotefmt{\PN@text}%
41 % }%
42 % \leavevmode\LWR@orignewline%
43 % \end{BlockClass}% lwarp

44 \leavevmode\LWR@orignewline%
45 \global\def\PN@text{%
46 %
47 % These can be enabled or disabled by package options
48 %
49 \PN@disable@indent
50 \PN@reset@optional
51 \PN@inparnotesfalse

```

Reenable normal paragraph handling:

```

52 \addtocounter{LWR@spandepth}{-1}%
53 \fi
54 }

55 \newbool{LWR@parnotes@doingauto}
56 \boolfalse{LWR@parnotes@doingauto}

57 \VerifyCommand[lwarp][parnotes]{\PN@parnotes@auto}
58 {08CC1722ABA55FA01D64F2B29C919D70}
59
60 \def\PN@parnotes@auto{%
61 \ifbool{LWR@parnotes@doingauto}{
62 \ifx\@currenvir\@PN@autopn
63 \unless\ifPN@inparnotes
64 \unless\ifx\PN@text\@empty
65 \expandafter\PN@parnotes@real
66 \fi
67 \fi
68 \fi
69 }{}%
70 }

```

Replace original logic due to the use of new L<sup>A</sup>T<sub>E</sub>X paragraph hook handling:

```

71 \renewenvironment{autopn}%
72 {\booltrue{LWR@parnotes@doingauto}}
73 {\PN@parnotes@auto}%

```

If `cleveref` is in use, name the new notes:

```

74 \AtBeginDocument{
75 \ifdef{\crefname}{
76 \crefname{parnotemark}{paragraph note}{paragraph notes}
77 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
78 }{}
79 }

```

To nullify the footnotes where necessary:

```

80 \apptocmd{\LWR@nullifyfootnotes}{%
81 \renewcommand{\parnote}[2][{}]{}%
82 \renewcommand{\parnotemark}[1]{}%
83 }{}{}

```

For MATHJAX:

```

84 \begin{warpMathJax}
85 \providecommand{\parnotename}{parnote}
86 \appto\LWR@syncnotenumbers{%
87 \addtocounter{parnotemark}{-1}% specific to parnotes
88 \LWR@synconenotenummer{LWRparnote}{\theparnotemark}%
89 \addtocounter{parnotemark}{1}% specific to parnotes
90 }
91 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRparnote}{\parnotename}}
92 \CustomizeMathJax{\def\LWRparnote{1}}
93 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{\{}^{\mathrm{#1}}\}}
94 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{\{}^{\mathrm{#1}}\}}
95 \end{warpMathJax}

```

File 363 **lwarp-parskip.sty**§ 478 Package **parskip**

parskip (*Pkg*)   parskip is ignored.

**for HTML output:**   Discard all options for lwarp-parskip.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

File 364 **lwarp-pbalance.sty**§ 479 Package **pbalance**

pbalance (*Pkg*)   pbalance is ignored.

**for HTML output:**

```
1 \RequirePackage{balance}
2
3 \LWR@ProvidesPackageDrop{pbalance}[2022/07/28]

4 \newcommand\shrinkLastPage[1]{}
5 \newcommand\balancePageNum[1]{}
6 \newcommand\nopbalance{}
```

File 365 **lwarp-pbox.sty**§ 480 Package **pbox**

*(Emulates or patches code by SIMON LAW.)*

pbox (*Pkg*)   pbox is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

2 \NewDocumentCommand{\pbox}{0{t} 0{} 0{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }
6
7 \newcommand{\settominwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

File 366 **lwarp-pdfcol.sty**§ 481      Package **pdfcol**pdfcol (*Pkg*) pdfcol is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7 \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%
```

---

File 367 **lwarp-pdfcolfoot.sty**§ 482      Package **pdfcolfoot**pdfcolfoot (*Pkg*) pdfcolfoot is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*{\pdfcolfoot@switch}{}
4
5 \newcommand*{\pdfcolfoot@current}{}
6
```

---

File 368 **lwarp-pdfcolmk.sty**§ 483      Package **pdfcolmk**pdfcolmk (*Pkg*) pdfcolmk is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]
```

File 369 **lwarp-pdfcolparallel.sty**§ 484 Package **pdfcolparallel**pdfcolparallel (*Pkg*) pdfcolparallel is ignored.

**for HTML output:**

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}{2016/05/16}

```

Pass options to parallel:

```

4 \DeclareOption*{%
5 \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }

```

Process the options:

```

7 \LWR@ProvidesPackageDropB

```

Require parallel with the given options:

```

8 \RequirePackage{parallel}[2003/04/13]

```

Ignore the new key:

```

9 \define@key{parallel}{rulebetweencolor}{}

```

File 370 **lwarp-pdfcolparcolumns.sty**§ 485 Package **pdfcolparcolumns**pdfcolparcolumns (*Pkg*) pdfcolparcolumns is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

```

Pass options to parcolumns:

```

2 \DeclareOption*{%
3 \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }

```

Process the options:

```

5 \LWR@ProvidesPackageDropB

```

Require parcolumns with the given options:

```

6 \RequirePackage{parcolumns}[2004/11/25]

```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{{}
```

---

### File 371 **lwarp-pdfcomment.sty**

#### § 486 Package **pdfcomment**

pdfcomment (*Pkg*) pdfcomment is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{
3 \newcommand{\pdfcomment}[2][{}]
4 \newcommand{\pdfmargincomment}[2][{}]
5 \newcommand{\pdfmarkupcomment}[3][{}]{#2}
6 \newcommand{\pdfreetextcomment}[2][{}]
7 \newcommand{\pdfsquarecomment}[2][{}]
8 \newcommand{\pdfcirclecomment}[2][{}]
9 \newcommand{\pdflinecomment}[2][{}]
10 \newcommand{\pdftooltip}[3][{}]{#2}
11 \newcommand{\pdfcommentsetup}[2][{}]
12 \newcommand{\listofpdfcomments}[1][{}]
13 \newcommand{\setliststyle}[1]{}
14 \newcommand{\defineliststyle}[2]{}
15 \newcommand{\defineavatar}[2]{}
16 \newcommand{\definestyle}[2]{}
```

For MATHJAX:

```
17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][{}]{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][{}]{#2}}
20 \end{warpMathJax}
```

---

### File 372 **lwarp-pdfcrypt.sty**

#### § 487 Package **pdfcrypt**

pdfcrypt (*Pkg*) pdfcrypt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}
```

---

### File 373 **lwarp-pdflandscape.sty**

#### § 488 Package **pdflandscape**

pdflandscape (*Pkg*) pdflandscape is ignored.

for HTML output:

Discard all options for lwarp-pdflscape:

```
1 \LWR@ProvidesPackageDrop{pdfscape}[2019/12/05]

2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}
```

---

#### File 374 **lwarp-pdfmarginpar.sty**

§ 489      Package **pdfmarginpar**

pdfmarginpar (*Pkg*) pdfmarginpar is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]

2 \newcommand{\pdfmarginpar}[2]{}
3 \newcommand{\pdfmarginparset}[1]{}

```

---

#### File 375 **lwarp-pdfpages.sty**

§ 490      Package **pdfpages**

(Emulates or patches code by ANDREAS MATTHIAS.)

pdfpages (*Pkg*) pdfpages is patched for use by lwarp.

Option link and linkname work:

---

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}
```

---

Options which make no sense in HTML are disabled.

for HTML output:

```
1 \LWR@ProvidesPackagePass{pdfpages}[2026/03/30]
```

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagestwist}[false]{}
11 \define@key{pdfpages}{doublepagestwistodd}[false]{}
12 \define@key{pdfpages}{doublepagestwist*}[false]{}
13 \define@key{pdfpages}{doublepagestwistodd*}[false]{}

```

```

14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of eso-pic:

```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

\LWR@esopic@newpage

At each \newpage.

```
32 \newcommand*{\LWR@esopic@newpage}{%
```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {%

```

If the link option was specified, add a hyper target:

```

36 \ifAM@link%
37 \hypertarget{\AM@linkname.\AM@page}{}%
38 \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39 \begingroup%
40 \setlength{\unitlength}{1in}%
41 \begin{picture}(8,10.5)%
42 \ESO@HookIIBG%
43 \end{picture}%
44 \endgroup%
45 \global\let\ESO@HookIIBG\@empty%
46 }
47 }

```

\AM@output

Patched to use \LWR@esopic@newpage.

```

48 \VerifyCommand[lwarp][pdfpages]{\AM@output@i}
49 {2E4E980A249E1E38834D70C50D7B6B96}
50
51 \xpatchcmd{\AM@output@i}
52 {\clearpage}%
53 {\LWR@esopic@newpage}

```

```

54 {}
55 {\LWR@patcherror{pdfpages}{AM@output-1}}
56
57 \xpatchcmd{\AM@output@i}
58 {\clearpage}%
59 {\LWR@esopic@newpage}
60 {}
61 {\LWR@patcherror{pdfpages}{AM@output-2}}
62
63 \xpatchcmd{\AM@output@i}
64 {\newpage}
65 {\LWR@esopic@newpage}
66 {}
67 {\LWR@patcherror{pdfpages}{AM@output-3}}

```

Each single image in the HTML file may contain several pages from the PDF file, each with its own alt text. These texts are appended to each other as a single alt text in the HTML.

```

68 \xpatchcmd{\AM@output@i}
69 {\AM@set@alt}
70 {%
71 \AM@set@alt%
72 \ifdefvoid{\LWR@ThisAltText}%
73 {\edef\LWR@ThisAltText{\AM@alt@text}}%
74 {\edef\LWR@ThisAltText{\LWR@ThisAltText,\AM@alt@text}}%
75 }
76 {}
77 {\LWR@patcherror{pdfpages}{AM@output-3}}

```

\includepdf

Patched to set the user's paper size.

```

78 \xpretocmd{\includepdf}{%
79 \begingroup%
80 \setlength{\paperwidth}{\LWR@userspaperwidth}%
81 \setlength{\paperheight}{\LWR@userspaperheight}%
82 }{}{}
83
84 \xapptocmd{\includepdf}{%
85 \endgroup%
86 }{}{}

```

\includepdfmerge

Patched to set the user's paper size.

```

87 \xpretocmd{\includepdfmerge}{%
88 \begingroup%
89 \setlength{\paperwidth}{\LWR@userspaperwidth}%
90 \setlength{\paperheight}{\LWR@userspaperheight}%
91 }{}{}
92
93 \xapptocmd{\includepdfmerge}{%
94 \endgroup%
95 }{}{}

```

\AM@hyper@begin@i

Hyper links are created by \LWR@esopic@newpage, so don't create them here:

```

96 \renewcommand{\AM@hyper@begin@i}{}

```

---

File 376 **lwarp-pdfprivacy.sty**

§ 491      Package **pdfprivacy**

pdfprivacy (*Pkg*) pdfprivacy is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

File 377 **lwarp-pdfrender.sty**

§ 492      Package **pdfrender**

pdfrender (*Pkg*) pdfrender is allowed during HTML, but it has no effect on HTML text output. pdfrender is enabled for use with xfakebold, and it is enabled during HTML so that it may be in use when an SVG math image is started. I.e. xfakebold's \setBold may be used outside of a math expression and still be detected when the math begins.

The lwarp-pdfrender package is present because it used to disable pdfrender, so this newer version is to overwrite older versions.

**for HTML output:**    1 \LWR@ProvidesPackagePass{pdfrender}[2019/12/29]

---

File 378 **lwarp-pdfsync.sty**

§ 493      Package **pdfsync**

*(Emulates or patches code by J. LAURENS.)*

pdfsync (*Pkg*) pdfsync is ignored.

**for HTML output:**    Discard all options for lwarp-pdfsync:

1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]

2 \newcommand\*{\pdfsync}{}  
 3 \newcommand\*{\pdfsyncstart}{}  
 4 \newcommand\*{\pdfsyncstop}{}

---

File 379 **lwarp-pdftricks.sty**

§ 494      Package **pdftricks**

*(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)*

pdftricks (*Pkg*) pdftricks is patched for use by lwarp.

⚠ **convert image files** The **pdftricks** image files `<jobname>-fig*.pdf` must be converted to `.svg`, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}

If the `.pdf` images have not yet been converted to `.svg` then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{lwarp-pdftricks}{%
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}
```

---

File 380 **lwarp-pdfx.sty**

§ 495 Package **pdfx**

pdfx (*Pkg*) pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

File 381 **lwarp-perpage.sty**

§ 496 Package **perpage**

*(Emulates or patches code by DAVID KASTRUP.)*

perpage (*Pkg*) **perpage** is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines `\the<countername>` to include `\theperpage`, it is necessary to place that redefinition inside a `warpprint` environment to avoid modifying the HTML definitions.

`\AddAbsoluteCounter` must not be inside `warpprint`, as the counter must be added for HTML also, although it is not incremented.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For **bigfoot**, **manyfoot**, or **perpage**:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]

2 \newcommand\AddAbsoluteCounter[1]
3 {
4 \ifundefined{c@abs#1}{%
5 \expandafter\newcount\csname c@abs#1\endcsname
6 \global\value{abs#1}\@ne
7 % \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8 \expandafter\xdef\csname theabs#1\endcsname{%
9 \noexpand\number \csname c@abs#1\endcsname
10 }%
11 % \global\@namedef{c@pabs@#1}{\pp@cl@begin
12 % \stepcounter{abs#1}%
13 % \pp@cl@end}%
14 % \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23 \ifltxcounter{#2Reset}{%
24 \setcounter{#2Reset}{#1}%
25 }{
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33 \ifltxcounter{#2Reset}{%
34 \setcounter{#2Reset}{#1}%
35 }{
36 }%
37 }
38
39 \newcommand*\theperpage{1}
```

---

File 382 **lwarp-pfnote.sty**

§ 497 Package **pfnote**

`pfnote (Pkg)` `pfnote` is ignored.

 **pfnote** While emulating **pfnote**, **lwarp** is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. **lwarp** therefore uses continuous footnote numbering even for **pfnote**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 383 **lwarp-phfqit.sty**

§ 498 Package **phfqit**

*(Emulates or patches code by PHILIPPE FAIST.)*

**phfqit** (*Pkg*) **phfqit** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```
2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6 text-decoration: overline underline ;
7]{bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }
```

---

File 384 **lwarp-physics.sty**

§ 499 Package **physics**

*(Emulates or patches code by SERGIO C. DE LA BARRERA.)*

**physics** (*Pkg*) **physics** works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 **physics** extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.

```
2 \begin{warpMathJax}
3 \PackageNoteNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \CustomizeMathJax{\newcommand{\LWRphystrig}[2]{\ifblank{#1}{\textrm{#2}}{\textrm{#2}^{#1}}}}
6 \CustomizeMathJax{\renewcommand{\sin}[1][\LWRphystrig{#1}]{sin}}
7 \CustomizeMathJax{\renewcommand{\sinh}[1][\LWRphystrig{#1}]{sinh}}
8 \CustomizeMathJax{\renewcommand{\arcsin}[1][\LWRphystrig{#1}]{arcsin}}
9 \CustomizeMathJax{\renewcommand{\asin}[1][\LWRphystrig{#1}]{asin}}
10 \CustomizeMathJax{\renewcommand{\cos}[1][\LWRphystrig{#1}]{cos}}
11 \CustomizeMathJax{\renewcommand{\cosh}[1][\LWRphystrig{#1}]{cosh}}
12 \CustomizeMathJax{\renewcommand{\arccos}[1][\LWRphystrig{#1}]{arccos}}
13 \CustomizeMathJax{\renewcommand{\acos}[1][\LWRphystrig{#1}]{acos}}
14 \CustomizeMathJax{\renewcommand{\tan}[1][\LWRphystrig{#1}]{tan}}
```

File 385 **lwarp-physunits.sty**

\$ 500      Package

`physunits (Pkg)` `physunits` is supported as-is for `svg math`, and is emulated for `MATHJAX`.

```
1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]
```

```

2 \begin{warpmathjax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][]{\, \mathrm{#1V}}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][]{\, \mathrm{#1V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][]{\, \mathrm{#1C}}}
9 \CustomizeMathJax{\newcommand{\esu}{\, \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][]{\, \mathrm{#1\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][]{\, \mathrm{#1A}}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][]{\, \mathrm{#1F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][]{\, \mathrm{#1T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][]{\, \mathrm{#1G}}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][]{\, \mathrm{#1H}}}
16 \CustomizeMathJax{\newcommand{\eV}[1][]{\, \mathrm{#1eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\, \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\, \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}[1][]{\, \mathrm{#1J}}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][]{\, \mathrm{#1J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\, \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\, \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\, \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][]{\, \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\, \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\, \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][]{\, \mathrm{#1W}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\, \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\, \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hph}{\, \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}[1][]{\, \mathrm{#1m}}}

```

```

32 \CustomizeMathJax{\newcommand{\m}[1][]{\,\mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\,\mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\,\mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}[1][]{\,\mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}[1][]{\,\mathrm{#1ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\,\mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\,\mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\,\mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\,\mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\,\mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][]{\,\mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][]{\,\mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\,\mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\,\mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][]{\,\mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\,\mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][]{\,\mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\,\mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\,\mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\,\mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][]{\,\mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][]{\,\mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][]{\,\mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\,\mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\,\mathrm{km}\,\mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\,\mathrm{km}\,\mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][]{\,\mathrm{#1m}\,\mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\,\mathrm{mi}\,\mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\,\mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}[1][]{\,\mathrm{#1m}\,\mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\,\mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\,\mathrm{ft}\,\mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][]{\,\mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][]{\,\mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celsius}{\,\mathrm{^{\circ}C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\,\mathrm{^{\circ}R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\,\mathrm{^{\circ}F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\,\mathrm{rev}\,\mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][]{\,\mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][]{\,\mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\,\mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][]{\,\mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\,\mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\,\mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\,\mathrm{\psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\,\mathrm{\psi f}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][]{\,\mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][]{\,\mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\,\mathrm{mol}}}
85 \end{CustomizeMathJax}

```

---

File 386 **lwarp-picinpar.sty**

§ 501      Package **picinpar**
*(Emulates or patches code by FRIEDHELM SOWA.)*

picinpar (*Pkg*) **picinpar** is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3 \if #2r%
4 \begin{BlockClass}[float:right](note){marginblock}%
5 \else%
6 \begin{BlockClass}[float:left](note){marginblock}%
7 \fi%
8 #3\par%
9 #4%
10 \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17 \begin{BlockClass}{framebox}
18 \expandafter\box\csname #1box\endcsname%
19 \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23 \begin{BlockClass}{framebox}
24 \expandafter\box\csname #1box\endcsname%
25 \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 % \advance\c@figure -1
36 \window[#1,#2,{#3},{\def\@capttype{figure}%
37 \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}

```

For `tabwindow`, to change the catcode of `&`, `\StartDefiningTabulars` is used before absorbing the arguments, and `\EndDefiningTabulars` is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 % \advance\c@table -1
44 \window[#1,#2,{#3},{\def\@capttype{table}%
45 \wincaption#4\par}] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48 \StartDefiningTabulars%
49 \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53 \endwindow%
54 \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}

```

---

File 387 **lwarp-pifont.sty**

§ 502 Package **pifont**

*(Emulates or patches code by WALTER SCHMIDT.)*

`pifont` (*Pkg*) **pifont** is patched for use by **lwarp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]

2 \renewcommand{\Pisymbol}[2]{%
3 \begin{lateximage}*[Pisymbol][pisymbol#1#2]%
4 {\Pifont{#1}\char#2}%
5 \end{lateximage}%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{
9 \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14 \par\noindent\hspace*{0.5in}
15 \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }

```

---

```
17 \LWR@formatted{Piline}
```

---

File 388 **lwarp-pinlabel.sty**

§ 503      Package **pinlabel**

*(Emulates or patches code by COLIN ROURKE.)*

pinlabel (*Pkg*) pinlabel is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{pinlabel}% no date given

```
2 \xpretocmd{\psfig}
3 {\begin{lateximage}[-pinlabel-~\PackageDiagramAltText]?}%
4 {}
5 {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{pinlabel}{psfigB}}
```

---

File 389 **lwarp-placeins.sty**

§ 504      Package **placeins**

*(Emulates or patches code by DONALD ARSENEAU.)*

placeins (*Pkg*) placeins is ignored.

Discard all options for lwarp-placeins:

**for HTML output:**    1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

```
2 \newcommand*{\FloatBarrier}{}

```

---

File 390 **lwarp-plarydshln.sty**

§ 505      Package **plarydshln**

plarydshln (*Pkg*) plarydshln is emulated by lwarp-arydshln.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]

```
2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 391 **lwarp-plext.sty**

§ 506      Package **plext**

plext (*Pkg*) plex is preloaded by jarticle and related classes.

for HTML output:

```

1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{ } O{t} m}
21 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22 {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by pext, is encapsulated by the lwarp core.

---

File 392 **lwarp-plextarydshln.sty**

§ 507      Package **plextarydshln**

plextarydshln (*Pkg*)    plextarydshln is emulated by lwarp-arydshln.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]

2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 393 **lwarp-plextcolortbl.sty**

§ 508      Package **plextcolortbl**

plextcolortbl (*Pkg*)    plexcolortbl is emulated by lwarp-colortbl.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]

2 \LWR@origRequirePackage{lwarp-colortbl}

---

File 394 **lwarp-plimsoll.sty**

§ 509      Package **plimsoll**

*(Emulates or patches code by PALLE JØRGENSEN.)*

plimsoll (*Pkg*)    plimsoll is used as-is for SVG math, and emulated for MATHJAX.

The circ option is honored. For MATHJAX, \plimsollsans is the same as \plimsollroman.

**for HTML output:**    1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}
4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9 {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10 {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}
```

---

File 395 **lwarp-prelim2e.sty**

§ 510      Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

prelim2e (*Pkg*)    prelim2e is ignored.

**for HTML output:**    Discard all options for lwarp-prelim2e:

```
1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]

2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

---

File 396 **lwarp-prettyref.sty**

§ 511 Package **prettyref**

*(Emulates or patches code by KEVIN S. RULAND.)*

prettyref (*Pkg*) prettyref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

2 \newrefformat{fig}{Figure \ref{#1}}

3 \newrefformat{tab}{Table \ref{#1}}

---

File 397 **lwarp-preview.sty**

§ 512 Package **preview**

preview (*Pkg*) preview is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

2 \newenvironment{preview}{}{}

3 \newenvironment{nopreview}{}{}

4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}{}

5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}{}

6 \newcommand{\PreviewSnarfEnvironment}[2][{}]{}

7 \NewDocumentCommand{\PreviewOpen}{s o}{}{}

8 \NewDocumentCommand{\PreviewClose}{s o}{}{}

9 \let\ifPreview\iffalse% \fi for syntax highlighting

---

File 398 **lwarp-psfrag.sty**

§ 513 Package **psfrag**

*(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)*

psfrag (*Pkg*) psfrag is patched for use by lwarp.

 **use psfrags** The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 **Tip:** Use a mono-spaced font for the tags in the EPS file.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A lateximage captures the modified image from the document.

---

```

2 \BeforeBeginEnvironment{psfrags}{%
3 \begin{lateximage}[-psfrags~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

---

File 399 **lwarp-psfragx.sty**

§ 514     Package **psfragx**

*(Emulates or patches code by PASCAL KOCKAERT.)*

psfragx (*Pkg*)    psfragx is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```

2 \VerifyCommand[lwarp][psfragx]{\pfx@includegraphicx}
3 {45FCF58D66C0BFFC685913A78CADF20D}
4
5 \def\pfx@includegraphicx#1#2{%
6 \begin{lateximage}[-psfragx~\PackageDiagramAltText]?%
7 \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
8 \end{lateximage}%
9 }
10
11 \VerifyCommand[lwarp][psfragx]{\@@@overpix}
12 {DD69D71E9C551D4D568AE4269AAAC1C0}
13
14 \def\@@@overpix[#1]<#2>[#3]#4{%
15 \begin{lateximage}[-psfragx~\PackageDiagramAltText]?%
16 \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
17 }
18
19 \VerifyCommand[lwarp][psfragx]{\endoverpix}
20 {722C858D87F96798ABE0BAF89CB13373}
21
22 \def\endoverpix{%
23 \endpfx@overpix%
24 \end{lateximage}%
25 }

```

---

File 400 **lwarp-pst-eps.sty**

§ 515     Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

pst-eps (*Pkg*)    pst-eps is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][{}]{

```

---

File 401 **lwarp-pstool.sty**

§ 516     Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

pstool (*Pkg*)    pstool is patched for use by lwarp.

\graphicspath is ignored, and the file directory must be stated.

 **path and filename**    The filename must not have a file extension.

Use

Enter ⇒    **lwarpmk html**

followed by

Enter ⇒    **lwarpmk limages**

.

**for HTML output:**    1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a lateximage to capture the results of psfrag.

```
2 \renewcommand\pstool@alwaysprocess[3][]{%
3 \begin{lateximage}[-pstool-~\PackageDiagramAltText]?%
4 \includegraphics{#2.pdf}%
5 \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@@psfragfig[4]{%
11 \begin{lateximage}[-pstool-~\PackageDiagramAltText]?%
12 \includegraphics{#2.pdf}%
13 \end{lateximage}%
14 }
```

---

File 402 **lwarp-pstricks.sty**

§ 517     Package **pstricks**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

pstricks (*Pkg*)    pstricks is patched for use by lwarp.

 **use pspicture**    All pstricks content should be contained inside a pspicture environment.

**for HTML output:**    1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

2 \BeforeBeginEnvironment{pspicture}{%

---

```

3 \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8 \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}

```

---

File 403 **lwarp-pxatbegshi.sty**

§ 518     Package **pxatbegshi**

pxatbegshi (*Pkg*) pxatbegshi is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

                         2 \LWR@origRequirePackage{lwarp-atbegshi}

---

File 404 **lwarp-pxeveryshi.sty**

§ 519     Package **pxeveryshi**

pxeveryshi (*Pkg*) pxeveryshi is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

                         2 \LWR@origRequirePackage{lwarp-everyshi}

---

File 405 **lwarp-pxfonts.sty**

§ 520     Package **pxfonts**

*(Emulates or patches code by YOUNG RYU.)*

pxfonts (*Pkg*) pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}

```

---

File 406 **lwarp-pxftnright.sty**

§ 521      Package **pxftnright**

pxftnright (*Pkg*) pxftnright is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]  
2 \LWR@origRequirePackage{lwarp-ftnright}

---

File 407 **lwarp-pxjahyper.sty**

§ 522      Package **pxjahyper**

pxjahyper (*Pkg*) pxjahyper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 408 **lwarp-pythontex.sty**

§ 523      Package **pythontex**
*(Emulates or patches code by GEOFFREY M. POORE.)*

pythontex (*Pkg*) pythontex is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pythontex}[2021/06/06]  
2 \xpatchcmd{\pytx@FVB@SaveVerbatim}  
3    {\FV@Scan}  
4    {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}  
5    {}  
6    {\LWR@patcherror{pythontex}{\pytx@FVB@SaveVerbatim}}  
7  
8 \xpatchcmd{\pytx@FVB@VerbatimOut}  
9    {\FV@Scan}  
10    {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}  
11    {}  
12    {\LWR@patcherror{pythontex}{\pytx@FVB@VerbatimOut}}

---

File 409 **lwarp-quotchap.sty**

§ 524      Package **quotchap**
*(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)*

quotchap (*Pkg*) quotchap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]

```

2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%

```

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

```

8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}

```

Deactivate the quote printing:

```

13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%

```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment>

```

17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%

```

Remember the body, and activate the quote printing:

```

19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }

```

The quotation author is placed inside a <div> of class qauthor:

```

22 \newcommand{\qauthor}[1]{%
23 \LWR@stoppars%
24 \begin{BlockClass}{qauthor}%
25 {#1}%
26 \end{BlockClass}%
27 \LWR@startpars%
28 }

```

Fonts are ignored. Use CSS.

```

29 \newcommand{\qsetcnfont}[1]{%
30 \providecommand*\quotefont{}%
31 \providecommand*\qauthorfont{}%

```

File 410 **lwarp-quoting.sty**§ 525 Package **quoting***(Emulates or patches code by THOMAS TITZ.)*quoting (*Pkg*) quoting is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

2 \VerifyEnvironment[lwarp][quoting]{quoting}
3 {AEC586766C9109C2889BDED4AE083C05}{8CE7FB71438699772DFD79A2BC803AB3}
4
5 \xpatchcmd{\quoting}{\quo@begintext}
6 {\begin{LWR@blocktextcurrentfont}\quo@begintext}
7 {}
8 {\LWR@patcherror{quoting}{quoting}}
9
10 \xpatchcmd{\endquoting}{\quo@endtext}
11 {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
12 {}
13 {\LWR@patcherror{quoting}{endquoting}}
```

File 411 **lwarp-ragged2e.sty**§ 526 Package **ragged2e***(Emulates or patches code by MARTIN SCHRÖDER.)*ragged2e (*Pkg*) ragged2e is emulated.

Discard all options for lwarp-ragged2e:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*{\justifying}{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
```

---

```

20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justifying}{\endjustifying}

```

---

## File 412 **lwarp-realscripts.sty**

### § 527 Package **realscripts**

*(Emulates or patches code by WILL ROBERTSON.)*

**realscripts** (*Pkg*) **realscripts** is emulated. See `lwarp.css` for the `<span>` of class `supsubscript`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
5 \LWR@HTML@textsubscript{#1}
6 }
7
8 \LWR@formatted{realsubscript}
9
10
11 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
12 \LWR@HTML@textsuperscript{#1}
13 }
14
15 \LWR@formatted{realsuperscript}
16
17
18 \ExplSyntaxOff
19
20
21 \newcommand*{\LWR@realscriptsalign}{}
22
23 \newcommand*{\LWR@setrealscriptsalign}[1]{%
24 \renewcommand*{\LWR@realscriptsalign}{}%
25 \ifthenelse{\equal{#1}{c}}{%
26 \renewcommand{\LWR@realscriptsalign}{%
27 \LWR@print@mbbox{text-align:center} ; %
28 }%
29 }{}%
30 \ifthenelse{\equal{#1}{r}}{%
31 \renewcommand{\LWR@realscriptsalign}{%
32 \LWR@print@mbbox{text-align:right} ; %
33 }%
34 }{}%
35 }
36
37 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
38 \LWR@setrealscriptsalign{#2}%
39 \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
40 #4\textsubscript{#3}%
41 }%
42 }
43 \LWR@formatted{textsubsuperscript}

```

---

```

44
45 \FilenameNullify{%
46 \RenewDocumentCommand{\textsuperscript}{s m}{}%
47 \RenewDocumentCommand{\textsubscript}{s m}{}%
48 \renewcommand{\fakesubscript}[1]{}%
49 \renewcommand{\fakesuperscript}[1]{}%
50 \renewcommand{\realsubscript}[1]{}%
51 \renewcommand{\realsuperscript}[1]{}%
52 \renewcommand{\textsubsuperscript}[2]{}%
53 \renewcommand{\textsupersubscript}[2]{}%
54 }

```

---

File 413 **lwarp-refcheck.sty**

§ 528     Package **refcheck**

refcheck (*Pkg*) **refcheck** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbld{}
9 \def\ignoreunlbld{}
10 \newcommand*{\refcheckxrdoc}[2][{}]{

```

---

File 414 **lwarp-register.sty**

§ 529     Package **register**

*(Emulates or patches code by MATTHEW LOVELL.)*

register (*Pkg*) **register** is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{register}[2019/01/01]

Not using \VerifyCommand here because these patches are not likely to be affected by changes in the original.

```

2 \xpatchcmd{\register}
3 {\centering}
4 {%
5 \begin{center}%
6 \begin{lateximage}[-register--\PackageDiagramAltText]?%
7 }
8 {}
9 {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}

```

---

```

12 {\leftskip}
13 {%
14 \end{lateximage}\end{center}%
15 \leftskip%
16 }%
17 {}
18 {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21 {%
22 \begin{center}%
23 \begin{lateximage}[-register-~\PackageDiagramAltText]?%
24 }
25 {}
26 {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29 {\leftskip}
30 {%
31 \end{lateximage}\end{center}%
32 \leftskip%
33 }%
34 {}
35 {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```

---

## File 415 **lwarp-relsize.sty**

### § 530 Package **relsize**

(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

**relsize** (*Pkg*) **relsize** is patched for use by **lwarp**, and emulated for MATHJAX.

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{relsize}[2013/03/29]

2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%

```

```

11 \let\relsize\LWR@origrelsize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@relsizetemp}
21
22 \renewcommand*\relsize}[1]{%
23 \renewcommand*\larger}[1][1]{%
24 \renewcommand*\smaller}[1][1]{%
25 \renewcommand*\relscale}[1]{%
26
27 \renewcommand*\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textlarger}{#2}%
30 }
31
32 \renewcommand*\textsmaller}[2][1]{%
33 \setcounter{LWR@relsizetemp}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*\textscale}[2]{%
38 \setcounter{LWR@relsizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

---

File 416 **lwarp-repeatindex.sty**

§ 531 Package **repeatindex**

repeatindex (*Pkg*) repeatindex is emulated for lwarp.

 **style file** lwarp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp-repeatindex}]{lwarp}
```

where lwarp\_repeatindex.ist may be copied from the following modified version of lwarp.ist:

```

preamble
"\begin{theindex}
\providecommand*\lettergroupDefault[1]{%
\providecommand*\lettergroup[1]{%
\par\textbf{#1}\par

```

---

```

 \nopagebreak
 }
"
headings_flag 1
heading_prefix "
 \lettergroup{
heading_suffix "}
delim_0 "], \hyperindexref{"
delim_1 " , \hyperindexref{"
delim_2 " , \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t "}
item_0 "\n \item ["

```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `lwarp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```

2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}

```

---

#### File 417 **lwarp-repltext.sty**

### § 532 Package **repltext**

`repltext` (*Pkg*) **repltext** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```

2 \newcommand{\repltext}[2]{#2}
3 \newcommand*{\prevrepl}{}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}

```

---

#### File 418 **lwarp-resizegather.sty**

### § 533 Package **resizegather**

`resizegather` (*Pkg*) **resizegather** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

---

```
2 \newcommand*{\resizegathersetup}[1]{}
```

---

## File 419 **lwarp-returntogrid.sty**

### § 534 Package **returntogrid**

returntogrid (*Pkg*) **returntogrid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

```
2 \NewDocumentCommand\returntogrid{ 0 {} }{}
3 \NewDocumentCommand\returntogridsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}
```

---

## File 420 **lwarp-rlepszf.sty**

### § 535 Package **rlepszf**

(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)

rlepszf (*Pkg*) **rlepszf** is patched for use by lwarp.

 **Rename the style file!** The file rlepszf.tex must be copied to rlepszf.sty for lwarp to detect and patch it.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rlepszf}% No date given.

```
2 \xpretocmd{\relabelbox}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{rlepszf}{relabelbox}}
6
7 \xapptocmd{\endrelabelbox}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{rlepszf}{endrelabelbox}}
```

---

## File 421 **lwarp-rmathbr.sty**

### § 536 Package **rmathbr**

(Emulates or patches code by DENIS RYABOV.)

rmathbr (*Pkg*) **rmathbr** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}
```

---

File 422 **lwarp-rmpage.sty**

§ 537     Package **rmpage**

`rmpage` (*Pkg*) `rmpage` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

File 423 **lwarp-romanbar.sty**

§ 538     Package **romanbar**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

`romanbar` (*Pkg*) `romanbar` is patched for use by `lwarp`.

An inline class with an overline and underline is used.

**for HTML output:**    1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII  
3 \InlineClass[%  
4     text-decoration: overline underline ;  
5 ]{romanbar}{#1}%  
6 }

---

File 424 **lwarp-romanbarpagenumber.sty**

§ 539     Package **romanbarpagenumber**

`romanbarpagenumber` (*Pkg*) `romanbarpagenumber` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

File 425 **lwarp-rotating.sty**

§ 540     Package **rotating**

*(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)*

`rotating` (*Pkg*) `rotating` is emulated.

All rotations are ignored in HTML output.

**for HTML output:**    1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]  
2 \RequirePackage{graphicx}

---

```

3 \LetLtxMacro\LWR@HTML@sidewaystable\table
4 \let\endLWR@HTML@sidewaystable\endtable
5 \LWR@formattedenv{sidewaystable}
6
7 \LetLtxMacro\LWR@HTML@sidewaysfigure\figure
8 \let\endLWR@HTML@sidewaysfigure\endfigure
9 \LWR@formattedenv{sidewaysfigure}
10
11 \newenvironment*{LWR@HTML@sideways}{}{}
12 \LWR@formattedenv{sideways}
13
14 \newenvironment*{LWR@HTML@turn}[1]{}{}
15 \LWR@formattedenv{turn}
16
17 \newenvironment*{LWR@HTML@rotate}[1]{}{}
18 \LWR@formattedenv{rotate}
19
20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}
21 \LWR@formatted{turnbox}
22
23 \let\LWR@HTML@rotcaption\caption
24 \LWR@formatted{rotcaption}
25
26 \let\LWR@HTML@makerotcaption\makecaption
27 \LWR@formatted{@makerotcaption}

```

---

File 426 **lwarp-rotfloat.sty**

§ 541 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

rotfloat (*Pkg*) **rotfloat** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}
4 \RequirePackage{rotating}

```

`\newfloat` {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8 \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11 \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```
15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%
```

**newfloat** package automatically creates the `\listof` command for new floats, but **float** does not, so remove `\listof` here in case it is manually created later:

```
17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }
```

---

#### File 427 **lwarp-rviewport.sty**

### § 542 Package **rviewport**

`rviewport` (*Pkg*) **rviewport** is honored inside a `lateximage`, and otherwise ignored for HTML output.

If **rviewport** is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]

2 \define@key{igraph}{rviewport}{}%
```

---

#### File 428 **lwarp-savetrees.sty**

### § 543 Package **savetrees**

`savetrees` (*Pkg*) **savetrees** is ignored.

**for HTML output:** Discard all options for **lwarp-savetrees**:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]
```

---

#### File 429 **lwarp-scalefnt.sty**

### § 544 Package **scalefnt**

*(Emulates or patches code by D. CARLISLE.)*

`scalefnt` (*Pkg*) **scalefnt** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{scalefnt}

2 \DeclareRobustCommand\scalefont[1]{}%
```

---

File 430 **lwarp-scalerel.sty**

§ 545      Package **scalerel**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

`scalerel` (*Pkg*) `scalerel` is used as-is for SVG math, and is emulated and ignored for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2][\#2]}
16 \CustomizeMathJax{\newcommand{\vstretch}[2][\#2]}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2][\#2]}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1][\#1]}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]}
25 \end{warpMathJax}

```

---

File 431 **lwarp-schemata.sty**

§ 546      Package **schemata**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

`schemata` (*Pkg*) `schemata` is patched for use by `lwarp`.

**for HTML output:**    1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{lateximage}[-schemata-~\PackageDiagramAltText]?%
7 \LWR@print@normalsize%

```

---

```

8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}[-schemata-~\PackageDiagramAltText]?%
14 \LWR@print@normalsize%
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{lateximage}%
17 }

```

---

File 432 **lwarp-scrextend.sty**

## § 547 Package **scrextend**

scrextend (*Pkg*) scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{scrextend}[2025/09/09]

2 \providecommand*\maybesffamily{}{}
3 \providecommand*\textmaybesf[1]{#1}
4 \DeclareDocumentCommand{\setkomafont}{m m}{}
5 \DeclareDocumentCommand{\addkomafont}{m m}{}
6 \DeclareDocumentCommand{\usekomafont}{m}{}
7
8 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
9 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
10 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
11 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
12 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
13 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
14
15 \providecommand*\coverpagetopmargin{}{}
16 \providecommand*\coverpagebottommargin{}{}
17 \providecommand*\coverpageleftmargin{}{}
18 \providecommand*\coverpagerightmargin{}{}
19

```

Title page:

```

20 \AtBeginDocument{
21 \LWR@traceinfo{lwarp-scrextend AtBeginDocument}
22 \let\LWR@koma@orig@maketitle\maketitle
23 \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
24 }
25
26 \providecommand*\@maketitle{}{}
27 \renewrobustcmd*\@maketitle{%
28 \ifdefvoid{\@titlehead}{}{}%
29 \begin{BlockClass}{titlehead}%
30 \@titlehead%
31 \end{BlockClass}%

```

```

32 }%
33 \ifdefvoid{\@subject}{\{%
34 \begin{BlockClass}{subject}%
35 \@subject%
36 \end{BlockClass}%
37 }%
38 \LWR@stoppars%
39 \LWR@htmltag{\LWR@tagtitle}%
40 \@title%
41 \LWR@htmltag{\LWR@tagtitleend}%
42 \ifdefvoid{\@subtitle}{\{%
43 \begin{BlockClass}{subtitle}%
44 \@subtitle%
45 \end{BlockClass}%
46 }%
47 \LWR@startpars%
48 \begin{BlockClass}{author}%

49 \renewcommand*{\cr}{\}%
50 \renewcommand*{\cr cr}{\}%
51 \renewcommand*{\noalign}{\}%

52 \renewcommand{\and}{\%
53 \end{BlockClass}%
54 \begin{BlockClass}{oneauthor}%
55 }%
56 \begin{BlockClass}{oneauthor}%
57 \@author%
58 \end{BlockClass}%
59 \end{BlockClass}%
60 \begin{BlockClass}{titledate}%
61 \@date%
62 \end{BlockClass}%
63 \ifdefvoid{\@published}{\{%
64 \begin{BlockClass}{published}%
65 \@published%
66 \end{BlockClass}%
67 }%
68 }
69
70 \AddSubtitlePublished
71
72 \DeclareDocumentCommand{\extratitle}{m}{\%
73 \DeclareDocumentCommand{\frontispiece}{m}{\%
74
75 \def\@titlehead{\}%
76 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
77
78 \def\@subject{\}%
79 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
80
81 % \subtitle and \published are defined by \AddSubtitlePublished
82
83 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
84
85 \DeclareDocumentCommand{\uppertitleback}{m}{\%
86 \DeclareDocumentCommand{\lowertitleback}{m}{\%
87 \DeclareDocumentCommand{\dedication}{m}{\%
88
89 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}

```

```

90
91 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
92 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
93 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
94 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpge}{}{}
96 \DeclareDocumentCommand{\cleardoubleoddpgeusingstyle}{m}{}
97 \DeclareDocumentCommand{\cleardoubleoddpgeemptypage}{}{}
98 \DeclareDocumentCommand{\cleardoubleoddpgeplainpage}{}{}
99 \DeclareDocumentCommand{\cleardoubleoddpgestandardpage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}
101 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
102 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{}
103 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{}
104 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{}
105
106 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
107 \begingroup\let\thefootnotemark\multfootsep\makefnmark\endgroup
108 }
109
110 \DeclareDocumentCommand{\multfootsep}{}{,}
111
112 \DeclareDocumentCommand{\footref}{m}{%
113 \begingroup
114 \unrestored@protected@xdef\thefnmark{\ref{#1}}%
115 \endgroup
116 \@footnotemark
117 }
118
119 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
120 \DeclareDocumentCommand{\deffootnotemark}{m}{}
121 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
122 \DeclareDocumentCommand{\raggedfootnote}{}{}

123 \DeclareDocumentCommand{\dictum}{o m}{
124 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{\dictum}
125 #2
126 \IfValueT{#1}
127 {
128 \LWR@stoppars%
129 \ifbool{FormatWP}
130 {\begin{BlockClass}[\LWR@print@mbox{border-top:} 1px solid gray]{dictumauthor}}
131 {\begin{BlockClass}{dictumauthor}}
132 \dictumauthorformat{#1}
133 \end{BlockClass}
134 }
135 \end{LWR@BlockClassWP}
136 }
137
138 \DeclareDocumentCommand{\dictumwidth}{}{}
139 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
140 \DeclareDocumentCommand{\dictumrule}{}{}
141 \DeclareDocumentCommand{\raggeddictum}{}{}
142 \DeclareDocumentCommand{\raggeddictumtext}{}{}
143 \DeclareDocumentCommand{\raggeddictumauthor}{}{}
144
145 \DeclareDocumentEnvironment{labeling}{o m}
146 {%
147 \def\sc@septext{#1}%
148 \list{}{}%

```

```

149 \let\makelabel\labelinglabel%
150 }
151 {
152 \endlist
153 }
154
155 \DeclareDocumentCommand{\labelinglabel}{m}{%
156 #1 \quad \sc@septext%
157 }
158
159 \let\addmargin\relax
160 \let\endaddmargin\relax
161 \cslet{addmargin*}{\relax}
162 \cslet{endaddmargin*}{\relax}

163 \NewDocumentEnvironment{addmargin}{s O{} m}
164 {
165 \LWR@stoppars%
166 \setlength{\LWR@templengthtwo}{#3}
167 \ifblank{#2}
168 {
169 \begin{BlockClass}[
170 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
171 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
172]{addmargin}
173 }
174 {
175 \setlength{\LWR@templengthone}{#2}
176 \begin{BlockClass}[
177 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
178 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
179]{addmargin}
180 }
181 }
182 {\end{BlockClass}\LWR@startpars}

Ref to create a starred environment:
https://tex.stackexchange.com/questions/45401/
use-the-s-star-argument-with-newdocumentenvironment

183
184 \ExplSyntaxOn
185 \cs_new:cpn {addmargin*} {\addmargin*}
186 \cs_new_eq:cN {endaddmargin*} \endaddmargin
187 \ExplSyntaxOff
188
189 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

File 433 **lwarp-scrhack.sty**

§ 548 Package **scrhack**

scrhack (*Pkg*) scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

File 434 **lwarp-scrlayer.sty**

§ 549 Package **scrlayer**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer (*Pkg*) scrlayer is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{scrlayer}[2026/02/02]

2 \RequirePackage{scrkbase}
3 \RequirePackage{scrfile}
4 \RequirePackage{scrlogo}
5
6 \newcommand*{\DeclareSectionNumberDepth}[2]{}
7 \newcommand*{\DeclareLayer}[2]{}
8 \newcommand*{\DeclareNewLayer}[2]{}
9 \newcommand*{\ProvideLayer}[2]{}
10 \newcommand*{\RedeclareLayer}[2]{}
11 \newcommand*{\ModifyLayer}[2]{}
12 \newcommand*{\layerhalign}{}
13 \newcommand*{\layervalign}{}
14 \newcommand*{\layerxoffset}{}
15 \newcommand*{\layeryoffset}{}
16 \newcommand*{\layerwidth}{}
17 \newcommand*{\layerheight}{}
18 \providecommand*{\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
19 \newcommand*{\putUL}[1]{}
20 \newcommand*{\putUR}[1]{}
21 \newcommand*{\putLL}[1]{}
22 \newcommand*{\putLR}[1]{}
23 \newcommand*{\putC}[1]{}
24 \newcommand*{\GetLayerContents}[1]{}
25 \newcommand*{\IfLayerExists}[1]{\@secondoftwo}% takes 3 args
26 \newcommand*{\DestroyLayer}[1]{}
27 \newcommand*{\layercontentsmeasure}{}
28 \newcommand*{\currentpagestyle}{}
29 \newcommand*{\toplevelpagestyle}{}
30 \newcommand*{\BeforeSelectAnyPageStyle}[1]{}
31 \newcommand*{\AfterSelectAnyPageStyle}[1]{}
32 \newcommand*{\DeclarePageStyleAlias}[2]{}
33 \newcommand*{\DeclareNewPageStyleAlias}[2]{}
34 \newcommand*{\ProvidePageStyleAlias}[2]{}
35 \newcommand*{\RedeclarePageStyleAlias}[2]{}
36 \newcommand*{\DestroyPageStyleAlias}[1]{}
37 \newcommand*{\GetRealPageStyle}[1]{}
38 \newcommand*{\DeclarePageStyleByLayers}[3]{}
39 \newcommand*{\DeclareNewPageStyleByLayers}[3]{}
40 \newcommand*{\ProvidePageStyleByLayers}[3]{}
41 \newcommand*{\RedeclarePageStyleByLayers}[3]{}
42 \NewDocumentCommand{\ForEachLayerOfPageStyle}{s m m}{}
43 \newcommand*{\AddLayersToPageStyle}[2]{}
44 \newcommand*{\AddLayersAtBeginOfPageStyle}[2]{}
45 \newcommand*{\AddLayersAtEndOfPageStyle}[2]{}

```

```

46 \newcommand*{\RemoveLayersFromPageStyle}[2]{}
47 \newcommand*{\AddLayersToPageStyleBeforeLayer}[3]{}
48 \newcommand*{\AddLayersToPageStyleAfterLayer}[3]{}
49 \newcommand*{\UnifyLayersAtPageStyle}[1]{}
50 \newcommand*{\ModifyLayerPageStyleOptions}[2]{}
51 \newcommand*{\AddToLayerPageStyleOptions}[2]{}
52 \newcommand{\IfLayerPageStyleExists}[1]{\@secondoftwo}% 3 args
53 \newcommand{\IfRealLayerPageStyleExists}[1]{\@secondoftwo}% 3 args
54 \newcommand{\IfLayerAtPageStyle}[2]{\@secondoftwo}% 4 args
55 \newcommand{\IfSomeLayerAtPageStyle}[2]{\@secondoftwo}% 4 args
56 \newcommand{\IfLayersAtPageStyle}[2]{\@secondoftwo}% 4 args
57 \newcommand*{\DestroyRealLayerPageStyle}[1]{}
58 \@ifundefined{footheight}{\newlength\footheight}{}
59 \DeclareDocumentCommand{\automark}{s o m}{}
60 \DeclareDocumentCommand{\manualmark}{}{}
61 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

62 \newcommand*{\righttopmark}{}
63 \newcommand*{\rightbotmark}{}
64 \newcommand*{\rightfirstmark}{}
65 \providecommand*{\rightmark}{}
66 \newcommand*{\lefttopmark}{}
67 \newcommand*{\leftbotmark}{}
68 \newcommand*{\leftfirstmark}{}
69 \providecommand*{\leftmark}{}
70 \newcommand*{\headmark}{}
71 \providecommand*{\pagemark}{}

72 \providecommand{\partmarkformat}{}
73 \ifdef{\chapter}{\providecommand{\chaptermarkformat}{}{}}{}
74 \providecommand{\sectionmarkformat}{}
75 \providecommand{\subsectionmarkformat}{}
76 \providecommand{\subsubsectionmarkformat}{}
77 \providecommand{\paragraphmarkformat}{}
78 \providecommand{\subparagraphmarkformat}{}
79 \DeclareDocumentCommand{\GenericMarkFormat}{m}{}

80 \providecommand*{\@mkleft}[1]{}
81 \providecommand*{\@mkright}[1]{}
82 \providecommand*{\@mkdouble}[1]{}
83 \providecommand*{\@mkboth}[2]{}
84 \newcommand*{\sclayerInitInterface}[1][{}]{
85 \newcommand{\sclayerAddToInterface}[3][{}]{
86 \newcommand{\sclayerAddCsToInterface}[3][{}]{
87 \newcommand{\sclayerOnAutoRemoveInterface}[2][{}]{

```

---

File 435 **lwarp-sclayer-notecolumn.sty**

§ 550      Package **sclayer-notecolumn**

(Emulates or patches code by MARKUS KOHM.)

sclayer-notecolumn (*Pkg*)    sclayer-notecolumn is emulated.

 **Not fully tested!**    [Please send bug reports!](#)

**for HTML output:**    1 \LWR@ProvidesPackageDrop{sclayer-notecolumn}[2018/02/02]

---

```

2 \newcommand*{\DeclareNoteColumn}[2][{}]{
3 \newcommand*{\DeclareNewNoteColumn}[2][{}]{
4 \newcommand*{\ProvideNoteColumn}[2][{}]{
5 \newcommand*{\RedeclareNoteColumn}[2][{}]{
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*{\syncwithnotecolumn}[1][{}]{
8 \newcommand*{\syncwithnotecolumns}[1][{}]{
9 \newcommand*{\clearnotecolumn}[1][{}]{
10 \newcommand*{\clearnotecolumns}[1][{}]{

```

---

File 436 **lwarp-scrlayer-scrpage.sty**

§ 551 Package **scrlayer-scrpage**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer-scrpage (*Pkg*) scrlayer-scrpage is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2026/02/02]

```

2 \RequirePackage{scrlayer}
3
4 \newcommand*{\setheadtopline}{}
5 \newcommand*{\setheadsepline}{}
6 \newcommand*{\setfootsepline}{}
7 \newcommand*{\setfootbotline}{}
8 \providecommand*{\headfont}{}
9 \providecommand*{\footfont}{}
10 \ifundefined{footheight}{\newlength\footheight}{}
11 \NewDocumentCommand{\lehead}{s o m}{}
12 \NewDocumentCommand{\cehead}{s o m}{}
13 \NewDocumentCommand{\rehead}{s o m}{}
14 \NewDocumentCommand{\lohead}{s o m}{}
15 \NewDocumentCommand{\cohead}{s o m}{}
16 \NewDocumentCommand{\rohead}{s o m}{}
17 \NewDocumentCommand{\lefoot}{s o m}{}
18 \NewDocumentCommand{\cefoot}{s o m}{}
19 \NewDocumentCommand{\refoot}{s o m}{}
20 \NewDocumentCommand{\lofoot}{s o m}{}
21 \NewDocumentCommand{\cofoot}{s o m}{}
22 \NewDocumentCommand{\rofoot}{s o m}{}
23 \NewDocumentCommand{\ohead}{s o m}{}
24 \NewDocumentCommand{\chead}{s o m}{}
25 \NewDocumentCommand{\ihead}{s o m}{}
26 \NewDocumentCommand{\ofoot}{s o m}{}
27 \NewDocumentCommand{\cfoot}{s o m}{}
28 \NewDocumentCommand{\ifoot}{s o m}{}
29 \DeclareDocumentCommand{\automark}{som}{}
30 \DeclareDocumentCommand{\manualmark}{}{}
31 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

```

```

32 \let\headmark\leftmark
33 \providecommand{\pnumfont}{\normalfont}%
34 \DeclareRobustCommand\pagemark{{\pnumfont{\thepage}}}%

35 \newcommand*{\defpairofpagestyles}[3][{}]{
36 \newcommand*{\newpairofpagestyles}[3][{}]{
37 \newcommand*{\renewpairofpagestyles}[3][{}]{
38 \newcommand*{\providepairofpagestyles}[3][{}]{

39 \newcommand*{\clearmainofpairofpagestyles}{}
40 \newcommand*{\clearplainofpairofpagestyles}{}
41 \newcommand*{\clearpairofpagestyles}{}
42 \newcommand*{\clearscrheadings}{}
43 \newcommand*{\clearscrheadfoot}{}
44 \newcommand*{\clearscrplain}{}

45 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
46 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
47 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
48 \NewDocumentCommand{\providetruplepagestyle}{m o o m m m m m m}{}
49 \newcommand*{\defpagestyle}[3]{
50 \newcommand*{\newpagestyle}[3]{
51 \newcommand*{\providepagestyle}[3]{
52 \newcommand*{\renewpagestyle}[3]{

```

---

File 437 **lwarp-scrpage2.sty**

§ 552 Package **scrpage2**

*(Emulates or patches code by MARKUS KOHM.)*

scrpage2 (*Pkg*) **scrpage2** is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}

```

---

```

21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m m}{}
29 \newcommand{\partmarkformat}{}
30 \ifdef\chapter{\newcommand{\chaptermarkformat}}{}{}
31 \newcommand{\sectionmarkformat}{}
32 \newcommand{\subsectionmarkformat}{}
33 \newcommand{\subsubsectionmarkformat}{}
34 \newcommand{\paragraphmarkformat}{}
35 \newcommand{\subparagraphmarkformat}{}
36
37 \newcommand*{\clearscrheadings}{}
38 \newcommand*{\clearscrheadfoot}{}
39 \newcommand*{\clearscrplain}{}

```

---

File 438 **lwarp-section.sty**

§ 553      Package **section**

section (*Pkg*)    section is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsizelarge{\huge}\else
4 \def\chsize{\huge}\def\hdsizelarge{\Huge}
5 \fi
6 \let\ttsizelarge\LARGE
7 \let\ausizelarge\large
8 \let\dasizelarge\large
9 \let\secsizelarge\LARGE
10 \let\subsizelarge\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase
21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskip
27 \newskip\secpstskip
28 \newdimen\subindent

```

---

```

29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi

```

---

File 439 **lwarp-sectionbreak.sty**

§ 554 Package **sectionbreak**

*(Emulates or patches code by MICHAL HOFTICH.)*

sectionbreak (*Pkg*) **sectionbreak** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

---

File 440 **lwarp-sectsty.sty**

§ 555 Package **sectsty**

*(Emulates or patches code by ROWLAND McDONNELL.)*

sectsty (*Pkg*) **sectsty** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

2 \newcommand*\partfont{} [1] {}
3 \newcommand*\partnumberfont{} [1] {}
4 \newcommand*\parttitlefont{} [1] {}
5 \newcommand*\chapterfont{} [1] {}
6 \newcommand*\chapternumberfont{} [1] {}
7 \newcommand*\chaptertitlefont{} [1] {}
8 \newcommand*\sectionfont{} [1] {}
9 \newcommand*\subsectionfont{} [1] {}
10 \newcommand*\subsubsectionfont{} [1] {}
11 \newcommand*\paragraphfont{} [1] {}
12 \newcommand*\subparagraphfont{} [1] {}
13 \newcommand*\minisecfont{} [1] {}
14 \newcommand*\allsectionsfont{} [1] {}
15 \newcommand{\nohang}{}

```

`\sectionrule` is only to be used in `*font` commands, thus it is ignored.

```
16 \newcommand*{\sectionrule}[5]{}
17
18 \def\ulemheading#1#2{}
```

---

#### File 441 **lwarp-selectp.sty**

### § 556 Package **selectp**

`selectp (Pkg)` `selectp` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{selectp}% no date given
2 \newcommand*{\outputonly}[1]{}%
```

---

#### File 442 **lwarp-semantic-markup.sty**

### § 557 Package **semantic-markup**

*(Emulates or patches code by ANDREW A. CASHNER.)*

`semantic-markup (Pkg)` `semantic-markup` is patched for use by `lwarp`.

 If using the `endnotes` option, add `\theendnotes` where desired.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]
```

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```
2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{*}{%
4 \let\footnote=\endnote
5 \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi
```

HTML unicode characters from `musicography` are used.

```
8 \RequirePackage{musicography}
9
10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural
```

The `\musfig` is placed inside a hashed image, with a simple alt tag.

```
13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16 \LWR@subsingledollar*%
17 {#1/#2}% alt tag
```

```

18 {musfig}% addl' hashing
19 {% contents
20 \LWR@origensuredmath{%
21 \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}}%
22 }%
23 }%
24 }

```

The `\meter` is taken from musicography, and becomes a hashed image with a simple alt tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26 \musMeter{#1}{#2}%
27 }

```

---

#### File 443 **lwarp-seqsplit.sty**

### § 558 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

`seqsplit` (*Pkg*) `seqsplit` is patched for use by `lwarp`.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For svg math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** 1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]

Special handling because `lwarp` uses a box for svg math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*{\seqsplit}[1]{%
6 \ifmmode%
7 \begin{LWR@print@minipage}{6in}%
8 \LWR@orig@seqsplit{#1}%
9 \end{LWR@print@minipage}%
10 \else%
11 \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{#1}}%
12 \fi
13 }

```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15 \newcommand*\LWR@HTML@seqinsert{%
16 \LWR@htmlcomment{ }%

```

---

```

17 }
18 \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}

```

---

File 444 **lwarp-setspace.sty**

§ 559     Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

setspace (*Pkg*)    **setspace** is emulated.

Discard all options for **lwarp-setspace**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSinglespace[1]{}
5 \newcommand*\singlespacing{}
6 \newcommand*\onehalfspacing{}
7 \newcommand*\doublespacing{}
8
9 \newenvironment{singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}
22
23 \newenvironment{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment{onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }
34 {\endBlockClass}
35
36 \newenvironment{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}

```

---

```

40 }
41 {\endBlockClass}

```

---

File 445 **lwarp-shadethm.sty**

§ 560      Package **shadethm**

*(Emulates or patches code by JIM HEFFERON.)*

shadethm (*Pkg*) shadethm is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

```

2 \newenvironment{LWR@HTML@shadebox}
3 {%
4 \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5 \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6 \begin{BlockClass}{%
7 background: \LWR@origpound\LWR@tempcolor ;
8 border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9 }{shadebox}
10}%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

---

File 446 **lwarp-shadow.sty**

§ 561      Package **shadow**

*(Emulates or patches code by MAURO ORLANDINI.)*

shadow (*Pkg*) shadow is emulated.

**for HTML output:** Discard all options for lwarp-shadow:

```

1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }

```

---

File 447 **lwarp-shapepar.sty**

§ 562      Package **shapepar**

*(Emulates or patches code by DONALD ARSENEAU.)*

shapepar (*Pkg*) shapepar is patched for use by lwarp. Shapes appear in print mode, as well as

inside a `lateximage`, but are ignored for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

2 \newcommand*{\LWR@HTML@shapepar}[2][{}]{
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}

```

---

File 448 **lwarp-showidx.sty**

§ 563 Package **showidx**

`showidx (Pkg)` `showidx` is ignored.

**for HTML output:** Discard all options for `lwarp-showidx`:

```

1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.

```

---

File 449 **lwarp-showkeys.sty**

§ 564 Package **showkeys**

*(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)*

`showkeys (Pkg)` `showkeys` is ignored.

**for HTML output:** Discard all options for `lwarp-showkeys`:

```

1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]

2 \NewDocumentCommand{\showkeys}{s}{}

```

---

File 450 **lwarp-showlabels.sty**

§ 565 Package **showlabels**

`showlabels (Pkg)` `showlabels` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{showlabels}[2021/10/27]

2 \providecommand{\showlabelfont}{}
3 \providecommand{\showlabelsetlabel}[1]{}
4 \newcommand*{\showlabels}[2][{}]{
5 \newcommand*{\showlabelrefline}{}
6 \newcommand*{\showlabelsinline}{}

```

---

File 451 **lwarp-showtags.sty**

§ 566 Package **showtags**

showtags (*Pkg*) showtags is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{showtags}% no version is given  
2 \newcommand{\thecitetag}[1]{}

---

File 452 **lwarp-shuffle.sty**

§ 567 Package **shuffle**

(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)

shuffle (*Pkg*) shuffle is emulated for svg math, and also emulated for MATHJAX.

The font used for shuffle may not render correctly when converted to svg math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for \cshuffle a \bar is added.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]  
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}  
  
3 \newcommand\*\LWR@shuffle@start{%  
4   \hspace\*{.2em}  
5   \begin{picture}(.75,0.65)  
6   \setlength{\unitlength}{1em}  
7   \put(0,0){\line(1,0){.75}}  
8   \put(0,0){\line(0,1){.5}}  
9   \put(.375,0){\line(0,1){.5}}  
10   \put(.75,0){\line(0,1){.5}}  
11 }  
12  
13 \newcommand\*\LWR@shuffle@finish{%  
14   \end{picture}  
15   \hspace\*{.75em}  
16   \hspace\*{.2em}  
17 }  
18  
19 \newcommand\*\shuffle{%  
20   \LWR@shuffle@start%  
21   \LWR@shuffle@finish%  
22 }  
23  
24 \newcommand\*\cshuffle{%  
25   \LWR@shuffle@start%  
26   \put(.05,.65){\line(1,0){.65}}%  
27   \LWR@shuffle@finish%  
28 }

---

```

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32 \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}%
33 }}
34 \end{warpMathJax}

```

---

File 453 **lwarp-sidecap.sty**

§ 568      Package **sidecap**

*(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)*

sidecap (*Pkg*) **sidecap** is emulated.

**for HTML output:** Discard all options for lwarp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>  
regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{SCtable}{soo}
3 {\IfValueTF{#3}{\table[#3]}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {SCtable*} {\SCtable*}
8 \cs_new_eq:cN {endSCtable*} \endSCtable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

---

File 454 **lwarp-sidenotes.sty**

§ 569      Package **sidenotes**

*(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)*

sidenotes (*Pkg*) Patched for lwarp.

**for HTML output:**

Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp.

An ARIA note role is not assigned since the caption is an important part of the figure.

\sidecaption

```
* [\<entry>] [\<offset>] {\<text>}

2 \VerifyCommand[lwarp][sidenotes]{\sidecaption}{2EFE2196F612943BCF13746EC12E69D6}
3
4 \RenewDocumentCommand \sidecaption {s o o m}
5 {
6 \LWR@stoppars
7 \beginngroup
8 \captionsetup{style=sidecaption}%
9 \IfBooleanTF{#1}
10 { % starred
11 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
12 \caption*{#4}%
13 \end{BlockClass}
14 }
15 { % unstarred
16 \IfNoValueOrEmptyTF{#2}
17 {\def\@sidenotes@sidecaption@tof{#4}}
18 {\def\@sidenotes@sidecaption@tof{#2}}
19 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
20 \caption[\@sidenotes@sidecaption@tof]{#4}
21 \end{BlockClass}
22 }
23 \endgroup
24 \LWR@startpars
25 }
```

Borrowed from the lwarp version of keyfloat:

```
26 \NewDocumentEnvironment{KFLT sidenotes@marginfloat}{0{-1.2ex} m}
27 {% start
28 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{\marginblock}%
29 \renewcommand*{\@captype}{#2}%
30 }
31 {%
32 \endLWR@BlockClassWP%
33 }
34
35 \RenewDocumentEnvironment{marginfigure}{o}
36 {\begin{KFLT sidenotes@marginfloat}{figure}}
37 {\end{KFLT sidenotes@marginfloat}}
38
39 \RenewDocumentEnvironment{marginfigure}{o}
40 {\begin{KFLT sidenotes@marginfloat}{table}}
41 {\end{KFLT sidenotes@marginfloat}}
```

The following were changed by sidenotes, and now are reset back to their lwarp-supported originals:

Restoring the definition from the L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> `article.cls` source:

```
42 \renewenvironment{figure*}
43 {\@dblfloat{figure}}
44 {\enddblfloat}
45
46 \renewenvironment{table*}
47 {\@dblfloat{table}}
48 {\enddblfloat}
```

For MATHJAX:



Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```
49 \begin{warpMathJax}
50 \providecommand{\sidenotename}{sidenote}
51 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWR@sidenote}{\thesidenote}}
52 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWR@sidenote}{\sidenotename}}
53 \CustomizeMathJax{\def\LWR@sidenote{1}}
54 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWR@sidenote]{\mathrm{#1}}}
55 \end{warpMathJax}
```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWR@sidenote]{\mathrm{#1}}}
```

---

File 455 **lwarp-simplebnf.sty**

§ 570      Package **simplebnf**

(Emulates or patches code by JAY LEE.)

`simplebnf` (*Pkg*)    `simplebnf` is patched for use by `lwarp`.

**for HTML output:**    1 \LWR@ProvidesPackagePass{simplebnf}[2023-11-25]

The entire object is placed inside a `lateximage` whose `alt` text is the L<sup>A</sup>T<sub>E</sub>X source BNF expression.

```
2 \ExplSyntaxOn
3
4 \VerifyEnvironment[lwarp][simplebnf]{bnf}
5 {A7E8911B9291D4EB7C1CD8366CD75341}{3B45D7D9107687D718F5303B6632776C}
6
7 \RenewDocumentEnvironment { bnf } { d() O{llc1l} +b }
8 {
9 \begin{lateximage}[bnf:\space\detokenize{#3}]?%
10
11 \IfNoValueF { #1 }
12 { \keys_set:nn { simplebnf } { #1 } }
13
14 __simplebnf_build_grammar:n { #3 }
15
```

---

```

16 \begin{@simplebnf_tblr_env}[expand=\l__simplebnf_table_tl]{#2}
17 \tl_use:N \l__simplebnf_table_tl
18 \end{@simplebnf_tblr_env}
19 \end{lateximage}% \lwap
20 }
21 { }
22
23 \VerifyEnvironment[lwarp][simplebnf]{bnfgrammar}
24 {E7326E6CAE6E35827E866B4A08C5CEA8}{A9B27A2478E8BD67B19E94ECF8A44F14}
25
26 \RenewDocumentEnvironment { bnfgrammar } { O{llc} O{[^\\]|\\[^\\]} O{\\|\\} +b }
27 {
28 \msg_warning:nn { simplebnf } { dep }
29 \begin{center}
30 \begin{lateximage}[bnf:\space\detokenize{#4}]?%
31 \begin{tabular}{#1}
32 \@dep__simplebnf_typeset_grammar:nnn { #2 } { #3 } { #4 }
33 \tl_use:N \l__simplebnf_table_tl
34 \end{tabular}
35 \end{lateximage}% \lwap
36 \end{center}
37 }
38 { }
39
40 \ExplSyntaxOff

```

---

File 456 **lwarp-SIunits.sty**

## § 571 Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

SIunits (*Pkg*) **Slunits** is patched for use by **lwarp**.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the L<sup>A</sup>T<sub>E</sub>X code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

**for HTML output:** `1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]`

Patched for copy/paste with the HTML `alt` tag:

```

2 \ifbool{mathjax}{
3 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4 \begingroup%
5 \boolfalse{LWR@HTML@sanitize@tmp@removebackslash}%
6 \LWR@subsingleddollar*% \lwap
7 {% alt tag
8 \textbackslash{unit}%

```

```

9 \{\LWR@HTMLsanitizeddetokenized{\detokenize{#1}}\}%
10 \{ \LWR@HTMLsanitizeddetokenized{\detokenize{#2}}\}% extra space
11 }%
12 {SIunits}% add'l hashing
13 {%
14 #1\,{#2}%
15 }% contents
16 \endgroup%
17 }
18 }{% not MathJax
19 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
20 \@inunitcommandtrue% original
21 \LWR@subsingledollar*% lwarp
22 {% alt tag
23 \textbackslash{}unit\{\LWR@HTMLsanitizeddetokenized{\detokenize{#1}}\}%
24 \{ \LWR@HTMLsanitizeddetokenized{\detokenize{#2}}\}% extra space
25 }%
26 {SIunits}% add'l hashing
27 {%
28 \LWR@origensuredmath{% lwarp modification
29 \SI@fstyle{%
30 {#1}\@qsk\period@active{#2}%
31 }% original
32 }%
33 }% contents
34 \@inunitcommandfalse% original
35 }
36 }{% not MathJax
37 \LWR@formatted{unit}

```

For MATHJAX:

```

38 \begin{warpMathJax}
39 \LWR@infoprocessingmathjax{SIunits}
40
41 \CustomizeMathJax{\newcommand{\one}{}{}}
42 \CustomizeMathJax{\newcommand{\meter}{}\{metre\}}
43 \CustomizeMathJax{\newcommand{\deka}{}\{deca\}}
44 \CustomizeMathJax{\newcommand{\dekad}{}\{decad\}}
45 \CustomizeMathJax{\newcommand{\per}{}\{/}\}}
46 \CustomizeMathJax{\newcommand{\usk}{}\{;\}}
47 \CustomizeMathJax{\newcommand{\unit}[2]{#1\,{#2}}}
48 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
49
50 \AtBeginDocument{%
51 \if@redefsquare
52 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
53 \else
54 \if@defsquaren
55 \CustomizeMathJax{\newcommand{\squaren}[1]{\power{#1}{2}}}
56 \else
57 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
58 \fi %\if@defsquaren
59 \fi %\if@redefsquare
60 } %\AtBeginDocument
61
62 \CustomizeMathJax{\newcommand{\squared}{{}^2}}
63 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
64 \CustomizeMathJax{\newcommand{\cubed}{{}^3}}
65 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}

```

```

66 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
67 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
68 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
69 \CustomizeMathJax{\newcommand{\rpsquared}{^{-2}}}
70 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
71 \CustomizeMathJax{\newcommand{\rpcubed}{^{-3}}}
72 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{#1}{-4}}}
73 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
74 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
75 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
76 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
77 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
78 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
79 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
80 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
81 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
82 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
83 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
84 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
85 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
86 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
87 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
88 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
89 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
90 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
91 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
92 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
93 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
94 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
95 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
96 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
97 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
98 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
99 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
100 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
101 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
102 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
103 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
104 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
105 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
106 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
107 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
108 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
109 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
110 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
111 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
112 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
113 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
114 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
115 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kilogram}}}
116 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
117 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
118 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
119 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
120 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
121 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
122 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
123 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
124 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
125 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}

```

```

126 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
127 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
128 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
129 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
130 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
131 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
132 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
133 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
134 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
135 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
136 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
137 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
138 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
139 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
140 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
141 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
142 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
143
144 \ifdef{\radianbase}{
145 \CustomizeMathJax{\newcommand{\radianbase}%
146 {\metre\usk\reciprocal\metre}}
147 \CustomizeMathJax{\newcommand{\steradianbase}%
148 {\squaremetre\usk\rpsquare\metre}}
149 \CustomizeMathJax{\newcommand{\hertzbase}%
150 {\reciprocal\second}}
151 \CustomizeMathJax{\newcommand{\newtonbase}%
152 {\metre\usk\kilogram\usk\second\rpsquared}}
153 \CustomizeMathJax{\newcommand{\pascalbase}%
154 {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}
155 \CustomizeMathJax{\newcommand{\joulebase}%
156 {\squaremetre\usk\kilogram\usk\second\rpsquared}}
157 \CustomizeMathJax{\newcommand{\wattbase}%
158 {\squaremetre\usk\kilogram\usk\rpcubic\second}}
159 \CustomizeMathJax{\newcommand{\coulombbase}%
160 {\ampere\usk\second}}
161 \CustomizeMathJax{\newcommand{\voltbase}%
162 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
163 \CustomizeMathJax{\newcommand{\faradbase}%
164 {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
165 \CustomizeMathJax{\newcommand{\ohmbase}%
166 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
167 \CustomizeMathJax{\newcommand{\siemensbase}%
168 {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
169 \CustomizeMathJax{\newcommand{\weberbase}%
170 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
171 \CustomizeMathJax{\newcommand{\teslabase}%
172 {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
173 \CustomizeMathJax{\newcommand{\henrybase}%
174 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
175 \CustomizeMathJax{\newcommand{\celsiusbase}%
176 {\kelvin}}
177 \CustomizeMathJax{\newcommand{\lumenbase}%
178 {\candela\usk\squaremetre\usk\rpsquare\metre}}
179 \CustomizeMathJax{\newcommand{\luxbase}%
180 {\candela\usk\squaremetre\usk\rpfourth\metre}}
181 \CustomizeMathJax{\newcommand{\becquerelbase}%
182 {\hertzbase}}
183 \CustomizeMathJax{\newcommand{\graybase}%
184 {\squaremetre\usk\second\rpsquared}}
185 \CustomizeMathJax{\newcommand{\sievertbase}%

```

```

186 {\graybase}}
187 \CustomizeMathJax{\newcommand{\katalbase}%
188 {\rp\second\usk\mole }}
189 }{}
190
191 \ifdef{\derradian}{
192 \CustomizeMathJax{\newcommand{\derradian}%
193 {\metre\usk\reciprocal\metre}}
194 \CustomizeMathJax{\newcommand{\dersteradian}%
195 {\squaremetre\usk\rpsquare\metre}}
196 \CustomizeMathJax{\newcommand{\derhertz}%
197 {\reciprocal\second}}
198 \CustomizeMathJax{\newcommand{\dernewton}%
199 {\metre\usk\kilogram\usk\second\rpsquared}}
200 \CustomizeMathJax{\newcommand{\derpascal}%
201 {\newton\usk\rpsquare\metre}}
202 \CustomizeMathJax{\newcommand{\derjoule}%
203 {\newton\usk\metre}}
204 \CustomizeMathJax{\newcommand{\derwatt}%
205 {\joule\usk\reciprocal\second}}
206 \CustomizeMathJax{\newcommand{\dercoulomb}%
207 {\ampere\usk\second}}
208 \CustomizeMathJax{\newcommand{\dervolt}%
209 {\watt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\derfarad}%
211 {\coulomb\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derohm}%
213 {\volt\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dersiemens}%
215 {\ampere\usk\reciprocal\volt}}
216 \CustomizeMathJax{\newcommand{\derweber}%
217 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\dertesla}%
219 {\weber\usk\rpsquare\metre}}
220 \CustomizeMathJax{\newcommand{\derhenry}%
221 {\weber\usk\reciprocal\ampere}}
222 \CustomizeMathJax{\newcommand{\dercelsius}%
223 {\kelvin}}
224 \CustomizeMathJax{\newcommand{\derlumen}%
225 {\candela\usk\steradian}}
226 \CustomizeMathJax{\newcommand{\derlux}%
227 {\lumen\usk\rpsquare\metre}}
228 \CustomizeMathJax{\newcommand{\derbecquerel}%
229 {\derhertz}}
230 \CustomizeMathJax{\newcommand{\dergray}%
231 {\joule\usk\reciprocal\kilogram}}
232 \CustomizeMathJax{\newcommand{\dersievert}%
233 {\dergray}}
234 \CustomizeMathJax{\newcommand{\derkatal}%
235 {\katalbase}}
236 }{}
237
238 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
239 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
240 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
241 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
242 \CustomizeMathJax{\newcommand{\pminute}{^\prime}}
243 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
244 \CustomizeMathJax{\newcommand{\pasecond}{^\prime\prime}}
245 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime}}

```

```

246 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
247 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
248 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
249 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
250 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
251 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
252 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
253 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
254 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
255 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
256 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
257 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
258 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
259 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
260 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
261 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
262 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
263 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
264 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
265 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
266 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
267 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
268 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
269 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
270 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
271 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
272 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
273 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
274 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
275 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
276 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
277 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
278 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
279 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
280 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
281 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{\%
282 \kilogram\usk\squaremetre\per\second\%
283 }}
284 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{\%
285 \kilogram\usk\squaremetre\usk\reciprocal\second\%
286 }}
287 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
288 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
289 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
290 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{\%
291 \squaremetre\usk\rpcubic\metre\%
292 }}
293 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
294 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
295 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
296 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
297 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
298 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
299 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
300 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
301 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{\%
302 \squaremetre\per\newton\usk\second\%
303 }}
304 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{\%
305 \squaremetre\usk\reciprocal\newton\usk\reciprocal\second\%

```

```

306 }}
307 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
308 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
309 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
310 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\usk\metre\usk\second}}
311 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
312 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
313 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
314 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
315 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
316 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
317 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
318 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
319 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
320 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
321 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
322 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
323 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
324 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
325 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
326 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
327 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
328 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
329 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
330 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
331 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
332 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
333 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
334 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
335 \squaremetre\usk\reciprocal\second%
336 }}
337 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
338 \squaremetre\per\second\squared%
339 }}
340 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
341 \squaremetre\usk\second\rpsquared%
342 }}
343 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
344 \kilogram\usk\metre\per\second%
345 }}
346 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
347 \kilogram\usk\metre\usk\reciprocal\second%
348 }}
349 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
350 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
351 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
352 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
353 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
354 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
355 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
356 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
357 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
358 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
359 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
360 \kilogram\per\squaremetre\usk\second%
361 }}
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
363 \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
364 }}
365 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}

```

```

366 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
367 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
368 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
369 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
370 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
371 \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
372 }}
373 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
374 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
375 \kilogram\usk\kilo\reciprocal\mole%
376 }}
377 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
378 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
379 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
380 \kilogram\usk\metre\per\second\squared%
381 }}
382 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
383 \kilogram\usk\metre\usk\second\rpsquared%
384 }}
385 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
386 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
387 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
388 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
389 \rpsquare\metre\usk\reciprocal\second%
390 }}
391 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
392 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
393 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
394 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
395 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
396 \watt\per\squaremetre\usk\steradian%
397 }}
398 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
399 \watt\usk\rpsquare\metre\usk\rp\steradian%
400 }}
401 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
402 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
403 \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
404 }}
405 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
406 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
407 \squaremetre\usk\reciprocal\kilogram%
408 }}
409 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
410 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
411 \cubic\metre\usk\reciprocal\kilogram%
412 }}
413 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
414 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
415 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
416 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
417 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
418 \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
419 }}
420 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}
421 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}
422 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
423 \squaremetre\per\cubic\second%
424 }}
425 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%

```

```

426 \squaremetre\usk\rpcubic\second%
427 }}
428 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
429 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
430 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
431 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
432 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
433 \kilogram\per\cubic\metre\usk\coulomb%
434 }}
435 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
436 \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
437 }}
438 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
439 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
440 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
441 \kilogram\per\second\usk\cubicmetre%
442 }}
443 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
444 \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
445 }}
446 \end{warpMathJax}

```

---

## File 457 **lwarp-siunitx.sty**

### § 572 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

siunitx (*Pkg*) siunitx is patched for use by lwarp, and is emulated for MATHJAX.

#### for HTML output:

```

1 \providecommand\DeclareRelease[3]{}
2 \providecommand\DeclareCurrentRelease[2]{}
3
4 \DeclareRelease{2}{2010-05-23}{lwarp-siunitx-v2.sty}
5 \DeclareRelease{v2}{2010-05-23}{lwarp-siunitx-v2.sty}
6 \DeclareCurrentRelease{}{2021-05-17}
7
8 \RequirePackage{xcolor}% for \convertcolourspec
9
10 \LWR@ProvidesPackagePass{siunitx}[2026-05-15]
11
12 \ExplSyntaxOn

13 \VerifyCommand[lwarp][siunitx]{\siunitx_number_format:nN}
14 {BEEBF8B69CD20DB1BAF9F039CE025822}
15
16 \cs_set_protected:Npn \siunitx_number_format:nN #1#2
17 {
18 \group_begin:
19 \bool_if:NTF \l_siunitx_number_parse_bool
20 {
21 \siunitx_number_parse:nN {#1} \l__siunitx_number_parsed_tl
22 \tl_if_empty:NF \l__siunitx_number_parsed_tl
23 {
24 \siunitx_number_process:NN \l__siunitx_number_parsed_tl \l__siunitx_number_parsed_tl
25 \tl_set:Nc \l__siunitx_number_outputted_tl
26 { \siunitx_number_output:N \l__siunitx_number_parsed_tl }

```

```

27 }
28 }
29 {
30 \tl_set:Nn \l__siunitx_number_outputted_tl
31 {
32 \boolfalse{mathjax}% lwarp
33 \LWR@subsingledollar{% lwarp
34 \textbackslash(% space lwarp ALT text
35 \LWR@HTMLsanitizedetokenized{%
36 \detokenize{#1}%
37 } \textbackslash)% lwarp
38 }%
39 {siunitx unparsed}% lwarp add'l hashing
40 {\ensuremath{#1}}% lwarp
41 }
42 }
43 \exp_args:NNNV \group_end:
44 \tl_set:Nn #2 \l__siunitx_number_outputted_tl
45 }

46 \VerifyCommand[lwarp][siunitx]{__siunitx_compound_unparsed:n}
47 {C6CACB29BD6BD43225E174AD2FBD750C}
48
49 \cs_set_protected:Npn __siunitx_compound_unparsed:n #1
50 {
51 \tl_if_blank:nF {#1}
52 { \seq_put_right:Nn \l__siunitx_compound_tmp_seq
53 {
54 \boolfalse{mathjax}% lwarp
55 \LWR@subsingledollar{% lwarp
56 \textbackslash(% space lwarp ALT tag
57 \LWR@HTMLsanitizedetokenized{%
58 \detokenize{#1}%
59 } \textbackslash)% lwarp
60 }%
61 {siunitx unparsed}% lwarp add'l hashing
62 {\ensuremath{#1}}% lwarp
63 }
64 }
65 }

```

`\LWR@siunitx@mathrm`

`{\langle text \rangle}`

If in text mode, use `\textrm` instead. Avoids crashing while using `\mathrm` in text mode.

```

66 \LetLtxMacro\LWR@siunitx@orig@mathrm\mathrm
67
68 \newcommand*{\LWR@siunitx@mathrm}[1]{%
69 \ifmmode{\LWR@siunitx@orig@mathrm{#1}}\else{#1}\fi%
70 }

```

If not in a `lateximage`, always use text mode. Ignore current text font if resetting text family, series, and shape.

```

71 \VerifyCommand[lwarp][siunitx]{__siunitx_print_aux:nn}
72 {4D81B79284057560BC61DF11EF723AC8}
73
74 \cs_set_protected:Npn __siunitx_print_aux:nn #1#2
75 {

```

```

76 \LetLtxMacro\mathrm\LWR@siunitx@mathrm% lwarp
77 \tl_if_empty:oF {#2}
78 {
79 \tl_if_empty:cTF { __siunitx_print_ #1 _color_tl }
80 { \use:n }
81 { \ExpandArgs { v } \textcolor { __siunitx_print_ #1 _color_tl } }
82 {
83 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
84 {
85 \use:c
86 {
87 __siunitx_print_ #1 :n
88 }
89 {#2}
90 }
91 {
92 \bool_lazy_all:nTF% lwarp
93 {
94 {__siunitx_print_text_family_bool}
95 {__siunitx_print_text_series_bool}
96 {__siunitx_print_text_shape_bool}
97 }
98 {% No font control if reset-text-family/series/shape
99 \use:c
100 {
101 siunitx_print_% lwarp
102 text% lwarp
103 :n% lwarp
104 }% lwarp
105 {#2}% lwarp
106 }
107 {
108 \LWR@textcurrentfont{% lwarp
109 \use:c
110 {
111 siunitx_print_% lwarp
112 text% lwarp
113 :n% lwarp
114 }% lwarp
115 {#2}% lwarp
116 }
117 }
118 }
119 }
120 }
121 }

```

To determine whether to make a complex root be italic or upright, `\l__siunitx_complex_output_root_tl` is compared to `\LWR@siunitx@complexrm<i/j>`, and the css style for `ij` is set to `ijit` or `ijup`.

```

122 \newcommand*{\LWR@siunitx@complexrootstyle}{textrm}
123
124 \newcommand*{\LWR@siunitx@complexrmi}{\mathrm{i}}
125 \newcommand*{\LWR@siunitx@complexrmj}{\mathrm{j}}
126
127 \newcommand*{\LWR@siunitx@setcomplexroot}{%
128 \renewcommand*{\LWR@siunitx@complexrootstyle}{ijit}%
129 \ifdefequal{\l__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmi}%
130 {\renewcommand*{\LWR@siunitx@complexrootstyle}{ijup}}%

```

```

131 {}%
132 \ifdefequal{\l__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmj}%
133 {\renewcommand*\LWR@siunitx@complexrootstyle}{ijup}}%
134 {}%
135 }

136 \VerifyCommand[lwarp][siunitx]{\l__siunitx_complex_format_cartesian_auxii:n}
137 {7B9E51E6910565C1402496531AEC7751}
138
139 \cs_set_protected:Npn \l__siunitx_complex_format_cartesian_auxii:n #1
140 {
141 \LWR@siunitx@setcomplexroot% lwarp
142 \l__siunitx_complex_format_cartesian_units:n {#1}
143 \tl_if_empty:NF \l__siunitx_complex_real_tl
144 { \exp_after:wN \l__siunitx_complex_drop_exponent:nnnnnn \l__siunitx_complex_real_tl }
145 \exp_after:wN \l__siunitx_complex_format_sign:nnnnnn \l__siunitx_complex_img_tl
146 \tl_set:Ne \l__siunitx_complex_tmp_tl
147 { \siunitx_number_output:NN \l__siunitx_complex_img_tl \q_nil }
148 \exp_after:wN \l__siunitx_complex_extract_exponent:w \l__siunitx_complex_tmp_tl \q_stop
149 \tl_set:Ne \l__siunitx_complex_tmp_tl
150 {
151 \bool_lazy_or:nnTF
152 {
153 \bool_lazy_and:p:nn
154 { \l__siunitx_number_bracket_ambiguous_bool }
155 { ! \tl_if_empty_p:N \l__siunitx_complex_exp_tl }
156 }
157 {
158 ! \bool_lazy_any_p:n
159 {
160 { \tl_if_blank_p:n {#1} }
161 { \tl_if_empty_p:N \l__siunitx_complex_real_tl }
162 { \tl_if_empty_p:N \l__siunitx_complex_img_tl }
163 }
164 }
165 { \l__siunitx_complex_format_bracket:n }
166 { \use:n }
167 {
168 \siunitx_number_output:N \l__siunitx_complex_real_tl
169 \exp_not:V \l__siunitx_complex_sign_tl
170 \bool_if:NF \l__siunitx_complex_root_after_bool
171 {
172 \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
173 {
174 \exp_not:V \l__siunitx_complex_output_root_tl
175 }
176 }
177 \exp_not:V \l__siunitx_complex_tmp_tl
178 \bool_if:NT \l__siunitx_complex_root_after_bool
179 {
180 \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
181 {
182 \exp_not:V \l__siunitx_complex_output_root_tl
183 }
184 }
185 }
186 \exp_not:V \l__siunitx_complex_exp_tl
187 }
188 }

```

```

189 \VerifyCommand[lwarp][siunitx]{\ang}{F4C74CFFC3B44A8CC7EECED20113FCA9}
190
191 \RenewDocumentCommand \ang { 0 { } > { \SplitArgument { 2 } { ; } } m }
192 {
193 \mode_leave_vertical:
194 \group_begin:
195 \keys_set:nn { siunitx } {#1}
196 \keys_set:nn { siunitx }{quantity-product={}}% lwarp
197 __siunitx_angle:nnn #2
198 \group_end:
199 }

{\langle 1: decimal part of angle\rangle}{\langle 2: ?\rangle}{\langle 3: integer part of angle\rangle}{\langle 4: decimal point
char\rangle}{\langle 5: deg/min/sec char\rangle}

200 \VerifyCommand[lwarp][siunitx]{__siunitx_sexagesimal_comp_print_auxiv:nnnnn}
201 {E5DB0B898C392A4932E7B6475213B009}
202
203 \cs_set_protected:Npn __siunitx_sexagesimal_comp_print_auxiv:nnnnn #1#2#3#4#5
204 {
205 \mode_if_math:TF
206 { \bool_set_true:N \l__siunitx_sexagesimal_tmp_bool }
207 { \bool_set_false:N \l__siunitx_sexagesimal_tmp_bool }
208 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
209 {% lwarp: lateximage
210 \siunitx_print_number:n {#3}% integer part of angle
211 \tl_if_blank:nTF {#1}% decimal part of angle
212 { __siunitx_sexagesimal_comp_print_auxiv:nn
213 {#2}
214 {#5}% deg/min/sec char
215 }
216 {% has integer and decimal
217 \hbox_set:Nn \l__siunitx_sexagesimal_marker_box
218 {
219 __siunitx_sexagesimal_comp_print_auxv:n
220 { \siunitx_print_number:n {#4} }% decimal point char
221 }
222 \hbox_set:Nn \l__siunitx_sexagesimal_unit_box
223 {
224 __siunitx_sexagesimal_comp_print_auxv:n
225 {
226 \siunitx_unit_format:nN {#5}% deg/min/sec char
227 \l__siunitx_sexagesimal_tmp_tl
228 \siunitx_print_unit:V \l__siunitx_sexagesimal_tmp_tl
229 \skip_horizontal:n { -\scriptspace }
230 }
231 }
232 \dim_compare:nNnTF { \box_wd:N \l__siunitx_sexagesimal_marker_box } >
233 { \box_wd:N \l__siunitx_sexagesimal_unit_box }
234 {
235 __siunitx_sexagesimal_comp_print_auxvi:NN
236 \l__siunitx_sexagesimal_marker_box
237 \l__siunitx_sexagesimal_unit_box
238 }
239 {
240 __siunitx_sexagesimal_comp_print_auxvi:NN
241 \l__siunitx_sexagesimal_unit_box
242 \l__siunitx_sexagesimal_marker_box
243 }
244 \hbox_set_to_wd:Nnn \l__siunitx_sexagesimal_marker_box

```

```

245 \l__siunitx_sexagesimal_tmp_dim
246 {
247 \hbox_overlap_right:n
248 { \box_use_drop:N \l__siunitx_sexagesimal_marker_box }
249 \hbox_overlap_right:n
250 { \box_use_drop:N \l__siunitx_sexagesimal_unit_box }
251 \tex_hfil:D
252 }
253 \box_use:N \l__siunitx_sexagesimal_marker_box
254 \tex_kern:D \scriptspace
255 \siunitx_print_number:n {#1#2}% decimal part of angle
256 }
257 }
258 {% not a lateximage
259 \siunitx_print_number:n {#3}% integer part of angle
260 \tl_if_blank:nTF {#1}% decimal part of angle
261 { __siunitx_sexagesimal_comp_print_auxv:nn
262 {#2}
263 {#5}% deg/min/sec char
264 }
265 {% has integer and decimal
266 % \hbox_set:Nn \l__siunitx_sexagesimal_marker_box
267 % {
268 % __siunitx_sexagesimal_comp_print_auxv:n
269 % { \siunitx_print_number:n {#4} }% decimal point char
270 % }
271 % \hbox_set:Nn \l__siunitx_sexagesimal_unit_box
272 % {
273 % __siunitx_sexagesimal_comp_print_auxv:n
274 % {
275 % \siunitx_unit_format:nN {#5}% deg/min/sec char
276 % \l__siunitx_sexagesimal_tmp_tl
277 % \siunitx_print_unit:V \l__siunitx_sexagesimal_tmp_tl
278 % \skip_horizontal:n { -\scriptspace }
279 % }
280 % }
281 % \dim_compare:nNnTF { \box_wd:N \l__siunitx_sexagesimal_marker_box } >
282 % { \box_wd:N \l__siunitx_sexagesimal_unit_box }
283 % {
284 % __siunitx_sexagesimal_comp_print_auxvi:NN
285 % \l__siunitx_sexagesimal_marker_box
286 % \l__siunitx_sexagesimal_unit_box
287 % }
288 % {
289 % __siunitx_sexagesimal_comp_print_auxvi:NN
290 % \l__siunitx_sexagesimal_unit_box
291 % \l__siunitx_sexagesimal_marker_box
292 % }
293 % \hbox_set_to_wd:Nnn \l__siunitx_sexagesimal_marker_box
294 % \l__siunitx_sexagesimal_tmp_dim
295 % {
296 % \hbox_overlap_right:n
297 % { \box_use_drop:N \l__siunitx_sexagesimal_marker_box }
298 % \hbox_overlap_right:n
299 % { \box_use_drop:N \l__siunitx_sexagesimal_unit_box }
300 % \tex_hfil:D
301 % }
302 % \box_use:N \l__siunitx_sexagesimal_marker_box
303 % \tex_kern:D \scriptspace
304 \siunitx_print_number:n {#1#2}% decimal part of angle

```

```

305 }
306 }
307 }

```

If not in a lateximage, print a simple inline fraction, avoiding the use of svg math:

```

308 \VerifyCommand[lwarp][siunitx]{__siunitx_print_text_fraction:Nnn}
309 {F47521F256C661719258012969E7AE04}
310
311 \cs_set_protected:Npn __siunitx_print_text_fraction:Nnn #1#2#3
312 {
313 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
314 {%
315 \ensuremath
316 {
317 #1
318 { \mbox { __siunitx_print_text_replace:n {#2} } }
319 { \mbox { __siunitx_print_text_replace:n {#3} } }
320 }
321 }%
322 {%
323 { \mbox { __siunitx_print_text_replace:n {#2} } }% lwarp
324 /% lwarp
325 { \mbox { __siunitx_print_text_replace:n {#3} } }% lwarp
326 }% lwarp
327 }

```

If not in a lateximage, print a \textsubscript:

```

328 \VerifyCommand[lwarp][siunitx]{__siunitx_unit_format_qualifier_subscript:}
329 {42E663D5250C1A516299AD13C34C0DCE}
330
331 \cs_set_protected:Npn __siunitx_unit_format_qualifier_subscript:
332 {
333 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
334 {%
335 __siunitx_unit_format_font:
336 \tl_set:Nc \l__siunitx_unit_part_tl
337 {
338 \c__siunitx_unit_math_subscript_tl
339 {
340 \exp_not:V \l__siunitx_unit_font_tl
341 { \exp_not:V \l__siunitx_unit_part_tl }
342 }
343 }
344 }
345 {% lwarp simplified for HTML:
346 __siunitx_unit_format_font:
347 \tl_set:Nc \l__siunitx_unit_part_tl
348 {
349 \textsubscript
350 {
351 \exp_not:V \l__siunitx_unit_font_tl
352 { \exp_not:V \l__siunitx_unit_part_tl }
353 }
354 }
355 }
356 }

```

```

357 \VerifyCommand[lwarp][siunitx]{\siunitx_quantity:nn}
358 {AEF3237DB5107FE46437AF1D3ABD03DE}
359
360 \cs_set_protected:Npn \siunitx_quantity:nn #1#2
361 {
362 \group_begin:
363 \siunitx_unit_options_apply:n {#2}
364 \tl_if_blank:nTF {#1}
365 {
366 \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
367 \siunitx_print_unit:V \l__siunitx_quantity_unit_tl
368 }
369 {
370 \bool_if:NTF \l_siunitx_number_parse_bool
371 { __siunitx_quantity_parsed:nn {#1} {#2} }
372 {
373 \tl_set:Nn \l__siunitx_quantity_number_tl {
374 \boolfalse{mathjax}% lwarp
375 \LWR@subsingledollar{% lwarp
376 \textbackslash(% space lwarp ALT tag
377 \LWR@HTMLsanitizedetokenized{%
378 \detokenize{#1}%
379 } \textbackslash)% lwarp
380 }%
381 {siunitx unparsed}% lwarp add'l hashing
382 {\ensuremath{#1}}}% lwarp
383 }
384 \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
385 \siunitx_quantity_print:VV
386 \l__siunitx_quantity_number_tl \l__siunitx_quantity_unit_tl
387 }
388 }
389 \group_end:
390 }

```

\cancel for HTML does not work yet.

```

391 \newcommand*{\LWR@siunitx@nocancel}[1]{%
392 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
393 {\cancel{#1}}% SVG
394 {#1}% HTML
395 }
396
397 \AtBeginDocument{
398 __siunitx_unit_set_symbolic:Npnn \cancel
399 { }
400 % { __siunitx_unit_parse_special:n { \cancel } }
401 { __siunitx_unit_parse_special:n { \LWR@siunitx@nocancel } }% lwarp
402 }

```

For HTML, use a simple unaligned \num:

```

403 \newcommand{\LWR@HTML@tablenum}[2][\num{#1}{#2}]
404 \LWR@formatted{tablenum}

```

For HTML, the S column is simplified to a c column. Keys are set locally, allowing drop-exponent, etc.

```

405 \AtBeginDocument{

```

```

406 \HTMLnewcolumnntype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
407 }

```

To define simplified units for HTML:

`\HTMLDeclareSIUnit` [*<options>*] [*<name>*] [*<definition>*]

```

408 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}
409 {
410 \ifcsdef{__siunitx_unit_ \token_to_str:N #2 :w }
411 {}
412 {
413 \PackageError{lwarp}
414 {%
415 First~use~\MessageBreak
416 \space\space\protect\DeclareSIUnit{
417 \token_to_str:N#2}{...}\MessageBreak
418 before~using~\MessageBreak
419 \space\space\protect\HTMLDeclareSIUnit{
420 \token_to_str:N#2}{...}%
421 }
422 {%
423 See~the~Lwarp~manual~section~about~special~cases,~
424 regarding~siunitx.%
425 }
426 }
427 \csNewCommandCpyscs
428 {__orig_siunitx_unit_ \token_to_str:N #2 :w }
429 {__siunitx_unit_ \token_to_str:N #2 :w }
430 \DeclareSIUnit[#1]{#2}
431 {
432 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
433 {\csuse{__orig_siunitx_unit_ \token_to_str:N #2 :w }}
434 {#3}
435 }
436 }

437 \ExplSyntaxOff

```

HTML versions for existing units:

```

438 \AtBeginDocument{
439 \HTMLDeclareSIUnit\celsius{\LWR@siunitx@textcelsius}
440 \HTMLDeclareSIUnit\arcminute{\LWR@siunitx@textprime}
441 \HTMLDeclareSIUnit\arcsecond{\LWR@siunitx@textdblprime}
442 \HTMLDeclareSIUnit\elementarycharge{\textit{e}}
443 %
444 \HTMLDeclareSIUnit\clight{\text{\textit{c}}\textsubscript{0}}
445 \HTMLDeclareSIUnit\bohr{\text{\textit{a}}\textsubscript{0}}
446 \HTMLDeclareSIUnit\electronmass{\text{\textit{m}}\textsubscript{e}}
447 \HTMLDeclareSIUnit\hartree{\text{\textit{E}}\textsubscript{h}}
448 \HTMLDeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
449 }% \AtBeginDocument

```

Initial options:

```

450 \AtBeginDocument{
451 \sisetup{

```

```

452 per-mode=symbol, % fraction is not seen by pdftotext
453 angle-symbol-degree = {\LWR@siunitx@textdegree},
454 angle-symbol-minute = {\LWR@siunitx@textprime} ,
455 angle-symbol-second = {\LWR@siunitx@textdblprime} ,
456 }
457 }

```

Load late patches for lltjp-siunitx:

```

458 \AtBeginDocument{
459 \ifdef{\ltj@allalchar}
460 {\LWR@origRequirePackage{lwarp-lltjp-siunitx}}
461 {}
462 }

```

For MATHJAX:

```

463 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}
464
465 \begin{warpMathJax}
466 \CustomizeMathJax{\let\unit\si}
467 \CustomizeMathJax{\let\qty\SI}
468 \CustomizeMathJax{\let\qtylist\SIlist}
469 \CustomizeMathJax{\let\qtyrange\SIrange}
470 \CustomizeMathJax{\let\numproduct\num}
471 \CustomizeMathJax{\let\qtyproduct\SI}
472 \CustomizeMathJax{\let\complexnum\num}
473 \CustomizeMathJax{\newcommand{\complexqty}[3][\]{(\complexnum{#2})\si{#3}}}
474 \end{warpMathJax}

```

Pass range-phrase to common-mathjax-siunitx:

```

475 \ExplSyntaxOn
476 \AtBeginDocument{
477 \edef\LWR@siunitx@rangephrase{\l_siunitx_range_phrase_tl}
478 \expandafter\CustomizeMathJax\expandafter{%
479 \expandafter\def\expandafter\LWRsiunitxrangephrase%
480 \expandafter{\LWR@siunitx@rangephrase}%
481 }
482 }
483 \ExplSyntaxOff

```

---

File 458 **lwarp-siunitx-v2.sty**

§ 573    Package **siunitx-v2**

*(Emulates or patches code by JOSEPH WRIGHT.)*

siunitx-v2 (*Pkg*)    siunitx-v2 is patched for use by lwarp, and is emulated for MATHJAX.

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

 **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for

 **drop-exponent**

`drop-exponent`, without which the value will be shown incorrectly.

 **table-auto-round**

`table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the svg image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

`\DeclareSIUnit`  $\{\langle name \rangle\} \{\langle definition \rangle\}$

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in svg math or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

`\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}`

`\HTMLDeclareSIUnit`  $\{\langle name \rangle\} \{\langle definition \rangle\}$

 **v3 only!**

Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

`\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}`

It is also possible to provide a custom unit for MATHJAX:

`\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}`

**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ MathJax

#### Document modifications required for MATHJAX

### ⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

### ⚠ complex numbers

#### custom units

- Complex numbers are displayed as entered, ignoring `output-complex-root`.
- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

### ⚠ unit spacing

- Units work better using `~` between units instead of using periods.

### ⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

### ⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see **MATHJAX option**, section 8.7.5.

#### for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[=v2]% 2021-04-17

4 \AtBeginDocument{% in case textcomp was not loaded
5 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7 \DeclareSIUnit\elementarycharge{\textit{e}}
8 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument
```

Support the S and s column types:

```
12 \AtBeginDocument{
13 \HTMLnewcolumntype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
14 \HTMLnewcolumntype{s}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
15 }
```

`\ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@subsingledollar`.

```

16
17 \ExplSyntaxOn
18 %

```

Modified to use the print version of \@ensuredmath to avoid having a lateximage each time.

```

19 \AtBeginDocument{
20 \cs_set_protected:Npn __siunitx_print_text:
21 {
22 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
23 \tl_replace_all:Nnn \l__siunitx_print_arg_tl { - }
24 { \textminus }
25 __siunitx_print_text_aux:
26 \tl_replace_all:Nnn \l__siunitx_print_arg_tl { \mp }
27 { \ensuremath { \mp } }
28 \tl_remove_all:Nn \l__siunitx_print_arg_tl { \mathord }
29 \cs_set_eq:NN \PrintSubscript __siunitx_print_text_sub:n
30 \cs_set_eq:NN \PrintSuperscript __siunitx_print_text_super:n
31 __siunitx_print_text_aux:NnN
32 _ { math_subscript } __siunitx_print_text_sub:n
33 _ { active } __siunitx_print_text_sub:n
34 ^ { math_superscript } __siunitx_print_text_super:n
35 ^ { active } __siunitx_print_text_super:n
36 \q_recursion_tail ? ?
37 \q_recursion_stop
38 \l__siunitx_print_arg_tl
39 }
40 }

```

Modified to set set HTML \textcolor if not black:

```

41 \cs_new_protected:Npn \LWR@HTML@__siunitx_print_aux:
42 {
43 \text
44 {
45 __siunitx_ensure_ltr:n
46 {
47 \color@begingroup
48 %
49 __siunitx_print_color:
50 __siunitx_font_shape:
51 __siunitx_font_weight:
52 \use:c
53 {
54 __siunitx_ \l__siunitx_print_type_tl _
55 text \l__siunitx_font_family_tl :
56 }
57 %
58 %
59 % __siunitx_print_math:
60 %
61 {
62 \LWR@findcurrenttextcolor% lwarp
63 \ifdefstring{\LWR@tempcolor}{000000}% lwarp
64 {__siunitx_print_text:}% lwarp
65 {% lwarp
66 \LWR@textcurrentcolor{% lwarp

```

```

67 __siunitx_print_text:
68 }% lwarp
69 }% lwarp
70 }
71 \color@endgroup
72 %
73 }
74 }
75 }
76 \LWR@formatted{__siunitx_print_aux:}
77
78 \cs_new_protected:Npn \LWR@HTML@__siunitx_set_math_fam:n #1 {
79 \group_begin:
80 % \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
81 % \LetLtxMacro\mbox\LWR@print@mbox% lwarp
82 % \hbox_set:Nn \l__siunitx_tmp_box
83 % {
84 % \ensuremath
85 % {
86 % \use:c { math #1 }
87 % {
88 % \int_const:cn { c__siunitx_math #1 _int } { \fam }
89 % }
90 % }
91 % }
92 \group_end:
93 }
94 \LWR@formatted{__siunitx_set_math_fam:n}
95
96 \cs_new_protected:Npn \LWR@HTML@__siunitx_combined_output:n #1 {
97 %
98 \group_begin:% lwarp
99 \bool_if:NTF \l__siunitx_number_parse_bool
100 {
101 \tl_clear:N \l__siunitx_number_out_tl
102 \bool_set_false:N \l__siunitx_number_compound_bool
103 __siunitx_number_output_parse:n {#1}
104 }
105 {

```

For parse-numbers=false:

```

106 __siunitx_unit_output_pre_print:
107 \begingroup% lwarp
108 \boolfalse{mathjax}% lwarp
109 % __siunitx_print:nn { number } { \ensuremath {#1} }
110 \LWR@subsingledollar% lwarp
111 {% alt text
112 \textbackslash(% space
113 \LWR@HTMLsanitizedetokenized{%
114 \detokenize{#1}%
115 } \textbackslash)% lwarp
116 }
117 {siunitx}% addl hashing
118 {%
119 __siunitx_print:nn { number } {%
120 \LWR@origensuredmath{#1}%
121 }%
122 }% lwarp
123 \endgroup% lwarp

```

```

124 __siunitx_unit_output_print:
125 }
126 \group_end:% lwarp
127 %
128 }
129 \LWR@formatted{__siunitx_combined_output:n}

```

For parse-numbers=false:

```

130 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_numbers_aux:n #1
131 {
132 \bool_if:NTF \l__siunitx_number_parse_bool
133 {
134 \tl_clear:N \l__siunitx_number_out_tl
135 \tl_clear:N \l__siunitx_number_out_saved_tl
136 \bool_set_false:N \l__siunitx_number_compound_bool
137 __siunitx_number_output_parse:n {#1}
138 \bool_if:NT \l__siunitx_number_compound_bool
139 { \msg_error:nxx { siunitx } { multi-part-range } {#1} }
140 }
141 {
142 __siunitx_unit_output_pre_print:
143 \begingroup% lwarp
144 \boolfalse{mathjax}% lwarp
145 __siunitx_print:nn { number } {#1}
146 \LWR@subsingledollar% lwarp
147 {% alt text
148 \textbackslash(% space
149 \LWR@HTMLsanitizedetokenized{%
150 \detokenize{#1}%
151 } \textbackslash)% lwarp
152 }%
153 {siunitx}% addl hashing
154 {%
155 __siunitx_print:nn { number } {%
156 \LWR@origensuredmath{#1}%
157 } % lwarp
158 }% lwarp
159 \endgroup% lwarp
160 __siunitx_unit_output_print:
161 }
162 }
163 \LWR@formatted{__siunitx_range_numbers_aux:n}

```

For parse-numbers=false:

```

164 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_direct_aux:nn #1#2 {
165 \tl_if_empty:nF {#1}
166 {
167 \tl_set:Nn \l__siunitx_unit_tl {#2}
168 \begingroup% lwarp
169 \boolfalse{mathjax}% lwarp
170 __siunitx_print:nn { number } {#1}
171 \LWR@subsingledollar{% lwarp
172 \textbackslash(% space
173 \LWR@HTMLsanitizedetokenized{%
174 \detokenize{#1}%
175 } \textbackslash)% lwarp
176 }%
177 {siunitx}%

```

```

178 {%
179 __siunitx_print:nn { number } {
180 \LWR@origensuredmath{#1}%
181 }%
182 }%
183 \endgroup%
184 __siunitx_unit_output_print:
185 }
186 }
187 \LWR@formatted{__siunitx_angle_print_direct_aux:nn}
188 %

```

For quotients, the fraction code is replaced by the symbol code:

```

189 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_quotient_fraction: {
190 \bool_set_true:N __siunitx_number_compound_bool
191 __siunitx_number_output_quotient_aux_i:
192 \tl_set_eq:NN __siunitx_number_out_tl
193 __siunitx_number_numerator_tl
194 \tl_put_right:NV __siunitx_number_out_tl __siunitx_output_quotient_tl
195 \tl_put_right:NV __siunitx_number_out_tl
196 __siunitx_number_denominator_tl
197 __siunitx_number_output_single_aux:
198 }
199 \LWR@formatted{__siunitx_number_output_quotient_fraction:}

```

For units, the fraction code is replaced by the symbol code:

```

200 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_format_fraction_fraction: {
201 __siunitx_unit_format_fraction_symbol_aux:
202 \int_compare:nNt { __siunitx_unit_denominator_int } > { 1 }
203 {
204 \bool_if:NT __siunitx_unit_denominator_bracket_bool
205 {
206 \tl_put_left:NV __siunitx_unit_denominator_tl __siunitx_bracket_open_tl
207 \tl_put_right:NV __siunitx_unit_denominator_tl __siunitx_bracket_close_tl
208 }
209 }
210 \tl_set_eq:NN __siunitx_unit_tl __siunitx_unit_numerator_tl
211 \tl_put_right:NV __siunitx_unit_tl __siunitx_per_symbol_tl
212 \tl_put_right:NV __siunitx_unit_tl __siunitx_unit_denominator_tl
213 }
214 \LWR@formatted{__siunitx_unit_format_fraction_fraction:}

215 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_astronomy_aux: {
216 \prop_get:NnNT __siunitx_number_out_prop { mantissa-integer }
217 __siunitx_tmpa_tl
218 { __siunitx_print:nV { number } __siunitx_tmpa_tl }
219 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
220 {% lateximage
221 \hbox_set:Nn __siunitx_angle_marker_box
222 {
223 __siunitx_print:nn { number } { { __siunitx_output_decimal_tl } }
224 }
225 \hbox_set:Nn __siunitx_angle_unit_box
226 {
227 __siunitx_print:nV { unit } __siunitx_unit_tl
228 \skip_horizontal:n { -\scriptspace }
229 }

```

```

230 __siunitx_angle_print_astronomy_aux:n { marker }
231 __siunitx_angle_print_astronomy_aux:n { unit }
232 \hbox_set:Nn \l__siunitx_angle_marker_box
233 {
234 \box_use:N \l__siunitx_angle_marker_box
235 \box_use:N \l__siunitx_angle_unit_box
236 }
237 \dim_compare:nNnTF
238 { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
239 { __siunitx_angle_print_astronomy_marker: }
240 { __siunitx_angle_print_astronomy_unit: }
241 }% lateximage
242 {% not a lateximage
243 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
244 __siunitx_print:nV { unit } \l__siunitx_unit_tl
245 }% not a lateximage
246 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
247 \l__siunitx_tmpa_tl
248 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
249 }
250 \LWR@formatted{__siunitx_angle_print_astronomy_aux:}

251 \cs_new_protected:Npn \LWR@HTML@__siunitx_textsuperscript:n #1 {#1}
252 \LWR@formatted{__siunitx_textsuperscript:n}
253
254 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_super:n \textsuperscript
255 \LWR@formatted{__siunitx_print_text_super:n}
256
257 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_sub:n \textsubscript
258 \LWR@formatted{__siunitx_print_text_sub:n}

```

\LWR@origenduresmath is added here in case the user asks for \mathrm, etc. for output-exponent-marker.

```

259 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_exponent: {
260 \prop_get:NnN \l__siunitx_number_out_prop { exponent }
261 \l__siunitx_tmpa_tl
262 \tl_if_empty:NTF \l__siunitx_output_exponent_tl
263 {
264 \tl_set:Nx \l__siunitx_tmpa_tl
265 { ^ { \exp_not:V \l__siunitx_tmpa_tl } }
266 \tl_put_left:NV \l__siunitx_tmpa_tl \l__siunitx_exponent_base_tl
267 }
268 {
269 \tl_set:Nx \l__siunitx_tmpa_tl
270 {
271 \LWR@origensuredmath{% lwarp
272 \exp_not:V \l__siunitx_output_exponent_tl
273 }% lwarp
274 \exp_not:N \mathord
275 \exp_not:V \l__siunitx_tmpa_tl
276 }
277 }
278 \prop_put:NnV \l__siunitx_number_out_prop { exponent-result }
279 \l__siunitx_tmpa_tl
280 }
281 \LWR@formatted{__siunitx_number_format_final_exponent:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

282 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_combined: {
283 __siunitx_number_format_brackets:n { mantissa }
284 \prop_get:NnN \l__siunitx_number_out_prop { mantissa-result }
285 \l__siunitx_tmpa_tl
286 \tl_if_empty:NT \l__siunitx_output_exponent_tl
287 {
288 \tl_put_right:Nx \l__siunitx_tmpa_tl
289 {
290 \exp_not:N \LWR@origensuredmath% lwarp
291 {
292 \bool_if:NTF \l__siunitx_tight_bool
293 { { \exp_not:V \l__siunitx_exponent_product_tl } }
294 { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
295 }
296 }
297 }
298 \prop_get:NnN \l__siunitx_number_out_prop { exponent-result }
299 \l__siunitx_tmpb_tl
300 \tl_put_right:NV \l__siunitx_tmpa_tl \l__siunitx_tmpb_tl
301 \prop_put:NnV \l__siunitx_number_out_prop { result }
302 \l__siunitx_tmpa_tl
303 \prop_put:Nnn \l__siunitx_number_out_prop
304 { result-bracket-exponent } { true }
305 }
306 \LWR@formatted{__siunitx_number_format_final_combined;}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

307 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_parts_aux: {
308 \bool_if:NTF \l__siunitx_multi_repeat_bool
309 {
310 \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
311 {
312 __siunitx_number_output_parts_aux:n { mantissa }
313 __siunitx_number_output_parts_aux:n { complex }
314 }
315 \prop_get:NnNT \l__siunitx_number_out_prop { exponent-result }
316 \l__siunitx_tmpa_tl
317 {
318 \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
319 {
320 \tl_put_left:Nx \l__siunitx_tmpa_tl
321 {
322 \exp_not:N \LWR@origensuredmath
323 {
324 \bool_if:NTF \l__siunitx_tight_bool
325 { { \exp_not:V \l__siunitx_exponent_product_tl } }
326 { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
327 }
328 }
329 \prop_put:NnV \l__siunitx_number_out_prop { exponent }
330 \l__siunitx_tmpa_tl
331 }
332 __siunitx_number_output_parts_print:n { exponent }
333 }
334 }

```

```

335 { __siunitx_number_output_single: }
336 }
337 \LWR@formatted{__siunitx_number_output_parts_aux:}

```

$\backslash\mathrm{LWR@origensuredmath}$  is added here to avoid using an image for the exponent product.

```

338 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_output_print: {
339 \int_compare:nNfF { \l__siunitx_unit_prefix_int } = { 0 }
340 {
341 \tl_set:Nx \l__siunitx_tmpa_tl
342 {
343 \bool_if:NTF \l__siunitx_tight_bool
344 {
345 \exp_not:N \LWR@origensuredmath% lwarp
346 { { \exp_not:N \l__siunitx_exponent_product_tl } }
347 }
348 {
349 \exp_not:N \LWR@origensuredmath% lwarp
350 { { } \exp_not:N \l__siunitx_exponent_product_tl { } }
351 }
352 \int_use:N \l__siunitx_unit_prefix_base_int
353 ^ { \int_use:N \l__siunitx_unit_prefix_int }
354 }
355 __siunitx_print:nV { number } \l__siunitx_tmpa_tl
356 }
357 \tl_if_empty:NF \l__siunitx_unit_tl
358 {
359 __siunitx_unit_output_number_sep:
360 __siunitx_print:nV { unit } \l__siunitx_unit_tl
361 }
362 }
363 \LWR@formatted{__siunitx_unit_output_print:}

```

$\backslash\mathrm{LWR@origensuredmath}$  is added here to avoid using an image for the exponent product.

```

364 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_exponent:
365 {
366 \bool_if:NT \l__siunitx_process_fixed_bool
367 {
368 \tl_set_eq:NN \l__siunitx_tmpa_tl \l__siunitx_exponent_product_tl
369 \bool_if:NT \l__siunitx_tight_bool
370 {
371 \tl_set:Nx \l__siunitx_tmpa_tl
372 { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpa_tl }
373 }
374 \tl_set:Nx \l__siunitx_tmpa_tl
375 {
376 \exp_not:N \LWR@origensuredmath { % lwarp
377 { } \exp_not:o \l__siunitx_tmpa_tl { }
378 }
379 10 \exp_not:N \PrintSuperscript
380 { \int_use:N \l__siunitx_process_fixed_int }
381 }
382 __siunitx_print:nV { number } \l__siunitx_tmpa_tl
383 }
384 }
385 \LWR@formatted{__siunitx_range_exponent:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

386 \cs_new_protected:Npn \LWR@HTML@__siunitx_table_print_S_reserved_exponent_product:
387 {
388 \tl_set_eq:NN \l__siunitx_tmpb_tl \l__siunitx_exponent_product_tl
389 \bool_if:NT \l__siunitx_tight_bool
390 {
391 \tl_set:Nx \l__siunitx_tmpb_tl
392 { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpb_tl }
393 }
394 \tl_set:Nx \l__siunitx_tmpa_tl
395 {
396 \exp_not:N \LWR@origensuredmath { { } \exp_not:o \l__siunitx_tmpb_tl { } }
397 \exp_not:o \l__siunitx_tmpa_tl
398 }
399 }
400 \LWR@formatted{__siunitx_table_print_S_reserved_exponent_product:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the output product.

```

401 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_product_aux: {
402 \bool_set_true:N \l__siunitx_number_compound_bool
403 __siunitx_number_preprocess:V \l__siunitx_number_arg_tl
404 \bool_if:NF \l__siunitx_error_bool
405 {
406 \tl_if_empty:NTF \l__siunitx_number_multi_tl
407 { __siunitx_number_output_parse_aux: }
408 { __siunitx_number_output_quotient: }
409 \tl_if_empty:NF \l__siunitx_number_next_tl
410 {
411 \bool_if:NTF \l__siunitx_tight_bool
412 {
413 __siunitx_print:nn { number }
414 { \LWR@origensuredmath { \l__siunitx_output_product_tl } }
415 }
416 {
417 __siunitx_print:nn { number }
418 { \LWR@origensuredmath { { } \l__siunitx_output_product_tl { } } }
419 }
420 __siunitx_number_output_parse:V \l__siunitx_number_next_tl
421 }
422 }
423 }
424 \LWR@formatted{__siunitx_number_output_product_aux:}

```

Used to detect the math font.

```

425 \cs_set_protected:Npn __siunitx_set_math_fam:n #1 {
426 \group_begin:
427 \hbox_set:Nn \l__siunitx_tmp_box
428 {
429 \LWR@origensuredmath% lwarp
430 {
431 \use:c { math #1 }
432 {
433 \int_const:cn { c__siunitx_math #1 _int } { \fam }
434 }
435 }

```

```

436 }
437 \group_end:
438 }

```

Force \text:

```

439 \cs_set_protected:Npn __siunitx_range_numbers:nn #1#2
440 {
441 __siunitx_range_numbers_aux:n {#1}
442 \text{\l__siunitx_range_phrase_tl}% lwarp
443 __siunitx_range_numbers_aux:n {#2}
444 }

```

Force \text:

```

445 \cs_set_protected:Npn __siunitx_range_unit:nnnn #1#2#3#4 {
446 __siunitx_unit_parse_options:nn {#1} {#2}
447 \bool_if:NTF \l__siunitx_range_repeat_bool
448 {
449 __siunitx_unit_in:nn {#1} {#2}
450 __siunitx_range_numbers_aux:n {#3}
451 \text{\l__siunitx_range_phrase_tl}% lwarp
452 __siunitx_range_numbers_aux:n {#4}
453 }
454 {
455 \bool_if:NT \l__siunitx_process_fixed_bool
456 { \bool_set_true:N \l__siunitx_process_drop_exponent_bool }
457 \bool_if:NT \l__siunitx_range_brackets_bool
458 { __siunitx_print:nV { number } \l__siunitx_bracket_open_tl }
459 __siunitx_range_numbers:nn {#3} {#4}
460 \bool_if:NT \l__siunitx_range_brackets_bool
461 { __siunitx_print:nV { number } \l__siunitx_bracket_close_tl }
462 __siunitx_range_exponent:
463 __siunitx_unit_output_number_sep:
464 __siunitx_unit_output:nn {#1} {#2}
465 }
466 }

```

```

467 \ExplSyntaxOff

```

```

468 \AtBeginDocument{
469 \sisetup{
470 detect-mode=true,
471 per-mode=symbol, % fraction is not seen by pdftotext
472 text-celsius = {\LWR@siunitx@textcelsius},
473 text-degree = {\LWR@siunitx@textdegree},
474 text-arcminute = {\LWR@siunitx@textprime} ,
475 text-arcsecond = {\LWR@siunitx@textdblprime} ,
476 }
477 }

```

```

478 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}

```

Passing range-phrase to `common-mathjax-siunitx` does not seem to work with v2 using `translator` as it does with v3 using `translations`. The range-phrase therefore is set to an en-dash.

```

479 \AtBeginDocument{

```

```

480 \CustomizeMathJax{\def\LWRsiunitxrangephase{\unicode{x2013}}}
481 }

```

File 459 **lwarp-common-mathjax-siunitx.sty**

§ 574 Package **common-mathjax-siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

common-mathjax-siunitx (*Pkg*) common-mathjax-siunitx adds MATHJAX for siunitx and siunitx-v2.

for HTML output:  
MATHJAX

For MATHJAX.

The following runs much faster as separate `\CustomizeMathJax` calls instead of one single call.

```

1 \begin{warpMathJax}
2 \LWR@infoprocessingmathjax{siunitx}

3 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
4 \CustomizeMathJax{\newcommand{\raiseto}[2]{^{#2}^{#1}}}

```

Used as an end marker when parsing values:

```

5 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}

```

`\ang`

$[\langle options \rangle] \{ \langle value \rangle \}$

```

6 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
7 \ifblank{#1}{}{\num{#1}\degree}%
8 \ifblank{#2}{}{\num{#2}^{\unicode{x2032}}}% \prime
9 \ifblank{#3}{}{\num{#3}^{\unicode{x2033}}}% \dblprime
10 }}
11 \CustomizeMathJax{\newcommand{\ang}[2][\LWRsiunitxang#2;;\LWRsiunitxEND]}

```

`\num`

$[\langle options \rangle] \{ \langle value \rangle \}$

`\num` handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, `\def` is used with parameter delimiters. When each of the following macros is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

The number is split by dimensions (x), then by powers (E, e, D, d), then by plus / minus (+-, `\pm`), then by plus and minus (+, -), then into pieces before and after the decimal point or decimal comma.

Determine if the number is output with a decimal period or a decimal comma. The enclosing braces tell MATHJAX to not add extra space after the punctuation.

```

12 \ExplSyntaxOn
13 \AtBeginDocument{
14 \ifdefstring{\l__siunitx_output_decimal_tl}{,}{.}
15 {\CustomizeMathJax{\def\LWRsiunitxdecimal{,}}}
16 {\CustomizeMathJax{\def\LWRsiunitxdecimal{.}}}
17 }

```

18 \ExplSyntaxOff

Any units which must be distributed across multiple dimensions:

19 \CustomizeMathJax{\def\LWRsiunitxdistribunit{}}

siunitx accepts either commas or periods as decimal points. \LWRsiunitxprintdecimal splits its input by periods then commas, parsing out before and after sections to print on either side of the decimal point.

\LWRsiunitxENDTWO is used only by \LWRsiunitxprintdecimalsubtwo, to avoid a parsing conflict with the more widely-used \LWRsiunitxEND.

The following splits by decimal commas:

20 \CustomizeMathJax{\newcommand{\LWRsiunitxENDTWO}{}}

21

22 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsubtwo#1,#2,#3\LWRsiunitxENDTWO{%

If nothing is ahead of the decimal comma, add a leading zero:

23 \ifblank{#1}{0}{\mathrm{#1}}%

If something is after the decimal comma, print the decimal and the fraction:

24 \ifblank{#2}%

25 {}%

26 {%

27 {\LWRsiunitxdecimal}%

28 \mathrm{#2}%

29 }%

30 }}

The following splits by decimal periods:

31 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%

32 \LWRsiunitxprintdecimalsubtwo#1,,\LWRsiunitxENDTWO%

33 \ifblank{#2}%

34 {}%

35 {%

36 {\LWRsiunitxdecimal}%

37 \LWRsiunitxprintdecimalsubtwo#2,,\LWRsiunitxENDTWO%

38 }%

39 }}

40

41 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%

42 \LWRsiunitxprintdecimalsub#1...\LWRsiunitxEND%

43 }}

The following splits by +

44 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%

45 \ifblank{#2}%

46 {%

47 \LWRsiunitxprintdecimal{#1}%

48 }% no plus

49 {%

50 \ifblank{#1}%

51 {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore

52 {% a+b

53 \LWRsiunitxprintdecimal{#1}%

54 \unicode{x02B}% plus sign

55 \LWRsiunitxprintdecimal{#2}%

56 }%

57 }%

58 \LWRsiunitxdistribunit%

59 }}

The following splits by -

```
60 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
61 \ifblank{#2}%
62 {\LWRsiunitxnumplus#1+++ \LWRsiunitxEND}%
63 {%
64 \ifblank{#1}{\LWRsiunitxprintdecimal{#1}}%
65 \unicode{x02212}% mathematical minus sign
66 \LWRsiunitxprintdecimal{#2}%
67 \LWRsiunitxdistribunit%
68 }%
69 }}
```

The following splits by \pm

```
70 \CustomizeMathJax{\def\LWRsiunitxnumpmmacro#1\pm#2\pm#3\LWRsiunitxEND{%
71 \ifblank{#2}%
72 {\LWRsiunitxnumminus#1--- \LWRsiunitxEND}%
73 {%
74 \LWRsiunitxprintdecimal{#1}%
75 \unicode{x00B1}% \pm
76 \LWRsiunitxprintdecimal{#2}%
77 \LWRsiunitxdistribunit%
78 }%
79 }}
```

The following splits by +-

```
80 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
81 \ifblank{#2}%
82 {\LWRsiunitxnumpmmacro#1\pm\pm\pm\LWRsiunitxEND}%
83 {%
84 \LWRsiunitxprintdecimal{#1}%
85 \unicode{x00B1}% \pm
86 \LWRsiunitxprintdecimal{#2}%
87 \LWRsiunitxdistribunit%
88 }%
89 }}
```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```
90 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
91 \ifblank{#1}%
92 {}%
93 {%
94 \ifstrequal{#1}{-}%
95 {-}%
96 {\LWRsiunitxprintdecimal{#1}\times}%
97 }%
98 10^{\LWRsiunitxprintdecimal{#2}}%
99 \LWRsiunitxdistribunit%
100 }}
```

The following splits by D

```
101 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
102 \ifblank{#2}%
103 {\LWRsiunitxnumpm#1+++ \LWRsiunitxEND}%
104 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
105 }}
```

The following splits by d

```
106 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
107 \ifblank{#2}%
108 {\LWRsiunitxnumd#1DDD\LWRsiunitxEND}%
109 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
110 }}
```

The following splits by E

```
111 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
112 \ifblank{#2}%
113 {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
114 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
115 }}
```

The following splits by e

```
116 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
117 \ifblank{#2}%
118 {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
119 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
120 }}
```

The following splits by x

```
121 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
122 \ifblank{#2}%
123 {\LWRsiunitxnume#1eee\LWRsiunitxEND}%
124 {%
125 \ifblank{#3}%
126 {%
127 \LWRsiunitxnume#1eee\LWRsiunitxEND%
128 \times%
129 \LWRsiunitxnume#2eee\LWRsiunitxEND%
130 }%
131 {%
132 \LWRsiunitxnume#1eee\LWRsiunitxEND%
133 \times%
134 \LWRsiunitxnume#2eee\LWRsiunitxEND%
135 \times%
136 \LWRsiunitxnume#3eee\LWRsiunitxEND%
137 }%
138 }%
139 }}
```

```
140 \CustomizeMathJax{\newcommand{\num}[2][]{%
141 \LWRsiunitxnumx#2xxxxx\LWRsiunitxEND%
142 }}
```

\si

[*<options>*] {*<unit>*}

~ is converted to a thin space. Not able to convert period to thin space because the period might be in \raiseto, for example.

```
143 \CustomizeMathJax{\newcommand{\si}[2][]{%
144 \mathrm{\gsubstitute{#2}{~}{\,}}%
145 }}
```

\SI

[*<options>*] {*<value>*} [*<prefix>*] {*<unit>*}

\SI has a second optional arg, which is parsed using \ifnextchar.

```
146 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
```

```

147 \def\LWRsiunitxdistribunit{\,\si{#3}}%
148 {#2}\num{#1}%
149 \def\LWRsiunitxdistribunit{}%
150 }}
151
152 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
153 \def\LWRsiunitxdistribunit{\,\si{#2}}%
154 \num{#1}%
155 \def\LWRsiunitxdistribunit{}%
156 }}

157 \CustomizeMathJax{\newcommand{\SI}[2][{}]{%
158 \ifnextchar[%
159 {\LWRsiunitxSIopt{#2}}%
160 {\LWRsiunitxSI{#2}}%
161 }}

```

`\numlist` [*options*] {*list*}

`\numlist` should only be used in text mode. If used in MATHJAX, it is merely printed as text, so add space around the semicolons.

```
162 \CustomizeMathJax{\newcommand{\numlist}[2][{}]{\text{#2}}}
```

`\numrange` [*options*] {*value1*} {*value2*}

`\numrange` should only be used in text mode. If used in MATHJAX math, an en-dash is used instead of the range-phrase.

```

163 \CustomizeMathJax{\newcommand{\numrange}[3][{}]{%
164 \num{#2}\ \LWRsiunitxrangephrase\ \num{#3}%
165 }}

```

`\SIlist` [*options*] {*list*}

`\SIlist` and `\SIrange` should only be used in text mode. If used in MATHJAX, a simple emulation is provided.

```
166 \CustomizeMathJax{\newcommand{\SIlist}[3][{}]{\text{#2}\,\si{#3}}}
```

`\SIrange` [*options*] {*value1*} {*value2*} {*unit*}

```

167 \CustomizeMathJax{\newcommand{\SIrange}[4][{}]{%
168 \num{#2}\,\si{#4}\ \LWRsiunitxrangephrase\ \num{#3}\,\si{#4}%
169 }}

```

`\tablenum` [*options*] {*value*}

```
170 \CustomizeMathJax{\newcommand{\tablenum}[2][{}]{\mathrm{#2}}}
```

```

171 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
172 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
173 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
174 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
175 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
176 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
177 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
178 %
179 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
180 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}

```

```

181 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
182 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
183 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
184 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
185 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
186 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
187 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
188 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
189 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
190 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
191 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
192 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
193 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
194 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
195 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
196 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
197 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
198 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
199 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
200 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
201 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
202 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^{\circ}}}}
203 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
204 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
205 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
206 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
207 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^{\prime}}}}
208 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
209 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
210 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
211 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
212 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
213 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a}_0}}
214 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c}_0}}
215 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
216 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}_\mathrm{e}}}
217 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
218 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
219 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}_\mathrm{h}}}
220 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\unicode{x210F}}}}
221 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
222 \CustomizeMathJax{\let\LRoribar\bar}
223 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
224 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
225 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
226 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
227 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
228 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
229 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
230 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
231 %
232 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
233 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
234 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
235 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
236 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
237 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
238 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
239 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
240 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}

```

```

241 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
242 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
243 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
244 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
245 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
246 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
247 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
248 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
249 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
250 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
251 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
252 %
253 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
254 %
255 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
256 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
257 %
258 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
259 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
260 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
261 \CustomizeMathJax{\newcommand{\squared}{^2}}
262 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{#1}^2}}
263 \CustomizeMathJax{\newcommand{\cubed}{^3}}
264 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{#1}^3}}

265 \CustomizeMathJax{\newcommand{\per}{\,\mathrm{/}}}

266 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
267 %
268 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
269 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
270 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
271 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
272 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
273 \CustomizeMathJax{\newcommand{\g}{\gram}}
274 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
275 %
276 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
277 %
278 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
279 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
280 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
281 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
282 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
283 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
284 \CustomizeMathJax{\newcommand{\m}{\metre}}
285 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
286 %
287 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
288 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
289 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
290 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
291 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
292 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
293 \CustomizeMathJax{\newcommand{\s}{\second}}
294 %
295 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
296 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
297 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}

```

```

298 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
299 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
300 \CustomizeMathJax{\newcommand{\mol}{\mol}}
301 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
302 %
303 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
304 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
305 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
306 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
307 \CustomizeMathJax{\newcommand{\A}{\ampere}}
308 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
309 %
310 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
311 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
312 \CustomizeMathJax{\newcommand{\l}{\litre}}
313 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
314 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
315 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
316 \CustomizeMathJax{\newcommand{\L}{\liter}}
317 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
318 %
319 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
320 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
321 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
322 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
323 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
324 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
325 %
326 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
327 \CustomizeMathJax{\newcommand{\N}{\newton}}
328 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
329 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
330 %
331 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
332 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
333 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
334 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
335 %
336 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
337 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
338 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
339 %
340 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
341 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
342 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
343 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
344 \CustomizeMathJax{\newcommand{\V}{\volt}}
345 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
346 %
347 \CustomizeMathJax{\newcommand{\W}{\watt}}
348 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
349 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
350 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
351 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
352 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
353 %
354 \CustomizeMathJax{\newcommand{\J}{\joule}}
355 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
356 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
357 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}

```

```

358 %
359 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
360 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
361 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
362 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
363 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
364 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
365 %
366 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
367 %
368 \CustomizeMathJax{\newcommand{\F}{\farad}}
369 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
370 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
371 %
372 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
373 %
374 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
375 %
376 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
377 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
378 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
379 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
380 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
381 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
382 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
383 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
384 \end{warpMathJax}

```

---

## File 460 **lwarp-skmath.sty**

### § 575 Package **skmath**

*(Emulates or patches code by SIMON SIGURDHSSON.)*

`skmath (Pkg)` **skmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NT\LWR__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }

```

**skmath** is using `l3keys`, which does not seem to have an equivalent to `\@ifpackagewith`. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```

11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{{#1}}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{{e}}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{{d}}

```

```
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{{d}}
```

If notation=iso, use upright, else italic:

```
15 \cs_if_eq:NNTF __skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17 \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18 \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21 \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22 \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }
```

If notation=iso, use upright, else italic:

```
24 \cs_if_eq:NNTF __skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 { \CustomizeMathJax{\newcommand{ee}{\mathit{e}}} }
26 { \CustomizeMathJax{\newcommand{ee}{\mathrm{e}}} }
```

**skmath** uses `\DeclarePairedDelimiter` from **mathtools** for `\abs` and `\norm`, and **lwarp** uses this to automatically define MATHJAX definitions for each.

If notation=english, use slanted, else upright:

```
27 \cs_if_eq:NNTF __skmath_integral_d: \LWR__skmath_integral_d:
28 { \CustomizeMathJax{\newcommand{d}{\mathit{d}}} }
29 { \CustomizeMathJax{\newcommand{d}{\mathrm{d}}} }
```

Used to parse comma and caret arguments for `\pd` and `\td`:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```
31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32 #1_{#2#3#4#5}%
33 }}
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36 \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

```
38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39 \ifblank{#1}{}{
40 \ifblank{#2}{\LWRskmathpdplus\LWRskmathpdone}{\LWRskmathpdplus#2}
41 }
42 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpddenominator#1^#2^#3\LWRskmathEND{%
44 \ifblank{#1}{\}%
45 \ifblank{#2}%
46 {\partial{#1}}%
47 {\partial{#1}^{#2}}%
48 }%
49 }}

```

Factored from \LWRskmathpdnostarsub, following:

The phrase  $\partial$  appears to be required while parsing the carets. \LWRskmathpdplus is used to only place a plus sign starting after the first term. \LWRskmathpdone is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51 \partial^{%
52 \def\LWRskmathpdplus{}%
53 \LWRskmathpdnumerator#2^{^{}}\LWRskmathEND%
54 \def\LWRskmathpdplus{+}%
55 \def\LWRskmathpdone{1}%
56 \LWRskmathpdnumerator#3^{^{}}\LWRskmathEND%
57 \LWRskmathpdnumerator#4^{^{}}\LWRskmathEND%
58 \LWRskmathpdnumerator#5^{^{}}\LWRskmathEND%
59 }%
60 {#1}%
61 }}
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64 \LWRskmathpddenominator#1^{^{}}\LWRskmathEND%
65 \ifblank{#2}{\,%
66 \LWRskmathpddenominator#2^{^{}}\LWRskmathEND%
67 \ifblank{#3}{\,%
68 \LWRskmathpddenominator#3^{^{}}\LWRskmathEND%
69 \ifblank{#4}{\,%
70 \LWRskmathpddenominator#4^{^{}}\LWRskmathEND%
71 }%
72 }%
73 }%
74 }%
75 }%
76 }%
77 }%
78 }%
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80 \LWRskmathpdnostarsub{#1}#2,,,,,\LWRskmathEND%
81 }}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
73 \ifblank{#3}{\def\LWRskmathpdone{}}{\def\LWRskmathpdone{1}}
74 \frac{
75 {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}%
76 {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}%
77 }%
78 }
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80 \LWRskmathpdnostarsub{#1}#2,,,,,\LWRskmathEND%
81 }}

```

```

82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF __skmath_total_derivative_d: \LWR__skmath_total_derivative_d:

```

```

84 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}}} }
85 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}}} }

86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87 \frac
88 {\LWRskmathtd^{#3}{#1}}
89 {\LWRskmathtd{#2}^{#3}}}
90 }}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93 \LWRskmathtdsub{#1}#2^{\LWRskmathEND}%
94 }}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96 \operatorname{E}\left[#1\right]%
97 }}

98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101 \operatorname{P}%
102 \left(#1\right)%
103 }}

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105 \operatorname{Var}\left(#1\right)%
106 }}
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109 \operatorname{Cov}\left(#1,#2\right)%
110 }}

```

Common code for \sin etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][1]{%
112 \ifblank{#1}{\^{#1}}%
113 \ifblank{#2}{\left(#2\right)}%
114 }}
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117 \operatorname{#1}%
118 \LWRskmathtrigtwo%
119 }}

120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for `\ln` and `\log`:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][]{%
135 \ifblank{#1}{_{#1}}%
136 \ifblank{#2}{\left(#2\right)}%
137 }}
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140 \operatorname{#1}%
141 \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

145 \CustomizeMathJax{\newcommand{\LWRskmathexpparens}[1]{%
146 \operatorname{exp}%
147 \ifblank{#1}{\left(#1\right)}%
148 }}
```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{%
150 \mathchoice
151 {\ee^{#1}}
152 {\LWRskmathexpparens{#1}}
153 {\LWRskmathexpparens{#1}}
154 {\LWRskmathexpparens{#1}}
155 }}
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexpparens\LWRskmathexpnostar}}
```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159 \operatorname{\LWRskmathminname}%
160 \ifblank{#1}{_%
161 _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}
162 }%
163 \ifblank{#2}{\{#2}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166 \ifblank{#1}{%
167 {\operatorname{\LWRskmathminname}}%
168 {%
169 \underset%
170 {\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
171 {\operatorname{\LWRskmathminname}}%
172 }%
173 \ifblank{#2}{\left\{#2\right\}}%
174 }}
```

`\LWRskmathminname` seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176 \def\LWRskmathminname{#1}%
177 \ifstar\LWRskmathminstar\LWRskmathminnostar%
178 }}
```

```

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}

```

Redefine depending on notation=iso:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192 \CustomizeMathJax{\renewcommand{\Re}[1]{%
193 \LWRskmathRe%
194 \ifblank{#1}{ }\left{#1\right}%
195 }}
196 \CustomizeMathJax{\renewcommand{\Im}[1]{%
197 \LWRskmathIm%
198 \ifblank{#1}{ }\left{#1\right}%
199 }}
200 }{
201 \CustomizeMathJax{\renewcommand{\Re}[1]{%
202 \operatorname{Re}%
203 \ifblank{#1}{ }\{#1\}%
204 }}
205 \CustomizeMathJax{\renewcommand{\Im}[1]{%
206 \operatorname{Im}%
207 \ifblank{#1}{ }\{#1\}%
208 }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}

```

---

File 461 **lwarp-slantsc.sty**

§ 576      Package **slantsc**

*(Emulates or patches code by HARALD HARDERS.)*

`slantsc` (*Pkg*)    `slantsc` is emulated for HTML, and used as-is for print output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

2 \newcommand*{\LWR@HTML@noscshape}{}
3 \LWR@formatted{noscshape}
4
5 \FilenameNullify{%

```

---

```

6 \LetLtxMacro\noscshape\@empty%
7 }

```

---

File 462 **lwarp-slashed.sty**

§ 577      Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

slashed (*Pkg*)    slashed works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}

```

---

File 463 **lwarp-soul.sty**

§ 578      Package **soul**

*(Emulates or patches code by MELCHIOR FRANZ.)*

soul (*Pkg*)    soul is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}% for \convertcolorspec

```

Storage for the colors to use:

```

3 \newcommand*\LWR@soululcolor{}
4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}

```

$\{\langle text \rangle\}$

Basic markup with css:

```

10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }

```

$\{\langle text \rangle\}$

```

13 \newcommand{\caps}[1]{%
14 \InlineClass%
15 (font-variant:small-caps;letter-spacing:.1ex)%
16 {capsspacing}{#1}%
17 }

```

\so

\caps

\LWR@soulcolor

{\text}} {\color}} {\class}} {\colorstyle}} {\FormatWPstyle}}

Add colors if not empty:

```

18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcseempty{#2}%
20 {%
21 \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24 \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{sout}{text-decoration-color}%
35 {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{highlight}{background-color}%
40 {background:\LWR@origpound{F8E800}}
41 }
```

Nullified:

```

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand*\sloppyword}[1]{#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capssselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\<{}

```

Set colors:

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

---

File 464 **lwarp-soulpos.sty**

§ 579      Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

soulpos (*Pkg*) **soulpos** is emulated.

**for HTML output:**

```

1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand{\ulpostolerance}{0}%

```

---

File 465 **lwarp-soulutf8.sty**

§ 580      Package **soulutf8**

soulutf8 (*Pkg*) **soulutf8** is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

```

---

File 466 **lwarp-splitbib.sty**

§ 581      Package **splitbib**

*(Emulates or patches code by NICOLAS MARKEY.)*

splitbib (*Pkg*) **splitbib** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

```

---

```

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10 text-align:center ;
11 border-top: 1px solid black ;
12 border-bottom: 1px solid black ;
13]{splitbibbar}
14 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20 text-align:center ;
21]{splitbiddash}
22 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---~#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27 \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }

```

---

File 467 **lwarp-splitidx.sty**

§ 582    Package **splitidx**

*(Emulates or patches code by MARKUS KOHM.)*

`splitidx` (*Pkg*)    `splitidx` is patched for use by `lwarp`.

If the `latexmk` option is selected for `lwarp`, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 **\thepage**    When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 706.17 in the lwarp-patch-memoir package for the \@@wrsindexhyp macro as an example.

for HTML output:

```
1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]

2 \VerifyCommand[lwarp][splitidx]{\newindex}{84695DF9965D5007036BA0B4023C59B5}
3
4 \catcode`_ =12%
5 \xpatchcmd{\newindex}
6 {\jobname-#2.idx}
7 {\jobname-#2_html.idx}
8 {}
9 {\LWR@patcherror{splitidx}{@newindex}}
10 \catcode`_ =8%
```

Patched to use lwarp's automatic indexing counter instead of \thepage:

```
11 \VerifyCommand[lwarp][splitidx]{\@wrsindex}{6E1A6193E20ABD0DFD6A1FC3F35113A6}
12
13 \renewcommand*{\@wrsindex}[2][\%
14 \ifx\relax#1\relax
15 \if@splitidx
16 \@wrsindex[idx]{#2}%
17 \else
18 \def\@tempa{#2}%
19 \if@verbinde\@onelevel@sanitize\@tempa\fi
20 \@wrsindex{\@tempa}%
21 \fi
22 \else
23 \def\@tempa{#2}%
24 \csname index@#1@hook\endcsname
25 \expandafter\ifx\csname @wrsindex\endcsname\relax
26 \addtocounter{LWR@autoindex}{1}% lwarp
27 \@@@wrsindex{#1}{\@tempa}{\thepage}%
28 \@@@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}%
29 \else
30 \def\@tempb{\@wrsindex{#1}}%
31 \expandafter\@tempb\@tempa||\%
32 \fi
```

The label is assigned after the file write to avoid conflict with cleveref.

```
33 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
34 \endgroup
35 \@esphack
36 \fi
37 }
```

lwarp defines sectioning commands with xparse, so the below patches are done as temporary redefinitions instead of being \let.

Not using \VerifyCommand here since the patches are not likely to be affected by changes in the original.

```
38 \xpatchcmd{\printsubindex}
39 {\let\section\subsection}
40 {\renewcommand*\section}{\subsection}}
41 {}
42 {\LWR@patcherror{splitidx}{printsubindex-section}}
```

---

```

43
44 \xpatchcmd{\printsubindex}
45 {\let\chapter\section}
46 {\renewcommand*\chapter{\section}}
47 {}
48 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
49
50 \xpatchcmd{\printsubindex}
51 {\let\@makechapterhead\section}
52 {\def\@makechapterhead{\section}}
53 {}
54 {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

---

File 468 **lwarp-srcltx.sty**

§ 583      Package **srcltx**

srcltx (*Pkg*)    srcltx is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}
4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input

```

---

File 469 **lwarp-srctex.sty**

§ 584      Package **srctex**

srctex (*Pkg*)    srctex is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]  
                          2 \LWR@origRequirePackage{lwarp-srcltx}

---

File 470 **lwarp-stabular.sty**

§ 585      Package **stabular**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

stabular (*Pkg*)    stabular is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

Env `stabular` [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{ }
6 }
7 \end{tabular}}
```

Env `stabular` [ $\langle width \rangle$ ] [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{ }
12 }
13 \end{tabular}}
```

---

File 471 **lwarp-stackengine.sty**

§ 586      Package **stackengine**

(Emulates or patches code by STEVEN B. SEGLETES.)

`stackengine` (*Pkg*) `stackengine` is patched for use by `lwarp`.

**for HTML output:**    1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

Not using `\VerifyCommand` here because these patches appear to be fairly transparent to changes in the original

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `lateximages` does not work:

```
2 \LetLtxMacro\LWR@orig@stackengine\stackengine

3 \renewcommand*{\stackengine}[8]{%
4 \ifstrequal{#4}{0}%
5 {\begin{lateximage}[\ImageAltText]?}%
6 {\begin{lateximage}[\ImageAltText]?[vertical-align:top]}%
7 \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8 \end{lateximage}%
9 }
```

`\@stack` uses a `lateximage` with a vertical alignment:

```
10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13 {}
14 {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17 \ifstrequal{#3}{0}%
18 {\begin{lateximage}[\ImageAltText]?}%
19 {\begin{lateximage}[\ImageAltText]?[vertical-align:top]}%
```

```

20 \LWR@orig@stack{#1}{#2}{#3}{#4}%
21 \end{lateximage}%
22 }

```

The lapping macros are disabled for HTML:

```

23 \newcommand*\LWR@HTML@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}

```

`\stackanchor` is patched for two instances of `\stackengine`. A `lateximage` with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26 {}
27 {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30 {}
31 {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34 {\begin{lateximage}[\ImageAltText]?[vertical-align:middle]}%
35 {}
36 {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39 {}
40 {\LWR@patcherror{stackengine}{stackanchor app}}

```

`\Centerstack` is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42 {\begin{lateximage}[\ImageAltText]?[vertical-align:middle]}%
43 {}
44 {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47 {}
48 {\LWR@patcherror{stackengine}{Centerstack app}}

```

`\savestack` reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \VerifyCommand[lwarp][stackengine]{\savestack}{4B06A7F9D3F0B829FE293FB452D43430}
50
51 \renewcommand*\savestack[2]{%
52 \xdef\sv@name{\stack@macro@name{#1}}%
53 \@ifundefined{sv@name content}{%
54 \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
55 }{}%
56 \begingroup% lwarp
57 \LWR@restoreorigformatting% lwarp
58 \RenewDocumentEnvironment{lateximage}{s o s t? o o d()}{%}{% lwarp: inside group
59 \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
60 \expandafter\gdef\expandafter#1\expandafter{%
61 \expandafter\begin\expandafter{lateximage\expandafter}% lwarp
62 \expandafter\usebox\expandafter%
63 {\csname\sv@name content\endcsname}%
64 \expandafter\end\expandafter{lateximage\expandafter}% lwarp

```

```

65 }%
66 \endgroup% lwarp
67 }

```

---

File 472 **lwarp-stackrel.sty**

§ 587     Package **stackrel**

*(Emulates or patches code by HEIKO OBERDIEK.)*

stackrel (*Pkg*) **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][[]]{%
4 \mathrel{\mathop{#3}\limits_{#1}^{#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][[]]{%
8 \mathbin{\mathop{#3}\limits_{#1}^{#2}}}%
9 }}
10 \end{warpMathJax}

```

---

File 473 **lwarp-statex2.sty**

§ 588     Package **statex2**

*(Emulates or patches code by RODNEY A SPARAPANI.)*

statex2 (*Pkg*) **statex2** is patched for use by lwarp, and emulated for MATHJAX.

⚠ As of this version, option autobold does not appear to work for PDF output.

⚠ For MATHJAX, the tilde character ~ does not create \sim. Use \sim directly.

⚠ Because MATHJAX has limited conditional processing:

- \wrap only creates square braces, no matter what its optional arguments.
- \P, \pCau, \pN, and \pU do not handle special cases.

⚠ **\and** To have \and work if using \maketitle, place the following after the start of the document:

```

\newcommand*{\and}{%
 \relax\ifmmode%
 \expandafter\;\mb{\mathrm{and}}\;%
 \else%
 \expandafter\STATEXand%
 \fi%
}

```

for HTML output:

```

1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]

2 \newcommand*{\LWR@HTML@Alpha}[1][{}]{%
3 \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4 \textbf{\textcolor{ForestGreen}{\textsf{#1}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*{\LWR@HTML@List}[1]{%
9 \textbf{\textcolor{Dandelion}{\textsf{L}}\textsubscript{\textit{#1}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*{\LWR@HTML@Snd}[1][{}]{%
14 \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}%
15 \textbf{\textcolor{Dandelion}{\textsf{#1}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsL}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\mathrm{#1}}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\mathrm{#1}}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{\mathrm{d}}{\mathrm{d}}}\mathrm{#1}}\wrap{\mb{#2}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{\mathrm{d}}{\mathrm{d}}}\mathrm{#2}}\wrap{\mb{#1}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}}^{\mathrm{#1}}}}
42 \CustomizeMathJax{\newcommand{\E}[2][{}]{\mb{\mathrm{E}}_{\mathrm{#1}}}\wrap{\mb{#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\mathrm{alpha}}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][{}]{%
45 \mb{\mathrm{I}}_{\mathrm{#1}} \LWRwrapparen{\mb{#2}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48 \mb{\frac{\mathrm{Gamma}[#1+#2]}{\mathrm{Gamma}[#1]\mathrm{Gamma}[#2]}}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\; \mb{\mathrm{if}} \; \;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{}}}
53 \CustomizeMathJax{\newcommand{\ow}{\; \mb{\mathrm{otherwise}} \; \;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55 \mb{\frac{\partial}{\partial \mathrm{#1}}}\wrap{\mb{#2}}}%
56 }}
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58 \mb{\frac{\partial}{\partial \mathrm{#2}}}\wrap{\mb{#1}}}%
59 }}

```

```

60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline}}
62 \CustomizeMathJax{\newcommand{\V}[2][\mb{\mathrm{V}}_{\mb{\#1}}\wrap{\mb{\#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\; \mb{\mathrm{vs.}} \;}}
64 \CustomizeMathJax{\newcommand{\where}{\; \mb{\mathrm{where}} \;}}
65 \CustomizeMathJax{\newcommand{\wrap}[2][\left[\#2 \right]]{\% \quad \text{only } []}
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left(\#1 \right)}}{\% \quad \text{lwarp}
67
68 \% \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}\% doesn't work,
69 \% replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\; \stackrel{\mb{\mathrm{iid}}}{\sim} \;}}
72 \CustomizeMathJax{\newcommand{\ind}{\; \stackrel{\mb{\mathrm{ind}}}{\sim} \;}}
73 \CustomizeMathJax{\newcommand{\indpr}{\%
74 \; \stackrel{\mb{\mathrm{ind}}}{\sim} \stackrel{\mb{\mathrm{prior}}}{\sim} \;}}
75 }}
76 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\mb{\mathrm{post}}}{\sim} \;}}
77 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\mb{\mathrm{prior}}}{\sim} \;}}
78
79 \CustomizeMathJax{\let\STEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mb{\STEXGamma}\LWRwrapparen{\mb{\#1}}}}
81 \%
82 \CustomizeMathJax{\renewcommand{\and}{\; \mb{\mathrm{and}} \;}}
83 \%
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 \%
86 \CustomizeMathJax{\newcommand{\P}[2][\mb{\mathrm{P}}_{\mb{\#1}}\wrap{\mb{\#2}}}}
87 \%
88 \CustomizeMathJax{\newcommand{\|}{\mb{\mid}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}\LWRwrapparen{\mb{\#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}\LWRwrapparen{\mb{\#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}\LWRwrapparen{\mb{\#1}, \#2}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}\LWRwrapparen{\mb{\#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{\%
95 \mb{\mathrm{Hypergeometric}}\LWRwrapparen{\mb{\#1}, \#2, \#3}}
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{\%
98 \mb{\mathrm{Multinomial}}\LWRwrapparen{\mb{\#1}, \#2}}
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}\LWRwrapparen{\mb{\#1}, \#2}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}\LWRwrapparen{\mb{\#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{\%
105 \mb{\frac{\Gamma[\#2+1]\Gamma[\#3+\#1]\Gamma[\#2+\#4-\#1]\Gamma[\#3+\#4]}{\Gamma[\#1+1]\Gamma[\#2-\#1+1]\Gamma[\#2+\#3+\#4]\Gamma[\#3]\Gamma[\#4]}}
106 \I[\#1]{\{0, 1, \dots, \#2\}}, \text{where } \#3>0, \; \#4>0 \text{ and } n=1, 2, \dots}
107 }}
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{\%
110 \mb{\binom{\#2}{\#1}\#3^{\#1}} \LWRwrapparen{\mb{\{1-\#3\}^{\#2-\#1}}}}
111 \mb{\I[\#1]{\{0, 1, \dots, \#2\}}, \text{where } p \in (0, 1) \text{ and } n=1, 2, \dots}
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{\%
114 \mb{\frac{1}{\#1!}\#2^{\#1}e^{-\#2}}\I[\#1]{\{0, 1, \dots\}}, \text{where } \#2>0}
115 }}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}\LWRwrapparen{\mb{\#1}, \#2}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][\%

```

```

120 \chisq_{\mb{#1}}\LWRwrapparen{\mb{#2}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}\LWRwrapparen{\mb{#1},\ #2}}}%
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}\LWRwrapparen{\mb{#1}}}%
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}\LWRwrapparen{\mb{#1},\ #2}}}%
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}\LWRwrapparen{\mb{#1},\ #2}}}%
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}\LWRwrapparen{\mb{#1}}}%
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130 \mb{\mathrm{Gamma^{-1}}}\LWRwrapparen{\mb{#1},\ #2}}}%
131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133 \mb{\mathrm{Wishart^{-1}}}\LWRwrapparen{\mb{#1},\ #2}}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Logistic}}\LWRwrapparen{\mb{#1},\ #2}}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139 \mb{\mathrm{Log\!-\!N}}\LWRwrapparen{\mb{#1},\ #2}}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][x]{%
142 \mb{\mathrm{N}}_{\mb{#1}}\LWRwrapparen{\mb{#2},\ #3}}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}\LWRwrapparen{\mb{#1},\ #2}}}%
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T^2}}\LWRwrapparen{\mb{#1},\ #2}}}%
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}\LWRwrapparen{\mb{#1}}}%
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}\LWRwrapparen{\mb{#1},\ #2}}}%
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}\LWRwrapparen{\mb{#1}}}%
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153 \IBeta{#2}{#3}%
154 #1^{\#2-1}\LWRwrapparen{1-#1}^{\#3-1}\I[#1]{0,\ 1}, \where #2>0 \and #3>0%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 % \ifthenelse{equal{#2, #3}{0, 1}}{\frac{1}{\cpi\LWRwrapparen{1+#1^2}}}%
158 {\frac{1}{#3\cpi\left\{1+\wrap{\LWRwrapparen{x-#2}/#3}^2\right\}}, \where #3>0}%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161 \frac{2^{\#2/2}}{\Gamma[#2/2]}#1^{\#2/2-1}\e^{-#1/2}%
162 \I[#1]{0,\infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165 \frac{1}{#2}\e^{-#1/#2}\I[#1]{0,\infty},%
166 \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169 \frac{#3^{\#2}}{\Gamma[#2]}#1^{\#2-1}\e^{-#3#1}%
170 \I[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 % \ifthenelse{equal{#2, #3}{0, 1}}%
174 {\frac{1}{\sqrt{2\cpi}}\e^{-#1^2/2}}%
175 {\frac{1}{\sqrt{2\cpi \cdot #3}}\e^{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178 \frac{#3}{#2\LWRwrapparen{1+#1/#2}^{\#3+1}}\I[#1]{0,\infty},%
179 \where #2>0 \and #3>0%

```

```

180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 % \ifthenelse{equal{#2, #3}{0, 1}}{\I[#1]{0,\ 1}}%
183 {\frac{1}{#3-#2}\I[#1]{#2,\ #3}, \where #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{=}[1]{\bar{#1}}}
187 \CustomizeMathJax{\let\^{\widehat}}
188 \CustomizeMathJax{\let\~{\widetilde}}
189 \CustomizeMathJax{\newcommand{\'}[1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b}[1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\,\,\mb{\mathrm{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\.}{\mb{\ldots}}}
194 \end{warpMathJax}

```

---

#### File 474 **lwarp-statistics.sty**

### § 589 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

**statistics** (*Pkg*) **statistics** is patched for use by **lwarp**.

 **\color** The **statistics** documentation examples include the use of the **\color** macro. Use **\textcolor** instead.

 **math** The **statistics** package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use **\ensuremath** or **\(** and **\)** as needed.

Pre/postline is ignored, and **\hline** is used instead. Each table will have an **\hline** above and below as a frame.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```

3 \VerifyCommand[lwarp][statistics]{__statistics_table_make:nn}
4 {DC8BA2460EA83AE75FA0C0F00E775B5E}
5
6 \StartDefiningTabulars% lwarp, no other changes below
7 \cs_set_protected_nopar:Nn __statistics_table_make:nn {
8 \int_compare:nT
9 { 0 < \l__statistics_table_maxcols_int
10 = \l__statistics_nbvals_int } {
11 __statistics_table_end:
12 \tl_use:N \l__statistics_table_sep_tl
13 __statistics_table_start:
14 }

```

```

15 \int_incr:N \l__statistics_nbvals_int
16 \int_incr:N \l__statistics_currange_int
17 \fp_add:Nn \l__statistics_curtotal_fp { #2 }
18 __statistics_set_if_shown:N \l_tmpa_bool
19 \tl_set:Nx \l_tmpa_tl {
20 \exp_not:n { & \tl_set:Nn \currentcolumn } {
21 \int_use:N \l__statistics_currange_int
22 }
23 }
24 \bool_if:NTF \l_tmpa_bool {
25 \tl_put_right:Nn \l_tmpa_tl
26 { __statistics_table_shown_format:n }
27 }{
28 \tl_put_right:Nn \l_tmpa_tl
29 { __statistics_table_hidden_format:n }
30 }
31 \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
32 \bool_if:NT \l__statistics_table_values_bool {
33 \tl_put_right:Nx \l__statistics_table_values_tl {
34 \exp_not:V \l_tmpa_tl {
35 \exp_not:n {
36 __statistics_table_values_format:n { #1 }
37 }
38 }
39 }
40 }
41 \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n {#2} }
42 \bool_if:NT \l__statistics_table_counts_bool {
43 \tl_put_right:Nx \l__statistics_table_counts_tl {
44 \exp_not:V \l_tmpa_tl {
45 \exp_not:n {
46 __statistics_table_counts_format:n {
47 { __statistics_table_allcounts_format:n { #2 } }
48 }
49 }
50 }
51 }
52 }
53 \bool_if:NT \l__statistics_table_icc_bool {
54 \tl_put_right:Nx \l__statistics_table_icc_tl {
55 \exp_not:V \l_tmpa_tl {
56 \exp_not:n { __statistics_table_icc_format:n }
57 {
58 \exp_not:n{ __statistics_table_allcounts_format:n }
59 { \fp_use:N \l__statistics_curtotal_fp }
60 }
61 }
62 }
63 }
64 \bool_if:NT \l__statistics_table_dcc_bool {
65 \tl_put_right:Nx \l__statistics_table_dcc_tl {
66 \exp_not:V \l_tmpa_tl {
67 \exp_not:n { __statistics_table_dcc_format:n }
68 {
69 \exp_not:n{ __statistics_table_allcounts_format:n }
70 {
71 \fp_eval:n {
72 \l__statistics_total_fp
73 - \l__statistics_curtotal_fp
74 + #2

```

```

75 }
76 }
77 }
78 }
79 }
80 }
81 \fp_set:Nn \l__statistics_table_curICF_fp {
82 round(\l__statistics_curtotal_fp
83 / \l__statistics_total_fp,
84 \l__statistics_table_round_int)
85 }
86 \bool_if:NT \l__statistics_table_frequencies_bool {
87 \tl_put_right:Nx \l__statistics_table_frequencies_tl {
88 \exp_not:V \l_tmpa_tl {
89 \exp_not:n { __statistics_table_frequencies_format:n }
90 {
91 \exp_not:n{ __statistics_table_allfreqs_format:n }
92 {
93 \fp_eval:n {
94 \l__statistics_table_curICF_fp
95 - \l__statistics_table_prevICF_fp
96 }
97 }
98 }
99 }
100 }
101 }
102 \bool_if:NT \l__statistics_table_icf_bool {
103 \tl_put_right:Nx \l__statistics_table_icf_tl {
104 \exp_not:V \l_tmpa_tl {
105 \exp_not:n { __statistics_table_icf_format:n }
106 {
107 \exp_not:n{ __statistics_table_allfreqs_format:n }
108 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
109 }
110 }
111 }
112 }
113 \bool_if:NT \l__statistics_table_dcf_bool {
114 \tl_put_right:Nx \l__statistics_table_dcf_tl {
115 \exp_not:V \l_tmpa_tl {
116 \exp_not:n { __statistics_table_dcf_format:n }
117 {
118 \exp_not:n{ __statistics_table_allfreqs_format:n }
119 {
120 \fp_eval:n {
121 1 - \l__statistics_table_prevICF_fp
122 }
123 }
124 }
125 }
126 }
127 }
128 \fp_set_eq:NN
129 \l__statistics_table_prevICF_fp
130 \l__statistics_table_curICF_fp
131 }
132 \StopDefiningTabulars% lwarp

```

Redefined using tabular. Also, preline and postline do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

133 \VerifyCommand[lwarp][statistics]{__statistics_table_end:}
134 {B2F9FC5A36B44E6E06A8D9807FCBAA6D}
135
136 \cs_set_protected_nopar:Nn __statistics_table_end: {
137 \tl_set:Nx \l__statistics_table_preamble_tl {
138 % \exp_not:n { \begin{array}[]
139 \exp_not:n { \begin{tabular}[] % lwarp
140 \exp_not:V \l__statistics_table_valign_tl
141 \exp_not:n {] }
142 { \exp_not:V \l__statistics_table_headcoltype_tl
143 \prg_replicate:nn { \l__statistics_nbvals_int }
144 { \exp_not:V \l__statistics_table_coltype_tl } }
145 }
146 \seq_clear:N \l__statistics_table_contents_seq
147 \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
148 \bool_if:cT { l__statistics_table_##1_bool } {
149 \seq_put_right:Nv
150 \l__statistics_table_contents_seq
151 { l__statistics_table_##1_tl }
152 }
153 }
154 % $
155 \tl_use:N \l__statistics_table_preamble_tl
156 \hline% lwarp
157 % \l__statistics_table_preline_tl
158 \seq_use:Nn
159 \l__statistics_table_contents_seq
160 { \l__statistics_table_newline_tl }
161 \\\
162 % \l__statistics_table_postline_tl
163 \hline% lwarp
164 % \end{array}$
165 \end{tabular}% lwarp
166 }

```

With `lwarp`, `\ensuremath` creates an svg image, but its alt tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

167 \VerifyCommand[lwarp][statistics]{__statistics_table_start:}
168 {624FAC0783057B481861D9F02764F6C5}
169
170 \cs_set_protected_nopar:Nn __statistics_table_start: {
171 \int_zero:N \l__statistics_nbvals_int
172 \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
173 \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
174 }
175 \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
176 \tl_set:cx { l__statistics_table_##1_tl } {
177 % \exp_not:N \ensuremath {
178 % \exp_not:N \hbox {
179 % \exp_not:c { l__statistics_table_##1_name_tl }
180 % }
181 % }

```

```

182 }
183 }
184 }

```

For the first row. Redefined to use text output:

```

185 \VerifyCommand[lwarp][statistics]{__statistics_IN:w}
186 {DD1B22587CFB4DEDBEE4D8E9A1E0CCAF}
187
188 \RenewDocumentCommand __statistics_IN:w { m u{;} u{;} m } {
189 % \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
190 #1 #2 ; #3 #4% lwarp
191 }
192
193 __statistics_setup:nn { table } {
194 % values/format = \ensuremath{#1},
195 values/format = {#1},% lwarp
196 }

```

Added \ExplSyntaxOn/Off to avoid errors. (In once instance, a double subscript error appeared.)

```

197 \VerifyCommand[lwarp][statistics]{\StatsGraph}
198 {998267D2E90514DBDFD5544FB69AD6C8}
199
200 \RenewDocumentCommand \StatsGraph { +O{} +m +O{} } {
201 \group_begin:
202 \int_gincr:N \g__statistics_graph_last_int
203 \tl_set:Nx \l_tmpa_tl {
204 \exp_not:n { g__statistics_graph_xstep_ }
205 \int_use:N \g__statistics_graph_last_int
206 \exp_not:n { _tl }
207 }
208 \tl_if_exist:cTF { \l_tmpa_tl } {
209 \fp_gset:Nn \g__statistics_graph_xstep_fp
210 { \tl_use:c { \l_tmpa_tl } }
211 }{
212 \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
213 }
214 __statistics_setup:nn { graph } { #1, #3 }
215 \tl_if_single:nTF { #2 } {
216 \cs_if_exist:NF #2 { #2 }
217 \tl_set_eq:NN \l__statistics_data_tl #2
218 }{
219 \tl_set:Nn \l__statistics_data_tl { #2 }
220 }
221 \fp_zero:N \l__statistics_graph_maxheight_fp
222 \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
223 \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
224 \fp_zero:N \l__statistics_total_fp
225 \int_zero:N \l__statistics_nbvals_int
226 \bool_set_true:N \l__statistics_graph_allranges_bool
227 \keyval_parse:NNV
228 __statistics_graph_prepare:n
229 __statistics_graph_prepare:nn
230 \l__statistics_data_tl
231 \tl_clear:N \l__statistics_graph_tikzdata_tl
232 \tl_clear:N \l__statistics_graph_tikzinfo_tl
233 \int_zero:N \l__statistics_currange_int
234 \bool_if:NTF \l__statistics_graph_allranges_bool {

```

```

235 \bool_if:NTF \l__statistics_graph_cumulative_bool {
236 \ExplSyntaxOn% lwarp
237 __statistics_graph_dopicture_cumulative:
238 \ExplSyntaxOff% lwarp
239 }{
240 \ExplSyntaxOn% lwarp
241 __statistics_graph_dopicture_hist:
242 \ExplSyntaxOff% lwarp
243 }
244 }{
245 \ExplSyntaxOn% lwarp
246 __statistics_graph_dopicture_comb:
247 \ExplSyntaxOff% lwarp
248 }
249 \iow_now:Nx \@auxout {
250 \exp_not:n {
251 \ExplSyntaxOn
252 \tl_gset:cn
253 }
254 {
255 \exp_not:n {g__statistics_graph_xstep_}
256 \int_use:N \g__statistics_graph_last_int
257 \exp_not:n {_tl}
258 }
259 {
260 \fp_to_decimal:N \g__statistics_graph_xstep_fp
261 }
262 \exp_not:n {
263 \ExplSyntaxOff
264 }
265 }
266 \group_end:
267 }
268
269 \ExplSyntaxOff

```

---

File 475 **lwarp-statmath.sty**

§ 590      Package **statmath**

(Emulates or patches code by SEBASTIAN ANKARGREN.)

statmath (*Pkg*)    statmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12

```

---

```

13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bf b}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bf c}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bf d}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bf e}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bf f}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bf g}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bf h}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bf i}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bf j}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bf k}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bf l}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bf m}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bf n}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bf o}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bf p}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bf q}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bf r}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bf s}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bf t}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bf u}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bf v}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bf w}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bf x}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bf y}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bf z}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{}}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{}}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}

```

---

```

73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}
85 \end{warpMathJax}

```

---

#### File 476 **lwarp-steinmetz.sty**

### § 591 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

steinmetz (*Pkg*) **steinmetz** is patched for use by lwarp. Emulation is provided for MATHJAX

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

2 \renewcommand{\phase}[2][\%
3 \begin{lateximage}*{steinmetz\{\detokenize{#2}\}}?%
4 \ensuremath{\underline{/#2}}
5 \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][\underline{/#2}}}
10 \end{warpMathJax}

```

---

#### File 477 **lwarp-stfloats.sty**

### § 592 Package **stfloats**

stfloats (*Pkg*) **stfloats** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

```

**stfloats** may have been preloaded by a ltj\* class.

The following are provided in case they have not yet been defined:

```

2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}

```

Nullified for HTML:

---

```

6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}

```

---

File 478 **lwarp-struktex.sty**

§ 593     Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

struktex (*Pkg*)    **struktex** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{struktex}

2 \BeforeBeginEnvironment{struktogramm}{%
3 \begin{lateximage}[-struktex-~\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11 \begin{center}
12 \input{#1.nss}
13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}

```

---

File 479 **lwarp-subcaption.sty**

§ 594     Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

subcaption (*Pkg*)    **subcaption** is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In HTML they are placed side-by-side automatically.

```

2 \xpretocmd{\subcaption@iiminipage}
3 {\minipagefullwidth}
4 {}
5 {\LWR@patcherror{subcaption}{subcaption@iiminipage}}

```

Likewise for a `\subcaptionbox`:

---

```

6 \xpretocmd{\subcaptionbox}
7 {\minipagefullwidth}
8 {}
9 {\LWR@patcherror{subcaption}{subcaptionbox}}

```

---

File 480 **lwarp-subfig.sty**

§ 595 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

subfig (*Pkg*) **subfig** is supported and patched by **lwarp**.

⚠ **table numbering** To have correct sub table numbers:

```

\usepackage{caption}
\captionsetup[table]{position=top}

```

⚠ **lof/lotdepth** At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:** Accept all options for **lwarp-subfig**:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

`\sf@@@subfloat`

`{\langle 1 type \rangle} [\langle 2 lof entry \rangle] [\langle 3 caption \rangle] {\langle 4 contents \rangle}`

The outer minipage allows side-by-side subfloats with `\hfill` between.

```

2 \VerifyCommand[lwarp][subfig]{\sf@@@subfloat}{B29FEC2418FD15B9E58ACF593B81BA93}
3
4 \long\def\sf@@@subfloat#1[#2][#3]#4{%
5 \begin{minipage}{\linewidth}% lwarp

6 \IfValueTF{#2}{%
7 \LWR@setlatestname{#2}%
8 }{%
9 \IfValueTF{#3}{%
10 \LWR@setlatestname{#3}%
11 }{%
12 }%
13 \LWR@stoppars% lwarp
14 \@ifundefined{FBsc@max}{}%
15 {\FB@readaux{\let\FBsuboheight\relax}}%
16 \@tempcnta=\@ne
17 \if@minipage
18 \@tempcnta=\z@
19 \else\ifdim \lastskip=\z@ \else
20 \@tempcnta=\tw@
21 \fi\fi
22 \ifmaincaptiontop
23 \sf@top=\sf@nearskip
24 \sf@bottom=\sf@farskip

```

```

25 \else
26 \sf@top=\sf@farskip
27 \sf@bottom=\sf@nearskip
28 \fi
29 \leavevmode

30 % \setbox\@tempboxa \hbox{#4}%
31 % \@tempdima=\wd\@tempboxa
32 % \@ifundefined{FBsc@max}{}%
33 % {\global\advance\Xhsize-\wd\@tempboxa
34 % \dimen@=\ht\@tempboxa
35 % \advance\dimen@\dp\@tempboxa
36 % \ifdim\dimen@>\FBso@max
37 % \global\FBso@max\dimen@
38 % \fi}%

```

Do not use boxes, which interfere with lateximages:

```

39 % \vtop%
40 \bgroup
41 % \vbox%
42 \bgroup
43 \ifcase\@tempcnta
44 \@minipagefalse
45 \or
46 % \vskip\sf@top
47 \or
48 \ifdim \lastskip=\z@ \else
49 % \@tempskipb\sf@top\relax\@xaddvskip
50 \fi
51 \fi
52 \sf@ifpositiontop{%
53 \ifx \@empty#3\relax \else
54 \sf@subcaption{#1}{#2}{#3}%
55 % \vskip\sf@capskip
56 % \vskip\sf@captopadj
57 \fi\egroup
58 % \hrule width0pt height0pt depth0pt
59 % \LWR@startpars% lwarp
60 % \box\@tempboxa
61 % #4
62 % \LWR@stoppars% lwarp
63 % }{%
64 % \LWR@startpars% lwarp
65 % \@ifundefined{FBsc@max}%
66 % {
67 % \box\@tempboxa
68 % #4
69 % }%
70 % {\ifx\FBsuboheight\relax
71 % \box\@tempboxa
72 % #4
73 % \else
74 % \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
75 % #4
76 % \fi}%
77 % \LWR@stoppars% lwarp
78 % \egroup
79 % \ifx \@empty#3\relax \else
80 % \vskip\sf@capskip
81 % \hrule width0pt height0pt depth0pt

```

```

82 \sf@subcaption{#1}{#2}{#3}%
83 \fi
84 }%
85 % \vskip\sfbottom
86 \egroup
87 \@ifundefined{FBsc@max}{}%
88 {\addtocounter{FRobj}{-1}%
89 \ifnum\c@FRobj=0\else
90 \subfloatrowsep
91 \fi}%
92 \ifmaincaptiontop\else
93 \global\advance\@nameuse{c@\@capttype}\m@ne
94 \fi
95 \end{minipage}% lwarp
96 \LWR@startpars% lwarp
97 \endgroup\ignorespaces%
98 }%

```

\sf@subcaption

{\langle 1 type \rangle} {\langle 2 lof entry \rangle} {\langle 3 caption \rangle}

```

99 \VerifyCommand[lwarp][subfig]{\sf@subcaption}{63123F93BADE8F3BBC127012A832A4C4}
100
101 \long\def\sfb@subcaption#1#2#3{%
102 \LWR@stoppars% lwarp
103 \ifx \relax#2\relax \else
104 \bgroup
105 \let\label=\@gobble
106 \let\protect=\string
107 \def\@subcaplabel{%
108 \caption@lstfmt{\@nameuse{p@#1}}{\@nameuse{the#1}}}%
109 \sf@updatecaptionlist{#1}{#2}{\the\value{\@capttype}}{\the\value{#1}}%
110 \egroup
111 \fi
112 \bgroup
113 \ifx \relax#3\relax
114 \let\captionlabelsep=\relax
115 \fi
116 % \setbox0\vbox{%
117 % \hb@xt@\the\@tempdima{%
118 %
119 % % \hss
120 % % \parbox[t]{\the\@tempdima}{%
121 % % \caption@make
122 % % {\@nameuse{sub\@capttype name}}}%
123 % % {\@nameuse{thesub\@capttype}}}%
124 % % {#3}
125 % % % }%
126 % % \hss
127 % % }
128 % % }%
129 \@ifundefined{FBsc@max}%
130 % {\box0}%
131 % {
132 % \parbox[t]{\the\@tempdima}{%
133 \LWR@traceinfo{sfs@subcap B1}% lwarp
134 \LWR@figcaption% lwarp
135 \caption@make
136 {\@nameuse{sub\@capttype name}}}%
137 {\@nameuse{thesub\@capttype}}}%
138 {\LWR@isolate{#3}}}%

```

```

139 \endLWR@figcaption% lwarp
140 \LWR@traceinfo{sfsubcap B2}% lwarp
141 % }%
142 }%
143 {\dimen@ \ht0%
144 \advance \dimen@ \dp0%
145 \ifdim \dimen@ > \FBsc@max
146 \global \FBsc@max \dimen@
147 \fi
148 \FB@readaux{\let \FBsubcheight \relax}%
149 \ifx \FBsubcheight \relax
150 \def \next{
151 % \parbox[t]{\the \@tempdima}
152 }%
153 \else
154 \def \next{
155 % \parbox[t][\FBsubcheight][t]{\the \@tempdima}
156 }%
157 \fi
158 % \vbox{%
159 % \hb@xt@\the \@tempdima{%
160
161 % \hss
162 % \next{%
163 \LWR@traceinfo{sfsubcap C1}% lwarp
164 \caption@make
165 {\@nameuse{sub\@capttype name}}%
166 {\@nameuse{thesub\@capttype}}%
167 {\#3}
168 \LWR@traceinfo{sfsubcap C1}% lwarp
169 % }%
170 % \hss
171
172 % }
173 % }
174 % }%
175 \egroup
176 \LWR@startpars% lwarp
177 }

```

\subfloat@label

Patches for \sf@sub@label:

```

178 \xpretocmd{\subfloat@label}
179 {\LWR@ensuredoingapar}
180 {}
181 {\LWR@patcherror{subfig}{subfloat@label}}

```

Patches for \subref.

\sf@subref

{\langle label \rangle}

The unstarred version uses a \ref link whose printed text comes from the sub@<label>:

```

182 \renewcommand{\sf@subref}[1]{%
183 \LWR@subnewref{#1}{sub@#1}%
184 }

```

\sf@@subref

{\langle label \rangle}

The starred version uses the printed sub@<label> which is stored as if it were a page number:

```
185 \renewcommand{\sf@subref}[1]{\LWR@orig@pageref{sub@#1}}
```

Defining new subfloats. The l@sub<type> for each is redefined.

```
\@newsubfloat {<keys/values>}{<float name>}

186 \LetLtxMacro\LWR@orig@newsubfloat\@newsubfloat
187
188 \def\@newsubfloat[#1]#2{%
189 \LWR@orig@newsubfloat[#1]{#2}%
190 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
191 }
```

Pre-defined for figures and tables:

```
\l@subfigure {<text>}{<pagenum>}

192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}

\l@subtable {<text>}{<pagenum>}

193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

---

File 481    **lwarp-subfigure.sty**

§ 596    Package    **subfigure**

subfigure (*Pkg*)    subfigure is emulated by subfig.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*{\subcapsize}{}
20 \newcommand*{\subcaplabelfont}{}
21 \newcommand*{\subcapfont}{}

```

---

File 482 **lwarp-subsupscripts.sty**

§ 597      Package **subsupscripts**
*(Emulates or patches code by RICCARDO BRESCIANI.)*

subsupscripts (*Pkg*)    **subsupscripts** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{subsupscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourscriptsC}[7]{%
5 {}^{#2}_{#3}\hspace{#6}#1\hspace{#7}{}^{#4}_{#5}%
6 }
7 }
8 \CustomizeMathJax{%
9 \newcommand{\lrsupscriptsC}[5]{%
10 \fourscriptsC{#1}{}{#2}{}{#3}{#4}{#5}%
11 }
12 }
13 \CustomizeMathJax{%
14 \newcommand{\lrsupscriptsC}[5]{%
15 \fourscriptsC{#1}{#2}{}{#3}{}{#4}{#5}%
16 }
17 }
18 \CustomizeMathJax{%
19 \newcommand{\fourscripts}[5]{%
20 \fourscriptsC{#1}{#2}{#3}{#4}{#5}{0ex}{0ex}%
21 }
22 }
23 \CustomizeMathJax{%
24 \newcommand{\lrsupscripts}[3]{\fourscripts{#1}{}{#2}{}{#3}}
25 }
26 \CustomizeMathJax{%
27 \newcommand{\lrsupscripts}[3]{\fourscripts{#1}{#2}{}{#3}{}{}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twoscripts}[4]{\fourscripts{#1}{#2}{}{#3}{}{}}
31 }
32 \CustomizeMathJax{%
33 \newcommand{\twoscripts}[4]{\fourscripts{#1}{#2}{}{#3}{}{}}
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lrsupscript}[3]{\twoscripts{#1}{#2}{}{#3}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\lrsupscript}[3]{\twoscripts{#1}{#2}{#3}{}{}}
40 }
41 \CustomizeMathJax{%
42 \newcommand{\rsupscript}[3]{\twoscripts{#1}{#2}{}{#3}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsupscript}[3]{\twoscripts{#1}{#2}{#3}{}{}}

```

```

46 }
47 \end{warpMathJax}

```

---

File 483 **lwarp-supertabular.sty**

§ 598      Package **supertabular**

*(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)*

supertabular (*Pkg*)    supertabular is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

 **Misplaced alignment tab character &**    For \tablefirsthead, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars

```

See section **8.10.1**.

 **lateximage**    supertabular and xtab are not supported inside a lateximage.

```

2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{#1}%
15 }

16 \newcommand{\tablecaption}[2][{}]{%
17 \long\gdef\LWRST@caption{%
18 \ifblank{#1}%
19 {\caption{#2}}%
20 {\caption[#1]{#2}}%
21 }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}
27
28 \newcommand*\shrinkheight[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {}

```

```

32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{%

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```

---

#### File 484 **lwarp-svg.sty**

### § 599 Package **svg**

*(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)*

svg (*Pkg*) **svg** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{svg}[2020/10/23]

2 \xpretocmd{\includesvg}%
3 {\begin{lateximage}}%
4 {}%
5 {\LWR@patcherror{svg}{includesvg}}
6
7 \xapptocmd{\includesvg}%
8 {\end{lateximage}}%
9 {}%
10 {\LWR@patcherror{svg}{includesvg}}
11
12 \xpretocmd{\includeinkscape}%
13 {\begin{lateximage}}%
14 {}%
15 {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18 {\end{lateximage}}%
19 {}%
20 {\LWR@patcherror{svg}{includeinkscape}}

```

---

File 485 **lwarp-swfigure.sty**

§ 600      Package **swfigure**

*(Emulates or patches code by CLAUDIO BECCARI.)*

swfigure (*Pkg*) **swfigure** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

2 \NewDocumentEnvironment{DFimage}%
3 {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!!{}}%
4 {%
5 \begin{figure}
6 \centering
7 \includegraphics{#2}
8 \caption[#{3}]{#4}
9 \IfValueT{#5}{\label{#5}}
10 \end{figure}
11 }%
12 {}%
```

---

File 486 **lwarp-sympytex.sty**

§ 601      Package **sympytex**

*(Emulates or patches code by TIM MOLITENO.)*

sympytex (*Pkg*) **sympytex** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{sympytex}[2014/05/16]

2 \AfterEndPreamble{
3
4 \AtBeginEnvironment{sympyblock}{%
5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6 {}%
7 {%
8 \LWR@forcenewpage%
9 \LWR@atbeginverbatim{verbatim}%
10 }%
11 }
12
13 \AfterEndEnvironment{sympyblock}{%
14 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
15 {}%
16 {%
17 \LWR@afterendverbatim%
18 }%
19 }
20
21 }
```

---

File 487 **lwarp-syntonly.sty**

§ 602      Package **syntonly**

*(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)*

syntonly (*Pkg*)    syntonly is ignored.

**for HTML output:**    Discard all options for lwarp-syntonly:

```
1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntonly}{}
6
7 \@onlypreamble\syntonly

8 \def\nopages@{}
```

---

File 488 **lwarp-tabfigures.sty**

§ 603      Package **tabfigures**

tabfigures (*Pkg*)    tabfigures is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

File 489 **lwarp-tablefootnote.sty**

§ 604      Package **tablefootnote**

tablefootnote (*Pkg*)    tablefootnote is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

```
2 \LetLtxMacro\tablefootnote\footnote
```

---

File 490 **lwarp-tabls.sty**

§ 605      Package **tabls**

*(Emulates or patches code by DONALD ARSENEAU.)*

`tabls` (*Pkg*) `tabls` is emulated. `\LWR@hline` is used to handle the optional argument when `tabls` is loaded.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{tabls}`

```
2 \newdimen\tablinesep
3 \newdimen\arraylinesep
4 \newdimen\extrarulessep
```

File 491 **lwarp-tabularx.sty**

§ 606 Package **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

`tabularx` (*Pkg*) `tabularx` is emulated by `lwarp`.

**for HTML output:** Discard all options for `lwarp-tabularx`:

```
1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]
2 \RequirePackage{array}
```

`\tabularxcolumn` is ignored. All `X` columns will be `p` for now. The width is ignored.

```
3 \def\tabularxcolumn#1{p{#1}}
4 \newcolumntype{X}{p{1in}}

5 \DeclareDocumentEnvironment{tabularx}{m o m}
6 {\tabular{#3}}
7 {\endtabular}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10 {\tabular{#3}}
11 {\endtabular}
```

File 492 **lwarp-tabulary.sty**

§ 607 Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

`tabulary` (*Pkg*) `tabulary` is emulated by `lwarp`.

**for HTML output:** Discard all options for `lwarp-tabulary`.

Column types `L`, `C`, `R`, and `J` are emulated by `lwarp` core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}
```

```
3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
```

```

6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}

10 \newcolumnntype{L}{l}
11 \newcolumnntype{C}{c}
12 \newcolumnntype{R}{r}
13 \newcolumnntype{J}{l}

14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}

```

---

File 493 **lwarp-tagpdf.sty**

§ 608      Package **tagpdf**

tagpdf (*Pkg*) tagpdf adds alt text, for images only. (HTML only has alternate text for images.)

The overall strategy is that tagpdf is deactivated, and slightly patched to process alt tags. Also see tagpdf-base, tagpdf-mc-code-generic, and tagpdf-mc-code-lua, following tagpdf.

for HTML output:

```

1 \RequirePackage{tagpdf-base}% *88*
2 \LWR@ProvidesPackagePass{tagpdf}[2022-08-24]

3 \ExplSyntaxOn
4
5 \keys_define:nn { __tag / struct }
6 {
7 alt .code:n = % Alt property
8 {
9 \str_set_convert:Nooon
10 \l__tag_tmpa_str
11 { #1 }
12 { default }
13 { utf16/hex }
14 __tag_prop_gput:cnx
15 { g__tag_struct_int_eval:n {\c@g__tag_struct_abs_int}_prop }
16 { Alt }
17 { <\l__tag_tmpa_str> }
18 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}% lwarp
19 },
20 }
21
22 \ExplSyntaxOff

```

The package is deactivated on load, and also each time \tagpdfsetup is used.

```

23 \LWR@tagpdf@deactivate

```

---

File 494 **lwarp-tagpdf-base.sty**

§ 609      Package **tagpdf-base**
*(Emulates or patches code by ULRIKE FISCHER.)*

tagpdf-base (*Pkg*)    tagpdf-base is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{tagpdf-base}[2022-08-24]

```

2 \ExplSyntaxOn
3
4 \newcommand*{\LWR@tagpdf@deactivate}{
5 \keys_set:nn { __tag / setup } {
6 activate/spaces = false ,
7 activate/mc = false ,
8 activate/tree = false ,
9 activate/struct = false ,
10 activate/struct-dest = false
11 }
12 }
13
14 \RenewDocumentCommand \tagpdfsetup { m }{
15 \keys_set:nn { __tag / setup } { #1 }
16 \LWR@tagpdf@deactivate
17 }
18
19 \cs_set_protected:Npn __tag_whatsits: {}% *88* new
20
21 % *88*
22 %\RenewDocumentCommand \tagmcbegin { m }
23 % {
24 %% \tag_mc_begin:n {#1}
25 % \keys_set:nn { __tag / mc } {#1}
26 % }
27
28 % *88*
29 %\RenewDocumentCommand \tagmcend { }
30 % {
31 %% \tag_mc_end:
32 % \ThisAltText{}% lwarp
33 % }
34 \cs_set_protected:Nn \tag_mc_end: {% *88* probably not needed because whatsits disabled above
35 % __tag_whatsits:
36 % \ThisAltText{}% lwarp
37 }
38
39 %\RenewDocumentCommand \tagmcuse { m }
40 % {
41 %% \tag_mc_use:n {#1}
42 % }
43
44 %\RenewDocumentCommand \tagstructbegin { m }
45 % {
46 %% *88* \keys_set:nn { __tag / struct } { #1 }% lwarp
47 % \tag_struct_begin:n {#1}% *88* was disabled

```

```

48 % }
49
50 %\RenewDocumentCommand \tagstructend { }
51 % {
52 %% \tag_struct_end:
53 % \ThisAltText{}% lwarp
54 % }
55 \cs_set_protected:Npn \tag_struct_end:{% *88* maybe not needed
56 \ThisAltText{}% lwarp
57 }
58
59 %\RenewDocumentCommand \tagstructuse { m }
60 % {
61 % \tag_struct_use:n {#1}% *88* was disabled
62 % }
63
64 \ExplSyntaxOff

```

---

File 495 **lwarp-tagpdf-mc-code-generic.sty**

§ 610 Package **tagpdf-mc-code-generic**

(Emulates or patches code by ULRICH FISCHER.)

tagpdf-mc-code-generic (*Pkg*) tagpdf-mc-code-generic is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{tagpdf-mc-code-generic}[2022-08-24]

2 \ExplSyntaxOn
3
4 % From tagpdf-mc-code-generic.sty:
5 \keys_define:nn { __tag / mc }
6 {
7 tag .code:n = % the name (H,P,Span) etc
8 {
9 \tl_set:Nc __tag_mc_key_tag_tl { #1 }
10 \tl_gset:Nc \g__tag_mc_key_tag_tl { #1 }
11 },
12 raw .code:n =
13 {
14 \tl_put_right:Nc __tag_mc_key_properties_tl { #1 }
15 },
16 alt .code:n = % Alt property
17 {
18 \str_set_convert:Nc __tag_tmpa_str
19 { #1 }
20 { default }
21 { utf16/hex }
22 \tl_put_right:Nc __tag_mc_key_properties_tl { /Alt~< }
23 \tl_put_right:Nc __tag_mc_key_properties_tl { __tag_tmpa_str>~ }
24 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}% lwarp
25 },
26 alttext .meta:n = {alt=#1},
27 actualtext .code:n = % ActualText property
28 {
29 \tl_if_empty:oF{#1}
30

```

---

```

31 % {
32 % \str_set_convert:Noon
33 % \l__tag_tmpa_str
34 % { #1 }
35 % { default }
36 % { utf16/hex }
37 % \tl_put_right:Nn \l__tag_mc_key_properties_tl { /ActualText~< }
38 % \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
39 % }
40 },
41 label .tl_set:N = \l__tag_mc_key_label_tl,
42 artifact .code:n =
43 {
44 % \exp_args:Nne
45 % \keys_set:nn
46 % { __tag / mc }
47 % { __artifact-bool, __artifact-type=#1 }
48 },
49 artifact .default:n = {notype}
50 }
51
52 \ExplSyntaxOff

```

---

File 496 **lwarp-tagpdf-mc-code-lua.sty**

§ 611 Package **tagpdf-mc-code-lua**

(Emulates or patches code by ULRIKE FISCHER.)

tagpdf-mc-code-lua (*Pkg*) tagpdf-mc-code-lua is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tagpdf-mc-code-lua}[2022-08-24]

```

2 \ExplSyntaxOn
3
4 \keys_define:nn { __tag / mc }
5 {
6 tag .code:n = %
7 {
8 \tl_set:Ne \l__tag_mc_key_tag_tl { #1 }
9 \tl_gset:Ne \g__tag_mc_key_tag_tl { #1 }
10 \lua_now:e
11 {
12 ltx.__tag.func.store_mc_data(__tag_get_mc_abs_cnt:,"tag","#1")
13 }
14 },
15 raw .code:n =
16 {
17 \tl_put_right:Ne \l__tag_mc_key_properties_tl { #1 }
18 \lua_now:e
19 {
20 ltx.__tag.func.store_mc_data(__tag_get_mc_abs_cnt:,"raw","#1")
21 }
22 },
23 alt .code:n = % Alt property
24 {
25 \str_set_convert:Noon

```

```

26% \l__tag_tmpa_str
27% { #1 }
28% { default }
29% { utf16/hex }
30% \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
31% \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
32% \lua_now:e
33% {
34% ltx.__tag.func.store_mc_data
35% (
36% __tag_get_mc_abs_cnt:,"alt","/Alt~<\str_use:N \l__tag_tmpa_str>"
37%)
38% }
39% \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}% lwarp
40% },
41% alttext .meta:n = {alt=#1},
42% actualtext .code:n = % Alt property
43% {
44% \tl_if_empty:oF{#1}
45% {
46% \str_set_convert:Noon
47% \l__tag_tmpa_str
48% { #1 }
49% { default }
50% { utf16/hex }
51% \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
52% \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
53% \lua_now:e
54% {
55% ltx.__tag.func.store_mc_data
56% (
57% __tag_get_mc_abs_cnt:,
58% "actualtext",
59% "/ActualText~<\str_use:N \l__tag_tmpa_str>"
60%)
61% }
62% }
63% },
64% label .code:n =
65% {
66% \tl_set:Nn\l__tag_mc_key_label_tl { #1 }
67% \lua_now:e
68% {
69% ltx.__tag.func.store_mc_data
70% (
71% __tag_get_mc_abs_cnt:,"label","#1"
72%)
73% }
74% },
75% __artifact-store .code:n =
76% {
77% \lua_now:e
78% {
79% ltx.__tag.func.store_mc_data
80% (
81% __tag_get_mc_abs_cnt:,"artifact","#1"
82%)
83% }
84% },
85% artifact .code:n =

```

---

```

86 {
87 % \exp_args:Nne
88 % \keys_set:nn
89 % { __tag / mc}
90 % { __artifact-bool, __artifact-type=#1, tag=Artifact }
91 % \exp_args:Nne
92 % \keys_set:nn
93 % { __tag / mc }
94 % { __artifact-store=\l__tag_mc_artifact_type_tl }
95 },
96 artifact .default:n = { notype }
97 }
98
99 \ExplSyntaxOff

```

---

File 497 **lwarp-tascmac.sty**

§ 612      Package **tascmac**

tascmac (*Pkg*)    tascmac is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```

2 \newenvironment*{boxnote}
3 {
4 \BlockClass[
5 padding: .5ex ;
6 border: 1px solid black ;
7 border-top: 1px dashed black ;
8]{boxnote}
9 }
10 {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13 {
14 \BlockClass[
15 padding: .5ex ;
16 border: 1px solid gray ;
17 border-radius: 8pt
18]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]
23 {
24 \BlockClass[
25 padding: .5ex ;
26 border: 1px solid gray ;
27 border-radius: 8pt
28]{boxnote}
29 \InlineClass{itemboxtitle}{#2}\par
30 }
31 {\endBlockClass}
32
33 \newenvironment*{shadebox}
34 {
35 \BlockClass[

```

---

```

36 padding: .5ex ;
37 border: 1px solid black ;
38 box-shadow: 3px 3px 3px \#808080 ;
39]{boxnote}
40 }
41 {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44 \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48 \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*{\Maskbox}[6]{%
52 \InlineClass[
53 background: lightgray ;
54 border: #5 solid black
55]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][]{%
59 \InlineClass[%
60 padding: .2ex ;
61 border: 1px solid black ;
62 border-radius: .7ex ;
63]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLUnicode{00A5}}
67
68 \def\return{\HTMLUnicode{23CE}}
69
70 \def\Return{\HTMLUnicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}

```

---

File 498 **lwarp-tcolorbox.sty**

§ 613     Package **tcolorbox**

*(Emulates or patches code by THOMAS F. STURM.)*

tcolorbox (*Pkg*)    tcolorbox is patched for use by lwarp.

See section 8.3.8 for limitations.

**for HTML output:**    1 \LWR@ProvidesPackagePass{tcolorbox}[2025/11/28]

```

2 \newbool{LWR@havetcblower}
3 \boolfalse{LWR@havetcblower}

```

Colors are supported via HTML styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5 \convertcolorspec{named}{tcbcolback}{HTML}\LWR@tcbcolback
6 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolframe
7 \iftcb@titlefilled%
8 \convertcolorspec{named}{tcbcolbacktitle}{HTML}\LWR@tcbcolbacktitle
9 \else
10 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolbacktitle
11 \fi
12 \convertcolorspec{named}{tcbcoltitle}{HTML}\LWR@tcbcoltitle
13 \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14 \convertcolorspec{named}{tcbcollower}{HTML}\LWR@tcbcollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18 border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19 border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20 background: \LWR@origpound\LWR@tcbcolbacktitle ;
21 color: \LWR@origpound\LWR@tcbcoltitle ;
22 }

```

The title is placed inside its own <div> of class tcolorboxtitle.

```

23 \newcommand*{\LWR@showtitle@[1]{%
24 \begin{BlockClass}[
25 \LWR@tcolorbox@titlecolorstyles
26]{tcolorboxtitle}
27 %
28 \cmdKV@LWR@tcolorbox@title\par
29 \kvtcb@before@title#1\kvtcb@after@title
30 \end{BlockClass}
31 }

```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*{\LWR@showtitle}[1]{%
32 \iftcb@titlevisible
33 \LWR@showtitle@{#1}
34 \else
35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*{\LWR@tcolorbox@dophantom}{%
40 % \sbox\tcb@phantombox{\kvtcb@phantom}%
41 % \iftcb@hasPhantom%
42 % \box\tcb@phantombox%
43 % \tcb@hasPhantomfalse%
44 % \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\@empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*{\LWR@tcolorboxstart}[1]{
49 \LWR@tcolorbox@findcolors

```

```

50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53]{#1}
54 \LWR@tcolorbox@dophantom%
55 \ifdefined\kvtcb@title
56 {}
57 {
58 \LWR@showtitle{\kvtcb@title}
59 }
60 \begin{BlockClass}[
61 color: \LWR@origpound\LWR@tcbcolupper ;
62]{tcolorboxupper}
63 }

```

Floats enclose the tcolorbox.

```

64 \newcommand*{\LWR@tcolorbox@dostartfloat}{%
65 \ifx\kvtcb@float\@empty%
66 % \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 % \edef\tcb@before@unbroken{%
69 % \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 % \noexpand\kvtcb@everyfloat%
71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 % \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 % \noexpand\kvtcb@everyfloat
75 \fi%
76 }
77
78 \newcommand*{\LWR@tcolorbox@doendfloat}{%
79 \ifx\kvtcb@float\@empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

Not using \VerifyCommand here because tcolorbox changes meaning.

```

84 \renewenvironment{tcolorbox}[1][
85 {
86 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
87 {
88 \PackageError{lwarp}
89 {%
90 Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91 or SVG math.\MessageBreak
92 Enter 'H' for possible solutions%
93 }
94 {%
95 Use \protect\tcbbox, \protect\tcbboxmath, or
96 \protect\tcbhighmath\space instead.\MessageBreak%
97 (Inside math, you probably want to use these anyhow.)%
98 }
99 }{\relax}

```

```

100 \LWR@printpendingfootnotes
101 \tcb@layer@inc
102 \tcb@apply@box@options{#1}
103 \LWR@tcolorbox@dostartfloat%
104 % \tcbset{title=,#1}
105 \boolfalse{LWR@havetcblower}
106 \LWR@tcolorboxstart{tcolorbox}
107 \tcb@insert@before@upper%
108 }
109 {
110 \ifbool{LWR@havetcblower}{%
111 \tcb@insert@after@lower%
112 }{%
113 \tcb@insert@after@upper%
114 }%
115 \end{BlockClass}
116 \LWR@printpendingfootnotes
117 \tcb@layer@dec
118 \end{BlockClass}
119 \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started.

\tcblower is \let to \tcb@error@nolower globally, which gives an error in print mode, but is redefined here for HTML.

```

121 \newcommand{\LWR@HTML\tcb@error@nolower}{%
122 \tcb@insert@after@upper%
123 \end{BlockClass}
124 \begin{BlockClass}[%
125 border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126 color: \LWR@origpound\LWR@tcbcollower ;
127]{tcolorboxlower}
128 \tcb@insert@before@lower%
129 }
130 \LWR@formatted{tcb@error@nolower}

```

Starred and unstarred \tcbline are simple \hrules.

```

131 \AtBeginDocument{
132 \ifdef{\tcbline}{
133 \newcommand*\LWR@sub\tcbline}{%
134 \begin{BlockClass}{hrule}
135 \end{BlockClass}
136 }
137 \newcommand{\LWR@HTML\tcbline}{\@ifstar\LWR@sub\tcbline\LWR@sub\tcbline}
138 \LWR@formatted{tcbline}
139 }{}
140 }
141
142 \VerifyCommand[lwarp][tcolorbox]{\tcbbox}{BECBA274BEECF88812D5324A9B87D4EE}
143
144 \newcommand{\LWR@HTML\tcbbox}[2][{}]{
145 \LWR@printpendingfootnotes
146 \LWR@tcolorbox@dostartfloat%
147 \begingroup
148 \tcb@layer@inc
149 \tcb@apply@box@options{#1}
150 % \tcbset{title=,#1}

```

```

151 \boolfalse{LWR@havetcblower}
152 \LWR@tcolorboxstart{tcolorbox inlineminipage}
153 \tcb@insert@before@upper%
154 #2
155 \ifbool{LWR@havetcblower}{%
156 \tcb@insert@after@lower%
157 }{%
158 \tcb@insert@after@upper%
159 }%
160 \end{BlockClass}
161 \LWR@printpendingfootnotes
162 \end{BlockClass}
163 \tcb@layer@dec%
164 \endgroup%
165 \LWR@tcolorbox@dostartfloat%
166 \global\booltrue{LWR@minipagethispar}%
167 }
168 \LWR@formatted{tcbbox}
169
170 \appto\LWR@restoreMathJaxformatting{%
171 \renewcommand{tcbbox}[2][{}]{#2}%
172 }

```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```

173 \VerifyCommand[lwarp][tcolorbox]{\tcbsubtitle}{EE29A34AF27D7FB1DB24A5F6E67E9E45}
174
175 \xpatchcmd{\tcbsubtitle}
176 {\begin{group}}
177 {\begin{group}\let\kv tcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
178 {}
179 {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
180
181 \xpatchcmd{\tcbsubtitle}
182 {\end{group}}
183 {\end{BlockClass}\end{group}}
184 {}
185 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

\tcbboxfit is the same as \tcbbox.

```

186 \AtBeginDocument{
187 \ifdef{\tcbboxfit}{%
188 \let\LWR@HTML@tcbboxfit\tcbbox%
189 \LWR@formatted{tcbboxfit}
190 }{}
191 }

```

\tcbtitle is patched to support the text font.

```

192 \VerifyCommand[lwarp][tcolorbox]{\tcbtitle}{D0221624B8279F835B74928C4CB209DD}
193
194 \LetLtxMacro\LWR@HTML@tcbtitle\tcbtitle
195 \xpatchcmd{\LWR@HTML@tcbtitle}
196 {\tcb@insert@before@title\tcbtitletext}
197 {\tcb@insert@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
198 {}
199 {\LWR@patcherror{tcolorbox}{\LWR@HTML@tcbtitle}}
200 \LWR@formatted{tcbtitle}

```

List-of:

201 \renewcommand\*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcboxmath` and `\tcbhighmath` are ignored for HTML.

```

202 \AtBeginDocument{
203 \pgfkeysifdefined{/tcb/libload/theorems}{
204
205 \def\LWR@HTML@tcb@hack@amsmath{%
206 \PackageError{lwarp}
207 {%
208 tcolorbox ``math'', ``ams equation'', and related\MessageBreak
209 are not supported.\MessageBreak
210 \protect\tcbboxmath\space and
211 \protect\tcbhighmath\space are emulated.\MessageBreak
212 Enter 'H' for possible solutions%
213 }
214 {%
215 Remove tcolorbox math-related options, and instead\MessageBreak
216 use the usual math environments inside each tcolorbox.%
217 }
218 }
219 \LWR@formatted{tcb@hack@amsmath}
220
221 % Cause an error if using math:
222 \tcbset{%
223 math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
224 math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
225 }
226
227 \appto\LWR@restoreorigformatting{%
228 \tcbset{%
229 math upper/.style={before upper*=$\displaystyle,after upper*=$},%
230 math lower/.style={before lower*=$\displaystyle,after lower*=$},%
231 }%
232 }
233
234 \newcommand{\LWR@HTML@tcbboxmath}[2][{}]{#2}
235 \LWR@formatted{tcbboxmath}
236 \newcommand{\LWR@HTML@tcbhighmath}[2][{}]{#2}
237 \LWR@formatted{tcbhighmath}
238 \appto\LWR@restoreMathJaxformatting{%
239 \renewcommand{\tcbboxmath}[2][{}]{#2}%
240 \renewcommand{\tcbhighmath}[2][{}]{#2}%
241 }
242 }{}% theorems loaded
243 }% AtBeginDocument

```

For MATHJAX:

```

244 \CustomizeMathJax{\newcommand{\tcbset}[1]{} }
245 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{} }
246 \CustomizeMathJax{\newcommand{\tcbbox}[2][{}]{\boxed{\text{#2}}}}
247 \CustomizeMathJax{\newcommand{\tcbboxfit}[2][{}]{\boxed{#2}}}
248 \CustomizeMathJax{\newcommand{\tcblower}{} }
249 \CustomizeMathJax{\newcommand{\tcbline}{} }
250 \CustomizeMathJax{\newcommand{\tcbtitle}{} }
251 \CustomizeMathJax{\newcommand{\tcbstitle}[2][{}]{\mathrm{#2}}}

```

```

252 \CustomizeMathJax{\newcommand{\tcboxmath}[2][\boxed{#2}]}
253 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{#2}]}

```

File 499 **lwarp-tensor.sty**

§ 614 Package **tensor**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

tensor (*Pkg*) **tensor** is used as-is for SVG math, and is emulated for MATHJAX.

 **spacing** Compressed spacing and left justification are not possible with MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicesub#1#2{{_#2}}\LWRtensorindicesub}}
4 \CustomizeMathJax{\def\LWRtensorindicesubsup#1#2{{^#2}}\LWRtensorindicesub}}

```

If not a superscript nor a subscript, processing stops.

```

5 \CustomizeMathJax{\newcommand{\LWRtensorindicesubnotsup}{} }

```

Check ahead for a superscript or a subscript.

```

6 \CustomizeMathJax{\newcommand{\LWRtensorindicesubnotsub}{
7 \ifnextchar ^ \LWRtensorindicesubsup \LWRtensorindicesubnotsup
8 }}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesub}{
11 \ifnextchar _ \LWRtensorindicesubsup \LWRtensorindicesubnotsub
12 }}

```

Ignore star.

```

13 \CustomizeMathJax{\newcommand{\LWRtensorindicesubtwo}{
14 \ifstar\LWRtensorindicesubthree\LWRtensorindicesubthree
15 }}

```

Remove the outer brace of the argument.

```

16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicesubtwo#1}}

```

Attempting to use \vphantom here does not work:

```

17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][{}]{\indices{#1}{#2}\indices{#3}}}

```

Ignore star.

```

18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}

```

In text mode, `\nuclide` is converted to an svg image.

```

19 \CustomizeMathJax{%
20 \newcommand{\LWRnuclidetwo}[2][]{%
21 {%
22 \vphantom{\mathrm{#2}}}%
23 {}^{\LWRtensornucleonnumber}_{#1}%
24 \mathrm{#2}%
25 }%
26 }%
27 }

28 \CustomizeMathJax{%
29 \newcommand{\nuclide}[1][]{%
30 \def\LWRtensornucleonnumber{#1}%
31 \LWRnuclidetwo%
32 }%
33 }
34 \end{warpMathJax}

```

---

File 500 **lwarp-termcal.sty**

§ 615      Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

`termcal` (*Pkg*) **termcal** is patched for use by **lwarp**.

**for HTML output:**    1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```

2 \xpatchcmd{\endcalendar}
3 {@{}}
4 {}
5 {}
6 {\LWR@patcherror{termcal}{endcalendar}}

```

Remove the hbox:

```

7 \xpatchcmd{\ca@doaday}
8 {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9 {%
10 \calprintdate\hfill\ifclassday\calprintclass\fi%
11 }
12 {}
13 {\LWR@patcherror{termcal}{ca@doaday}}

```

Change each of two ampersands to call the lwarp tabular version:

```

14 \xpatchcmd{\calday}
15 {\&}
16 {\LWR@tabularampersand}
17 {}
18 {\LWR@patcherror{termcal}{calday}}
19

```

---

```

20 \xpatchcmd{\calday}
21 {\&}
22 {\LWR@tabularampersand}
23 {}
24 {\LWR@patcherror{termcal}{calday B}}

```

---

## File 501 **lwarp-textarea.sty**

### § 616 Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

textarea (*Pkg*) **textarea** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```

2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restoretextarea\@empty

```

---

## File 502 **lwarp-textcomp.sty**

### § 617 Package **textcomp**

*(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)*

textcomp (*Pkg*) **textcomp** is patched for use by lwarp.

For MATHJAX, the MATHJAX packge is used.

#### § 617.1 **Limitations**

Some textcomp symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many textcomp symbols are not supported by many system / browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

#### § 617.2 **Package loading**

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 617.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `LuaATEX` and `XYLATEX`.

#### § 617.3.1 pdf<sup>L</sup>A<sub>T</sub>E<sub>X</sub> symbols

```

2 \AtBeginDocument{
3 \LWR@traceinfo{lwarp-textcomp AtBeginDocument}
4 \ifPDFTeX% pdfLatex or dvi latex
5 \newcommand*{\LWR@HTML@textdegree}{\HTMLentity{deg}}
6 \newcommand*{\LWR@HTML@textcelsius}{\HTMLunicode{2103}}
7 \newcommand*{\LWR@HTML@textohm}{\HTMLunicode{2126}}
8 \newcommand*{\LWR@HTML@textmu}{\HTMLunicode{00B5}}
9 \newcommand*{\LWR@HTML@textlquill}{\HTMLunicode{2045}}
10 \newcommand*{\LWR@HTML@extrquill}{\HTMLunicode{2046}}
11 \newcommand*{\LWR@HTML@textcircledP}{\HTMLunicode{2117}}
12 \newcommand*{\LWR@HTML@texttwelveudash}{\HTMLunicode{2014}}% emdash
13 \newcommand*{\LWR@HTML@textthreequartersemdash}{\HTMLunicode{2014}}% emdash
14 \newcommand*{\LWR@HTML@textmho}{\HTMLunicode{2127}}
15 \newcommand*{\LWR@HTML@textnaira}{\HTMLunicode{20A6}}
16 \newcommand*{\LWR@HTML@textpeso}{\HTMLunicode{20B1}}
17 \newcommand*{\LWR@HTML@textrecipe}{\HTMLunicode{211E}}
18 \newcommand*{\LWR@HTML@textinterrobang}{\HTMLunicode{203D}}
19 \newcommand*{\LWR@HTML@textinterrobangdown}{\HTMLunicode{2E18}}
20 \newcommand*{\LWR@HTML@textperthousand}{\HTMLunicode{2030}}
21 \newcommand*{\LWR@HTML@textpertenthousand}{\HTMLunicode{2031}}
22 \newcommand*{\LWR@HTML@textbaht}{\HTMLunicode{0E3F}}
23 \newcommand*{\LWR@HTML@textdiscount}{\%}
24 \newcommand*{\LWR@HTML@textservicemark}{\HTMLunicode{2120}}
25 \else

```

#### § 617.3.2 X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

26 \newcommand*{\LWR@HTML@textdegree}{°}
27 \newcommand*{\LWR@HTML@textcelsius}{°C}
28 \newcommand*{\LWR@HTML@textohm}{Ω}
29 \newcommand*{\LWR@HTML@textmu}{μ}
30 \newcommand*{\LWR@HTML@textlquill}{℣}
31 \newcommand*{\LWR@HTML@extrquill}{ℤ}
32 \newcommand*{\LWR@HTML@textcircledP}{Ⓟ}
33 \newcommand*{\LWR@HTML@texttwelveudash}{—}% emdash
34 \newcommand*{\LWR@HTML@textthreequartersemdash}{-}% emdash
35 \newcommand*{\LWR@HTML@textmho}{℧}
36 \newcommand*{\LWR@HTML@textnaira}{₦}
37 \newcommand*{\LWR@HTML@textpeso}{₱}
38 \newcommand*{\LWR@HTML@textrecipe}{℞}
39 \newcommand*{\LWR@HTML@textinterrobang}{‽}
40 \newcommand*{\LWR@HTML@textinterrobangdown}{‿}
41 \newcommand*{\LWR@HTML@textperthousand}{‰}
42 \newcommand*{\LWR@HTML@textpertenthousand}{‱}
43 \newcommand*{\LWR@HTML@textbaht}{฿}
44 \newcommand*{\LWR@HTML@textdiscount}{\%}
45 \newcommand*{\LWR@HTML@textservicemark}{™}

```

```

46 \fi
47
48 \LWR@formatted{textdegree}
49 \LWR@formatted{textcelsius}
50 \LWR@formatted{textohm}
51 \LWR@formatted{textmu}
52 \LWR@formatted{textlquill}
53 \LWR@formatted{textrquill}
54 \LWR@formatted{textcircledP}
55 \LWR@formatted{texttwelveudash}
56 \LWR@formatted{textthreequartersemdash}
57 \LWR@formatted{textmho}
58 \LWR@formatted{textnaira}
59 \LWR@formatted{textpeso}
60 \LWR@formatted{textrecipe}
61 \LWR@formatted{textinterrobang}
62 \LWR@formatted{textinterrobangdown}
63 \LWR@formatted{textperthousand}
64 \LWR@formatted{textpertenthousand}
65 \LWR@formatted{textbaht}
66 \LWR@formatted{textdiscount}
67 \LWR@formatted{textservicemark}

```

#### § 617.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

68 \newcommand*{\LWR@HTML@capitalcedilla}[1]{\#1\HTMLUnicode{0327}}
69 \newcommand*{\LWR@HTML@capitalogonek}[1]{\#1\HTMLUnicode{0328}}
70 \newcommand*{\LWR@HTML@capitalgrave}[1]{\#1\HTMLUnicode{0300}}
71 \newcommand*{\LWR@HTML@capitalacute}[1]{\#1\HTMLUnicode{0301}}
72 \newcommand*{\LWR@HTML@capitalcircumflex}[1]{\#1\HTMLUnicode{0302}}
73 \newcommand*{\LWR@HTML@capitaltilde}[1]{\#1\HTMLUnicode{0303}}
74 \newcommand*{\LWR@HTML@capitaldieresis}[1]{\#1\HTMLUnicode{0308}}
75 \newcommand*{\LWR@HTML@capitalhungarumlaut}[1]{\#1\HTMLUnicode{30B}}
76 \newcommand*{\LWR@HTML@capitalring}[1]{\#1\HTMLUnicode{30A}}
77 \newcommand*{\LWR@HTML@capitalcaron}[1]{\#1\HTMLUnicode{30C}}
78 \newcommand*{\LWR@HTML@capitalbreve}[1]{\#1\HTMLUnicode{306}}
79 \newcommand*{\LWR@HTML@capitalmacron}[1]{\#1\HTMLUnicode{304}}
80 \newcommand*{\LWR@HTML@capitaldotaccent}[1]{\#1\HTMLUnicode{307}}

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `xunicode`.

```

81 \providecommand*{\LWR@HTML@textcircled}[1]{%
82 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
83 }
84
85 \LWR@formatted{capitalcedilla}
86 \LWR@formatted{capitalogonek}
87 \LWR@formatted{capitalgrave}
88 \LWR@formatted{capitalacute}
89 \LWR@formatted{capitalcircumflex}
90 \LWR@formatted{capitaltilde}
91 \LWR@formatted{capitaldieresis}
92 \LWR@formatted{capitalhungarumlaut}
93 \LWR@formatted{capitalring}
94 \LWR@formatted{capitalcaron}
95 \LWR@formatted{capitalbreve}
96 \LWR@formatted{capitalmacron}

```

```

97 \LWR@formatted{capitaldotaccent}
98
99 \LWR@formatted{textcircled}

```

Nullify `textcomp` macros when generating filenames:

```

100 \FilenameNullify{%
101 \renewcommand*\textdegree{}%
102 \renewcommand*\textcelsius{}%
103 \renewcommand*\textohm{}%
104 \renewcommand*\textmu{}%
105 \renewcommand*\textlquill{}%
106 \renewcommand*\textrquill{}%
107 \renewcommand*\textcircledP{}%
108 \renewcommand*\texttwelveudash{}%
109 \renewcommand*\textthreequartersemdash{}%
110 \renewcommand*\textmho{}%
111 \renewcommand*\textnaira{}%
112 \renewcommand*\textpeso{}%
113 \renewcommand*\textrecipe{}%
114 \renewcommand*\textinterrobang{}%
115 \renewcommand*\textinterrobangdown{}%
116 \renewcommand*\textperthousand{}%
117 \renewcommand*\textpertenthousand{}%
118 \renewcommand*\textbaht{}%
119 \renewcommand*\textdiscount{}%
120 \renewcommand*\textservicemark{}%
121 \renewcommand*\textcircled}[1]{#1}%
122 \renewcommand*\capitalcedilla}[1]{#1}%
123 \renewcommand*\capitalogonek}[1]{#1}%
124 \renewcommand*\capitalgrave}[1]{#1}%
125 \renewcommand*\capitalacute}[1]{#1}%
126 \renewcommand*\capitalcircumflex}[1]{#1}%
127 \renewcommand*\capitaltilde}[1]{#1}%
128 \renewcommand*\capitaldieresis}[1]{#1}%
129 \renewcommand*\capitalhungarumlaut}[1]{#1}%
130 \renewcommand*\capitalring}[1]{#1}%
131 \renewcommand*\capitalcaron}[1]{#1}%
132 \renewcommand*\capitalbreve}[1]{#1}%
133 \renewcommand*\capitalmacron}[1]{#1}%
134 \renewcommand*\capitaldotaccent}[1]{#1}%
135 }% FilenameNullify
136
137 \LWR@traceinfo{lwarp-textcomp AtBeginDocument done}
138 }% AtBeginDocument

```

For MATHJAX:

```

139 \CustomizeMathJax{\require{textcomp}}

```

---

File 503 **lwarp-textfit.sty**

§ 618     Package **textfit**

`textfit (Pkg)`    `textfit` is emulated.

Text is placed into a `<span>` of class `textfit`. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*\LWR@textfitscale[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7 1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*\LWR@scaletowidth[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\LWR@scaletohight[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }
```

---

File 504 **lwarp-textpos.sty**

§ 619      Package **textpos**

*(Emulates or patches code by NORMAN GRAY.)*

`textpos` (*Pkg*)    `textpos` is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*\TPGrid[3]{}{}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*\textblockcolour[1]{}
9 \newcommand*\textblockrulecolour[1]{}
10 \newcommand*\textblockcolor[1]{}
11 \newcommand*\textblockrulecolor[1]{}
12 \newcommand*\tekstblokkulur[1]{}
13 \newcommand*\tekstblokrulekulur[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand*\textblocklabel[1]{}
18 \newcommand*\showtextsize{}
19 \newcommand*\textblockorigin[2]{}
20 \newcommand*\TPoptions[1]{}
21 \newcommand*\TPReferencePosition[1]{}

```

---

File 505 **lwarp-theorem.sty**

§ 620      Package **theorem**
*(Emulates or patches code by FRANK MITTELBACH.)*

theorem (*Pkg*) theorem is patched for use by lwarp.

---

Table 21: Theorem package — css styling of theorems and proofs

---

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2023/07/05]

### § 620.1 Remembering the theorem style

Storage for the style being used for new theorems:

2 \newcommand{\LWR@newtheoremstyle}{plain}

Patched to remember the style being used for new theorems:

```

3 \VerifyCommand[lwarp][theorem]{\theoremstyle}{B805673118A2EA934449A9B7D25A5D33}
4
5 \gdef\theoremstyle#1{%
6 \ifundefined{th@#1}{\@warning
7 {Unknown theoremstyle `#1'. Using `plain'}%
8 \theoremstyle{plain}%
9 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
10 }%
11 {%
12 \theoremstyle{#1}%
13 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
14 }%
15 \begingroup
16 \csname th@the\theoremstyle\endcsname
17 \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

18 \VerifyCommand[lwarp][theorem]{\xnthm}{D6164703589C684059381DB798F89158}
19
20 \gdef\xnthm#1#2[#3]{%
21 \expandafter\ifdefinable\csname #1\endcsname
22 {%
23 \csedef\LWR@thmstyle#1{\LWR@newtheoremstyle}% lwarp
24 \definecounter{#1}\newctr{#1}[#3]%
25 \expandafter\xdef\csname the#1\endcsname

```

```

26 {\expandafter \noexpand \csname the#3\endcsname
27 \thmcountersep \thmcounter{#1}}%
28 \def\@tempa{\global\@namedef{#1}}%
29 \expandafter \@tempa \expandafter{%
30 \csname th@the \theorem@style
31 \expandafter \endcsname \the \theorem@bodyfont
32 \thm{#1}{#2}}%
33 \global \expandafter \let \csname end#1\endcsname \@endtheorem
34 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
35 }}
36
37 \VerifyCommand[lwarp][theorem]{\@ynthm}{C5A12EBEFD5C5628C65B16A01DFB4}
38
39 \gdef\@ynthm#1#2{%
40 \expandafter\ifdefinable\csname #1\endcsname
41 {
42 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
43 \@definecounter{#1}%
44 \expandafter\xdef\csname the#1\endcsname{\@thmcounter{#1}}%
45 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
46 \expandafter{\csname th@the \theorem@style \expandafter
47 \endcsname \the\theorem@bodyfont \thm{#1}{#2}}%
48 \global \expandafter \let \csname end#1\endcsname \@endtheorem
49 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
50 }}
51
52 \VerifyCommand[lwarp][theorem]{\@othm}{93B7CCDCEFD36BEEF31477D6D390AC3}
53
54 \gdef\@othm#1[#2]#3{%
55 \expandafter\ifx\csname c@#2\endcsname\relax
56 \@nocounterr{#2}%
57 \else
58 \expandafter\ifdefinable\csname #1\endcsname
59 {
60 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
61 \expandafter \xdef \csname the#1\endcsname
62 {\expandafter \noexpand \csname the#2\endcsname}%
63 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
64 \expandafter{\csname th@the \theorem@style \expandafter
65 \endcsname \the\theorem@bodyfont \thm{#2}{#3}}%
66 \global \expandafter \let \csname end#1\endcsname \@endtheorem
67 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
68 }%
69 \fi}

```

## § 620.2 css patches

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```

70 \gdef\th@plain{%
71 \def\@begintheorem##1##2{%
72 \item[
73 \InlineClass{theoremheader}{##1\ ##2}

```

```

74]
75 }%
76 \def\@opargbegintheorem##1##2##3{%
77 \item[
78 \InlineClass{theoremheader}{##1\ ##2\ (##3)}
79]
80 }
81 }
82
83 \gdef\th@break{%
84 \def\@begintheorem##1##2{%
85 \item[
86 \InlineClass{theoremheader}{##1\ ##2}\newline%
87]
88 }%
89 \def\@opargbegintheorem##1##2##3{%
90 \item[
91 \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
92]
93 }
94 }
95
96 \gdef\th@marginbreak{%
97 \def\@begintheorem##1##2{
98 \item[
99 \InlineClass{theoremheader}{##2 \quad ##1}\newline
100]
101 }%
102 \def\@opargbegintheorem##1##2##3{%
103 \item[
104 \InlineClass{theoremheader}{##2 \quad ##1\ %
105 (##3)}\newline
106]
107 }
108 }
109
110 \gdef\th@changebreak{%
111 \def\@begintheorem##1##2{
112 \item[
113 \InlineClass{theoremheader}{##2\ ##1}\newline
114]
115 }%
116 \def\@opargbegintheorem##1##2##3{%
117 \item[
118 \InlineClass{theoremheader}{ ##2\ ##1\ %
119 (##3)}\newline
120]
121 }
122 }
123
124 \gdef\th@change{%
125 \def\@begintheorem##1##2{
126 \item[
127 \InlineClass{theoremheader}{##2\ ##1}
128]
129 }%
130 \def\@opargbegintheorem##1##2##3{%
131 \item[
132 \InlineClass{theoremheader}{##2\ ##1\ (##3)}
133]

```

```

134 }
135 }
136
137 \gdef\th@margin{%
138 \def\@begintheorem##1##2{
139 \item[
140 \InlineClass{theoremheader}{##2 \quad ##1}
141]
142 }%
143 \def\@opargbegintheorem##1##2##3{%
144 \item[
145 \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
146]
147 }
148 }

```

Patched for css:

```

149 \VerifyCommand[lwarp][theorem]{\@thm}{4632915C52ABB4DB5D462AA58A80BAF2}
150
151 \gdef\@thm#1#2{\refstepcounter{#1}%
152 \LWR@forcenewpage% lwarp

153 \LWR@printpendingfootnotes% lwarp

154 \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
155 \trivlist
156 \@topsep \theorempreskipamount % used by first \item
157 \@topsepadd \theorempostskipamount % used by \@endparenv
158 \@ifnextchar [%
159 {\@ythm{#1}{#2}}%
160 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
161
162 \VerifyCommand[lwarp][theorem]{\@endtheorem}
163 {9798301819F2CA2E46673F8937BABE99}
164 \gdef\@endtheorem{%
165 \endtrivlist

166 \LWR@printpendingfootnotes% lwarp

167 \endBlockClass
168 }

```

---

File 506 **lwarp-thinsp.sty**

§ 621    Package **thinsp**

thinsp (*Pkg*)    thinsp is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```

2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*{\thinthinspace}{\thinspace}
5 }

```

---

```

6
7 \newcommand*{\stretchthinspace}{\thinspace}
8 \newcommand*{\stretchthinthinspace}{\thinthinspace}
9 \newcommand*{\stretchnegthinspace}{\negthinspace}

```

---

File 507 **lwarp-thm-listof.sty**

§ 622      Package **thm-listof**

(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)

thm-listof (*Pkg*)    thm-listof is part of thmtools, and is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use CSS per amsthm or ntheorem.

Other thm-\* package may be loaded by thm-listof.

```

2 \IfPackageAtLeastTF{thm-listof}{2020/08/01}{% v0.72
3 \VerifyCommand[lwarp][thm-listof]{\thmtlo@newentry}
4 {AF7BF291DC508ED71058DAF745F9C018}
5 \def\thmtlo@newentry{%
6 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
7 }
8 }{% earlier than v0.72
9 \xpatchcmd{\listoftheorems}
10 {%
11 \xa\protected@edef\csname l@thmt@envname\endcsname{%
12 \nx@dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}%
13 }%
14 }
15 {%
16 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
17 }
18 {}
19 {\LWR@patcherror{thm-listof}{listoftheorems}}
20
21 \xpatchcmd{\thmt@mklistcmd}
22 {%
23 \xa\protected@edef\csname l@thmt@envname\endcsname{%
24 \nx@dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}%
25 }%
26 }
27 {%
28 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
29 }
30 {}
31 {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}
32 }

```

---

File 508 **lwarp-thm-restate.sty**

§ 623      Package **thm-restate**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

thm-restate (*Pkg*) thm-restate is part of thmtools, and is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

2 \VerifyCommand[lwarp][thm-restate]{\thmt@restatable}
3 {C912622BBA051C5F22994335F66976AB}
4
5 \xpatchcmd{\thmt@restatable}
6 {\@ifstar}
7 {\edef\LWR@thisthmstyle{#2}\@ifstar}
8 {}
9 {\LWR@patcherror{thm-restate}{\thmt@restatable}}
```

---

File 509 **lwarp-thmbox.sty**

§ 624      Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

thmbox (*Pkg*) thmbox is emulated for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

2 \renewenvironment{thmbox}[2][]%
3 {%
4 \begin{BlockClass}{thmbox}
5 \begin{BlockClass}{thmboxtitle}
6 #2
7 \end{BlockClass}
8 }
9 {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][]%
12 {%
13 \begin{BlockClass}{thmboxproof}%
14 \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,:}
15 }
16 {%
17 \quad\HTMLUnicode{220E}
18 \end{BlockClass}
19 }
20
21 \renewenvironment{example}[1][\exemplename]%
22 {%
23 \begin{BlockClass}{thmboxexample}%
24 \InlineClass{thmboxexemplename}{#1\,:}
25 }
```

---

```

26 {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][\%
29 {\begin{BlockClass}{thmboxleftbar}}
30 {\end{BlockClass}}

```

---

#### File 510 **lwarp-thmtools.sty**

### § 625 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

thmtools (*Pkg*) thmtools is patched for use by lwarp.

Also see thm-listof and thm-restate.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3 \InlineClass{amsthmnumbertheorem}{\NUMBER}
4 \
5 \InlineClass{amsthmnametheorem}{\NAME}
6 \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

#### File 511 **lwarp-threadcol.sty**

### § 626 Package **threadcol**

threadcol (*Pkg*) threadcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```

2 \newcommand{\setthreadname}[1]{\}

```

---

#### File 512 **lwarp-threeparttable.sty**

### § 627 Package **threeparttable**

*(Emulates or patches code by DONALD ARSENEAU.)*

threeparttable (*Pkg*) threeparttable is emulated.

Table note are contained inside a css <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional css <span> of class tnoteitemheader, otherwise they are plain text.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable

[ $\langle alignment \rangle$ ]

```

2 \newenvironment*{threeparttable}[1][b]
3 {\def\@capttype{table}}
4 {}

```

Env tablenotes

[ $\langle options \rangle$ ]

```

5 \newenvironment*{tablenotes}[1][]
6 {%
7 \LWR@forcenewpage
8 \BlockClass{tnotes}%

9 \description%
10 }
11 {%
12 \enddescription%
13 \endBlockClass%
14 }

```

\tnote

{ $\langle text \rangle$ }

```

15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

```

Env measuredfigure

[ $\langle alignment \rangle$ ]

```

16 \newenvironment*{measuredfigure}[1][t]
17 {\def\@capttype{figure}}
18 {}

```

File 513 **lwarp-threeparttablex.sty**§ 628 Package **threeparttablex**threeparttablex (*Pkg*) threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

**table width** The table notes are created using a \multicolumn. By default the width is not

specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]`

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3 \setlength{\LWR@templelengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4 \setlength{\LWR@templelengthone}{\minof{\textwidth}{\LWR@templelengthone}}%
5 \setlength{\LWR@templelengthone}{\maxof{2.5in}{\LWR@templelengthone}}%
6 \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7 \parbox{\LWR@templelengthone}{%
8 \begin{tablenotes}[\TPTL@optarg]%
9 \TPTL@font%
10 \TPTL@body%
11 \end{tablenotes}%
12 }%
13 }%
14 }

15 \providecommand{\TPTL@tnotex}{}
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}
```

---

File 514 **lwarp-thumb.sty**

§ 629     Package **thumb**

`thumb (Pkg)` `thumb` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{thumb}[1997/12/24]`

```

2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

---

File 515 **lwarp-thumbs.sty**

§ 630     Package **thumbs**

`thumbs (Pkg)` `thumbs` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{thumbs}[2014/03/09]`

```

2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}

```

---

```

5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}

```

---

File 516 **lwarp-tikz.sty**

§ 631 Package **tikz**

*(Emulates or patches code by TILL TANTAU.)*

tikz (*Pkg*) tikz is supported.

 **displaymath and matrices** If using display math with tikzpicture or \tikz, along with matrices with the & character, the document must be modified as follows:

```

\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}

```

and each instance of & in the tikz expression must be replaced with \&.

Accept all options for lwarp-tikz:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** lwarp changes the catcode of \$ for its own use. The TikZ babel library temporarily changes catcodes back to normal for TikZ's use. tikz v3.0.0 introduced the babel library which handles catcode changes. For older versions, lwarp must change \$'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```

2 \newbool{LWR@tikzbabel}
3
4 \IfPackageAtLeastTF{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}

```

Env pgfpicture

The \pgfpicture environment is enclosed inside a \lateximage. Enclose the low-level \pgfpicture in a lateximage. This is also used by the higher-level \tikz and tikzpicture.

If tagging is not active, then the alt text, etc., must be detected and the lateximage created using that alt text, before creating the tikz drawing. Keys are created and assigned for this purpose. The /LWR@tikz keys are for the lateximage, and the tikz keys are for *tikz*.

```

7 \IfPackageLoadedTF{tagpdf-base}
8 {
9 }

```

```

10{% tagging not loaded
11 \pgfkeys{/LWR@tikz/alt/.code={\ThisAltText{#1}}}
12 \pgfkeys{/LWR@tikz/actualtext/.code={\ThisAltText{#1}}}
13 \pgfkeys{/LWR@tikz/artifact/.is choice}
14 \pgfkeys{/LWR@tikz/artifact/.default=true}
15 \pgfkeys{/LWR@tikz/artifact/true/.code={}}
16 \pgfkeys{/LWR@tikz/artifact/false/.code={}}
17 \pgfkeys{/handlers/.unknown/.code={}}
18
19 \pgfkeys{/tikz/alt/.code={\ThisAltText{#1}}}
20 \pgfkeys{/tikz/actualtext/.code={\ThisAltText{#1}}}
21 \pgfkeys{/tikz/artifact/.is choice}
22 \pgfkeys{/tikz/artifact/.default=true}
23 \pgfkeys{/tikz/artifact/true/.code={}}
24 \pgfkeys{/tikz/artifact/false/.code={}}

```

There doesn't seem to be a functional but more elegant way to patch the following:

```

25 \def\tikz@picture[#1]{%
26 %\tikz@check@inside@picture%
27 \pgfkeys{/LWR@tikz}{#1}% lwarp
28 \pgfpicture%
29 \let\tikz@atbegin@picture=\pgfutil@empty%
30 \let\tikz@atend@picture=\pgfutil@empty%
31 \let\tikz@transform=\relax%
32 \def\tikz@time{.5}%
33 \tikz@installcommands%
34 \scope[every picture,#1]%
35 \iftikz@handle@active@code%
36 \tikz@switchoff@shorthands%
37 \fi%
38 \expandafter\tikz@atbegin@picture%
39 \tikz@lib@scope@check%
40 }%

```

`\ThisAltText` is set by the keys above, and, if assigned, override the default alt text given below.

```

41 \xpretocmd{\pgfpicture}
42 {
43 \begin{lateximage}[-tikz-~\PackageDiagramAltText]?%
44 \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
45 {}%
46 {\catcode`\$=3}% dollar sign is math shift
47 }
48 {}
49 {\LWR@patcherror{tikz}{pgfpicture}}
50
51 \xapptocmd\endpgfpicture
52 {\end{lateximage}}
53 {}
54 {\LWR@patcherror{tikz}{endpgfpicture}}
55}% tagging not loaded

```

`TikZ` is placed inside an `svg` image, so use the original meanings of the following:

```

56 \let\LTxMacro\pgfutil@minipage\LWR@print@minipage
57 \let\pgfutil@endminipage\endLWR@print@minipage
58
59 \let\pgfutil@raggedleft\LWR@print@raggedleft
60 \let\pgfutil@raggedright\LWR@print@raggedright

```

---

```

61 \def\pgfutil@font@tiny{\LWR@print@tiny}
62 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
63 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
64 \def\pgfutil@font@small{\LWR@print@small}
65 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
66 \def\pgfutil@font@large{\LWR@print@large}
67 \def\pgfutil@font@Large{\LWR@print@Large}
68 \def\pgfutil@font@huge{\LWR@print@huge}
69 \def\pgfutil@font@Huge{\LWR@print@Huge}
70
71 \def\pgfutil@font@itshape{\LWR@print@itshape}
72 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
73
74 \def\pgfutil@font@normalfont{\LWR@print@normalfont}

```

---

## File 517 **lwarp-tikz-imagelabels.sty**

### § 632 Package **tikz-imagelabels**

*(Emulates or patches code by TOBIAS PLÜSS.)*

tikz-imagelabels (*Pkg*) **tikz-imagelabels** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]

2 \BeforeBeginEnvironment{annotationimage}{%
3 \begin{lateximage}[-tikz-imagelabels--\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}

```

---

## File 518 **lwarp-titlesps.sty**

### § 633 Package **titlesps**

*(Emulates or patches code by JAVIER BEZOS.)*

titlesps (*Pkg*) **titlesps** is loaded and used by lwarp during HTML output. All user options and macros are ignored and disabled.

Discard all options for lwarp-titlesps:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titlesps}[2016/03/15]

```

`\pagestyle` and `\thispagestyle` are already disabled in the lwarp code.

```

\newpagestyle {<name>} [<style>] {<commands>}

2 \NewDocumentCommand{\newpagestyle}{m o m}{}

```

```

\renewpagestyle {<name>} [<style>] {<commands>}

3 \NewDocumentCommand{\renewpagestyle}{m o m}{}

```

`\sethead`                     $[\langle el \rangle] [\langle ec \rangle] [\langle er \rangle] \{\langle ol \rangle\} \{\langle oc \rangle\} \{\langle or \rangle\}$   
4 `\NewDocumentCommand{\sethead}{o o o m m m}{}`

`\setfoot`                     $[\langle el \rangle] [\langle ec \rangle] [\langle er \rangle] \{\langle ol \rangle\} \{\langle oc \rangle\} \{\langle or \rangle\}$   
5 `\NewDocumentCommand{\setfoot}{o o o m m m}{}`

`\settitledmarks`             $* \{\langle names \rangle\}$   
6 `\NewDocumentCommand{\settitledmarks}{s m}{}`

`\headrule`  
7 `\newcommand*{\headrule}{}`

`\footrule`  
8 `\newcommand*{\footrule}{}`

`\setheadrule`                 $\{\langle length \rangle\}$   
9 `\newcommand*{\setheadrule}[1]{}`

`\setfootrule`                 $\{\langle length \rangle\}$   
10 `\newcommand*{\setfootrule}[1]{}`

`\makeheadrule`  
11 `\newcommand*{\makeheadrule}{}`

`\makefootrule`  
12 `\newcommand*{\makefootrule}{}`

`\setmarkboth`                 $\{\langle code \rangle\}$   
13 `\newcommand{\setmarkboth}[1]{}`

`\widenhead`  
14 `\NewDocumentCommand{\widenhead}{s o o m m}{}`

`\bottitledmarks`  
15 `\newcommand*{\bottitledmarks}{}`

`\toptitledmarks`  
16 `\newcommand*{\toptitledmarks}{}`

`\firsttitledmarks`  
17 `\newcommand*{\firsttitledmarks}{}`

\nexttitlemarks

18 \newcommand\*\nexttopleveltitlemarks{}

\outertitlemarks

19 \newcommand\*\outertitlemarks{}

\innertitlemarks

20 \newcommand\*\innertitlemarks{}

\newtitlemark

\* {\langle name \rangle}

21 \NewDocumentCommand{\newtitlemark}{s m}{}

\pretitlemark

\* {\langle section \rangle} {\langle text \rangle}

22 \NewDocumentCommand{\pretitlemark}{s m m}{}

\ifsamemark

{\langle group \rangle} {\langle command \rangle} {\langle true \rangle} {\langle false \rangle}

23 \newcommand{\ifsamemark}[4]{}

\setfloathead

\* [\langle . \rangle] [\langle . \rangle] [\langle . \rangle] {\langle . \rangle} {\langle . \rangle} {\langle . \rangle} {\langle extra \rangle} [\langle which \rangle]

24 \NewDocumentCommand{\setfloathead}{s o o o m m m m}{}

\setfloatfoot

\* [\langle . \rangle] [\langle . \rangle] [\langle . \rangle] {\langle . \rangle} {\langle . \rangle} {\langle . \rangle} {\langle extra \rangle} [\langle which \rangle]

25 \NewDocumentCommand{\setfloatfoot}{s o o o m m m m}{}

\nextfloathead

\* [\langle . \rangle] [\langle . \rangle] [\langle . \rangle] {\langle . \rangle} {\langle . \rangle} {\langle . \rangle} {\langle extra \rangle} [\langle which \rangle]

26 \NewDocumentCommand{\nextfloathead}{s o o o m m m m}{}

\nextfloatfoot

\* [\langle . \rangle] [\langle . \rangle] [\langle . \rangle] {\langle . \rangle} {\langle . \rangle} {\langle . \rangle} {\langle extra \rangle} [\langle which \rangle]

27 \NewDocumentCommand{\nextfloatfoot}{s o o o m m m m}{}

\newmarkset

{\langle markset \rangle}

28 \newcommand{\newmarkset}[1]{}

\newextramark

\* {\langle markset \rangle} {\langle macro-name \rangle}

29 \NewDocumentCommand{\newextramarkset}{s m m}{}

\botextramarks

{\langle markset \rangle}

30 \newcommand{\botextramarks}[1]{}

\topextramarks

{\langle markset \rangle}

31 \newcommand{\topextramarks}[1]{}

---

|                               |                                                      |
|-------------------------------|------------------------------------------------------|
| <code>\firstextramarks</code> | <code>{\markset}</code>                              |
|                               | 32 <code>\newcommand{\firstextramarks}[1]{}</code>   |
| <code>\nextextramarks</code>  | <code>{\markset}</code>                              |
|                               | 33 <code>\newcommand{\nexttopextramarks}[1]{}</code> |
| <code>\outerextramarks</code> | <code>{\markset}</code>                              |
|                               | 34 <code>\newcommand{\outerextramarks}[1]{}</code>   |
| <code>\innerextramarks</code> | <code>{\markset}</code>                              |
|                               | 35 <code>\newcommand{\innerextramarks}[1]{}</code>   |

---

## File 519 **lwarp-titleref.sty**

### § 634 Package **titleref**

`titleref (Pkg)` **titleref** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8 \addtocounter{LWR@currenttitle}{1}%
9 \label{currenttitle\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}
```

---

## File 520 **lwarp-titlesec.sty**

### § 635 Package **titlesec**

*(Emulates or patches code by JAVIER BEZOS.)*

`titlesec (Pkg)` **titlesec** is emulated. All user options and macros are ignored and disabled.

Discard all options for **lwarp-titlesec**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titlesec}[2016/03/21]
2
3 \newbool{LWR@loadtitles}
4 \boolfalse{LWR@loadtitles}
5
6 \DeclareOption{pagestyles}{
7 \booltrue{LWR@loadtitles}
```

```

8 }
9
10 \DeclareOption*{}
11
12 \ProcessOptions\relax
13
14 \ifbool{LWR@loadtitles}{
15 \RequirePackage{lwarp-titles}
16 }{}

```

`\titlelabel`                     $\langle label-format \rangle$

```
17 \newcommand*\titlelabel[1]{}

```

`\titleformat*`                 $\langle command \rangle \langle format \rangle$

`\titleformat`                  $\langle command \rangle [\langle shape \rangle] \langle format \rangle \langle label \rangle \langle sep \rangle \langle begfore \rangle [\langle after \rangle]$

```

18 \newcommand\titleformat%
19 \ifstar{\ttl@format@s}%
20 {\ttl@format@i}%
21 \newcommand{\ttl@format@s}[1]{}
22 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{}

```

`\chaptertitlename`

```

23 \ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
24 \newcommand\chaptertitlename{\@chapapp}

```

`\titlespacing`                \*  $\langle command \rangle \langle left \rangle \langle before \rangle \langle after \rangle [\langle right \rangle]$

```
25 \NewDocumentCommand{\titlespacing}{s m m m m o}{}

```

`\filright`

```
26 \newcommand*\filright{}

```

`\filcenter`

```
27 \newcommand*\filcenter{}

```

`\filleft`

```
28 \newcommand*\filleft{}

```

`\fillast`

```
29 \newcommand*\fillast{}

```

`\filinner`

```
30 \newcommand*\filinner{}

```

`\filouter`

```
31 \newcommand*\filouter{}

```

|                                |                                                                                                                                           |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\wordsep</code>          | <pre>32 \newcommand\wordsep{\fontdimen\tw@font \@plus 33 \fontdimen\thr@font \@minus \fontdimen4font}</pre>                               |
| <code>\titleline</code>        | <pre>* [\align] {\material}  34 \NewDocumentCommand\titleline{s o m}{}  </pre>                                                            |
| <code>\titlerule</code>        | <pre>[\height]  35 \providecommand\titlerule{\ifstar\ttl@row\ttl@rule} 36 \newcommand*\ttl@rule[1]{} 37 \newcommand*\ttl@row[2]{}  </pre> |
| <code>\iftitlemeasuring</code> | <pre>{\true} {\false}  38 \newcommand\iftitlemeasuring[2]{#2}  </pre>                                                                     |
| <code>\assignpagestyle</code>  | <pre>{\command} {\pagestyle}  39 \newcommand\assignpagestyle[2]{#2}  </pre>                                                               |
| <code>\titleclass</code>       | <pre>{\name} [\startlevel] {\class} [\cmd]  40 \NewDocumentCommand\titleclass{m o m o}{}  </pre>                                          |

File 521

lwarp-titletoc.sty

§ 636

Package

titletoc

(Emulates or patches code by JAVIER BEZOS.)

titletoc (*Pkg*) titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titletoc:

for HTML output: 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

|                              |                                                                                                                                                                                                                                                                                            |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\dottedcontents</code> | <pre>{\section} [\left] {\above} {\label} {\leader}  2 \NewDocumentCommand\dottedcontents{m o m m m}{}  </pre>                                                                                                                                                                             |
| <code>\titlecontents</code>  | <pre>* {\section} [\left] {\above} {\numbered} {\numberless} {\filler} [\below or begin] [\separator] [\end]  3 \newcommand\titlecontents{\ifstar\ttl@tcstar\ttl@tcnostar} 4 \NewDocumentCommand\ttl@tcstar{m o m m m o o o}{} 5 \NewDocumentCommand\ttl@tcnostar{m o m m m m o}{}  </pre> |
| <code>\contentsmargin</code> | <pre>[\correction] {\right}  6 \newcommand\contentsmargin[2]{}  </pre>                                                                                                                                                                                                                     |

\thecontentslabel

7 \newcommand\*{\thecontentslabel}{\thecontentslabel}

\thecontentspage

8 \newcommand\*{\thecontentspage}{\thecontentspage}

\contentslabel

[<format>] {<space>}

9 \newcommand{\contentslabel}[2][\thecontentslabel]

\contentspage

[<format>]

10 \newcommand{\contentspage}[1][\thecontentspage]

\contentspush

{<text>}

11 \newcommand{\contentspush}[1]{}

\contentsuse

{<name>} {<text>}

12 \newcommand{\contentsuse}[2]{}

\startcontents

[<name>]

13 \newcommand\*{\startcontents}[1][{}]

\stopcontents

[<name>]

14 \newcommand\*{\stopcontents}[1][{}]

\resumecontents

[<name>]

15 \newcommand\*{\resumecontents}[1][{}]

\printcontents

[<name>] {<prefix>} {<start>} {<code>}

16 \newcommand{\printcontents}[4][{}]

\startlist

[<name>] {<list>}

17 \newcommand{\startlist}[2][{}]

\stoplist

[<name>] {<list>}

18 \newcommand{\stoplist}[2][{}]

\resumelist

[<name>] {<list>}

19 \newcommand{\resumelist}[2][{}]

\printlist

[<name>] {<list>} {<prefix>} {<code>}

20 \newcommand{\printlist}[4][{}]

---

File 522 **lwarp-titling.sty**

§ 637      Package **titling**
*(Emulates or patches code by PETER WILSON.)*

titling (*Pkg*)

**package support**      lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

 **load order**

**\published and \subtitle**      If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 72.8.

The various titling footnote restyling commands have no effect.

Pass all options to lwarp-titling:

**for HTML output:**      1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

**\bsmtitleempty**      Patch \bsmtitleempty:

```
2 \let\LWR@orig@bsmtitleempty\bsmtitleempty
3 \renewcommand*{\bsmtitleempty}{%
4 \LWR@orig@bsmtitleempty%
5 }
```

**\keepthetitle**      Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*{\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

**\killtitle**      Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*{\killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

titlingpage (*env*)

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of \maketitle inside the titlingpage:

```
18 \LWR@maketitlesetup
```

```

19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {

```

At the end of the environment, end the HTML titlepage div:

```

22 \end{titlepage}
23 }

```

Patch the pre/post title/author/date to add HTML tags, then initilize:

```

24 \AtBeginDocument{
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
33 }

```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```

34 \renewcommand*{\LWR@maketitlesetup}{%

```

Redefine the footnote mark:

```

35 \def\@makefnmark{\@thefnmark}%

 \thefootnote ⇒ \nameuse{arabic}{footnote}, or
 \thefootnote ⇒ \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```

36 \long\def\@makefntext##1{%

```

Make the footnote mark and some extra horizontal space for the tags:

```

37 \makethanksmark~%

 \makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
 \@thefnmark ⇒ \itshape a (or similar)

```

Print the text:

```

38 {##1}%
39 }% \@makefntext
40 }

```

`\thanksfootmark`

```

41 \renewcommand{\thanksfootmark}{%

```

```

42 % \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43 \thanksscript{%
44 \thanksfootpre \tamark \thanksfootpost%
45 }%
46 % }%
47 }

```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*\maketitle{%
```

An HTML titlepage <div> is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any \thanks footnotes:

```
53 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```

57 \providecommand*\@maketitle{}
58 \renewrobustcmd*\@maketitle{%
59 \maketitlehooka
60 {
61 \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
62 \@sprettitle \@title \@spposttitle%
63 \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
64 }
65 \maketitlehookb
66 {
67 \begin{BlockClass}{author}
68 \renewcommand{\and}{%

```

```

69 \end{BlockClass}%
70 \begin{BlockClass}{oneauthor}%
71 }
72 \begin{BlockClass}{oneauthor}%
73 \@bspreauthor \@author \@bspotaauthor%
74 \end{BlockClass}%
75 \end{BlockClass}%
76 }
77 \maketitlehookc
78 {
79 \begin{BlockClass}{titledate}%
80 \@bspredate \@date \@bspotadate%
81 \end{BlockClass}%
82 }
83 \maketitlehookd
84 }

```

`\LWR@titlingmaketitle` \maketitle for use inside an HTML titlingpage environment.

```
85 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
86 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
87 \@bsmarkseries
```

Set up special patches:

```
88 \LWR@maketitlesetup
```

Typeset the title, etc:

```
89 \@maketitle
```

Immediately generate any \thanks footnotes:

```
90 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
91 \@bscontmark
92 }
```

`\thanksmarkseries` {*series*}

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```

93 \renewcommand{\thanksmarkseries}[1]{%
94 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}}{\footnote}}}%
95 }

```

Set default titlepage thanks footnote marks. See section [72.7](#).

```

96 \IfClassLoadedTF{memoir}{
97 \thanksmarkseries{arabic}
98 }{% not memoir
99 \if@titlepage
100 \thanksmarkseries{arabic}
101 \else
102 \thanksmarkseries{fnsymbol}
103 \fi
104 }{% not memoir

```

---

File 523 **lwarp-tocbasic.sty**

§ 638     Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

tocbasic (*Pkg*)    tocbasic is nullified for lwarp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{tocbasic}[2025/09/09]

2 \DeclareDocumentCommand\addtotoclist{om}{}
3 \DeclareDocumentCommand\AtAddToTocList{o}{}
4 \DeclareDocumentCommand\removefromtoclist{om}{}
5 \DeclareDocumentCommand\doforeachtocfile{o+m}{}
6 \DeclareDocumentCommand\addtoeachtocfile{o+m}{}
7 \DeclareDocumentCommand\addcontentslinetoeachtocfile{omm}{}
8
9 \DeclareDocumentCommand\addxcontentsline{mmO{m}}{%
10 \ifblank{#3}%
11 {\addcontentsline{#1}{#2}{\protect\nonumberline#4}}%
12 {\addcontentsline{#1}{#2}{\protect\numberline{#3}#4}}%
13 }
14
15 \DeclareDocumentCommand\addxcontentslinetoeachtocfile{omom}{}
16 \DeclareDocumentCommand\listofeachtoc{o}{}
17
18 \DeclareDocumentCommand \captionabove { s O{#3} m }{\caption[#2]{#3}}
19 \DeclareDocumentCommand \captionbelow { s O{#3} m }{\caption[#2]{#3}}
20 \DeclareDocumentCommand \captionaboveof { s m O{#4} m }{\captionof{#2}[#3]{#4}}
21 \DeclareDocumentCommand \captionbelowof { s m O{#4} m }{\captionof{#2}[#3]{#4}}
22
23 \DeclareDocumentCommand\TOCEntryStyleInitCode{sm+m}{}
24 \DeclareDocumentCommand\TOCEntryStyleStartInitCode{sm+m}{}
25 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{+omm}{}
26 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{+omm}{}
27 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m+O{+m}}{}
28
29 \let\Ifattoclist\relax
30 \let\owneroftoc\relax
31 \let\categoryoftoc\relax
32 \let\nonumberline\relax
33 \let\BeforeStartingTOC\relax
34 \let\AfterStartingTOC\relax

```

```

35 \newcommand{\Ifattoclist}[1]{\@firstoftwo}% takes 3 args
36 \newcommand*{\owneroftoc}[2][\@firstofone]{%
37 \newcommand*{\categoryoftoc}{\owneroftoc}
38 \newcommand*{\nonumberline}{}
39 \newcommand{\BeforeStartingTOC}[2][{}]{%
40 \newcommand{\AfterStartingTOC}[2][{}]{%
41
42 \let\listofname\relax
43 \newcommand*{\listofname}{List of}
44
45 \newcommand*{\LWR@tocbasic@starttoc}[1]{%
46 \begingroup
47 \edef\@currentx{#1}%
48 \@starttoc{#1}%
49 \endgroup%
50 }
51
52 \DeclareDocumentCommand{\listoftoc}{som}
53 {%
54 \IfBooleanTF{#1}% star?
55 {\LWR@listof{#3}{}% star
56 {% no star
57 \IfValueTF{#2}% title given?
58 {%
59 \LWR@listof{#3}{#2}%
60 }% title given
61 {% no title given
62 \ifcsdef{listof#3name}%
63 {\LWR@listof{#3}{\csuse{listof#3name}}}%
64 {\LWR@listof{#3}{\listofname~#3}}%
65 }%
66 }%
67 }
68
69 \let\BeforeTOCHead\relax
70 \let\AfterTOCHead\relax
71 \let\defptocheading\relax
72 \let\setuptoc\relax
73 \let\unsettoc\relax
74 \let\Iftocfeature\relax
75 \let\tocbasicautomode\relax
76 \let\DeclareNewTOC\relax
77 \let\usetocbasicnumberline\relax
78 \let\CloneTOCEntryStyle\relax
79 \let\LastTOCLevelWasHigher\relax
80 \let\LastTOCLevelWasSame\relax
81 \let\LastTOCLevelWasLower\relax
82 \let\TOCLineLeaderFill\relax
83 \newcommand{\BeforeTOCHead}[2][{}]{%
84 \newcommand{\AfterTOCHead}[2][{}]{%
85 \newcommand*{\defptocheading}[2]{}% takes two args
86 \newcommand*{\setuptoc}[2]{%
87 \newcommand*{\unsettoc}[2]{%
88 \newcommand*{\Iftocfeature}[2]{\@secondoftwo}% takes 4 args
89 \newcommand*{\tocbasicautomode}{}
90 \newcommand*{\DeclareNewTOC}[2][{}]{%
91 \newcommand*{\usetocbasicnumberline}[1][{}]{% opt arg
92 \newcommand*{\CloneTOCEntryStyle}[2]{%
93 \newcommand*{\LastTOCLevelWasHigher}{}
94 \newcommand*{\LastTOCLevelWasSame}{}

```

---

```

95 \newcommand*{\LastTOCLevelWasLower}{}
96 \newcommand*{\TOCLineLeaderFill}[1][.]{%
97
98 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{momm}{%
99 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{momm}{}%
100 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{momm}{}%
101 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{momm}{}%
102 \DeclareDocumentCommand{\DefineTOCEntryListOption}{momm}{}%
103 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{momm}{}%
104 \DeclareDocumentCommand{\DefineTOCEntryOption}{mom}{}%
105 \DeclareDocumentCommand{\AddToDeclareTOCEntryStylePreCheckNeeds}{}{}
106 \DeclareDocumentCommand{\PreToDeclareTOCEntryStylePreCheckNeeds}{}{}
107 \DeclareDocumentCommand{\TOCEntryStyleNeedsCommandByOption}{}{}

```

---

## File 524 **lwarp-tocbibind.sty**

### § 639 Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

`tocbibind (Pkg)` `tocbibind` is patched for use by `lwarp`.

[placement and toc options](#) An index may be placed inline with other HTML text, or on its own HTML page:

`makeidx (Pkg)` **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a  $\text{\LaTeX}$  document:

```

\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex

```

`makeidx (Pkg)` **On its own HTML page, with a manual toc entry:**

```

\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex

```

`tocbibind (Pkg)` **Inline, with an automatic toc entry:**

The `tocbibind` package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

`tocbibind (Pkg)` **On its own HTML page, with an automatic toc entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

`numindex (Opt) []` Use the `tocbibind` `numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

for HTML output:

```

1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6 \if@bibchapter
7 \if@donumindex
8 \chapter{\indexname}
9 \else
10 \if@dotocind
11 \chapter*{\indexname}
12 \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13 \else
14 \chapter*{\indexname}
15 \fi
16 \fi
17 \else
18 \if@donumindex
19 \section{\indexname}
20 \else
21 \if@dotocind
22 \section*{\indexname}
23 \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24 \else
25 \section*{\indexname}
26 \fi
27 \fi
28 \fi
29 \DeclareCommandCopy{\item}{\LWR@indexitem}%
30 \DeclareCommandCopy{\subitem}{\LWR@indexsubitem}%
31 \DeclareCommandCopy{\subsubitem}{\LWR@indexsubsubitem}%
32 }{}

```

The following code is shared by `anonchap`.

```

33 \DeclareDocumentCommand{\simplechapter}{0{\@empty}}{%
34 \def\@chapcntformat##1{%
35 #1~\csname the##1\endcsname\simplechapterdelim\quad%
36 }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@seccntformat%
41 }

```

---

File 525 **lwarp-tocdata.sty**

§ 640      Package **tocdata**
*(Emulates or patches code by BRIAN DUNN.)*

tocdata (*Pkg*) **tocdata** is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```

2 \renewcommand*{\LWR@maybetocdata}{%
3 \ifdefempty{\TD@thistocdata}{}{%
4 \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5 \def\TD@thistocdata{}
6 }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10 \InlineClass{authorartist}{%
11 \quad --- %
12 \TDoptionalnameprint{#1}\TDoptionalnameprint{#2}#3#4%
13 }%
14 }
15
16 \@ifundefined{chapter}{}{
17 \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*{\LWR@TD@settextalign}[1]{%
23 \def\LWR@TD@textalign{justify}%
24 \ifcsstring{TD@#1align}{\centering}%
25 {\def\LWR@TD@textalign{center}}%
26 {}%
27 \ifcsstring{TD@#1align}{\raggedleft}%
28 {\def\LWR@TD@textalign{right}}%
29 {}%
30 \ifcsstring{TD@#1align}{\raggedright}%
31 {\def\LWR@TD@textalign{left}}%
32 {}%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36 \LWR@TD@settextalign{#1}%
37 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38 \InlineClass{authorartist}{\TDoptionalnameprint{#2}\TDoptionalnameprint{#3}#4#5}%
39 \end{BlockClass}%
40 }
41
42 \newcommand*{\LWR@TD@setnamealign}[1]{%
43 \def\LWR@TD@textalign{justify}%
44 \ifcsstring{TD@#1textalign}{\centering}%
45 {\def\LWR@TD@textalign{center}}%

```

```
46 {}%
47 \ifcsstring{TD@#1textalign}{\raggedleft}%
48 {\def\LWR@TD@textalign{right}}}%
49 {}%
50 \ifcsstring{TD@#1textalign}{\raggedright}%
51 {\def\LWR@TD@textalign{left}}}%
52 {}%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%
56 \LWR@TD@setnamealign{#1}%
57 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58 #2%
59 \end{BlockClass}%
60 }
```

File 526

lwarp-tocenter.sty

§ 641

Package

tocenter

tocenter (*Pkg*) tocenter is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

2 \NewDocumentCommand{\ToCenter}{s o m m}{ }
3 \NewDocumentCommand{\FromMargins}{s o m m m m}{ }
```

File 527

lwarp-tocloft.sty

§ 642

Package

tocloft

(Emulates or patches code by PETER WILSON.)

tocloft (*Pkg*) tocloft is emulated. Most user options and macros are ignored and disabled. \newlistof and \cftchapterprecis are supported.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

⚠ tocloft & other packages

Discard all options for lwarp-tocloft:

for HTML output:

```
1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]
```

```
\tocloftpagestyle {<style>}

2 \newcommand{\tocloftpagestyle}[1]{ }
```

```
\cftmarktoc

3 \newcommand*{\cftmarktoc}{ }
```

`\cfttoctitlefont`

4 `\newcommand*{\cfttoctitlefont}{}`

`\cftaftertoctitle`

5 `\newcommand*{\cftaftertoctitle}{}`

6 `\newlength{\cftbeforetoctitleskip}`

7 `\newlength{\cftaftertoctitleskip}`

`\cftmarklof`

8 `\newcommand*{\cftmarklof}{}`

`\cftloftitlefont`

9 `\newcommand*{\cftloftitlefont}{}`

`\cftafterloftitle`

10 `\newcommand*{\cftafterloftitle}{}`

11 `\newlength{\cftbeforeloftitleskip}`

12 `\newlength{\cftafterloftitleskip}`

`\cftmarklot`

13 `\newcommand*{\cftmarklot}{}`

`\cftlottitlefont`

14 `\newcommand*{\cftlottitlefont}{}`

`\cftafterlottitle`

15 `\newcommand*{\cftafterlottitle}{}`

16 `\newlength{\cftbeforelottitleskip}`

17 `\newlength{\cftafterlottitleskip}`

`\cftdot`

18 `\providecommand*{\cftdot}{.}`

`\cftdotsep`

19 `\providecommand*{\cftdotsep}{1}`

`\cftnodots`

20 `\providecommand*{\cftnodots}{5000}`

```

\cftdotfill {\langle sep \rangle}
21 \providecommand{\cftdotfill}[1]{}

\cftsetpnumwidth {\langle length \rangle}
22 \DeclareDocumentCommand{\cftsetpnumwidth}{m}{}

\cftsetrmarg {\langle length \rangle}
23 \DeclareDocumentCommand{\cftsetrmarg}{m}{}

\cftpnumalign {\langle alignment \rangle}
24 \DeclareDocumentCommand{\cftpnumalign}{m}{}

25 \LWR@providelength{\cftparskip}

```

The part-related items are also provided by memoir:

```

26 \LWR@providelength{\cftbeforepartskip}
27 \LWR@providelength{\cftpartindent}
28 \LWR@providelength{\cftpartnumwidth}
29 \providecommand*\cftpartfont{}
30 \providecommand*\cftpartpresnum{}
31 \providecommand*\cftpartaftersnum{}
32 \providecommand*\cftpartaftersnumb{}
33 \providecommand*\cftpartleader{}
34 \providecommand*\cftpartdotsep{1}
35 \providecommand*\cftpartpagefont{}
36 \providecommand*\cftpartafterpnum{}

```

memoir uses the full name “chapter” instead of “chap”:

```

37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont{}
41 \newcommand*\cftchappresnum{}
42 \newcommand*\cftchapaftersnum{}
43 \newcommand*\cftchapaftersnumb{}
44 \newcommand*\cftchapleader{}
45 \newcommand*\cftchapdotsep{1}
46 \newcommand*\cftchappagefont{}
47 \newcommand*\cftchapafterpnum{}

```

The following do not appear in memoir:

```

48 \LWR@providelength{\cftbeforeseccskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*\cftsecfont{}
52 \newcommand*\cftsecpresnum{}
53 \newcommand*\cftsecaftersnum{}
54 \newcommand*\cftsecaftersnumb{}
55 \newcommand*\cftsecleader{}
56 \newcommand*\cftsecdotsep{1}
57 \newcommand*\cftsecpagefont{}
58 \newcommand*\cftsecafterpnum{}

```

```
59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*{\cftsubsecfont}{}
63 \newcommand*{\cftsubsecpresnum}{}
64 \newcommand*{\cftsubsecaftersnum}{}
65 \newcommand*{\cftsubsecaftersnumb}{}
66 \newcommand*{\cftsubsecleader}{}
67 \newcommand*{\cftsubsecdotsep}{1}
68 \newcommand*{\cftsubsecpagefont}{}
69 \newcommand*{\cftsubsecafterpnum}{}

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*{\cftsubsubsecfont}{}
74 \newcommand*{\cftsubsubsecpresnum}{}
75 \newcommand*{\cftsubsubsecaftersnum}{}
76 \newcommand*{\cftsubsubsecaftersnumb}{}
77 \newcommand*{\cftsubsubsecleader}{}
78 \newcommand*{\cftsubsubsecdotsep}{1}
79 \newcommand*{\cftsubsubsecpagefont}{}
80 \newcommand*{\cftsubsubsecafterpnum}{}

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparaindent}
83 \LWR@providelength{\cftparanumwidth}
84 \newcommand*{\cftparafont}{}
85 \newcommand*{\cftparapresnum}{}
86 \newcommand*{\cftparaaftersnum}{}
87 \newcommand*{\cftparaaftersnumb}{}
88 \newcommand*{\cftparaleader}{}
89 \newcommand*{\cftparadotsep}{1}
90 \newcommand*{\cftparapagefont}{}
91 \newcommand*{\cftparaafterpnum}{}

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*{\cftsubparafont}{}
96 \newcommand*{\cftsubparapresnum}{}
97 \newcommand*{\cftsubparaaftersnum}{}
98 \newcommand*{\cftsubparaaftersnumb}{}
99 \newcommand*{\cftsubparaleader}{}
100 \newcommand*{\cftsubparadotsep}{1}
101 \newcommand*{\cftsubparapagefont}{}
102 \newcommand*{\cftsubparaafterpnum}{}

103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*{\cftfigfont}{}
107 \newcommand*{\cftfigpresnum}{}
108 \newcommand*{\cftfigaftersnum}{}
109 \newcommand*{\cftfigaftersnumb}{}
110 \newcommand*{\cftfigleader}{}
111 \newcommand*{\cftfigdotsep}{1}
112 \newcommand*{\cftfigpagefont}{}
113 \newcommand*{\cftfigafterpnum}{}

```

```

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*{\cftsubfigfont}{}
118 \newcommand*{\cftsubfigpresnum}{}
119 \newcommand*{\cftsubfigaftersnum}{}
120 \newcommand*{\cftsubfigaftersnumb}{}
121 \newcommand*{\cftsubfigleader}{}
122 \newcommand*{\cftsubfigdotsep}{1}
123 \newcommand*{\cftsubfigpagefont}{}
124 \newcommand*{\cftsubfigafterpnum}{}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*{\cfttabfont}{}
129 \newcommand*{\cfttabpresnum}{}
130 \newcommand*{\cfttabaftersnum}{}
131 \newcommand*{\cfttabaftersnumb}{}
132 \newcommand*{\cfttableader}{}
133 \newcommand*{\cfttabdotsep}{1}
134 \newcommand*{\cfttabpagefont}{}
135 \newcommand*{\cfttabafterpnum}{}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*{\cftsubtabfont}{}
140 \newcommand*{\cftsubtabpresnum}{}
141 \newcommand*{\cftsubtabaftersnum}{}
142 \newcommand*{\cftsubtabaftersnumb}{}
143 \newcommand*{\cftsubtableader}{}
144 \newcommand*{\cftsubtabdotsep}{1}
145 \newcommand*{\cftsubtabpagefont}{}
146 \newcommand*{\cftsubtabafterpnum}{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m}{}

148 \providecommand{\cftpagenumbersoff}[1]{}
149 \providecommand{\cftpagenumberson}[1]{}

```

\newlistentry

[<within>] {<counter>} {<ext>} {<level-1>}

```

150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155 \ifundefined{c@#2}{%
156 \newcounter{#2}[#1]%
157 \expandafter\edef\csname the#2\endcsname{%
158 \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159 }%
160 }{}%
161 }%
162 {%
163 \ifundefined{c@#2}{%
164 \newcounter{#2}%

```

```

165 }{}%
166 }%
167 \@namedef{l@#2}##1##2{%
168 \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169 \def\cftwhatismynname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}##1{}%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

\newlistof

[<within>] {<type>} {<ext>} {<listofname>}

Emulated through the \newfloat mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m m}
187 {%
188 \IfValueTF{#1}%
189 {\newlistentry[#1]{#2}{#3}{0}}%
190 {\newlistentry{#2}{#3}{0}}%
191 \@namedef{ext@#2}{#3}%
192 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193 \setcounter{#3depth}{1}%
194 \@namedef{cftmark#3}{}%
195 \@namedef{listof#2}{\LWR@listof{#2}{#4}}%
196 \@namedef{@cftmake#3title}{}%
197 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199 \@namedef{cft#3titlefont}{}%
200 \@namedef{cftafter#3title}{}%
201 \@namedef{cft#3prehook}{}%
202 \@namedef{cft#3posthook}{}%
203 }

```

\cftchapterprecis

{<text>}

```

204 \newcommand{\cftchapterprecis}[1]{%
205 \cftchapterprecishere{#1}
206 \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208 \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210 \addtocontents{toc}{%
211 {
212 \protect\begin{quote}#1\protect\end{quote}}
213 }
214 }

```

File 528 **lwarp-tocstyle.sty**§ 643 Package **tocstyle**

tocstyle (*Pkg*) tocstyle is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*{\usetocstyle}[2][]{}
3 \newcommand*{\deactivatetocstyle}[1][]{}
4 \newcommand*{\reactivatetocstyle}[1][]{}
5 \NewDocumentCommand{\settocfeature}{o o m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m}{}
8 \newcommand*{\aliastoc}[2]{}
9 \newcommand*{\showtoc}[2][]{}
10 \newcommand{\iftochasdepth}[4]{}

```

File 529 **lwarp-todo.sty**§ 644 Package **todo**

(Emulates or patches code by FEDERICO GARCIA.)

todo (*Pkg*) todo is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

```

2 \renewcommand\todoitem[2]{%
3 \refstepcounter{todo}%
4 \item[%
5 \HTMLUnicode{2610} \quad%
6 \ref{todopage:\thetodo}
7] : {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
8 \label{todolbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12 \stepcounter{todo}%
13 \item[%
14 \HTMLUnicode{2611} \quad%
15 \ref{todopage:\thetodo}
16] \@nameuse{@done\the\c@todo}:
17 {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
18 }

```

The following are not errors because the code will still compile and be usable if the patch is not possible.

```
19 \xpatchcmd{\@displaytodo}
```

```

20 {\todoformat #1}{\todoformat \textbf{#1}}{ }
21 {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
22
23 \xpatchcmd{\@displayfulltodo}
24 {\todoformat #1}{\todoformat \textbf{#1}}{ }
25 {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
26
27 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{ }
28 {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
29
30 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{ }
31 {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}

```

If `cleveref` is in use, name the new todo notes:

```

32 \AtBeginDocument{
33 \ifdef{\crefname}{
34 \crefname{todo}{todo}{todos}
35 \Crefname{todo}{Todo}{Todos}
36 }{ }
37 }

```

---

File 530    **lwarp-todonotes.sty**

§ 645    Package    **todonotes**

*(Emulates or patches code by HENRIK SKOV MIDTIBY.)*

`todonotes (Pkg)`    `todonotes` is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{ldo}{#1}{#2}}

8 \let\LWRTODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*\todototoc{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
16 \fcolorbox
17 {\@todonotes@currentbordercolor}
18 {\@todonotes@currentbackgroundcolor}
19 {\arabic{\@todonotes@numberoftodonotes}}
20 \marginpar{\@todonotes@drawMarginNote}

```

```

21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25 {\@todonotes@currentbordercolor}%
26 {\@todonotes@currentbackgroundcolor}%
27 {%
28 \if@todonotes@authorgiven%
29 {\@todonotes@author:\,%
30 \fi%
31 \@todonotes@text%
32 }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36 \if@todonotes@authorgiven%
37 \@todonotes@author\par%
38 \fi%
39 \arabic{\@todonotes@numberoftodonotes}: %
40 \fcolorbox%
41 {\@todonotes@currentbordercolor}%
42 {\@todonotes@currentbackgroundcolor}%
43 {%
44 \@todonotes@sizecommand%
45 \@todonotes@text %
46 }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57 {\@todonotes@currentbordercolor}%
58 {\@todonotes@currentfigcolor}%
59 {%
60 \setlength{\fboxrule}{4pt}%
61 \fcolorbox{red}{white}{Missing figure} \quad #2%
62 }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66
67 \RenewDocumentCommand{\@todo}{o m}{%
68 \begingroup%
69 \renewcommand*\phantomsection{}%
70 \IfValueTF{#1}{%
71 \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73 \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 531 **lwarp-topcapt.sty**

§ 646 Package **topcapt**

topcapt (*Pkg*) topcapt is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro\topcaption\caption

---

File 532 **lwarp-tram.sty**

§ 647 Package **tram**

tram (*Pkg*) tram is emulated.

 **block only** The HTML emulation uses a <div>, which must not appear inside an HTML <span> or an HTML paragraph. For this reason, the tram environment should only be used to contain paragraphs inside a \parbox or minipage. tram should not be used to mark up inline text.

To disable tram, allowing source compatibility with inline uses:

```
\begin{warpHTML}
\renewenvironment{tram}[1][{}]{ }
\end{warpHTML}
```

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

```
2 \newenvironment{tram}[1][{}]{
3 {\BlockClass[background:lightgray]{tram}}
4 {\endBlockClass}}
```

---

File 533 **lwarp-transparent.sty**

§ 648 Package **transparent**

*(Emulates or patches code by HEIKO OBERDIEK.)*

transparent (*Pkg*) transparent is emulated. \texttransparent works for inline objects. \transparent only works for \includegraphics.

 **Not Xe<sub>La</sub>TeX!** Note that transparent does not work with Xe<sub>La</sub>TeX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

```
2 \newcommand*{\LWR@HTML@transparent}[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
```

---

```

5
6
7 \newcommand*{\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}

```

---

File 534 **lwarp-trimclip.sty**

§ 649     Package **trimclip**

`trimclip (Pkg)` `trimclip` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows `\bgroup / \egroup`, and verbatim content.

```

2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}

```

---

File 535 **lwarp-trivfloat.sty**

§ 650     Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

`trivfloat (Pkg)` `trivfloat` is forced to use the built-in `lwarp` emulation for floats.

To create a new float type and change its name:

---

```

\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}

```

---

Discard all options for `lwarp-trivfloat`. This tells `trivfloat` not to use `floatrow` or `memoir`.

```
1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}
```

`\tfl@chapter@fix` Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `lwarp`.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{} }
```

### § 650.1 Combining `\newfloat`, `\trivfloat`, and `algorithmicx`

For both print and HTML output:



When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.



When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.



When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---

### File 536 `lwarp-truncate.sty`

#### § 651 Package **truncate**

`truncate (Pkg)` `truncate` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

---

### File 537 `lwarp-turnthepage.sty`

#### § 652 Package **turnthepage**

`turnthepage (Pkg)` `turnthepage` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

2 \newcommand{\turnthepage}{}
```

## File 538 lwarp-twoup.sty

\$ 653      Package **twoup**

`twoup (Pkg)` `twoup` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]`

```
2 \newcommand{\cleartolastpage}{}

```

File 539 **lwarp-txfonts.sty**

\$ 654 Package **txfonts**

(Emulates or patches code by YOUNG RYU.)

`txfonts (Pkg)` `txfonts` is used as-is for `svg` math, and is emulated for `MATHJAX`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{}{up}
8 \end{warpMathJax}

```

File 540 **lwarp-txgreek**.sty

\$ 655 Package **txgreek**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

|                                     |                                                                                                          |
|-------------------------------------|----------------------------------------------------------------------------------------------------------|
| <code>txgreek</code> ( <i>Pkg</i> ) | <code>txgreek</code> is used as-is for <code>svg</code> math, and is emulated for <code>MATHJAX</code> . |
|-------------------------------------|----------------------------------------------------------------------------------------------------------|

The MATHJAX emulation honors all package options.

**for HTML output:** 1 \LWR@ProvidesPackagePass{txgreek}[2011/03/16]

$$3 \backslash \mathrm{LWR@infoprocessingmathjax}\{\mathrm{txgreek}\}$$

```

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower{ upright lowercase Greek
8 \LWR@mathjax@addgreek@l@up{}}{}

```

---

```

9 \LWR@mathjax@addgreek@l@it{other}{}
10 \else% italic lowercase Greek
11 \LWR@mathjax@addgreek@l@it{}{}
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16 \LWR@mathjax@addgreek@u@it*{}{}
17 \LWR@mathjax@addgreek@u@up*{other}{}
18 \LWR@mathjax@addgreek@u@up*{var}{}
19 \else% upright uppercase Greek
20 \LWR@mathjax@addgreek@u@up*{}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 \LWR@mathjax@addgreek@u@it*{var}{}
23 \fi
24 \end{warpMathJax}

```

---

File 541 **lwarp-typearea.sty**

§ 656      Package **typearea**

*(Emulates or patches code by MARKUS KOHM.)*

typearea (*Pkg*) **typearea** is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{typearea}[2025/09/09]

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\reclctypearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}
12 \DeclareDocumentCommand{\isopaper}{om}{}

```

---

File 542 **lwarp-typicons.sty**

§ 657      Package **typicons**

*(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)*

typicons (*Pkg*) **typicons** is patched for use by lwarp.

If `\ticon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

```

---

```

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7 \begin{lateximage}*[typicon][typicon#1]%
8 \begingroup%
9 \LWR@orig@typicon@TI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16 \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*{\ticon}[1]
20 {%
21 \begin{lateximage}*[#1 icon]?[typicon#1]%
22 \TI\csname ticon#1\endcsname%
23 \end{lateximage}%
24 }

```

---

File 543 **lwarp-ulem.sty**

§ 658      Package **ulem**

*(Emulates or patches code by DONALD ARSENEAU.)*

ulem (*Pkg*)      Patched for use by lwarp.

**for HTML output:**      Use the original package:

```
1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using CSS:

```

2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3 \InlineClass%
4 (text-decoration:underline; text-decoration-skip: auto)%
5 {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10 \InlineClass%
11 (%
12 text-decoration:underline; text-decoration-skip: auto;%
13 text-decoration-style:double%
14)%
15 {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20 \InlineClass%

```

```

21 (%)
22 text-decoration:underline; text-decoration-skip: auto;%
23 text-decoration-style:wavy%
24)%
25 {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30 \InlineClass%
31 (text-decoration:line-through)%
32 {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37 \InlineClass%
38 (text-decoration:line-through)%
39 {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44 \InlineClass%
45 (%)
46 text-decoration:underline;%
47 text-decoration-skip: auto;%
48 text-decoration-style:dashed%
49)%
50 {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55 \InlineClass%
56 (%)
57 text-decoration:underline;%
58 text-decoration-skip: auto;%
59 text-decoration-style: dotted%
60)%
61 {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}

```

---

File 544 **lwarp-umoline.sty**

§ 659 Package **umoline**

(Emulates or patches code by HIROSHI NAKASHIMA.)

umoline (*Pkg*) umoline is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

2 \newcommand*{\LWR@HTML@Underline}[1]{%
3 \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8 \InlineClass{sout}{#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*{\LWR@HTML@Overline}[1]{%
13 \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*{\LWR@HTML@UMoline}[2]{%
18 \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMOnewline}{s}{\newline}
26 \LWR@formatted{UMOnewline}

```

---

File 545 **lwarp-underscore.sty**

§ 660      Package **underscore**

underscore (*Pkg*) underscore is ignored. Underscores are allowed in filenames and web links, but must be escaped (\\_) in text.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]
2
3 \PackageWarningNoLine{lwarp}{%
4 The underscore package is ignored by Lwarp.\MessageBreak
5 Underscores may be used in file names and web links,\MessageBreak
6 but must be escape (\protect_) in text, otherwise\MessageBreak
7 ``missing $ inserted'' errors may occur% $
8 }%

```

---

File 546 **lwarp-unicode-math.sty**

§ 661      Package **unicode-math**

*(Emulates or patches code by WILL ROBERTSON.)*

unicode-math (*Pkg*) unicode-math is supported as-is for HTML with svgmath.

-  **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MATHJAX, especially with the dedicated Greek macros. Symbol macros such as `\sympfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

-  **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors upright and italic, but italic will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbolit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\symbb\mathbb}
11 \CustomizeMathJax{\let\symbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}}% not greek
```

```

21 % }
22
23 \CustomizeMathJax{\let\symsfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\symsfsf}[1]{%
25 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\symsfup\mathbf}
29 \CustomizeMathJax{\newcommand{\symsffit}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\symsfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\symsfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\symsfscr}[1]{
34 % \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symsffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symsffrak}[1]{%
39 % \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\symsfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symsfsfup}[1]{%
44 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symsfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symsfsfit}[1]{%
49 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\symsf\mathbf}% \symsfup defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 % \CustomizeMathJax{\let\symsffit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60 { \CustomizeMathJax{\let\symsf\symsfup} }
61 {
62 \bool_if:NTF \g__um_upsans_bool
63 { \CustomizeMathJax{\let\symsf\symsfup} }
64 { \CustomizeMathJax{\let\symsf\symsffit} }
65 }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\symsfsfup\mathbf}% not sans
69 % \CustomizeMathJax{\let\symsffit\mathit}% not sans
70 % \CustomizeMathJax{\let\symsfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 % \CustomizeMathJax{\let\symsbb\mathbb}
73 % \CustomizeMathJax{\let\symsbbit\mathbb}% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\symsfscr\mathscr}% not bold
76 % \CustomizeMathJax{\let\symfrak\mathfrak}
77 \CustomizeMathJax{\let\symsffrac\mathbffrac}

```

Some symbol categories defined by unicode-math, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

math-style is one of: ISO, TeX, french, upright, or literal, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88 {\LWR@mathjax@addgreek@u@up*{}{}}
89 {\LWR@mathjax@addgreek@u@it*{}{}}
90
91 \bool_if:NTF \g__um_upgreek_bool
92 {\LWR@mathjax@addgreek@l@up{}{}}
93 {\LWR@mathjax@addgreek@l@it{}{}}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{}
97 \LWR@mathjax@addgreek@u@it*{it}{}
98 \LWR@mathjax@addgreek@l@up{up}{}
99 \LWR@mathjax@addgreek@l@it{it}{}
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen()}
104 \CustomizeMathJax{\let\rparen)}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,\,{\,}^3\!\!\sqrt{#1}}\,,}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,\,{\,}^4\!\!\sqrt{#1}}\,,}

```

Many `\mathopen/\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left/\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner{#1}\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner{#1}\lrcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlay}[1]{\mathord{#1\unicode{x020D2}}}}

```

```

126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{\#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rrpolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabicjad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

---

File 547 **lwarp-units.sty**

§ 662      Package **units**

*(Emulates or patches code by AXEL REICHERT.)*

units (*Pkg*)    units is patched for use by lwarp.

Values are not styled by CSS, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body CSS to match the print version.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][]{%
3 \ifblank{#1}%
4 {\LWR@textcurrentfont{#2}}%
5 {%
6 #1%
7 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
8 \LWR@textcurrentfont{#2}}%
9 }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][]{%
13 \ifblank{#1}%
14 {%
15 \nicefrac{#2}{#3}%
16 }%
17 {%
18 #1%
19 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20 \nicefrac{#2}{#3}}%
21 }%
22 }
23
24 \LWR@formatted{unitfrac}

For MATHJAX:

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{#1 \mathinner{#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{#1 \mathinner{{}^{\#2}\!/_{\!#3}}}}
28 \end{warpMathJax}

```

---

File 548 **lwarp-unitsdef.sty**

§ 663      Package **unitsdef**

*(Emulates or patches code by PATRICK HAPPEL.)*

unitsdef (*Pkg*) unitsdef is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

2 \newcommand{\LWR@HTML@unitvaluesep}{\,,}
3 \LWR@formatted{unitvaluesep}
4
5 \newcommand{\LWR@HTML@unittimes}{\@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
6 \LWR@formatted{unittimes}
7
8 \newunit{\LWR@HTML@arcmin}{%
9 \HTMLUnicode{2032}% prime
10 }
11 \LWR@formatted{arcmin}
12
13 \newunit{\LWR@HTML@arcsec}{%
14 \HTMLUnicode{2033}% dbl prime
15 }
16 \LWR@formatted{arcsec}
17
18 \newrobustcmd{\LWR@HTML@SI}[2]{%
19 \begingroup%
20 \let\unit@@xspace\relax%
21 \unitSIdef\selectfont%
22 \LWR@textcurrentfont{#1#2}% lwarp
23 \endgroup%
24 }
25 \LWR@formatted{SI}
```

---

File 549 **lwarp-upgreek.sty**

§ 664      Package **upgreek**

*(Emulates or patches code by WALTER SCHMIDT.)*

upgreek (*Pkg*) upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]
```

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}
```

---

File 550 **lwarp-upref.sty**

§ 665      Package **upref**

upref (*Pkg*) upref is ignored.

**for HTML output:** Discard all options for lwarp-upref:

```

1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

---

File 551 **lwarp-url.sty**

§ 666      Package **url**

*(Emulates or patches code by DONALD ARSENEAU.)*

url (*Pkg*)    url is patched for use by lwarp.

**for HTML output:**

```

1 \LetLtxMacro\LWR@url@orig@url\LWR@url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*\LWR@HTML@Url@FormatString{%
5 \expandafter\LWR@url@orig@url\expandafter{\Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}
```

---

File 552 **lwarp-ushort.sty**

§ 667      Package **ushort**

*(Emulates or patches code by MARTIN VÄTH.)*

ushort (*Pkg*)    ushort is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4 \kern{.1em}\underline{\underline{#1}}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}
```

---

File 553 **lwarp-ospace.sty**

§ 668      Package **ospace**

ospace (*Pkg*)    ospace is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]
```

File 554 **lwarp-varioref.sty**§ 669 Package **varioref***(Emulates or patches code by FRANK MITTELBACH.)*varioref (*Pkg*) **varioref** is patched for use by **lwarp**.**for HTML output:** 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```

2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%

```

File 555 **lwarp-verse.sty**§ 670 Package **verse***(Emulates or patches code by PETER WILSON.)*verse (*Pkg*) **verse** is supported and patched by **lwarp**.**for HTML output:** Pass all options for **lwarp-verse**:

1 \LWR@ProvidesPackagePass{verse}[2009/09/04]

When using **verse** or **memoir**, always place a `\` after each line.

`\attrib` The documentation for the **verse** and **memoir** packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. **lwarp** provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\leftskip` (*Len*) These lengths are used by **verse** and **memoir** to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any **verse** environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

`\leftmargini` (*Len*)

`\HTMLleftskip` (*Len*)

`\HTMLleftmargini` (*Len*)

- ⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout option`) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ **verse margin**

`verse (env.)` The verse environment will be placed inside a HTML `<pre>`.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the verse environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original list environment inside a `<pre>` to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

`verse (Pkg)` The `verse` or `memoir` packages can place stanza numbers to the left with their `\flagverse` command. The following does not allow them to go into the left margin, which would cause *pdfcrop* to crop the entire page further to the left.

`\flagverse`

```
\vleftskip (Len) 7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the verse environment, which places the `<pre>` tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place poemtitle inside an HTML `<span>` of class `poemtitle`:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\@vstypeptitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }
24 }{}
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

---

File 556 **lwarp-versionsnotes.sty**

§ 671      Package **versionsnotes**

*(Emulates or patches code by NORMAN GRAY.)*

versionsnotes (*Pkg*) **versionsnotes** is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{versionsnotes}[2019/07/06]

```
2 \newcommand{\versionote}[1]{\marginpar{#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*{\versolayout}{}

```

In case the user changed the page number before loading versionsnotes:

```
6 \setcounter{page}{1}

```

---

File 557 **lwarp-vertbars.sty**

§ 672      Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

vertbars (*Pkg*) **vertbars** is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```
2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8 \LWR@forcenewpage
9 \LWR@forceminwidth{\barwidth}
10 \begin{BlockClass}%
11 border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12 padding-left: \LWR@printlength{\barspace}%
13 }{vertbar}
14 }{
15 \end{BlockClass}
16 }

```

---

File 558 **lwarp-vmargin.sty**

§ 673      Package **vmargin**

vmargin (*Pkg*) **vmargin** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

2 \newcommand*{\LWRVM@customsize}[2]{}
3 \newcommand*{\setpapersize}[2][\ifstrequal{#2}{custom}{\LWRVM@customsize}{}]}
4 \newcommand*{\setmargins}[8]{}
5 \newcommand*{\setmarginsrb}[8]{}
6 \newcommand*{\setmargnohf}[4]{}
7 \newcommand*{\setmargnohfrb}[4]{}
8 \newcommand*{\setmarg}[4]{}
9 \newcommand*{\setmargrb}[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape

```

---

File 559 **lwarp-vowel.sty**

§ 674      Package **vowel**

*(Emulates or patches code by FUKUI REI.)*

vowel (*Pkg*) **vowel** is patched for use by **lwarp**.

This package has been tested with *pdf<sub>l</sub>atex* and the Type 1 TIPA fonts using the following package load sequence:

```

\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}

```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

2 \renewenvironment{vowel}[1]{}
3 {%
4 \begin{lateximage}[-vowel--\PackageDiagramAltText]?%
5 \@vowel[#1]%
6 }
7 {%
8 \@@vowel%
9 \end{lateximage}%
10 }

```

---

File 560 **lwarp-vpe.sty**

§ 675      Package **vpe**

vpe (*Pkg*) **vpe** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

```

---

File 561 **lwarp-vwcol.sty**

§ 676      Package **vwcol**
*(Emulates or patches code by WILL ROBERTSON.)*

vwcol (*Pkg*) **vwcol** is patched for use with **lwarp**.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

**for HTML output:**      1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```

\LWR@vwcol@addrule {<style tag>}

2 \newcommand*{\LWR@vwcol@addrule}[1]{%
3 \appto{\LWR@vwcolstyle}{%
4 #1: %
5 \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
6 }%
7 }
```

```

\LWR@vwcol@addrule {<style tag>}

8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9 \appto{\LWR@vwcolstyle}{%
10 #1: %
11 \LWR@printlength{\vwcol@sep} ; %
12 }%
13 }
```

```

Env vwcol {<key/values>}

Redefine the environment to add a HTML style. The style is built depending on the
required options.
```

```
14 \renewenvironment*{vwcol}[1][1]{%
```

New paragraph, and process the options:

```
15 \LWR@stoppars%
16 \vwcolsetup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LWR@vwcolstyle}{}%
```

presep and postsep are created with HTML margins:

```
18 \if@vwcol@presep
19 \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22 \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
```

23 \fi

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25 \LWR@vwcol@addgap{column-gap}
26 \LWR@vwcol@addgap{-moz-column-gap}
27 \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}
```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31 \ifdimless{\vwcol@rule}{1pt}{
32 \setlength{\vwcol@rule}{1pt}
33 }{
34 \LWR@vwcol@addrule{column-rule}
35 \LWR@vwcol@addrule{-moz-column-rule}
36 \LWR@vwcol@addrule{-webkit-column-rule}
37 \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}
```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight}{
41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}{
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }
46 }{
47 }{

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{

51 \ifdefequal{\vwcol@justify}{\Centering}{
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{

54 \ifdefequal{\vwcol@justify}{\justifying}{
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{0pt}{
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }
60 }{
61 }{}
```

Create the <div> with the assembled style:

```
62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }
```

When the environment ends:

```
64 {
65 \endBlockClass
66 \LWR@startpars
67 }
```

File 562 **lwarp-wallpaper.sty**

\$ 677 Package **wallpaper**

(Emulates or patches code by MICHAEL H.F. WILKINSON.)

wallpaper (*Pkg*) wallpaper is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]`

```

2 \newcommand*{\CenterWallPaper}[2]{%
3 \newcommand*{\ThisCenterWallPaper}[2]{%
4 \newcommand*{\TileWallPaper}[3]{%
5 \newcommand*{\ThisTileWallPaper}[3]{%
6 \newcommand*{\TileSquareWallPaper}[2]{%
7 \newcommand*{\ThisTileSquareWallPaper}[2]{%
8 \newcommand*{\ULCornerWallPaper}[2]{%
9 \newcommand*{\ThisULCornerWallPaper}[2]{%
10 \newcommand*{\LLCornerWallPaper}[2]{%
11 \newcommand*{\ThisLLCornerWallPaper}[2]{%
12 \newcommand*{\URCornerWallPaper}[2]{%
13 \newcommand*{\ThisURCornerWallPaper}[2]{%
14 \newcommand*{\LRCornerWallPaper}[2]{%
15 \newcommand*{\ThisLRCornerWallPaper}[2]{%
16 \newcommand*{\ClearWallPaper}{}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}

```

File 563 **lwarp-watermark.sty**

\$ 678 Package **watermark**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

watermark (*Pkg*)   watermark is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```
2 \newcommand{\watermark}[1]{%
3 \newcommand{\leftwatermark}[1]{%
4 \newcommand{\rightwatermark}[1]{%
5 \newcommand{\thiswatermark}[1]{%
6 \newcommand{\thispageheading}[1]{%
```

File 564 **lwarp-widetable.sty**

\$ 679 Package **widetable**

(Emulates or patches code by CLAUDIO BECCARI.)

widetable (*Pkg*) widetable is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}
```

File 565 **lwarp-widows-and-orphans.sty**

§ 680 Package **widows-and-orphans**

widows-and-orphans (*Pkg*) widows-and-orphans is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

2 \NewDocumentCommand\WaOsetup{m}{}
3 \NewDocumentCommand\WaOparameters{}{}
4 \NewDocumentCommand\WaOignorenext{}{}
```

File 566 **lwarp-witharrows.sty**

§ 681 Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

witharrows (*Pkg*) witharrows is patched for use by lwarp. Emulation is provided for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{witharrows}[2024/10/19]
```

For MATHJAX, define a few things to be used in the hidden print version during HTML output.

```
2 \ifbool{mathjax}{
3 \newcommand{\Arrow}[2][{}]{
4 \newcommand{\unicode}[1]{
5 \NewDocumentEnvironment { LWR@HTML@DispWithArrows } { ! d < > ! 0 { } +b}
6 {
7 \IfValueTF{#1}{
8 \begin{displaymath}
9 #1 \left\lbracket
10 \begin{align}
11 #3
12 \end{align}
13 \right .
14 \end{displaymath}
15 }{
16 \begin{displaymath}
17 \begin{align}
18 #3
19 \end{align}
20 \end{displaymath}
21 }
22 }
23 }
```

```

24 \LWR@formattedenv{DispWithArrows}
25 \NewDocumentEnvironment { LWR@HTML@DispWithArrows* } { ! d < > ! 0 { } +b }
26 {
27 \IfValueTF{#1}{
28 \begin{displaymath}
29 #1 \left\lbrack
30 \begin{align*}
31 #3
32 \end{align*}
33 \right.
34 \end{displaymath}
35 }{
36 \begin{displaymath}
37 \begin{align*}
38 #3
39 \end{align*}
40 \end{displaymath}
41 }
42 }
43 {}
44 \LWR@formattedenv{DispWithArrows*}
45 }% MathJax

```

For SVG output, use svg images.

```

46 {% SVG
47 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
48 \BeforeBeginEnvironment{DispWithArrows}{%
49 \begin{BlockClass}{displaymathnumbered}%
50 \begin{lateximage}%
51 }
52 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
53 \BeforeBeginEnvironment{DispWithArrows*}{%
54 \begin{BlockClass}{displaymath}%
55 \begin{lateximage}%
56 }
57 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
58 }% SVG

```

For MATHJAX, emulate the commands which are defined only inside the envs.

```

59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][\begin{aligned}]{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][\&\Large\unicode{x2938}]{\textit{#2}}}
63 \end{warpMathJax}

```

---

File 567 **lwarp-wrapfig.sty**

§ 682      Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

wrapfig (*Pkg*)    wrapfig is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

```

2 \newcommand*\LWR@wrapposition){}
3
4 \newcommand{\LWR@wrapfig@printHTMLwidth}{\LWR@printlength{\LWR@templengthone}}
5
6 \AtBeginDocument{
7 \IfPackageLoadedTF{keyfloat}{
8 \renewcommand{\LWR@wrapfig@printHTMLwidth}{%
9 \ifboolexpr{
10 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or
11 bool {KFLT@inkeysubfloats}
12 }%
13 {\LWR@printpercentlength{\LWR@templengthone}{\linewidth}}\%; }%
14 {\LWR@printlength{\LWR@templengthone}}}%
15 }%
16 }{}
17 }
18
19 \newcommand*\LWR@subwrapfigure}[2]{%
20 \renewcommand*\LWR@wrapposition){}%
21 \ifthenelse{%
22 \equal{#1}{r}\OR\equal{#1}{R}\OR%
23 \equal{#1}{o}\OR\equal{#1}{O}%
24 }%
25 {\renewcommand*\LWR@wrapposition){float:right}}%
26 {\renewcommand*\LWR@wrapposition){float:left}}%
27 \setlength{\LWR@templengthone}{#2}%
28 \LWR@BlockClassWP{%
29 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
30 margin:10pt%
31 }%
32 {%
33 width:\LWR@wrapfig@printHTMLwidth; %
34 \LWR@wrapposition; %
35 }%
36 (note)%
37 {marginblock}%
38
39 \setlength{\linewidth}{\LWR@templengthone}%
40 }
41
42 \NewDocumentEnvironment{wrapfigure}{o m o m}
43 {%
44 \begin{LWR@setvirtualpage}*%
45 \LWR@subwrapfigure{#2}{#4}%
46 \renewcommand*\@capttype{figure}%
47 }
48 {%
49 \endLWR@BlockClassWP%
50 \end{LWR@setvirtualpage}%
51 }
52
53
54 \NewDocumentEnvironment{wraptable}{o m o m}
55 {%
56 \begin{LWR@setvirtualpage}*%
57 \LWR@subwrapfigure{#2}{#4}%
58 \renewcommand*\@capttype{table}%
59 }
60 {%

```

---

```

61 \endLWR@BlockClassWP%
62 \end{LWR@setvirtualpage}%
63 }
64
65
66 \NewDocumentEnvironment{wrapfloat}{m o m o m}
67 {%
68 \begin{LWR@setvirtualpage}*%
69 \LWR@subwrapfigure{#3}{#5}%
70 \renewcommand*{\@capttype}{#1}%
71 }
72 {%
73 \endLWR@BlockClassWP%
74 \end{LWR@setvirtualpage}%
75 }
76
77 \newlength{\wrapoverhang}

```

---

File 568 **lwarp-wrapfig2.sty**

§ 683 Package **wrapfig2**

(Emulates or patches code by DONALD ARSENEAU, CLAUDIO BECCARI.)

wrapfig2 (*Pkg*) **wrapfig2** is emulated via a modified version of the wrapfig emulation.

**for HTML output:**

```

1 \@ifpackageloaded{color}{%
2 \@ifpackageloaded{xcolor}{%{\LWR@origRequirePackage{xcolor}}%
3 }
4
5 \RequirePackage{float}
6
7 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
8 {}% v4.0
9 {}% v5+
10 \floatstyle{plain}
11 \ifcsname chapter\endcsname
12 \newfloat{text}{tbp}{lotx}[chapter]
13 \else
14 \newfloat{text}{tbp}{lotx}
15 \fi
16 \floatname{text}{Text}
17 % \let\WF@text@caption\float@caption
18 }
19
20
21 \LWR@ProvidesPackageDrop{wrapfig2}[2022-02-16]
22
23 \LWR@origRequirePackage{lwarp-wrapfig}

24 \RenewDocumentEnvironment{wrapfigure}{o m o G{0pt} s}% original
25 {\wrapfloat{figure}[#1]{#2}[#3]{#4}}%
26 {\endwrapfloat}
27
28 \RenewDocumentEnvironment{wraptable}{o m o G{0pt} s}% original
29 {\wrapfloat{table}[#1]{#2}[#3]{#4}}%
30 {\endwrapfloat}

```

```

31
32 \RenewDocumentEnvironment{wrapfloat}{m o m o G{0pt}}% lwarp
33 {%
34 \begin{LWR@setvirtualpage}*%
35 \LWR@subwrapfigure{#3}{#5}%
36 \renewcommand*{\@capttype}{#1}%
37 }
38 {%
39 \endLWR@BlockClassWP%
40 \end{LWR@setvirtualpage}%
41 }

42 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
43 {% v4.0:
44 \NewDocumentEnvironment{wraptext}%
45 {O{l} D||{0.5\columnwidth} D<>{0} D(){figure}}%
46 {%
47 \wrapfloat{#4}[]{}{#1}[]{}{#2}%
48 \tcolorbox%
49 }
50 {%
51 \endtcolorbox%
52 \endwrapfloat%
53 \ignorespaces%
54 }
55 }{}
56
57 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFfive}
58 {% v5
59 \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
60 \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
61 \colorlet{WFtext}{black}
62 \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
63 \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
64 \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
65 \def\WFSplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
66
67 \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
68 {%
69 \wrapfloat{text}[]{}{#2}[]{}{#4}%
70 }
71 {%
72 \endwrapfloat%
73 \ignorespaces%
74 }
75
76 \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{1pt,1ex} o}%
77 {%
78 \WFSplitdimens #3!
79 \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
80 \LWR@HTML@fcolorboxBlock%
81 [named]{WFframe}[named]{WFbackground}{#2}%
82 (%
83 color:\LWR@origpound\LWR@tempcolor ; %
84 border-radius:\ 1ex%
85)%
86 }
87 }{} v6+
88 \RequirePackage{xkeyval}
89

```

```

90 \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
91 \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
92 \colorlet{WFtext}{black}
93 \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
94 \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
95 \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
96 \def\WFSplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
97
98 \newlength{\LWR@wrapfigtwo@radius}
99 \setlength{\LWR@wrapfigtwo@radius}{1ex}
100
101 \DeclareOptionX<wraptext>{scalefactor}[0.8]{%
102 % \def\WFscalefactor{#1}%
103 }
104 \DeclareOptionX<wraptext>{fboxrule}[1pt]{\fboxrule=#1}
105 \DeclareOptionX<wraptext>{fboxsep}[1ex]{\fboxsep=#1}
106 \DeclareOptionX<wraptext>{framecolor}[WFframe]{\SetWFfrm{#1}}
107 \DeclareOptionX<wraptext>{backgroundcolor}[WFbackground]{\SetWFbgd{#1}}
108 \DeclareOptionX<wraptext>{textcolor}[WFtext]{\SetWFtxt{#1}}
109 \DeclareOptionX<wraptext>{fontstyle}[\normalfont]{#1}
110 \DeclareOptionX<wraptext>{radius}[\fboxsep]{%
111 \setlength{\LWR@wrapfigtwo@radius}{#1}%
112 }
113 \DeclareOptionX<wraptext>{insertionwidth}[0.5\columnwidth]{%
114 % \insertwidth=#1%
115 }
116
117 \DeclareOptionX*{\PackageWarning{wrapfig2}{'\CurrentOption' ignored}}
118
119 \ExecuteOptionsX<wraptext>{scalefactor, fboxrule, fboxsep, framecolor,
120 backgroundcolor, textcolor, fontstyle, radius, insertionwidth}
121
122 \ProcessOptionsX*
123
124 \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
125 {%
126 \wrapfloat{text}[][#2][][#4]%
127 }
128 {%
129 \endwrapfloat%
130 \ignorespaces%
131 }
132
133 \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{} o}
134 {%
135 \ExecuteOptionsX<wraptext>{#3}% executes possible key=value options
136 \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
137 \LWR@HTML@fcolorboxBlock%
138 [named]{WFframe}[named]{WFbackground}%
139 {\LWR@textcurrentfont{#2}}%
140 (%
141 color:\LWR@origpound\LWR@tempcolor ; %
142 border-radius:\LWR@printlength{\LWR@wrapfigtwo@radius}%
143)%
144 }
145 }

```

---

File 569 **lwarp-xbmks.sty**

§ 684      Package **xbmks**

xbmks (*Pkg*)    xbmks is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```
2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

File 570 **lwarp-xcolor.sty**

§ 685      Package **xcolor**

*(Emulates or patches code by DR. UWE KERN.)*

xcolor (*Pkg*)    xcolor is supported by lwarp.

#### § 685.1 **Limitations**

**\colorboxBlock and \fcolorboxBlock**    \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a <span>. These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.

**background: none**    \fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

**color support**    Color definitions, models, and mixing are fully supported without any changes required.

**colored text and boxes**    \textcolor, \colorbox, and \fcolorbox are supported.

**\color and \pagecolor**    \color and \pagecolor are ignored. Use css or \textcolor where possible.

## § 685.2 **xcolor definitions: location and timing**

The `lwarp` core and its `lwarp-xcolor` package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of `xcolor` and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when `xcolor` is loaded, and others are temporary as `lateximage` is used.

**When `xcolor` is loaded in print mode:** No special actions are taken at the time that `xcolor` is loaded in print mode, but see `\AtBeginDocument` below.

**When `lwarp-xcolor` is loaded in HTML mode:** `xcolor`'s original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**`\AtBeginDocument` in print or HTML mode:** See Section 92. If `xcolor` has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for `lwarp`'s new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by `lwarp-xcolor` if it has been loaded.

For use inside an HTML `lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 555.

### **`\color`:**

**Print:** Used as-is.

**HTML:** Ignored by `pdftotext`, and will not appear.

**HTML `lateximage`:** Colors will appear in a `lateximage`.

### **`\textcolor`:**

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page 1279.

**HTML `lateximage`:** Remembers and reuses the print version.

### **`\pagecolor`:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML `lateximage`:** Colors will be picked up in a `lateximage`.

### **`\nopagecolor`:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML `lateximage`:** Colors will be picked up in a `lateximage`.

**\colorbox:****Print:** Used as-is.**HTML:** Redefined by lwarp-xcolor, page 1280.**HTML lateximage:** Remembers and reuses the print version.**\colorboxBlock:****Print:** Becomes \colorbox.**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1280.**HTML lateximage:** Remembers and reuses the print version \colorbox.**\fcolorbox:****Print:** Modified to allow a background of none.`\LWR@print@fcolorbox` at section 92**HTML:** Redefined by lwarp-xcolor, page 1281.**HTML lateximage:** Remembers and reuses the print version.**\fcolorboxBlock:****Print:** Becomes \fcolorbox. Section 92**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1281.**HTML lateximage:** Remembers and reuses the print version \fcolorbox.**fcolorminipage:****Print:** Newly defined in the lwarp core.`LWR@print@fcolorminipage` at section 92**HTML:** Newly defined by lwarp-xcolor, page 1282.**HTML lateximage:** Uses the print version.**\boxframe:****Print:** Used as-is.**HTML:** Redefined by lwarp-xcolor, page 1283.**HTML lateximage:** Remembers and reuses the print version.§ 685.3 **Package loading****for HTML output:**

1 \LWR@ProvidesPackagePass{xcolor}[2023-11-15]

\color@endgroup's \endgraf was conflicting with lwarp's paragraph handling.

2 \let\color@endgroup\endgroup

## § 685.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `lateximage` environment:

```
3 \LetLtxMacro\LWR@print@pagecolor\pagecolor
4 \LetLtxMacro\LWR@print@nopagecolor\nopagecolor
```

`\LWR@restoreorigformatting` Inside a `lateximage` the following gets restored to their print-mode actions:

```
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\pagecolor\LWR@print@pagecolor%
7 \LetLtxMacro\nopagecolor\LWR@print@nopagecolor%
8 }
```

## § 685.5 `\normalcolor`

`\normalcolor`

```
9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
10
11 \LWR@formatted{normalcolor}
```

## § 685.6 HTML color style

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
12 \renewcommand*{\LWR@findcurrenttextcolor}{%
13 \LWR@traceinfo{\LWR@findcurrenttextcolor}%
14 \protect\colorlet{\LWR@current@color}{.}%
15 \LWR@traceinfo{\LWR@findcurrenttextcolor B}%
16 \protect\convertcolspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor\relax%
17 \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%
18 }
```

`\LWR@textcurrentcolor` `{\langle text \rangle}` Like `\textcolor` but uses the current `\color` instead.

```
19 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
20 \begingroup%
21 \LWR@hook@processingtags%
22 \LWR@findcurrenttextcolor%
23 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
24 \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
25 #1%
26 }%
27 \endgroup%
28 }
```

`\LWR@colorstyle`

`{\langle 1: model \rangle}{\langle 2: color \rangle}`

For a color style, prints the color converted to HTML colors.

```
29 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
30 \begingroup%
31 \LWR@hook@processingtags%
```

Use the `xcolor` package to convert to an HTML color space:

```
32 \convertcolspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
33 \LWR@origpound\LWR@tempcolor%
34 \endgroup%
35 }
```

`\LWR@backgroundcolor` [*<model>*] {<color>} {<text>}

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```
36 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
37 \begingroup%
38 \LWR@hook@processingtags%
39 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
40 #3%
41 }%
42 \endgroup%
43 }
```

## § 685.7 HTML border

`\LWR@borderpadding` {<colorstyle>} {<color>} Prints the HTML attributes for a color border and padding.  
`\LWR@forceminwidth` must be used first in order to set the border width.

```
44 \newcommand*{\LWR@borderpadding}[2]{%
45 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
46 padding:\LWR@printlength{\fboxsep}%
47 }
```

## § 685.8 High-level macros

`\color` [*<model>*] {<color>}



The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```
48 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
49 \IfValueTF{#1}{%
50 \LWR@print@color[#1]{#2}%
51 \convertcolourspec{#1}{#2}{HTML}\LWR@tempcolor%
52 }{%
53 \LWR@print@color{#2}%
54 \convertcolourspec{named}{#2}{HTML}\LWR@tempcolor%
55 }%
56 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
57 }
58
59 \LWR@formatted{color}
```

`\textcolor` [*<model>*] {<color>} {<text>}

Converted into an HTML hex color span.

```
60 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
```

```

61 \begingroup%
62 \LWR@hook@processingtags%
63 \IfValueTF{#1}{%
64 \color[#1]{#2}%
65 }{%
66 \color{#2}%
67 }%
68 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
69 \endgroup%
70 }%
71
72 \LWR@formatted{textcolor}

```

`\pagecolor` [*<model>*] {*<color>*}

Ignored. Use css instead.

```
73 \renewcommand*{\pagecolor}[2][named]{}
```

`\nopagecolor` Ignored.

```
74 \renewcommand*{\nopagecolor}{}%
```

`\colorbox` [*<model>*] {*<color>*} {*<text>*}

Converted into an HTML hex background color `<span>`.

```

75 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
76 \begingroup%
77 \LWR@hook@processingtags%
78 \InlineClass[%
79 background:\LWR@colorstyle{#1}{#2} ; %
80 padding:\LWR@printlength{\fboxsep}%
81]{colorbox}{#3}%
82 \endgroup%
83 }

```

`\colorboxBlock` [*<model>*] {*<color>*} {*<text>*}

Converted into an HTML hex background color `<div>`.

```

84 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
85 \begingroup%
86 \LWR@hook@processingtags%
87
88 \LWR@stoppars%
89
90 \begin{BlockClass}[%
91 background:\LWR@colorstyle{#1}{#2} ; %
92 padding:\LWR@printlength{\fboxsep}%
93]{colorboxBlock}
94 #3
95 \end{BlockClass}%
96 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
95 \global\booltrue{LWR@minipagethispar}%
96 }
```

`\fcolorbox` [*<framemodel>*] [*<framecolor>*] [*<boxmodel>*] [*<boxcolor>*] [*<text>*]

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
97 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
98 \LWR@traceinfo{HTML fcolorbox #2 #4}%
99 \begingroup%
100 \LWR@hook@processingtags%
101 \LWR@forceminwidth{\fboxrule}%
102 \ifthenelse{\equal{#4}{none}}{%
103 {% no background color
104 \InlineClass[%
105 \LWR@borderpadding{#1}{#2}%
106]{fcolorbox}{#5}%
107 }%
108 {% yes background color
109 \InlineClass[%
110 \LWR@borderpadding{#1}{#2} ; %
111 background:\LWR@colorstyle{#3}{#4}%
112]{fcolorbox}{#5}%
113 }%
114 \endgroup%
115 }
```

`\fcolorboxBlock` [*<framemodel>*] [*<framecolor>*] [*<boxmodel>*] [*<boxcolor>*] [*<text>*] (*<add'l html style>*)

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
116 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m d()}{%
117 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
118 \begingroup%
119 \LWR@hook@processingtags%
120 \LWR@forceminwidth{\fboxrule}%
121 \LWR@stoppars%
122 \ifthenelse{\equal{#4}{none}}{%
123 {% no background color
124 \begin{BlockClass}[%
125 \LWR@borderpadding{#1}{#2}%
126 \IfValueT{#6}{ ; #6}%
127]{fcolorboxBlock}
128 #5
129 \end{BlockClass}%
130 }%
```

```

131 {% yes background color
132 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
133 \begin{BlockClass}[%
134 background:\LWR@origpound\LWR@tempcolortwo\ ; %
135 \LWR@borderpadding{#1}{#2}%
136 \IfValueT{#6}{ ; #6}%
137]{fcolorboxBlock}
138 #5
139 \end{BlockClass}%
140 }%
141 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

142 \global\booltrue{LWR@minipagethispar}%
143 \LWR@traceinfo{HTML fcolorboxBlock done}%
144 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarp core: section 92

```

\LWR@subfcolorminipage {<framemodel>} {<framecolor>} {<background tag>} {<height>}

145 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%

146 \LWR@stoppars%

147 \begin{BlockClass}[%
148 #3%
149 \LWR@borderpadding{#1}{#2} ; %
150 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
151 width:\LWR@printlength{\LWR@tempwidth}%
152]{fcolorminipage}%
153 }

```

fcolorminipage (*env*) [*<1:framemodel>*] {<2:framecolor>} [*<3:boxmodel>*] {<4:boxcolor>} [*<5:align>*] [*<6:height>*] [*<7:inner-align>*] {<8:width>}

```

154 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{O{named} m O{#1} m O{c} o o m}
155 {%
156 \LWR@hook@processingtags%
157 \setlength{\LWR@tempwidth}{#8}%
158 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
159 \LWR@forceminwidth{\fboxrule}%
160 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
161 \ifthenelse{\equal{#4}{none}}%
162 {\LWR@subfcolorminipage{#1}{#2}{#6}}%
163 {%
164 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
165 \LWR@subfcolorminipage{#1}{#2}%
166 {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
167 {#6}%
168 }%
169 }%
170 {%
171 \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
172 \global\booltrue{LWR@minipagethispar}%
173 }
```

`\boxframe {<width>} {<height>} {<depth>}`

The depth is added to the height, but the box is not decended below by the depth. `\textcolor` is honored.

```
174 \newcommand*{\LWR@HTML@boxframe}[3]{%
175 {%
176 \setlength{\LWR@tempwidth}{#1}%
177 \setlength{\LWR@tempheight}{#2}%
178 \addtolength{\LWR@tempheight}{#3}%
179 \LWR@forceminwidth{\fboxrule}%
180 \LWR@findcurrenttextcolor%
181 \InlineClass[%
182 display:inline-block ; %
183 border:%
184 \LWR@printlength{\LWR@atleastonept} % space
185 solid % space
186 \LWR@currenttextcolor{} ; % space
187 width:\LWR@printlength{\LWR@tempwidth} ; %
188 height:\LWR@printlength{\LWR@tempheight}%
189]{boxframe}{}%
190 }%
191 }
192
193 \LWR@formatted{boxframe}
```

---

File 571 **lwarp-xexchangebar.sty**

§ 686 Package **xexchangebar**

xexchangebar (*Pkg*) xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{lwarp-changebar}

---

File 572 **lwarp-xellipsis.sty**

§ 687 Package **xellipsis**

(Emulates or patches code by DONALD P. GOODMAN III.)

xellipsis (*Pkg*) xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

---

```

2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4 \ifdim#1<\fontdimen2\font%
5 \,%
6 \else%
7 ~%
8 \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14 \LWR@xellipsespace{\xelipprebef}%
15 \xelipprechar%
16 \LWR@xellipsespace{\xelippreaft}%
17 \LWR@xellipsespace{\xelipbef}%
18 \xelipchar%
19 \xel@loopi = 1%
20 \loop\ifnum\xelipnum>\xel@loopi%
21 \advance\xel@loopi by1%
22 \LWR@xellipsespace{\xelipgap}%
23 \xelipchar%
24 \repeat%
25 \LWR@xellipsespace{\xelipaft}%
26 \LWR@xellipsespace{\xelippostbef}%
27 \xelippostchar%
28 \LWR@xellipsespace{\xelippostaft}%
29 }%
30 }%

```

---

File 573 **lwarp-xetexko.sty**

§ 688      Package **xetexko**

*(Emulates or patches code by DOHYUN KIM.)*

xetexko (*Pkg*) **xetexko** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/09/06]

4 \protected\def\typesetvertical{}
5 \protected\def\typesethorizontal{}
6
7 \def\verticaltypesetting{\BlockClass{verticalrl}}
8 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
9 \def\endverticaltypesetting{\endBlockClass}
10
11 \protected\def\vertical#1{\BlockClass{verticalrl}}
12 \protected\def\endvertical{\endBlockClass}
13 \protected\def\horizontal#1{\BlockClass{horizontaltb}}
14 \protected\def\endhorizontal{\endBlockClass}
15 \DeclareDocumentCommand{\vertlatin}{m}{#1}

```

File 574 **lwarp-xevlna.sty**§ 689 Package **xevlna**

*(Emulates or patches code by ZDENĚK WAGNER.)*

`xevlna (Pkg)` `xevlna` is patched for use by `lwarp`.

Non-breakable spaces are inserted into HTML.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%
```

File 575 **lwarp-xfakebold.sty**§ 690 Package **xfakebold**

*(Emulates or patches code by HERBERT VOSS.)*

`xfakebold (Pkg)` `xfakebold` is patched for use by `lwarp`, and additional underlying support is found in the `lwarp` core.

 **text mode** `xfakebold` is only used in `svg math` and `lateximages`. Text mode is not set bold, but `\setBold` in text will be applied to any following `svg math`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]

2 \newcommand*\LWR@HTML@setBold{\booltrue\LWR@xfakebold}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse\LWR@xfakebold}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9 \ifbool\LWR@xfakebold{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }
```

For `MATHJAX`, `xfakebold` is ignored.

```
11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][{}]}
13 \CustomizeMathJax{\newcommand{\unsetBold}{} }
14 \end{warpMathJax}
```

---

File 576 **lwarp-xfrac.sty**

§ 691 Package **xfrac**
*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

xfrac (*Pkg*) Supported by adding xfrac instances, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]


**font size**

In the user's document preamble, **lwarp** should be loaded after font-related setup. During HTML conversion, this font is used by **lwarp** to generate its initial PDF output containing HTML tags, later to be converted by *pdftotext* to a plain text file. While the text may be in any font which *pdftotext* can read, the math is directly converted into SVG images using this same user-selected font. **xfrac** below is set for the Latin Modern (l<sup>a</sup>m<sup>r</sup>) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different em size.

`\sfrac` [*<instance>*] [*<num>*] [*<sep>*] [*<denom>*]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. `\scalebox` is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

`\xfracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\xfracHTMLfontsize{.6em}
```

**instances** Instances of **xfrac** for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```
3 \DeclareInstance{xfrac}{default}{text}{
4 numerator-format = {%
5 \begingroup%
6 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7 \InlineClass{numerator}{#1}\,%
8 \endgroup%
9 },
10 denominator-format = {%
11 \begingroup%
12 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13 \InlineClass{denominator}{#1}%
14 \endgroup%
15 },
```

For *pdftotext*, do not scale the text:

```

16 scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20 numerator-format = {%
21 \begingroup%
22 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23 \InlineClass{numerator}{#1}\,%
24 \endgroup%
25 },
26 denominator-format = {%
27 \begingroup%
28 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29 \InlineClass{denominator}{#1}%
30 \endgroup%
31 },

```

For *pdftotext*, do not scale the text:

```

32 scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36 numerator-format = {%
37 \begingroup%
38 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39 \InlineClass{numerator}{#1}\,%
40 \endgroup%
41 },
42 denominator-format = {%
43 \begingroup%
44 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45 \InlineClass{denominator}{#1}%
46 \endgroup%
47 },

```

For *pdftotext*, do not scale the text:

```

48 scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52 numerator-format = {%
53 \begingroup%
54 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55 \InlineClass{numerator}{#1}\,%
56 \endgroup%
57 },
58 denominator-format = {%
59 \begingroup%
60 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61 \InlineClass{denominator}{#1}%
62 \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64 scaling = false
65 }

```

For MATHJAX:

```
66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][/{\{{}^{\LWRsfracnumerator\!#1}_{\!#2}}]}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][\def\LWRsfracnumerator{#2}\LWRsfrac]}
69 \end{warpMathJax}
```

---

File 577 **lwarp-xltabular.sty**

§ 692      Package **xltabular**

*(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)*

xltabular (*Pkg*)    xltabular is emulated by lwarp.

**for HTML output:**    Relies on tabularx.

 **table numbering**    At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```
1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}
```

---

File 578 **lwarp-xltxtra.sty**

§ 693      Package **xltxtra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

xltxtra (*Pkg*)    xltxtra is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{xltxtra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 #1\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex " #1"\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
```

---

```

16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1]{[#1]}
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

---

## File 579 **lwarp-xmpincl.sty**

### § 694 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

xmpincl (*Pkg*) xmpincl is ignored.

**for HTML output:** Discard all options for lwarp-xmpincl:

```

1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includexmp[1]{}

```

---

## File 580 **lwarp-xpiano.sty**

### § 695 Package **xpiano**

*(Emulates or patches code by ENRICO GREGORIO.)*

xpiano (*Pkg*) xpiano is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11 [%
12 -xpiano-~\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13]?%
14 [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}

```

---

File 581 **lwarp-xpinyin.sty**

§ 696      Package **xpinyin**
*(Emulates or patches code by SOBEN LEE.)*

xpinyin (*Pkg*)    xpinyin is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

**for HTML output:**    1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]

The original's boxes are not used, instead the contents are used with <ruby>, <rt>, and <rp> tags per modern HTML. Color is detected. ratio is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5 \color_group_begin: \color_ensure_current:
6 \l__xpinyin_pinyin_box_hook_tl
7 \renewcommand*{\l__xpinyin_ratio_tl}{1}% for pdftotext
8 __xpinyin_select_font:
9 \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10 { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11 { \l__xpinyin_format_tl }
12 \ifdefempty{\l__xpinyin_format_tl}
13 {#3}
14 {\LWR@textcurrentcolor{#3}}
15 \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}

18 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
19 {
20 __xpinyin_leavevmode:
21 \LWR@htmltagc{ruby}
22 __xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
23 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp\space}
24 \LWR@htmltagc{rt}
25 __xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
26 \LWR@htmltagc{/rt\space}
27 \LWR@htmltagc{rp}}\LWR@htmltagc{/rp\space}
28 \LWR@htmltagc{/ruby\space}\null
29 }
30 \LWR@formatted{__xpinyin_CJKsymbol:nn}

31 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
32 {
33 __xpinyin_leavevmode:
34 \LWR@htmltagc{ruby}
35 __xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space

```

```

36 \LWR@htmltag{rp}{\LWR@htmltag{/rp\space}
37 \LWR@htmltag{rt}
38 __xpinyin_make_pinyin_box:xnn
39 { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
40 \LWR@htmltag{/rt\space}
41 \LWR@htmltag{rp}}\LWR@htmltag{/rp\space}
42 \LWR@htmltag{/ruby\space}\null
43 }
44 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
45
46 \ExplSyntaxOff

```

The lwarp core uses the following to disable CJK xpinyin for filenames, sideroc, and footnotes.

```

47 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
48
49 \FilenameNullify{\LWR@disablepinyin}

```

---

## File 582 **lwarp-xr.sty**

### § 697 Package **xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

**xr** (*Pkg*) **xr** is patched for use by **lwarp**. The `*_html.aux` file is used.

See section 5.18.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{xr}[2024-04-10]%

2 \VerifyCommand{\XR@}{56D2754CF8EDBB8863B603F708D65CE9}
3 %\def\xR@{#1}[#2]#3{\@testopt{\XR@{#1}{#2}{#3}}{#3.\XR@ext}}
4 \def\xR@{#1}[#2]#3{\@testopt{\XR@{#1}{#2}{#3_html}}{#3_html.\XR@ext}}

```

---

## File 583 **lwarp-xr-hyper.sty**

### § 698 Package **xr-hyper**

(Emulates or patches code by DAVID CARLISLE.)

**xr-hyper** (*Pkg*) **xr-hyper** is replaced by **xr**, which is modified to accept the optional arguments for `\externaldocument`. So far, no hyperlinks are provided for citations.

See section 5.18.

#### for HTML output:

```

1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}

```

File 584 **lwarp-xtab.sty**

§ 699 Package **xtab**

*(Emulates or patches code by PETER WILSON.)*

xtab (*Pkg*) **xtab** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

⚠ Misplaced alignment tab character & For \tablefirsthead, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

```
2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19 \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][{}]{%
22 \long\gdef\LWRXT@caption{%
23 \ifblank{#1}%
24 {\caption{#2}}%
25 {\caption[#1]{#2}}%
26 }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*\{\LWRXT@caption}{}
32
33 \newcommand*\{\shrinkheight}[1]{}

```

---

```

34
35 \newcommand*{\xentrystretch}[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 {}%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

---

File 585 **lwarp-xunicode.sty**

§ 700     Package **xunicode**

xunicode (*Pkg*)     Error if xunicode is loaded after lwarp.

Patch lwarp-xunicode, but also verify that it was loaded before lwarp:

**for HTML output:**

```

1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with textcomp.

```

4 \providecommand*\LWR@HTML@textcircled[1]{%
5 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%

```

---

```

10 \renewcommand*\textdegree{}%
11 \renewcommand*\textcelsius{}%
12 \renewcommand*\textohm{}%
13 \renewcommand*\textmu{}%
14 \renewcommand*\textlquill{}%
15 \renewcommand*\textrquill{}%
16 \renewcommand*\textcircledP{}%
17 \renewcommand*\texttwelveudash{}%
18 \renewcommand*\textthreequartersemdash{}%
19 \renewcommand*\textmho{}%
20 \renewcommand*\textnaira{}%
21 \renewcommand*\textpeso{}%
22 \renewcommand*\textrecipe{}%
23 \renewcommand*\textinterrobang{}%
24 \renewcommand*\textinterrobangdown{}%
25 \renewcommand*\textperthousand{}%
26 \renewcommand*\textpertenthousand{}%
27 \renewcommand*\textbaht{}%
28 \renewcommand*\textdiscount{}%
29 \renewcommand*\textservicemark{}%
30 \renewcommand*\textcircled[1]{#1}%
31 \renewcommand*\capitalcedilla[1]{#1}%
32 \renewcommand*\capitalogonek[1]{#1}%
33 \renewcommand*\capitalgrave[1]{#1}%
34 \renewcommand*\capitalacute[1]{#1}%
35 \renewcommand*\capitalcircumflex[1]{#1}%
36 \renewcommand*\capitaltilde[1]{#1}%
37 \renewcommand*\capitaldieresis[1]{#1}%
38 \renewcommand*\capitalhungarumlaut[1]{#1}%
39 \renewcommand*\capitalring[1]{#1}%
40 \renewcommand*\capitalcaron[1]{#1}%
41 \renewcommand*\capitalbreve[1]{#1}%
42 \renewcommand*\capitalmacron[1]{#1}%
43 \renewcommand*\capitaldotaccent[1]{#1}%
44 }% FilenameNullify

```

---

## File 586 **lwarp-xurl.sty**

### § 701 Package **xurl**

`xurl (Pkg)` `xurl` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

---

## File 587 **lwarp-xy.sty**

### § 702 Package **xy**

*(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)*

`xy (Pkg)` `xy` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

```

After xy modules have been loaded:

```
2 \AtBeginDocument{
```

The original definitions without a lateximage:

```
3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy
```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```
5 \renewcommand*{\xy}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {\addtocounter{LWR@lateximagedepth}{1}}%
8 {\begin{lateximage}[-xy~\PackageDiagramAltText]?}%
9 \LWR@orig@xy%
10 }
11
12 \renewcommand*{\endxy}{%
13 \LWR@orig@endxy%
14 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15 {\addtocounter{LWR@lateximagedepth}{-1}}%
16 {\end{lateximage}}%
17 }
```

The \xybox must use the original definitions of \xy, \endxy:

```
18 \def\xybox#1{%
19 \LWR@orig@xy#1\LWR@orig@endxy%
20 \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }
```

If \xygraph is used, it is placed inside a lateximage:

```
22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
27 \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]?%
28 \LWR@origxygraph{#1}
29 \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument
```

---

File 588 **lwarp-zhlineskip.sty**

§ 703      Package **zhlineskip**

zhlineskip (*Pkg*)    zhlineskip is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

---

```

2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

---

File 589 **lwarp-zwpagelayout.sty**

§ 704 Package **zwpagelayout**

(Emulates or patches code by ZDENĚK WAGNER.)

zwpagelayout (*Pkg*) zwpagelayout is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6 \definecolor{cmykblack}{cmyk}{0,0,0,1}
7 \definecolor{grblack}{gray}{0}
8 % \ifzwpl@redefineblack
9 % \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 % \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbbblue}{rgb}{0,0,1}
17 % \ifzwpl@redefinetcmyk
18 % \definecolor{red}{cmyk}{0,1,1,0}
19 % \definecolor{green}{cmyk}{1,0,1,0}
20 % \definecolor{blue}{cmyk}{1,1,0,0}
21 % \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][{}]{ }
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#{\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#{\gdef\ZW@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}

```

---

```

44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 590 **lwarp-patch-komascript.sty**

§ 705      Package **patch-komascript**

lwarp-patch-komascript (*Pkg*)      Patches for komascript classes.

lwarp loads this package when scrbook, scrartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

 **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:**      1 \ProvidesPackage{lwarp-patch-komascript}

typearea is emulated.

2 \RequirePackage{lwarp-typearea}

tocbasic is emulated.

3 \RequirePackage{lwarp-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarp-scrextend}

Indexing macros, simplified for lwarp:

```

5 \AtBeginDocument{
6 \LWR@traceinfo{lwarp-patch-komascript AtBeginDocument 1}
7

```

```

8 \renewcommand*{\idx@heading}{%
9 \idx@@heading{\indexname}%
10 }
11
12 \renewenvironment{theindex}{%
13 \idx@heading%
14 \index@preamble\par\nobreak
15 \DeclareCommandCopy{\item}{\LWR@indexitem}%
16 \DeclareCommandCopy{\subitem}{\LWR@indexsubitem}%
17 \DeclareCommandCopy{\subsubitem}{\LWR@indexsubsubitem}%
18 }
19 {}
20
21 \renewcommand*\indexspace{}
22
23 }% AtBeginDocument

```

The `\minisec` is placed inside a `<div>` of class `minisec`.

```

24 \renewcommand*{\minisec}[1]{
25 \begin{BlockClass}{minisec}
26 #1
27 \end{BlockClass}
28 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

29 \@ifundefined{setpartpreamble}{}{
30 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
31 \renewcommand{\part@preamble}{#3}%
32 }
33 }
34
35 \@ifundefined{setchapterpreamble}{}{
36 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
37 \renewcommand{\chapter@preamble}{#3}%
38 }
39 }

```

Do not use `\chaptername`:

```

40 \renewcommand*{\LWR@printchaptername}{}

```

Simple captions are used in all cases.

```

41 \AtBeginDocument{
42 \LWR@traceinfo{lwarp-patch-komascript AtBeginDocument 2}
43 \DeclareCommandCopy{\captionbelow}{\caption}
44 \DeclareCommandCopy{\captionabove}{\caption}
45 \LWR@traceinfo{lwarp-patch-komascript AtBeginDocument 2a}
46 \DeclareCommandCopy{\captionofbelow}{\captionof}
47 \DeclareCommandCopy{\captionofabove}{\captionof}
48 \LWR@traceinfo{lwarp-patch-komascript AtBeginDocument 2b}
49 }
50
51 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
52 {}
53 {%
54 \IfValueTF{#1}%

```

```

55 {\caption[#1]{#2}}%
56 {\caption{#2}}%
57 }
58
59 \RenewDocumentEnvironment{captionofbeside}{m o m o o s}
60 {}
61 {%
62 \IfValueTF{#2}%
63 {\captionof{#1}[#2]{#3}}%
64 {\captionof{#1}{#3}}%
65 }
66
67 \RenewDocumentCommand{\setcapindent}{s m}{}
68 \renewcommand*{\setcaphanging}{}
69 \renewcommand*{\setcapwidth}[2]{}{}
70 \renewcommand*{\setcapdynwidth}[2]{}{}
71 \RenewDocumentCommand{\setcapmargin}{s o m}{}
72
73
74 \AtBeginDocument{
75 \LWR@traceinfo{lwarp-patch-komascript AtBeginDocument done}
76 }

```

---

File 591 **lwarp-patch-memoir.sty**

§ 706      Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

lwarp-patch-memoir (*Pkg*)      Patches for memoir class.

⚠ **Not fully tested!**      [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

⚠ **captions**      lwarp uses caption, which causes a warning from memoir. This is normal. Adjust captions via caption, instead of memoir.

⚠ **options clash**      While emulating memoir, lwarp pre-loads a number of packages (section 706.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarp:

```

\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}

```

⚠ **version numbers**      memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarp is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

⚠ **page notes** `lwarp` loads `pagenote` to perform `memoir`'s `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

**page notes with cleveref** To add support for pagenotes with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

**page note \nameref** Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ **poems** Poem numbering is not supported.

⚠ **verbatim** The `verbatim` environment does not yet support the `memoir` enhancements. It is currently recommended to load and use `fancyvrb` instead.

⚠ **glossaries** The `memoir` glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

**for HTML output:** `1 \ProvidesPackage{lwarp-patch-memoir}`

## § 706.1 Packages

These are pre-loaded to provide emulation for many of `memoir`'s functions. `memoir` pretends that `abstract`, etc. are already loaded, via its “emulated” package mechanism, but `lwarp` is directly loading the “lwarp-” version of each, which happens to avoid `memoir`'s emulation system.

```
2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
```

```

15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

## § 706.2 Label handling

Insert the `lwarp` label mechanism into the memoir package mechanism:

- `\LWR@orig@label` is the kernel version, or `nameref` version if loaded before `lwarp`.
- `lwarp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- `cleveref` then encapsulates all the above with `\cref@old@label`.
- For a subcaption, `cleveref` modifies memoir's `\sf@memsub@label`, but that change is undone by `lwarp`.
- memoir uses the final `\label` for subcaptions.

Patches for subfloats to support additional `lwarp` labels. This is the non-hyperref version from memoir.

NOTE: The following is now commented out in memoir itself.

```

36 %\AtBeginDocument{
37 % \renewcommand*{\sf@memsub@label}[1]{%
38 % \@bsphack
39 % \@mem@kernel@label{#1}%
40 % \cref@label{#1}% lwarp
41 % \LWR@label@createtag{sub@#1}% lwarp
42 % \protected@write\@auxout{}{%
43 % \string\newlabel{sub@#1}%
44 % {%
45 % {\@nameuse{@thesub\@capttype}}%
46 % {\thepage}%
47 % {\detokenize\expandafter{\@currentlabelname}}% name
48 % {#1}% Href

```

```

49 % {}% reserved
50 % }%
51 % }%
52 % \LWR@write@lwarplabel{sub@#1}% lwarp
53 % \@esphack
54 % }
55 %}

```

### § 706.3 Page layout

memoir already set the page size to a default, so it must be forced large for lwarp's use, to avoid tag overflows off the page.

```

56 \setstocksize{190in}{20in}
57 \setlrmarginsandblock{2in}{2in}{*}
58 \setulmarginsandblock{1in}{1in}{*}

59 \renewcommand*{\stockavi}{}
60 \renewcommand*{\stockav}{}
61 \renewcommand*{\stockaiv}{}
62 \renewcommand*{\stockaiii}{}
63 \renewcommand*{\stockavii}{}
64 \renewcommand*{\stockbvi}{}
65 \renewcommand*{\stockbv}{}
66 \renewcommand*{\stockbiv}{}
67 \renewcommand*{\stockbiii}{}
68 \renewcommand*{\stockbvii}{}
69 % \renewcommand*{\stockmetriccrownvo}{}% in docs but not in the package
70 \renewcommand*{\stockmlargecrownvo}{}
71 \renewcommand*{\stockmdemyvo}{}
72 \renewcommand*{\stocksmallroyalvo}{}
73 \renewcommand*{\pageavi}{}
74 \renewcommand*{\pageavii}{}
75 \renewcommand*{\pageav}{}
76 \renewcommand*{\pageaiv}{}
77 \renewcommand*{\pageaiii}{}
78 \renewcommand*{\pagebvi}{}
79 \renewcommand*{\pagebvii}{}
80 \renewcommand*{\pagebv}{}
81 \renewcommand*{\pagebiv}{}
82 \renewcommand*{\pagebiii}{}
83 % \renewcommand*{\pagemetriccrownvo}{}% in docs but not in the package
84 \renewcommand*{\pagemlargecrownvo}{}
85 \renewcommand*{\pagemdemyvo}{}
86 \renewcommand*{\pagemsmallroyalvo}{}
87
88 \renewcommand*{\stockdbill}{}
89 \renewcommand*{\stockstatement}{}
90 \renewcommand*{\stockexecutive}{}
91 \renewcommand*{\stockletter}{}
92 \renewcommand*{\stockold}{}
93 \renewcommand*{\stocklegal}{}
94 \renewcommand*{\stockledger}{}
95 \renewcommand*{\stockbroadsheet}{}
96 \renewcommand*{\pagedbill}{}
97 \renewcommand*{\pagestatement}{}
98 \renewcommand*{\pageexecutive}{}
99 \renewcommand*{\pageletter}{}
100 \renewcommand*{\pageold}{}

```

```
101 \renewcommand*{\pagelegal}{}
102 \renewcommand*{\pageledger}{}
103 \renewcommand*{\pagebroadsheet}{}
104
105 \renewcommand*{\stockpottvo}{}
106 \renewcommand*{\stockfoolscapvo}{}
107 \renewcommand*{\stockcrownvo}{}
108 \renewcommand*{\stockpostvo}{}
109 \renewcommand*{\stocklargecrownvo}{}
110 \renewcommand*{\stocklargepostvo}{}
111 \renewcommand*{\stocksmalldemyvo}{}
112 \renewcommand*{\stockdemyvo}{}
113 \renewcommand*{\stockmediumvo}{}
114 \renewcommand*{\stocksmallroyalvo}{}
115 \renewcommand*{\stockroyalvo}{}
116 \renewcommand*{\stocksuperroyalvo}{}
117 \renewcommand*{\stockimperialvo}{}
118 \renewcommand*{\pagepottvo}{}
119 \renewcommand*{\pagefoolscapvo}{}
120 \renewcommand*{\pagecrownvo}{}
121 \renewcommand*{\pagepostvo}{}
122 \renewcommand*{\pagelargecrownvo}{}
123 \renewcommand*{\pagelargepostvo}{}
124 \renewcommand*{\pagesmalldemyvo}{}
125 \renewcommand*{\pagedemyvo}{}
126 \renewcommand*{\pagemediumvo}{}
127 \renewcommand*{\pagesmallroyalvo}{}
128 \renewcommand*{\pageroyalvo}{}
129 \renewcommand*{\pagesuperroyalvo}{}
130 \renewcommand*{\pageimperialvo}{}
131
132 \renewcommand*{\memfontfamily}{}
133 \renewcommand*{\memfontenc}{}
134 \renewcommand*{\memfontpack}{}
135
136 \renewcommand*{\anyptfilebase}{}
137 \renewcommand*{\anyptsize}{10}
138
139 \renewcommand*{\setstocksize}[2]{}
140 \renewcommand*{\settrimmedsize}[3]{}
141 \renewcommand*{\settrims}[2]{}
142
143 % \newlength{\lxvchars}
144 % \setlength{\lxvchars}{305pt}
145 % \newlength{\xlvchars}
146 % \setlength{\xlvchars}{190pt}
147 \renewcommand*{\setxlvchars}[1]{}
148 \renewcommand*{\setlxvchars}[1]{}
149
150 \renewcommand*{\settypeblocksize}[3]{}
151 \renewcommand*{\setlrmargins}[3]{}
152 \renewcommand*{\setlrmarginsandblock}[3]{}
153 \renewcommand*{\setbinding}[1]{}
154 \renewcommand*{\setulmargins}[3]{}
155 \renewcommand*{\setulmarginsandblock}[3]{}
156 \renewcommand*{\setcolsepandrule}[2]{}
157
158 \renewcommand*{\setheadfoot}[2]{}
159 \renewcommand*{\setheaderspaces}[3]{}
160 \renewcommand*{\setmarginnotes}[3]{}

```

```

161 \renewcommand*\setfootins}[2]{}
162 \renewcommand*\checkandfixthelayout}[1][]{ }
163 \renewcommand*\checkthelayout}[1]{}
164 \renewcommand*\fixthelayout){ }
165 %
166 % \newlength{\stockheight}
167 % \newlength{\trimtop}
168 % \newlength{\trimedge}
169 % \newlength{\stockwidth}
170 % \newlength{\spinemargin}
171 % \newlength{\foremargin}
172 % \newlength{\uppermargin}
173 % \newlength{\headmargin}
174 %
175 \renewcommand*\typeoutlayout){ }
176 \renewcommand*\typeoutstandardlayout){ }
177 \renewcommand*\settypeoutlayoutunit}[1]{}
178 \renewcommand*\fixpdflayout){ }
179 \renewcommand*\fixdvipslayout){ }
180
181 \renewcommand*\medievalpage}[1][]{ }
182 \renewcommand*\isopage}[1][]{ }
183 \renewcommand*\semiisopage}[1][]{ }
184
185 \renewcommand{\setpagebl}[3]{}
186 \renewcommand{\setpageml}[3]{}
187 \renewcommand{\setpagetl}[3]{}
188 \renewcommand{\setpagetm}[3]{}
189 \renewcommand{\setpagetr}[3]{}
190 \renewcommand{\setpagemr}[3]{}
191 \renewcommand{\setpagebr}[3]{}
192 \renewcommand{\setpagebm}[3]{}
193 \renewcommand{\setpagecc}[3]{}

```

## § 706.4 Text and fonts

```

194 \let\miniscule\tiny
195 \let\HUGE\Huge
196
197 \renewcommand*\abnormalparskip}[1]{}
198 \renewcommand*\nonzeroparskip){ }
199 \renewcommand*\traditionalparskip){ }
200
201 \let\onelineskip\baselineskip
202
203 \let\OnehalfSpacing\onehalfspacing
204 \let\DoubleSpacing\doublespacing
205 \renewcommand*\setPagenoteSpacing}[1]{}
206 \renewcommand*\setFloatSpacing}[1]{}

207 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}

208 \let\setSingleSpace\SetSinglespace
209 \let\SingleSpace\singlespace
210 \let\endSingleSpace\endsinglespace
211 \let\Spacing\spacing
212 \let\endSpacing\endspacing
213 \let\OnehalfSpace\onehalfspace
214 \let\endOnehalfSpace\endonehalfspace
215 \csletcs{OnehalfSpace*}{onehalfspace}

```

```

216 \csletcs{endOnehalfSpace*}{endonehalfspace}
217 \let\DoubleSpace\doublespace
218 \let\endDoubleSpace\enddoublespace
219 \csletcs{DoubleSpace*}{doublespace}
220 \csletcs{endDoubleSpace*}{enddoublespace}
221 \renewcommand*{\setDisplayskipStretch}[1]{}
222 \renewcommand*{\memdskipstretch}{}
223 \renewcommand*{\noDisplayskipStretch}{}
224 \renewcommand*{\memdskips}{}
225
226 \renewcommand*{\midsloppy}{}
227 \renewenvironment*{midsloppy}{\par}{}{}
228
229 \renewcommand*{\sloppybottom}{}

```

### § 706.5 Titles

```

230 \csletcs{titlingpage*}{titlingpage}
231 \csletcs{endtitlingpage*}{endtitlingpage}
232 \let\titlingpageend\relax
233 \newcommand{\titlingpageend}[2]{}
234 \let\andnext\and
235 \renewcommand*{\thanksmarkstyle}[1]{}
236
237 \renewcommand{\thanksfootmark}{%
238 \thanksscript{\tmark}%
239 }
240
241 % \newlength{\thanksmarksep}% already provided by memoir

242 \renewcommand{\titlingpageend}[2]{}

```

### § 706.6 Abstracts

```

243 % \newlength{\absindent}
244 % \newlength{\absparsep}
245 \renewcommand*{\abstractcol}{}
246 \renewcommand*{\abstractintoc}{}
247 \renewcommand*{\abstractnum}{}
248 \renewcommand*{\abstractrunin}{}

```

### § 706.7 Document divisions

```

\book
 * (\<2:PDF name>) [\<3:TOC name>] [\<4:PDF name>] (\<5:PDF name>) {\<6:name>}

249 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
250 \LWR@section{#1}{#3}{#6}{book}%
251 }

252 \def\@appage{%
253 \part*{\appendixpagename}
254 }
255 \renewcommand\mempreaddapppagetotochook{}
256 \renewcommand\mempostaddapppagetotochook{}
257
258 \def\@sappage{%
259 \part*{\appendixpagename}
260 }

```

```

261 \DeclareDocumentCommand{\mainmatter}{s}{%
262 \booltrue{LWR@mainmatter}%
263 }
264
265 \DeclareDocumentCommand{\frontmatter}{s}{%
266 \boolfalse{LWR@mainmatter}%
267 }

268 \renewcommand*{\raggedbottomsection}{}
269 \renewcommand*{\normalbottomsection}{}
270 \renewcommand*{\bottomsectionskip}{}
271 \renewcommand*{\bottomsectionpenalty}{}
272 \csletcs{appendixpage*}{appendixpage}
273 \renewcommand*{\namedsubappendices}{}
274 \renewcommand*{\unnamedsubappendices}{}
275 \renewcommand*{\beforebookskip}{}
276 \renewcommand*{\afterbookskip}{}
277 \renewcommand*{\beforepartskip}{}
278 \renewcommand*{\afterpartskip}{}
279 \renewcommand*{\midbookskip}{}
280 \renewcommand*{\midpartskip}{}
281 \renewcommand*{\printbookname}{}
282 \renewcommand*{\booknamefont}{}
283 \renewcommand*{\booknamenum}{}
284 \renewcommand*{\printbooknum}{}
285 \renewcommand*{\booknumfont}{}
286 \renewcommand*{\printpartname}{}
287 \renewcommand*{\partnamefont}{}
288 \renewcommand*{\partnamenum}{}
289 \renewcommand*{\printpartnum}{}
290 \renewcommand*{\partnumfont}{}
291 \renewcommand*{\printbooktitle}[1]{}
292 \renewcommand*{\booktitlefont}{}
293 \renewcommand*{\printparttitle}[1]{}
294 \renewcommand*{\parttitlefont}{}
295 \renewcommand*{\bookpageend}{}
296 \renewcommand*{\bookblankpage}{}
297 \renewcommand*{\nobookblankpage}{}
298 \renewcommand*{\partpageend}{}
299 \renewcommand*{\partblankpage}{}
300 \renewcommand*{\nopartblankpage}{}
301 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo
302 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo
303 \renewcommand*{\leadpagetoclevel}{chapter}
304
305 \renewcommand*{\openright}{}
306 \renewcommand*{\openleft}{}
307 \renewcommand*{\openany}{}
308 \renewcommand*{\clearforchapter}{}
309 \renewcommand*{\memendofchapterhook}{}
310 \renewcommand*{\chapterheadstart}{}
311 % \newlength{\beforechapskip}
312 \renewcommand*{\afterchapternum}{}
313 % \newlength{\midchapskip}
314 \renewcommand*{\afterchaptertitle}{}
315 % \newlength{\afterchapskip}
316 \renewcommand*{\printchaptername}{}
317 \renewcommand*{\chapnamefont}{}
318 \renewcommand*{\chapternamenum}{}
319 \renewcommand*{\printchapternum}{}

```

```

320 \renewcommand*\chapnumfont{}{}
321 \renewcommand{\printchaptertitle}[1]{}
322 \renewcommand*\chapttitlefont{}{}
323 \renewcommand*\printchapternonum{}{}
324 \renewcommand*\indentafterchapter{}{}
325 \renewcommand*\noindentafterchapter{}{}
326 \renewcommand*\insertchapterspace{}{}
327
328 \renewcommand*\chapterstyle[1]{}
329 \renewcommand{\makechapterstyle}[2]{}
330 \renewcommand*\chapindent{}{}
331 \let\chapterprecis\cftchapterprecis
332 \let\chapterprecishere\cftchapterprecishere
333 \let\chapterprecistoc\cftchapterprecistoc
334 \renewcommand*\precisfont{}{}
335 \renewcommand*\prechapterprecis{}{}
336 \renewcommand*\postchapterprecis{}{}
337 \renewcommand{\precistoc}[1]{}
338 \renewcommand*\precistocfont{}{}
339 \renewcommand*\precistocformat{}{}
340 % \newlength{\prechapterprecisshift}
341
342 \renewcommand*\setbeforesecskip[1]{}
343 \renewcommand*\setaftersecskip[1]{}
344 \renewcommand*\setsecindent[1]{}
345 \renewcommand*\setsecheadstyle[1]{}
346 \renewcommand*\setbeforesubsecskip[1]{}
347 \renewcommand*\setaftersubsecskip[1]{}
348 \renewcommand*\setsubsecindent[1]{}
349 \renewcommand*\setsubseheadstyle[1]{}
350 \renewcommand*\setbeforesubsubsecskip[1]{}
351 \renewcommand*\setaftersubsubsecskip[1]{}
352 \renewcommand*\setsubsubsecindent[1]{}
353 \renewcommand*\setsubsubseheadstyle[1]{}
354 \renewcommand*\setbeforeparaskip[1]{}
355 \renewcommand*\setafterparaskip[1]{}
356 \renewcommand*\setparaindent[1]{}
357 \renewcommand*\setparaheadstyle[1]{}
358 \renewcommand*\setbeforesubparaskip[1]{}
359 \renewcommand*\setaftersubparaskip[1]{}
360 \renewcommand*\setsubparaindent[1]{}
361 \renewcommand*\setsubparaheadstyle[1]{}
362 \renewcommand{\@hangfrom}[1]{#1}
363 \renewcommand{\sethangfrom}[1]{}
364 \renewcommand{\setsecnumformat}[1]{}
365
366 \renewcommand*\hangsecnum{}{}
367 \renewcommand*\defaultsecnum{}{}
368
369 \renewcommand*\sechook{}{}
370 \renewcommand{\setsechook}[1]{}
371 \renewcommand*\subsechook{}{}
372 \renewcommand{\setsubsechook}[1]{}
373 \renewcommand*\subsubsechook{}{}
374 \renewcommand{\setsubsubsechook}[1]{}
375 \renewcommand*\parahook{}{}
376 \renewcommand{\setparahook}[1]{}
377 \renewcommand*\subparahook{}{}
378 \renewcommand{\setsubparahook}[1]{}
379

```

```

380 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
381
382 \RenewDocumentCommand{\fancybreak}{s +m}{%
383 \begin{center}#2\end{center}%
384 }
385
386 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
387 \begin{center}#4\end{center}%
388 }
389
390 \RenewDocumentCommand{\pfbreak}{s}{%
391 \begin{center}
392 \pfbreakdisplay
393 \end{center}
394 }
395
396 % \newlength{\pfbreakskip}
397 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
398
399 \renewcommand{\makeheadstyles}[2]{}
400 \renewcommand*{\headstyles}[1]{}

```

## § 706.8 **Pagination and headers**

```

401 \renewcommand*{\savepagenumber}{}
402 \renewcommand*{\restorepagenumber}{}
403 \renewcommand*{\uppercaseheads}{}
404 \renewcommand*{\nouppercaseheads}{}
405
406 \renewcommand*{\bookpagemark}[1]{}
407 \renewcommand*{\partmark}[1]{}
408 \renewcommand*{\bibmark}{}
409 \renewcommand*{\indexmark}{}
410 \renewcommand*{\glossarymark}{}
411
412 \LWR@origpagestyle{empty}
413 \renewcommand*{\ps@empty}{}
414 \renewcommand*{\makepagestyle}[1]{}
415 \renewcommand*{\emptypshook}{}%
416 % \renewcommand*{\empty@oddhead}{}
417 % \renewcommand*{\empty@oddfoot}{}
418 % \renewcommand*{\empty@evenhead}{}
419 % \renewcommand*{\empty@evenfoot}{}
420 \renewcommand*{\@oddhead}{}
421 \renewcommand*{\@oddfoot}{}
422 \renewcommand*{\@evenhead}{}
423 \renewcommand*{\@evenfoot}{}
424 \renewcommand*{\aliaspagestyle}[2]{}
425 \renewcommand*{\copypagestyle}[2]{}
426
427 \renewcommand*{\makeevenhead}[4]{}
428 \renewcommand*{\makeoddhead}[4]{}
429 \renewcommand*{\makeevenfoot}[4]{}
430 \renewcommand*{\makeoddfoot}[4]{}
431 \renewcommand*{\makerunningwidth}[3]{}
432 % \newlength{\headwidth}
433 \renewcommand*{\makeheadrule}[3]{}
434 \renewcommand*{\makefootrule}[3]{}
435 \renewcommand*{\makeheadfootruleprefix}[3]{}
436 % \newlength{\normalrulethickness}

```

```

437 % \setlength{\normalrulethickness}{.4pt}
438 % \newlength{\footruleheight}
439 % \newlength{\footruleskip}
440 \renewcommand*\makeheadposition}[5]{}
441 \renewcommand{\makepsmarks}[2]{}
442 \renewcommand*\makeheadfootstrut}[3]{}

443 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{} }
444 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{} }

445 \renewcommand{\memUChead}[1]{}
446 \renewcommand*\clearplainmark}[1]{}
447 \renewcommand*\clearmark}[1]{}
448 \renewcommand{\addtopsmarks}[3]{}
449 \renewcommand{\ifonlyfloats}[2]{#2}
450 \renewcommand*\mergepagefloatstyle}[3]{}
451
452 \renewcommand*\framepichead{}{}
453 \renewcommand*\framepictextfoot{}{}
454 \renewcommand*\framepichook{}{}
455 \renewcommand*\showheadfootlocoff{}{}
456 \renewcommand*\showtextblocklocoff{}{}

```

## § 706.9 Paragraphs and lists

```

457 \renewcommand{\hangfrom}[1]{#1}
458 \let\centerfloat\centering
459 \renewcommand*\raggedyright}[1]{}{}
460 % \newlength{\ragrparindent}
461 \renewcommand{\sourceatright}[2]{}{\attribution{#2}}
462 \let\memorigbs\LWR@endofline

463 \renewcommand*\memorigpar{}{\par}

464 \let\atcentercr\LWR@endofline
465
466 \renewcommand*\linenottooshort}[1]{}{}
467 \renewcommand*\russianpar{}{}
468 \renewcommand*\lastlinerulefill{}{}
469 \renewcommand*\lastlineparrule{}{}
470 \renewcommand*\justlastraggedleft{}{}
471 \renewcommand*\raggedrightthenleft{}{}
472 \renewcommand*\leftcenterright{}{}
473
474 \renewcommand{\leftspringright}[4]{%
475 \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
476 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
477 }
478
479 \renewenvironment*{blockdescription}
480 {\LWR@descriptionstart\LWR@origdescription}
481 {\enddescription}
482
483 \renewcommand*\blockdescriptionlabel}[1]{\textbf{#1}}
484 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
485 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
486 \renewcommand*\tightlists{}{}
487 \renewcommand*\defaultlists{}{}
488 \RenewDocumentCommand{\firmlists}{s}{}
489 \renewcommand*\firmlist{}{}

```

```

490 \renewcommand*\tightlist{}
491 \renewcommand*\zerotrivseps{}
492 \renewcommand*\savetrivseps{}
493 \renewcommand*\restoretrivseps{}

```

## § 706.10 Contents lists

```

494 \csletcs{tableofcontents*}{tableofcontents}
495 \csletcs{listoffigures*}{listoffigures}
496 \csletcs{listoftables*}{listoftables}
497 \renewenvironment{KeepFromToc}{}{}
498 \renewcommand*\onecoltocetc{}
499 \renewcommand*\twocoltocetc{}
500 \renewcommand*\ensureonecol{}
501 \renewcommand*\restorefromonecol{}
502 \renewcommand*\doccoltocetc{}
503
504 \renewcommand\toheadstart{}
505 \renewcommand\printtoctitle[1]{}
506 \renewcommand\tocmark{}
507 \renewcommand\aftertoctitle{}
508 \renewcommand\lofheadstart{}
509 \renewcommand\printloftitle[1]{}
510 \renewcommand\lofmark{}
511 \renewcommand\afterloftitle{}
512 \renewcommand\lotheadstart{}
513 \renewcommand\printlottitle[1]{}
514 \renewcommand\lotmark{}
515 \renewcommand\afterlottitle{}
516
517 \renewcommand*\setpnumwidth[1]{}
518 \renewcommand*\setrmarg[1]{}
519 \renewcommand*\cftbookbreak{}
520 \renewcommand*\cftpartbreak{}
521 \renewcommand*\cftchapterbreak{}

522 % \newlength\cftbeforebookskip
523 % \newlength\cftbookindent
524 % \newlength\cftbooknumwidth
525 \renewcommand*\cftbookfont{}
526 \renewcommand*\cftbookname{}
527 \renewcommand*\cftbookpresnum{}
528 \renewcommand*\cftbookaftersnum{}
529 \renewcommand*\cftbookaftersnumb{}
530 \renewcommand*\cftbookleader{}
531 \renewcommand*\cftbookdotsep{1}
532 \renewcommand*\cftbookpagefont{}
533 \renewcommand*\cftbookafterpnum{}
534 \renewcommand*\cftbookformatpnum[1]{}
535 \renewcommand*\cftbookformatpnumhook[1]{}

```

Part is already defined by tocloft.

```

536 % \newlength\cftbeforechapterskip
537 % \newlength\cftchapterindent
538 % \newlength\cftchapternumwidth
539 \renewcommand*\cftchapterfont{}
540 \renewcommand*\cftchaptername{}
541 \renewcommand*\cftchapterpresnum{}
542 \renewcommand*\cftchapteraftersnum{}

```

```
543 \renewcommand*\cftchapteraftersnumb{}\{}
544 \renewcommand*\cftchapterleader{}\{}
545 \renewcommand*\cftchapterdotsep}{1}
546 \renewcommand*\cftchapterpagefont{}\{}
547 \renewcommand*\cftchapterafterpnum{}\{}
548 \renewcommand*\cftchapterformatpnum}[1]\{}
549 \renewcommand*\cftchapterformatpnumhook}[1]\{}

550 % \newlength{\cftbeforesections skip}
551 % \newlength{\cftsectionindent}
552 % \newlength{\cftsectionnumwidth}
553 \renewcommand*\cftsectionfont{}\{}
554 \renewcommand*\cftsectionname{}\{}
555 \renewcommand*\cftsectionpresnum{}\{}
556 \renewcommand*\cftsectionaftersnum{}\{}
557 \renewcommand*\cftsectionaftersnumb{}\{}
558 \renewcommand*\cftsectionleader{}\{}
559 \renewcommand*\cftsectiondotsep}{1}
560 \renewcommand*\cftsectionpagefont{}\{}
561 \renewcommand*\cftsectionafterpnum{}\{}
562 \renewcommand*\cftsectionformatpnum}[1]\{}
563 \renewcommand*\cftsectionformatpnumhook}[1]\{}

564 % \newlength{\cftbeforesubsections skip}
565 % \newlength{\cftsubsectionindent}
566 % \newlength{\cftsubsectionnumwidth}
567 \renewcommand*\cftsubsectionfont{}\{}
568 \renewcommand*\cftsubsectionname{}\{}
569 \renewcommand*\cftsubsectionpresnum{}\{}
570 \renewcommand*\cftsubsectionaftersnum{}\{}
571 \renewcommand*\cftsubsectionaftersnumb{}\{}
572 \renewcommand*\cftsubsectionleader{}\{}
573 \renewcommand*\cftsubsectiondotsep}{1}
574 \renewcommand*\cftsubsectionpagefont{}\{}
575 \renewcommand*\cftsubsectionafterpnum{}\{}
576 \renewcommand*\cftsubsectionformatpnum}[1]\{}
577 \renewcommand*\cftsubsectionformatpnumhook}[1]\{}

578 % \newlength{\cftbeforesubsubsections skip}
579 % \newlength{\cftsubsubsectionindent}
580 % \newlength{\cftsubsubsectionnumwidth}
581 \renewcommand*\cftsubsubsectionfont{}\{}
582 \renewcommand*\cftsubsubsectionname{}\{}
583 \renewcommand*\cftsubsubsectionpresnum{}\{}
584 \renewcommand*\cftsubsubsectionaftersnum{}\{}
585 \renewcommand*\cftsubsubsectionaftersnumb{}\{}
586 \renewcommand*\cftsubsubsectionleader{}\{}
587 \renewcommand*\cftsubsubsectiondotsep}{1}
588 \renewcommand*\cftsubsubsectionpagefont{}\{}
589 \renewcommand*\cftsubsubsectionafterpnum{}\{}
590 \renewcommand*\cftsubsubsectionformatpnum}[1]\{}
591 \renewcommand*\cftsubsubsectionformatpnumhook}[1]\{}

592 % \newlength{\cftbeforeparagraphskip}
593 % \newlength{\cftparagraphindent}
594 % \newlength{\cftparagraphnumwidth}
595 \renewcommand*\cftparagraphfont{}\{}
596 \renewcommand*\cftparagraphname{}\{}
597 \renewcommand*\cftparagraphpresnum{}\{}
598 \renewcommand*\cftparagraphaftersnum{}\{}
599 \renewcommand*\cftparagraphaftersnumb{}\{}

```

```
600 \renewcommand*\cftparagraphleader{}\{}
601 \renewcommand*\cftparagraphdotsep}{1}
602 \renewcommand*\cftparagraphpagefont{}\{}
603 \renewcommand*\cftparagraphafterpnum{}\{}
604 \renewcommand*\cftparagraphformatpnum}[1]\{}
605 \renewcommand*\cftparagraphformatpnumhook}[1]\{}

606 % \newlength{\cftbeforesubparagraphskip}
607 % \newlength{\cftsubparagraphindent}
608 % \newlength{\cftsubparagraphnumwidth}
609 \renewcommand*\cftsubparagraphfont{}\{}
610 \renewcommand*\cftsubparagraphname{}\{}
611 \renewcommand*\cftsubparagraphpresnum{}\{}
612 \renewcommand*\cftsubparagraphaftersnum{}\{}
613 \renewcommand*\cftsubparagraphaftersnumb{}\{}
614 \renewcommand*\cftsubparagraphleader{}\{}
615 \renewcommand*\cftsubparagraphdotsep}{1}
616 \renewcommand*\cftsubparagraphpagefont{}\{}
617 \renewcommand*\cftsubparagraphafterpnum{}\{}
618 \renewcommand*\cftsubparagraphformatpnum}[1]\{}
619 \renewcommand*\cftsubparagraphformatpnumhook}[1]\{}

620 % \newlength{\cftbeforefigureskip}
621 % \newlength{\cftfigureindent}
622 % \newlength{\cftfigurenumwidth}
623 \renewcommand*\cftfigurefont{}\{}
624 \renewcommand*\cftfigurename{}\{}
625 \renewcommand*\cftfigurepresnum{}\{}
626 \renewcommand*\cftfigureaftersnum{}\{}
627 \renewcommand*\cftfigureaftersnumb{}\{}
628 \renewcommand*\cftfigureleader{}\{}
629 \renewcommand*\cftfiguredotsep}{1}
630 \renewcommand*\cftfigurepagefont{}\{}
631 \renewcommand*\cftfigureafterpnum{}\{}
632 \renewcommand*\cftfigureformatpnum}[1]\{}
633 \renewcommand*\cftfigureformatpnumhook}[1]\{}

634 % \newlength{\cftbeforesubfigureskip}
635 % \newlength{\cftsubfigureindent}
636 % \newlength{\cftsubfigurenumwidth}
637 \newcommand*\cftsubfigurefont{}\{}
638 \newcommand*\cftsubfigurename{}\{}
639 \newcommand*\cftsubfigurepresnum{}\{}
640 \newcommand*\cftsubfigureaftersnum{}\{}
641 \newcommand*\cftsubfigureaftersnumb{}\{}
642 \newcommand*\cftsubfigureleader{}\{}
643 \newcommand*\cftsubfiguredotsep}{1}
644 \newcommand*\cftsubfigurepagefont{}\{}
645 \newcommand*\cftsubfigureafterpnum{}\{}
646 \newcommand*\cftsubfigureformatpnum}[1]\{}
647 \newcommand*\cftsubfigureformatpnumhook}[1]\{}

648 % \newlength{\cftbeforetableskip}
649 % \newlength{\cfttableindent}
650 % \newlength{\cfttablenumwidth}
651 \renewcommand*\cfttablefont{}\{}
652 \renewcommand*\cfttablename{}\{}
653 \renewcommand*\cfttablepresnum{}\{}
654 \renewcommand*\cfttableaftersnum{}\{}
655 \renewcommand*\cfttableaftersnumb{}\{}
656 \renewcommand*\cfttableleader{}\{}

```

```

657 \renewcommand*\cfttabledotsep}{1}
658 \renewcommand*\cfttablepagefont}{}
659 \renewcommand*\cfttableafterpnum}{}
660 \renewcommand*\cfttableformatpnum}[1]{}
661 \renewcommand*\cfttableformatpnumhook}[1]{}

662 % \newlength{\cftbeforesubtables skip}
663 % \newlength{\cftsubtableindent}
664 % \newlength{\cftsubtablenumwidth}
665 \newcommand*\cftsubtablefont}{}
666 \newcommand*\cftsubtablename}{}
667 \newcommand*\cftsubtablepresnum}{}
668 \newcommand*\cftsubtableaftersnum}{}
669 \newcommand*\cftsubtableaftersnumb}{}
670 \newcommand*\cftsubtableleader}{}
671 \newcommand*\cftsubtabledotsep}{1}
672 \newcommand*\cftsubtablepagefont}{}
673 \newcommand*\cftsubtableafterpnum}{}
674 \newcommand*\cftsubtableformatpnum}[1]{}
675 \newcommand*\cftsubtableformatpnumhook}[1]{}

676 \renewcommand*\booknumberline}[1]{}
677 \renewcommand*\partnumberline}[1]{}
678 \renewcommand*\chapternumberline}[1]{}
679 \renewcommand*\numberlinehook}[1]{}
680 % \renewcommand*\cftwhatismyname}{}%
681 \renewcommand*\booknumberlinehook}[1]{}
682 \renewcommand*\partnumberlinehook}[1]{}
683 \renewcommand*\chapternumberlinehook}[1]{}
684 \renewcommand{\numberlinebox}[2]{}
685 \renewcommand{\booknumberlinebox}[2]{}
686 \renewcommand{\partnumberlinebox}[2]{}
687 \renewcommand{\chapternumberlinebox}[2]{}
688 %
689 % \newlength{\cftparfillskip}
690 \renewcommand*\cftpagenumbersoff}[1]{}
691 \renewcommand*\cftpagenumberson}[1]{}
692 \renewcommand*\cftlocalchange}[3]{}
693 \renewcommand*\cftaddtitleline}[4]{}
694 \renewcommand*\cftaddnumtitleline}[4]{}
695 \renewcommand{\cftinsertcode}[2]{}
696 \renewcommand{\cftinserthook}[2]{}

```

\settocpreprocessor has been removed from memoir.

```

697 %\renewcommand{\settocpreprocessor}[2]{}
698 \DeclareRobustCommand{\cftpagenumbersoff}[1]{}
699 \DeclareRobustCommand{\cftpagenumberson}[1]{}

```

## § 706.11 Floats and captions

\@xfloat

\@xdblfloat

Reestablish `lwarp`'s takeover the float handling, which `memoir` tried to grab:

```

700 \AtBeginDocument{
701 \def\@xfloat #1[#2]{%
702 \LWR@floatbegin{#1}[#2]
703 \normalsize
704 \@nameuse{#1adjustment}%
705 \LWR@futurenon spacelet\LWR@mynexttoken\LWR@floatalignment%

```

```

706 }
707 \def\@xdblfloat #1[#2]{%
708 \LWR@floatbegin{#1}[#2]
709 \normalsize
710 \@nameuse{#1adjustment}%
711 \LWR@futurenonspacelet\LWR@mynexttoken\LWR@floatalignment%
712 }
713 }

```

`\newfloat`

[<1: *within*>] {<2: *type*>} {<3: *ext*>} {<4: *capname*>}

```

714 \RenewDocumentCommand{\newfloat}{o m m m}{%
715 \def\LWR@tempone{#4}%
716 \def\LWR@temptwo{\@nameuse{#2name}}%
717 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
718 \IfValueTF{#1}%
719 {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
720 {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
721 }{% not recursive name
722 \IfValueTF{#1}%
723 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
724 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
725 }%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

726 \cslet{listof#2s}\relax%
727 \cslet{listof#2es}\relax%
728 }

```

`\newlistof`

[<*within*>] {<*type*>} {<*ext*>} {<*listofname*>}

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

729 \RenewDocumentCommand{\newlistof}{o m m m}
730 {%
731 \IfValueTF{#1}%
732 {\newlistentry[#1]{#2}{#3}{0}}%
733 {\newlistentry{#2}{#3}{0}}%
734 \@namedef{ext@#2}{#3}%
735 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
736 \setcounter{#3depth}{1}%
737 \@namedef{#3mark}{}%
738 \@namedef{#2}{\LWR@listof{#2}{#4}}%
739 \@namedef{@cftmake#3title}{}%
740 \@ifundefined{cftbefore#3titleskip}{%
741 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
742 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
743 }{}%
744 \@namedef{cft#3titlefont}{}%
745 \@namedef{cftafter#3title}{}%
746 \@namedef{cft#3prehook}{}%
747 \@namedef{cft#3posthook}{}%
748 }

749 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the lwarp version of keyfloat:

```

750 \NewDocumentEnvironment{KFLTmemoir@marginfloat}[0]{-1.2ex} m}
751 {% start
752 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}(note){marginblock}%
753 \renewcommand*{\@capttype}{#2}%
754 }
755 {%
756 \endLWR@BlockClassWP%
757 }
758
759 \DeclareDocumentEnvironment{marginfigure}[o]
760 {\begin{KFLTmemoir@marginfloat}{figure}}
761 {\end{KFLTmemoir@marginfloat}}
762
763 \DeclareDocumentEnvironment{margintable}[o]
764 {\begin{KFLTmemoir@marginfloat}{table}}
765 {\end{KFLTmemoir@marginfloat}}

766 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
767 \renewcommand{\setmpjustification}[2]{}
768 \renewcommand*{\mpjustification}{}
769 \renewcommand*{\setfloatlocations}[2]{}
770 \DeclareDocumentCommand{\suppressfloats}[o]{}
771 \renewcommand*{\FloatBlock}{}
772 \renewcommand*{\FloatBlockAllowAbove}{}
773 \renewcommand*{\FloatBlockAllowBelow}{}
774 \renewcommand*{\setFloatBlockFor}{}
775
776 \renewcommand{\captiontitlefinal}[1]{}

\flegtable, \flegfigure, \flegtocfigure are defined by memoir
using \newfloat. These are defined with an @ in ccaption.

777 \renewcommand{\flegtable}{\tablename}
778 \renewcommand{\flegfigure}{\figurename}
779 \renewcommand{\flegtocfigure}{}
780 \renewcommand{\flegtocfigure}{}

781 \renewcommand{\@makesubfloatcaption}[2]{%
782 \minipagefullwidth
783 \begin{minipage}{\linewidth}%
784 #1 \ignorespaces #2 \unskip%
785 \end{minipage}
786 }
787
788 \renewcommand*{\tightsubcaptions}{}
789 \renewcommand*{\loosesubcaptions}{}
790
791 \renewcommand*{\subcaptionsize}[1]{}
792 \renewcommand*{\subcaptionlabelfont}[1]{}
793 \renewcommand*{\subcaptionfont}[1]{}
794 \renewcommand*{\subcaptionstyle}[1]{}
795
796 \renewcommand*{\hangsubcaption}{}
797 \renewcommand*{\shortsubcaption}{}
798 \renewcommand*{\normalsubcaption}{}

```

`\AfterEndPreamble` now required for sidecaption.

```

799 \AfterEndPreamble{%
800 \RenewDocumentEnvironment{sidecaption}{o m o}
801 {}
802 {%
803 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
804 \IfValueT{#3}{\label{#3}}%
805 }
806 }
807
808 % \newlength{\sidecapwidth}
809 % \newlength{\sidecapsep}
810 \renewcommand*{\setsidecaps}[2]{}
811 \renewcommand*{\sidecapmargin}[1]{}
812 % \newif\ifscapmargleft
813 \scapmargleftfalse
814 \renewcommand*{\setsidecappos}[1]{}

```

Env sidecontcaption

```

815 \RenewDocumentEnvironment{sidecontcaption}{m o}
816 {}
817 {%
818 \ifdef{\ContinuedFloat}%
819 {\ContinuedFloat}%
820 {\addtocounter{@capttype}{-1}}%
821 \caption{#1}%

```

Without `\@capttype`, the section is referred to instead.

```

822 \IfValueT{#2}{\label[\@capttype]{#2}}%
823 }

```

`\sidenamedlegend` does not appear to use the `roc` argument.

```

824 \renewenvironment{sidenamedlegend}[2][{}
825 \begin{center}
826 \@nameuse{\@capttype name}\CaptionSeparator#2
827 \end{center}
828 }
829 {}
830
831 \renewenvironment{sidelegend}[1]
832 {\begin{center}
833 #1
834 }
835 }
836 {\end{center}}
837
838 \renewcommand*{\sidecapstyle}{}
839 \renewcommand*{\overridescapmargin}[1]{}
840 % \newlength{\sidecapraise}
841 \renewcommand*{\sidecapfloatwidth}{\linewidth}
842
843 \LetLtxMacro\ctabular\tabular
844 \LetLtxMacro\endctabular\endtabular
845
846 \renewcommand{\autorows}[5][{}{
847 #5%

```

```

848 }
849
850 \renewcommand{\autocol}[5][]{%
851 #5%
852 }

```

## § 706.12 Footnotes and page notes

```

853 \renewcommand*\feetabovelfloat{}
854 \renewcommand*\feetbelowfloat{}
855 \renewcommand*\feetatbottom{}
856
857 \renewcommand*\verbfootnote[2][]{%
858 \PackageError{lwarp, memoir}%
859 {Verbatim footnotes are not yet supported by lwarp}%
860 {This may be improved some day.}%
861 }
862
863 \renewcommand*\plainfootnotes{}
864 \renewcommand*\twocolumnfootnotes{}
865 \renewcommand*\threecolumnfootnotes{}
866 \renewcommand*\paragraphfootnotes{}
867 \renewcommand*\footfudgefiddle{}
868
869 \renewcommand*\newfootnoteseries[1]{%
870 \PackageError{lwarp, memoir}%
871 {Memoir footnote series are not yet supported by lwarp}%
872 {This may be improved some day.}%
873 }
874
875 \renewcommand*\plainfootstyle[1]{}
876 \renewcommand*\twocolumnfootstyle[1]{}
877 \renewcommand*\threecolumnfootstyle[1]{}
878 \renewcommand*\paragraphfootstyle[1]{}
879
880 \renewcommand*\footfootmark{}
881 \renewcommand*\footmarkstyle[1]{}
882
883 % \newlength{\footmarkwidth}
884 % \newlength{\footmarksep}
885 % \newlength{\footparindent}
886
887 \renewcommand*\foottextfont{}
888
889 \renewcommand*\marginparmargin[1]{}
890 \renewcommand*\sideparmargin[1]{}
891
892 \LetLtxMacro\sidepar\marginpar
893 \renewcommand*\sideparfont{}
894 \renewcommand*\sideparform{}
895 \LWR@providelength{\sideparvshift}
896
897 \renewcommand*\parnopar{}
898
899 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
900 \renewcommand*\sidebarmargin[1]{}
901 \renewcommand*\sidebarfont{}
902 \renewcommand*\sidebarform{}
903 % \newlength{\sidebarhsep}
904 % \newlength{\sidebarvsep}

```

```

905 % \newlength{\sidebarwidth}
906 % \newlength{\sidebartopsep}
907 \renewcommand{\setsidebarheight}[1]{}
908 \renewcommand*{\setsidebars}[6]{}
909 \renewcommand*{\footnotesatfoot}{}
910 \renewcommand*{\footnotesinmargin}{}
911
912 \LetLtxMacro\sidefootnote\footnote
913 \LetLtxMacro\sidefootnotemark\footnotemark
914 \LetLtxMacro\sidefootnotetext\footnotetext
915
916 \renewcommand*{\sidefootmargin}[1]{}
917 % \newlength{\sidefoothsep}
918 % \newlength{\sidefootvsep}
919 % \newlength{\sidefootwidth}
920 % \newlength{\sidefootadjust}
921 % \newlength{\sidefootheight}
922 \renewcommand*{\setsidefootheight}[1]{}
923 % \renewcommand*{\sidefootfont}{}% in docs but not in the package
924 \renewcommand*{\setsidefeet}[6]{}
925 \renewcommand*{\sidefootmarkstyle}[1]{}
926 \renewcommand*{\sidefoottextfont}{}
927 \renewcommand*{\sidefootform}{}

928 \renewcommand*{\continuousnotenums}{\pncontopttrue}% from pagenote
929 \renewcommand*{\notepageref}{}
930 \renewcommand*{\prenotetext}{}
931 \renewcommand*{\postnotetext}{}
932 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
933 \renewcommand*{\foottopagenote}{}
934 \renewcommand*{\pagetofootnote}{}

```

\m@m@wrpnote

\startnoteentrystart

To have `cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the .ent file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```

The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

 **\nameref** Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```

935 \VerifyCommand[lwarp][lwarp-patch-memoir]{\m@m@wrpnote}
936 {B992C495D2124AFEE239B7FDB0133EB1}
937
938 \xpatchcmd{\m@m@wrpnote}
939 {\string\startnoteentry{\thepagenote}}
940 {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}}
941 {}
942 {\LWR@patcherror{memoir}{m@m@wrpnote}}
943
944 \VerifyCommand[lwarp][lwarp-patch-memoir]{\startnoteentrystart}
945 {0F994713293C72BD8E2BC67C1E1400A1}
946
947 % #1 is {{number}}{arabic}}
948 \renewcommand\startnoteentrystart[4]{% number; manual id; auto label; href anchor
949 \prenoteinnotes%
950 % \noteidinnotes{#1}{#2}%

```

```

951 \noteidinnotes{\@firstoftwo#1}{#2}%
952 % \phantomsection%
953 \MakeLinkTarget[pagenote]{}%
954 \ifmtarg{#2}%
955 {%
956 \def\@currentlabel{\@firstoftwo#1}%
957 \def\cref@currentlabel{%
958 [pagenote][\@secondoftwo#1][\@firstoftwo#1%
959]%
960 }%
961 {%
962 \def\@currentlabel{#2}%
963 \def\cref@currentlabel{%
964 [pagenote][#2][#2]%
965 }%
966 }%
967 \def\@currentcounter{pagenote}%
968 \pagenoteanchor{#4}%
969 \pageinnotes{#3}%
970 \prenotetext%
971 }

```

### § 706.13 Decorative text

```

972 \renewcommand*\epigraphposition[1]{}
973 \renewcommand*\epigraphtextposition[1]{}
974 \renewcommand*\epigraphsourceposition[1]{}
975 \renewcommand*\epigraphfontsize[1]{}
976 \renewcommand*\epigraphforheader[2][{}]{%
977 \renewcommand*\epigraphpicture{}

```

### § 706.14 Poetry

```

978 \renewcommand*\vinphantom{}
979 \renewcommand*\vleftofline[1]{#1}
980 % \let\linenumfrequency\poemlines
981 % \renewcommand*\linenumfont[1]{}
982
983 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
984 \IfValueTF{#2}%
985 {\poemtitle[#2]{#4}}%
986 {\poemtitle{#4}}%
987 }
988
989 \renewcommand*\NumberPoemTitle{}
990 \renewcommand*\PlainPoemTitle{}
991 \renewcommand*\poemtitlestyle{}
992 \renewcommand*\poemtitlestarmark[1]{}
993 \renewcommand*\poemtitlestarpstyle{}
994 \renewcommand*\PoemTitleheadstart{}
995 \renewcommand*\printPoemTitlenonum{}
996 \renewcommand*\printPoemTitlenum{}
997 \renewcommand*\afterPoemTitlenum{}
998 \renewcommand*\printPoemTitletitle[1]{}
999 \renewcommand*\afterPoemTitle{}
1000 \newlength{\midpoemtitleskip}
1001 \renewcommand*\PoemTitlenumfont{}
1002 \renewcommand*\PoemTitlefont{}

```

## § 706.15 Boxes, verbatims and files

```

1003 \renewenvironment{qframe}{\framed}{\endframed}
1004 \renewenvironment{qshade}{\shaded}{\endshaded}

1005 \renewcommand*{\setverbatimfont}[1]{}
1006 %\renewcommand*{\tabson}[1]{}% disabled as of 3.8.2
1007 %\renewcommand*{\tabsoff}{}% disabled as of 3.8.2
1008 %\renewcommand*{\wrappingon}{}% disabled as of 3.8.2
1009 %\renewcommand*{\wrappingoff}{}% disabled as of 3.8.2
1010 %\renewcommand*{\verbatimindent}{}% no longer used as of 3.8.2
1011 %\renewcommand*{\verbatimbreakchar}[1]{}% no longer used as of 3.8.2

1012 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

boxedverbatim is already defined by moreverb. boxedverbatim\* does not appear to work at all, even in a minimal print memoir document.

```

1013 \renewcommand*{\bvbox}{}
1014 \renewcommand*{\bvtopandtail}{}
1015 \renewcommand*{\bvside}{}
1016 \renewcommand*{\nobvbox}{}
1017 % \newlength\bvboxsep
1018 \renewcommand*{\bvtoprulhook}{}
1019 \renewcommand*{\bvtopmidhook}{}
1020 \renewcommand*{\bvendrulehook}{}
1021 \renewcommand*{\bvleftsidehook}{}
1022 \renewcommand*{\bvrightsidehook}{}
1023 \renewcommand*{\bvperpagetrue}{}
1024 \renewcommand*{\bvperpagefalse}{}
1025 \renewcommand*{\bvtopofpage}[1]{}
1026 \renewcommand*{\bvendofpage}[1]{}
1027 \renewcommand*{\linenumberfrequency}[1]{}
1028 \renewcommand*{\resetbvlینumber}{}
1029 \renewcommand*{\setbvlینums}[2]{}
1030 \renewcommand*{\linenumberfont}[1]{}
1031 \renewcommand*{\bvnumbersinside}{}
1032 \renewcommand*{\bvnumbersoutside}{}

```

## § 706.16 Cross referencing

\fref and related have been removed from memoir.

```

1033 %\renewcommand*{\fref}[1]{\cref{#1}}
1034 %\renewcommand*{\tref}[1]{\cref{#1}}
1035 %\renewcommand*{\pref}[1]{\cpageref{#1}}
1036 %\renewcommand*{\Aref}[1]{\cref{#1}}
1037 %\renewcommand*{\Bref}[1]{\cref{#1}}
1038 %\renewcommand*{\Pref}[1]{\cref{#1}}
1039 %\renewcommand*{\Sref}[1]{\cref{#1}}
1040 \renewcommand*{\figurerefname}{Figure}
1041 \renewcommand*{\tablerefname}{Table}
1042 \renewcommand*{\pagerefname}{page}
1043 \renewcommand*{\bookrefname}{Book~}
1044 \renewcommand*{\partrefname}{Part~}
1045 \renewcommand*{\chapterrefname}{Chapter~}
1046 \renewcommand*{\sectionrefname}{\S}
1047 \renewcommand*{\appendixrefname}{Appendix~}
1048 \LetLtxMacro\titleref\nameref
1049 \renewcommand*{\headnameref}{}

```

```
1050 \renewcommand*{\tocnameref}{{}
```

The following have been removed from memoir.

```
1051 %\renewcommand*{\theTitleReference}[2]{}
1052 %\renewcommand*{\namerefon}{}
1053 %\renewcommand*{\namerefoff}{{}
```

## § 706.17 **Back matter**

\@wrindexhyp

Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```
1054 \AtBeginDocument{
1055
1056 \VerifyCommand[lwarp][lwarp-patch-memoir]{\@wrindexhyp}
1057 {8DA7E3C8BE7A830442D98EA033147F63}
1058
1059 \def\@wrindexhyp#1||\{\%
1060 \addtocounter{LWR@autoindex}{1}% lwarp
1061 \ifshowindexmark\@showidx{#1}\fi
1062 \protected@write\@auxout{}%
1063 {\string\@wrindexm@m{\@idxfile}{#1}{\thepage}}%
1064 {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}% lwarp
```

The label is assigned after the file write to avoid conflict with cleveref.

```
1065 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
1066 \endgroup
1067 \esphack}%
```

\@wrspindexhyp

\specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```
1068 \def\@wrspindexhyp#1||\{\%
1069 \addtocounter{LWR@autoindex}{1}%
1070 \ifshowindexmark\@showidx{#1}\fi
1071 \protected@write\@auxout{}%
1072 {\string\@wrindexm@m{\@idxfile}{#1}{\@nameuse{the\@sptheid}}}%
1073 {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
```

The label is assigned after the file write to avoid conflict with cleveref.

```
1074 \label{LWRindex-\arabic{LWR@autoindex}}%
1075 \endgroup
1076 \esphack}%
1077
1078 }% \AtBeginDocument
```

\@spindex

Patched to append \_html to the file:

```
1079 \renewcommand{\@spindex}[2]{%
1080 \@ifundefined{#1@idxfile}%
1081 {\ifreportnoidxfile
1082 \memwarn{Undefined index file #1}%
1083 \fi
1084 \begingroup
1085 \@sanitize
1086 \@nowrindex}%
1087 {\def\@idxfile{#1_html}}%
```

```

1088 \def\@sptheid{#2}%
1089 \begingroup
1090 \@sanitize
1091 \@wrspindex}}

```

\makeindex

Patched to use \_html filename and \BaseJobname:

```

1092 \catcode_ =12%
1093 \renewcommand*\makeindex[1][\BaseJobname]{%
1094 \if@files
1095 \def\gindex{\@bsphack%
1096 \ifnextchar [{\@index}{\@index[\BaseJobname]}}
1097 \def\specialindex{\@bsphack\@spindex}%
1098 \makememindexhook
1099 \expandafter\newwrite\csname #1@idxfile\endcsname
1100 \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1101 \typeout{Writing index file #1_html.idx }%
1102 \fi}
1103 \catcode_ =8%

```

\printindex

Patched to use \_html filename and \BaseJobname. This will later be patched by the lwarp core.

```

1104 \catcode_ =12%
1105 \renewcommand{\printindex}[1][\BaseJobname]{\@input@{#1_html.ind}}
1106 \catcode_ =8%

1107 \DeclareDocumentCommand{\newblock}{}{}
1108 %
1109 \renewcommand*\showindexmarks{}
1110 \renewcommand*\hideindexmarks{}
1111
1112 \renewcommand*\xindyindex{}

```

## § 706.18 Miscellaneous

```

1113 \renewcommand*\changemarks{}
1114 \renewcommand*\nochangemarks{}
1115 \renewcommand*\added[1]{}
1116 \renewcommand*\deleted[1]{}
1117 \renewcommand*\changed[1]{}
1118
1119 \renewcommand*\showtrimsoff{}
1120 \renewcommand*\showtrimson{}
1121 \renewcommand*\trimXmarks{}
1122 \renewcommand*\trimLmarks{}
1123 \renewcommand*\trimFrame{}
1124 \renewcommand*\trimNone{}
1125 \renewcommand*\trimmarkscolor{}
1126 \renewcommand*\trimmarks{}
1127 \renewcommand*\tmarktl{}
1128 \renewcommand*\tmarktr{}
1129 \renewcommand*\tmarkbr{}
1130 \renewcommand*\tmarkbl{}
1131 \renewcommand*\tmarktm{}
1132 \renewcommand*\tmarkmr{}
1133 \renewcommand*\tmarkbm{}
1134 \renewcommand*\tmarkml{}
1135 \renewcommand*\trimmark{}

```

```

1136 \renewcommand*\quarkmarks{}
1137 \renewcommand*\registrationColour[1]{}
1138
1139 \renewcommand*\leavespergathering[1]{}
1140
1141 \renewcommand*\noprelistbreak{}
1142
1143 \renewcommand*\cleartorecto{}
1144 \renewcommand*\cleartoverso{}
1145
1146 \renewenvironment{vplace}[1][{}]{}
```

## § 706.19 ccaption emulation

```

1147 \renewcommand*\captiondelim[1]{\renewcommand*\CaptionSeparator}{#1}}
1148 \renewcommand*\captionnamefont[1]{}
1149 \renewcommand*\captiontitlefont[1]{}
1150 \renewcommand*\flushleft{}
1151 \renewcommand*\centerlastline{}
1152 \renewcommand*\captionstyle[2][{}]{
1153 \DeclareDocumentCommand\captionwidth}{m}{
1154 \renewcommand*\changecaptionwidth}{
1155 \renewcommand*\normalcaptionwidth}{
1156 \renewcommand*\hangcaption}{
1157 \renewcommand*\indentcaption[1]{
1158 \renewcommand*\normalcaption}{
1159 \renewcommand\precaption[1]{
1160 \renewcommand\postcaption[1]{
1161 \renewcommand\midbicaption[1]{
1162 \renewcommand\contcaption[1]{%
1163 % \ContinuedFloat%
1164 % \caption{#1}%
1165 \begin{LWR@figcaption}% later becomes \caption*
1166 \LWR@isolate{\@nameuse{\@captive name}}~%
1167 \thechapter.\the\value{\@captive}\CaptionSeparator\LWR@isolate{#1}%
1168 \end{LWR@figcaption}%
1169 }

1170 \newlength\abovelegendskip
1171 \setlength\abovelegendskip{0.5\baselineskip}
1172 \newlength\belowlegendskip
1173 \setlength\belowlegendskip{\abovelegendskip}
```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1174 \renewcommand\legend[1]{\begin{center}#1\\end{center}}
1175
1176 \renewcommand\namedlegend[2][{}]{
1177 \begin{center}
1178 \@nameuse{fleg\@captive}\CaptionSeparator#2\\
1179 \end{center}
1180 \@nameuse{flegtoc\@captive}{#1}
1181 }
```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an `@` in `ccaption`.

```

1182 \renewcommand\newfixedcaption[3][\caption]{%
1183 \renewcommand{#2}{\def\@captive{#3}#1}}
1184 \renewcommand\renewfixedcaption[3][\caption]{%
```

```

1185 \renewcommand{#2}{\def\@capttype{#3}#1}}
1186 \renewcommand{\providefixedcaption}[3][\caption]{%
1187 \providecommand{#2}{\def\@capttype{#3}#1}}
1188
1189 \renewcommand{\bitwonumcaption}[6][\%
1190 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1191 \addtocounter{\@capttype}{-1}%
1192 \begingroup%
1193 \csdef{\@capttype name}{#4}%
1194 \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1195 \endgroup%
1196 \ifblank{#1}{\label{#1}}}%
1197 }
1198
1199 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1200
1201 \renewcommand{\bicaption}[5][\%
1202 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1203 \begin{LWR@figcaption}% later becomes \caption*
1204 \LWR@isolate{#4} % space
1205 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1206 \end{LWR@figcaption}%
1207 \ifblank{#1}{\label{#1}}}%
1208 }
1209
1210 \renewcommand{\bicontcaption}[3]{\%
1211 \contcaption{#1}%
1212 \begingroup%
1213 \csdef{\@capttype name}{#2}%
1214 \contcaption{#3}%
1215 \endgroup%
1216 }

```

Only in ccaption, not in memoir:

```

1217 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1218 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1219 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1220 \VerifyCommand[lwarp][memoir]{\@memsubbody}{1B2D3DA81BBE071BE29A32105D3E7F43}
1221
1222 \renewcommand{\@memsubbody}{\%
1223 \bgroup
1224 % \let\label=\memsub@label
1225 \let\mem@addto@label@hook\memsub@addto@label@hook
1226 \ifdonemaincaption\else
1227 \advance\csname c@\@capttype\endcsname\@ne
1228 \fi
1229 % \refstepcounter{sub\@capttype}\@contkeep%
1230 % \leavevmode% lwarp
1231 \@ifnextchar [%
1232 {\@memsubfig}%
1233 {\@memsubfig[\@empty]}}
1234
1235 \VerifyCommand[lwarp][memoir]{\@memcontsubbody}{7BCF667C2EA09AE8362DAE2CB5BDD456}
1236
1237 \renewcommand{\@memcontsubbody}{\%
1238 \bgroup

```

```

1239 % \let\label=\memsub@label
1240 \let\mem@addto@label@hook\memsub@addto@label@hook
1241 \@contset
1242 % \refstepcounter{sub\@capytype}\@contkeep%
1243 % \leavevmode% lwarp
1244 \@ifnextchar [%
1245 {\@memsubfig}%
1246 {\@memsubfig[\@empty]}}
1247
1248
1249 \long\def\@memsubfloat#1[#2][#3]#4{%
1250 % \@tempcnta=\@ne
1251 % \if@tightsubcap
1252 % \if@minipage
1253 % \@tempcnta=\z@
1254 % \else
1255 % \ifdim\lastskip=\z@
1256 % \@tempcnta=\@ne
1257 % \else
1258 % \@tempcnta=\tw@
1259 % \fi
1260 % \fi
1261 % \fi
1262 % \if@contbotsub
1263 % \def\subfig@top{\subfloattopskip}%
1264 % \def\subfig@bottom{\subfloatbottomskip}%
1265 % \else
1266 % \def\subfig@top{\subfloatbottomskip}%
1267 % \def\subfig@bottom{\subfloattopskip}%
1268 % \fi
1269 % \setbox\@tempboxa \hbox{#4}%
1270 % \@tempdima=\wd\@tempboxa
1271 % \vbox
1272 % \bgroup%
1273 % \mem@step@subcounter%
1274 % \vbox
1275 % \LWR@stoppars%
1276 % \minipagefullwidth% lwarp
1277 % \begin{minipage}{\linewidth}% lwarp
1278 % \bgroup
1279 % \ifcase\@tempcnta
1280 % \@minipagefalse
1281 % \or
1282 % \vspace{\subfig@top}
1283 % \or
1284 % \ifdim \lastskip=\z@ \else
1285 % \@tempskipb\subfig@top\@xaddvskip
1286 % \fi
1287 % \fi
1288 % \if@contbotsub
1289 % #4% \box\@tempboxa
1290 % \egroup
1291 % \ifx \@empty#3\relax \else
1292 % \vskip\subfloatcapskip
1293 % \@memsubcaption{#1}{#2}{#3}%
1294 % \fi
1295 % \else
1296 % \ifx \@empty#3\relax \else
1297 % \@memsubcaption{#1}{#2}{#3}%
1298 % \vskip\subfloatcapskip

```

```

1299 % \vskip\subfloatcaptopadj
1300 \fi\egroup
1301 #4% \box\@tempboxa
1302 \fi
1303 % \vspace{\subfig@bottom}
1304 \end{minipage}% lwarp
1305 \LWR@startpars% lwarp
1306 \egroup
1307 \egroup
1308 }

```

## § 706.20 Final patchwork

```

1309 \newlistof{tableofcontents}{toc}{\contentsname}
1310 \newlistof{listoffigures}{lof}{\listfigurename}
1311 \newlistof{listoftables}{lot}{\listtablename}

```

---

### File 592 **lwarp-common-multimedia.sty**

## § 707 Package **common-multimedia**

**lwarp-common-multimedia** (*Pkg*) Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addresource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

for HTML output:

```

1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]

2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{LWR@multimedia@height}{#1}}

7 \newlength{LWR@multimedia@width}
8 \newlength{LWR@multimedia@height}
9 \newlength{LWR@multimedia@maxdimension}

```

`\LWR@multimedia@printsiz`

Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsiz}{%
11 \setlength{LWR@multimedia@maxdimension}{%
12 \maxof%
13 {\linewidth}%
14 {\maxof{LWR@multimedia@width}{LWR@multimedia@height}}%
15 }%
16 \setlength{LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17 \ifdimgreater{LWR@multimedia@width}{0pt}{%
18 width:%
19 \LWR@printpercentlength%
20 {LWR@multimedia@width}%
21 {LWR@multimedia@maxdimension}vmin ; % space
22 }{%
23 \ifdimgreater{LWR@multimedia@height}{0pt}{%
24 height:%
25 \LWR@printpercentlength%
26 {LWR@multimedia@height}%
27 {LWR@multimedia@maxdimension}vmin ; % space
28 }{%
29 }

```

`\LWR@multimedia@fileAV`

`{\langle poster text \rangle}{\langle filename \rangle}{\langle audio/video \rangle}{\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{}}{\LWR@parsedfilename}%

```

The container `<div>` is sized as desired.

```

33 \ifstrequal{#3}{audio}{%
34 \begin{BlockClass}{AVviewport}
35 }{%
36 \begin{BlockClass}[LWR@multimedia@printsiz\ margin:auto]{AVviewport}
37 }

```

Paragraph tags are unnecessary for the A/v tags.

```
38 \LWR@stoppars
```

The A/v element is 100% of the container.

```
39 \LWR<htmltag{%
40 #3\ % space
41 \ifstrequal{#3}{audio}{%
42 width=\textquotedbl{}100%\textquotedbl\ % space
43 height=\textquotedbl{}100%\textquotedbl\ % space
44 }%
45 controls%
46 }\LWR@orignewline
```

The file source and type:

```
47 \LWR<htmltag{%
48 source % space
49 src=\textquotedbl%
50 \LWR@parsedfilename\unskip\textquotedbl\ % space
51 type=\textquotedbl{}#4\textquotedbl}
```

The poster text inside paragraph tags, along with a reference to the file.

```
52 \LWR@startpars
53 \LWR@href{\LWR@parsedfilename}{#1}
54 \LWR@stoppars
```

Finish.

```
55 \LWR<htmltag{/#3}\LWR@orignewline
56 \end{BlockClass}
57 }{%
58 \PackageError{lwarp-common-multimedia}
59 {File '#2' not found}
60 {Perhaps an incorrect path?}
61 }%
62 }
```

```
\LWR@multimedia@httpAV {<poster text>} {<filename>} {<audio/video>} {<mimetype>}
```

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container <div> is sized as desired.

```
64 \ifstrequal{#3}{audio}{%
65 \begin{BlockClass}{AVviewport}
66 }{%
67 \begin{BlockClass}[\LWR@multimedia@printsizel margin:auto]{AVviewport}
68 }
```

Paragraph tags are unnecessary for the A/v tags.

```
69 \LWR@stoppars
```

The A/v element is 100% of the container.

```
70 \LWR<htmltag{%
71 #3\ % space
72 \ifstrequal{#3}{audio}{%
73 width=\textquotedbl{}100%\textquotedbl\ % space
74 height=\textquotedbl{}100%\textquotedbl\ controls%
75 }%
76 }\LWR@orignewline
```

The file source and type:

```

77 \LWR@htmltag{%
78 source % space
79 src=\textquotedbl#2\textquotedbl\ % space
80 type=\textquotedbl#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the URL.

```

81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stoppars

```

Finish.

```

84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }

```

\LWR@multimedia@AV

{<poster text>} {<filename>} {<audio/video>} {<mimetype>}

Creates an audio or video from a file or a URL.

```

87 \newcommand*{\LWR@multimedia@AV}[4]{%
88 \IfBeginWith{#2}{http}%
89 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90 {%
91 \IfBeginWith{#2}{HTTP}%
92 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94 }%
95 }

```

\LWR@multimedia@embed

{<poster text>} {<URL or filename>} {<mime type>}

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```

96 \newcommand*{\LWR@multimedia@embed}[3]{%
97 \begin{BlockClass}[width:100\%]{AVviewport}%
98 \LWR@stoppars
99 \LWR@htmltag{%
100 embed % space
101 \ifblank{#3}{\type=\textquotedbl#3\textquotedbl\ }%
102 style=\textquotedbl\LWR@multimedia@printsizemargin:auto\textquotedbl\ % space
103 src=\textquotedbl#2\textquotedbl\ % space
104 }%
105 \LWR@startpars
106 \end{BlockClass}
107 }

```

Error message if the comment character is used among the arguments of

\LWR@multimedia@percenterror \LWR@multimediab.

```

108 \newcommand*{\LWR@multimedia@percenterror}{%
109 \PackageError{lwarp-media9}
110 {%
111 Do not use a percent comment between\MessageBreak
112 \protect\includemedia\space arguments%
113 }
114 {%
115 Percent is changed to a regular character\MessageBreak

```

```

116 to allow its use inside a URL.%
117 }
118 }

```

\LWR@multimediab

[<options>] {<poster text>} {<filename>}

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*\LWR@multimediab}[3][[]]{%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120 \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121 \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122 \if#3\@percentchar\LWR@multimedia@percenterror\fi%

```

Paragraph handling:

```
123 \LWR@stoppars%
```

Record the desired size.

```

124 \setlength{\LWR@multimedia@width}{0pt}%
125 \setlength{\LWR@multimedia@height}{0pt}%
126 \setkeys{\LWR@multimedia}{#1}%

```

If a known A/V type, create an HTML5 <video> or <audio>.

```

127 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131 \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135 \LWR@href{#3}{#2}% unknown format
136 }}}}]]}%

```

Paragraph handling:

```

137 \LWR@startpars%
138 \endgroup%
139 }

```

Catcodes which may appear in a URL.

```

140 \newrobustcmd*\LWR@multimedia){%
141 \begingroup%
142 \LWR@linkmediacatcodes%
143 \LWR@multimediab%
144 }

```

File 593 **lwarp-common-mathjax-letters.sty**§ 708 Package **common-mathjax-letters**

lwarp-common-mathjax-letters (Pkg) Common code used by a number of packages to generate Greek math characters for MATHJAX.

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {\langle 2: capitalize name? \rangle} {\langle 3: prefix \rangle} {\langle 4: postfix \rangle} {\langle 5: name \rangle} {\langle 6: unicode \rangle}  
Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5 \IfBooleanTF{#2}%
6 {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7 {\edef\LWR@tempone{#5}}%
8 \xdef\LWR@customizedMathJax{%
9 \LWR@customizedMathJax%
10 \LWRbackslash(%
11 \LWRbackslash def\LWRbackslash%
12 #3% prefix
13 \LWR@tempone%name
14 #4% postfix
15 \LWRleftbrace%
16 }%
17 \IfBooleanTF{#1}{%
18 \xdef\LWR@customizedMathJax{%
19 \LWR@customizedMathJax%
20 \LWRbackslash mathit\LWRleftbrace%
21 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22 \LWRrightbrace%
23 }%
24 }{%
25 \xdef\LWR@customizedMathJax{%
26 \LWR@customizedMathJax%
27 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28 }%
29 }%
30 \xdef\LWR@customizedMathJax{%
31 \LWR@customizedMathJax%
32 \LWRrightbrace\LWRbackslash)\par%
33 }%
34 }
```

\* {\langle 2: prefix \rangle} {\langle 3: postfix \rangle}

\LWR@mathjax@addgreek@l@up Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36 \LWR@mathjax@addletter{#1}{#2}{#3}{\alpha}{03B1}
```

```

37 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{03B9}
49 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03C7}
67 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03C9}
69 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}

```

```

90 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03A8}
97 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03A9}
98 }

```

\* {<2: *prefix*>} {<3: *postfix*>}

\LWR@mathjax@addgreek@l@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D700}
108 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D707}
117 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D714}
133 }

```

\* {<2: *prefix*>} {<3: *postfix*>}

\LWR@mathjax@addgreek@u@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6E2}

```

```

136 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6E4}
138 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6F5}
156 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6F7}
158 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6F8}
159 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6F9}
160 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6FA}
161 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@bfit Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D736}
164 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D737}
165 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
166 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D738}
167 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
168 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D739}
169 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D750}
170 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D73B}
172 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D73C}
173 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D73D}
174 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D751}
175 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D73E}
176 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D73F}
177 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D752}
178 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D740}
179 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D741}
180 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D742}
181 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D743}
182 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D744}
183 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D745}
184 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D755}
185 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D746}
186 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D754}
187 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D748}
188 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D747}

```

```

189 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D749}
190 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D74A}
191 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D753}
192 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D74B}
193 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D74C}
194 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D74D}
195 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D74E}
196 }

```

\* {<2: *prefix*>} {<3: *postfix*>}

\LWR@mathjax@addgreek@u@bfit Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D734}
224 }

```

\LWR@mathjax@addgreek@u@bfup is not needed.

\* {<2: *prefix*>} {<3: *postfix*>}

\LWR@mathjax@addgreek@u@bfup Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6AD}

```

```

233 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6B6}
243 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

$\{\langle prefix \rangle\}$

$\backslash\text{LWR@mathjax@addlatin@u@bfit}$  Adds  $\backslash\text{CustomizeMathjax}$  expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
254 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\A}{1D468}
255 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\B}{1D469}
256 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\C}{1D46A}
257 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\D}{1D46B}
258 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\E}{1D46C}
259 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\F}{1D46D}
260 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\G}{1D46E}
261 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\H}{1D46F}
262 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\I}{1D470}
263 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\J}{1D471}
264 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\K}{1D472}
265 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\L}{1D473}
266 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\M}{1D474}
267 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\N}{1D475}
268 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\O}{1D476}
269 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\P}{1D477}
270 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\Q}{1D478}
271 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\R}{1D479}
272 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\S}{1D47A}
273 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\T}{1D47B}
274 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\U}{1D47C}
275 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\V}{1D47D}
276 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\W}{1D47E}
277 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\X}{1D47F}
278 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\Y}{1D480}
279 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\Z}{1D481}
280 }

```

$\{\langle prefix \rangle\}$

$\backslash\text{LWR@mathjax@addlatin@l@bfit}$  Adds  $\backslash\text{CustomizeMathjax}$  expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{

```

```

282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{z}{1D49B}
308 }

309 \end{warpMathJax}

```

---

File 594 **lwarp-common-mathjax-newpctxmath.sty**

§ 709 Package **common-mathjax-newpctxmath**

(Emulates or patches code by MICHAEL SHARPE.)

lwarp-common-mathjax-newpctxmath Common code used by newpctxmath, newtxmath, and newtxsf for MATHJAX.

(Pkg)  
**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}

```

```

13
14 \CustomizeMathJax{\let\smlbrace\{ }
15 \CustomizeMathJax{\let\smrbrace\}}
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\!\unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroup\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroup\underrightarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{%
35 \stackrel{\unicode{x2218}}{\overgroup{#1}}}%
36 }}
37 \CustomizeMathJax{\let\widearc\overparen}
38 \CustomizeMathJax{\let\wide0arc\overrightarrow}
39 \CustomizeMathJax{\newcommand{\LWRvvstar}[2]{\overrightarrow{#1}_{#2}}}
40 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvvstar\overrightarrow}}
41 %
42 \CustomizeMathJax{\let\smallintsl\smallint}
43 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
47 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\unicode{x222F}}\limits}}
48 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\unicode{x2230}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{%
50 \mathop{\unicode{x2232}}\limits%
51 }}
52 \CustomizeMathJax{\newcommand{\smallointctrlockwisesl}{%
53 \mathop{\unicode{x2233}}\limits%
54 }}
55 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
56 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
58 %
59 \CustomizeMathJax{\let\smallintup\smallint}
60 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
62 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
64 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x222F}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x2230}}\limits}}
66 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{%
67 \mathop{\unicode{x2232}}\limits%
68 }}
69 \CustomizeMathJax{\newcommand{\smallointctrlockwiseup}{%
70 \mathop{\unicode{x2233}}\limits%
71 }}

```

```

72 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
73 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
74 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
75 %
76 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
77 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}
78 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\unicode{x2A0C}}\limits}}
79 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
80 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
81 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
82 \CustomizeMathJax{\newcommand{\ointctrclockwise}{\mathop{\unicode{x2233}}\limits}}
83 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
84 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
85 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
86 %
87 \CustomizeMathJax{\let\intsl\int}
88 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
89 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
90 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
91 \CustomizeMathJax{\let\ointsl\oint}
92 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
93 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x2230}}\limits}}
94 \CustomizeMathJax{\newcommand{\varointclockwiselsl}{\mathop{\unicode{x2232}}\limits}}
95 \CustomizeMathJax{\newcommand{\ointctrclockwiselsl}{\mathop{\unicode{x2233}}\limits}}
96 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
97 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
98 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
99 %
100 \CustomizeMathJax{\let\intup\int}
101 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
102 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
103 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\unicode{x2A0C}}\limits}}
104 \CustomizeMathJax{\let\ointup\oint}
105 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
106 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x2230}}\limits}}
107 \CustomizeMathJax{\newcommand{\varointclockwiseup}{%
108 \mathop{\unicode{x2232}}\limits%
109 }}
110 \CustomizeMathJax{\newcommand{\ointctrclockwiseup}{%
111 \mathop{\unicode{x2233}}\limits%
112 }}
113 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
114 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
115 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
116 %
117 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
118 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
119 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
120 %

121 %
122 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
123 \CustomizeMathJax{\let\varprod\bigtimes}
124 %

125 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
126 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
127 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
128 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}

```

```

129 %
130 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
131 \CustomizeMathJax{\let\Mapstochar\Mapsto}
132 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
133 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}
134 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
135 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
136 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
137 %

138 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
139 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
140 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
141 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
142 \CustomizeMathJax{\newcommand{\nvarparallel}{%
143 \mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}%
144 }}
145 \CustomizeMathJax{\newcommand{\nvarparallelinv}{%
146 \mathrel{\LWROverlaysymbols{-}{\unicode{x244A}}}%
147 }}
148 %

149 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
150 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
151 %
152 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

153 %
154 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
155 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
156 %
157
158 \CustomizeMathJax{\newcommand{\nprecsim}{%
159 \mathrel{\LWROverlaysymbols{/}{\unicode{x0227E}}}%
160 }}
161 \CustomizeMathJax{\newcommand{\nsuccsim}{%
162 \mathrel{\LWROverlaysymbols{/}{\unicode{x0227F}}}%
163 }}
164 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\unicode{x02274}}}}
165 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
166 %

167 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
168 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
169 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
170 \CustomizeMathJax{\let\notowns\notni}
171 %
172 \CustomizeMathJax{\newcommand{\nlessapprox}{%
173 \mathrel{\LWROverlaysymbols{/}{\unicode{x02A85}}}%
174 }}
175 \CustomizeMathJax{\newcommand{\ngtrapprox}{%
176 \mathrel{\LWROverlaysymbols{/}{\unicode{x02A86}}}%
177 }}
178 %
179 \CustomizeMathJax{\newcommand{\npreccurlyeq}{%
180 \mathrel{\LWROverlaysymbols{/}{\unicode{x0227C}}}%
181 }}

```

```

182 \CustomizeMathJax{\newcommand{\nsuccurlyeq}{%
183 \mathrel{\LWOverlaysymbols{/}{\unicode{x0227D}}}%
184 }}
185 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
186 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
187 \CustomizeMathJax{\newcommand{\nbumpq}{%
188 \mathrel{\LWOverlaysymbols{/}{\unicode{x0224F}}}%
189 }}
190 \CustomizeMathJax{\newcommand{\nBumpq}{%
191 \mathrel{\LWOverlaysymbols{/}{\unicode{x0224E}}}%
192 }}
193 %
194 \CustomizeMathJax{\newcommand{\nbacksim}{%
195 \mathrel{\LWOverlaysymbols{/}{\unicode{x0223D}}}%
196 }}
197 \CustomizeMathJax{\newcommand{\nbacksimeq}{%
198 \mathrel{\LWOverlaysymbols{/}{\unicode{x022CD}}}%
199 }}
200 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
201 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
202 \CustomizeMathJax{\newcommand{\naprox}{\mathrel{\unicode{x2249}}}}
203 %
204 \CustomizeMathJax{\newcommand{\nll}{%
205 \mathrel{\LWOverlaysymbols{/}{\unicode{x0226A}}}%
206 }}
207 \CustomizeMathJax{\newcommand{\ngg}{%
208 \mathrel{\LWOverlaysymbols{/}{\unicode{x0226B}}}%
209 }}
210 \CustomizeMathJax{\newcommand{\nthickapprox}{%
211 \mathrel{\LWOverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}%
212 }}
213 \CustomizeMathJax{\newcommand{\napproxeq}{%
214 \mathrel{\LWOverlaysymbols{/}{\unicode{x0224A}}}%
215 }}
216 \CustomizeMathJax{\newcommand{\nprecapprox}{%
217 \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB7}}}%
218 }}
219 \CustomizeMathJax{\newcommand{\nsuccapprox}{%
220 \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB8}}}%
221 }}
222 \CustomizeMathJax{\newcommand{\npreceqq}{%
223 \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB3}}}%
224 }}
225 \CustomizeMathJax{\newcommand{\nsucceqq}{%
226 \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB4}}}%
227 }}
228 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
229 %
230 \CustomizeMathJax{\newcommand{\nSubset}{%
231 \mathrel{\LWOverlaysymbols{/}{\unicode{x022D0}}}%
232 }}
233 \CustomizeMathJax{\newcommand{\nSupset}{%
234 \mathrel{\LWOverlaysymbols{/}{\unicode{x022D1}}}%
235 }}
236 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
237 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
238 %
239 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
240 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
241 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}

```

```

242 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
243 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
244 %
245 \CustomizeMathJax{\newcommand{\lvec}[1]{%
246 \mathord{\overset{\unicode{x02190}}{#1}}}%
247 }}
248 \CustomizeMathJax{\newcommand{\rvec}[1]{%
249 \mathord{\overset{\unicode{x2194}}{#1}}}%
250 }}
251 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{%
252 \mathord{\overset{\unicode{x021C0}}{#1}}}%
253 }}
254 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{%
255 \mathord{\overset{\unicode{x021BC}}{#1}}}%
256 }}
257 \CustomizeMathJax{\newcommand{\rharpoonacc}[1]{%
258 \mathord{\overset{\unicode{x0294E}}{#1}}}%
259 }}
260 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{#1}}}}
261 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{#1}}}}
262 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{#1}}}}}
263 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{#1}}}}
264 \CustomizeMathJax{\newcommand{\tildetilde}[1]{\mathord{\overset{\approx}{#1}}}}
265 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{#1}}}}}
266 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{#1}}}}}
267 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{#1}}}}}
268 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{#1}}}}}
269
270 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
271 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}
272 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
273 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
274 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}
275 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
276 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
277
278 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

279 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
280 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
281 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
282 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
283 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

284 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x22C9}}}}
285 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}
286 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
287
288 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
289 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
290 \CustomizeMathJax{\newcommand{\nplus}{%
291 \mathrel{\LWROverlaysymbols{+}{\unicode{x02229}}}%
292 }}
293 \CustomizeMathJax{\newcommand{\nsqsubset}{%
294 \mathrel{\LWROverlaysymbols{/}{\unicode{x0228F}}}%
295 }}
296 \CustomizeMathJax{\newcommand{\nsqsupset}{%

```

```

297 \mathrel{\LWOverlaysymbols{/}{\unicode{x02290}}}%
298 }}
299 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
300 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
301 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}
302 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
303 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
304 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x29C5}}}}
305 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
306 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
307
308 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
309 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
310 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
311 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
312
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
316 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
317 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
318 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
319
320 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
321
322 \CustomizeMathJax{\newcommand{\sqcupplus}{%
323 \mathbin{\LWOverlaysymbols{+}{\unicode{x02294}}}%
324 }}
325 \CustomizeMathJax{\newcommand{\sqcapplus}{%
326 \mathbin{\LWOverlaysymbols{+}{\unicode{x02293}}}%
327 }}
328
329 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
330 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
331
332 \CustomizeMathJax{\newcommand{\varg}{g}}
333 \CustomizeMathJax{\newcommand{\vary}{y}}
334 \CustomizeMathJax{\newcommand{\varv}{v}}
335 \CustomizeMathJax{\newcommand{\varw}{w}}
336
337 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
338 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
339 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
340 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
341
342 \CustomizeMathJax{\newcommand{\uppartial}{%
343 \mathord{\unicode{x02202}}}%
344 }}% not upright
345
346 \CustomizeMathJax{\let\varmathbb\mathbb}
347 \CustomizeMathJax{\let\vmathbb\mathbb}
348 \CustomizeMathJax{\let\vvmathbb\mathbb}
349
350 \CustomizeMathJax{\let\smallprod\prod}
351 \CustomizeMathJax{\let\smallsum\sum}
352 \CustomizeMathJax{\let\smallcoprod\coprod}
353
354 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
355 \CustomizeMathJax{\let\textsquare\openbox}

```

```

356 \CustomizeMathJax{\let\varepsilon\emptyset}
357 %
358 % for newpxmath:
359 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
360 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
361
362 \end{warpMathJax}

```

File 595 **lwarp-common-mathjax-nonunicode.sty**

§ 710 Package **common-mathjax-nonunicode**

(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)

lwarp-common-mathjax-nonunicode Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATH-  
(Pkg) JAX. These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpmtxmath.

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{%
24 \mathrel{\unicode{x025A1}}\!\!\mathrel{\unicode{x02192}}}%
25 }}
26 \CustomizeMathJax{\newcommand{\boxleft}{%
27 \mathrel{\unicode{x02190}}\!\!\mathrel{\unicode{x025A1}}}%
28 }}
29 \CustomizeMathJax{\newcommand{\boxdotright}{%
30 \mathrel{\unicode{x022A1}}\!\!\mathrel{\unicode{x02192}}}%
31 }}
32 \CustomizeMathJax{\newcommand{\boxdotleft}{%
33 \mathrel{\unicode{x02190}}\!\!\mathrel{\unicode{x022A1}}}%
34 }}
35

```

```

36 \CustomizeMathJax{\newcommand{\Diamondright}{%
37 \mathrel{\unicode{x025C7}}!\unicode{x02192}}}%
38 }}
39 \CustomizeMathJax{\newcommand{\Diamondleft}{%
40 \mathrel{\unicode{x02190}}!\unicode{x025C7}}}%
41 }}
42 \CustomizeMathJax{\newcommand{\Diamonddotright}{%
43 \mathrel{\unicode{x027D0}}!\unicode{x02192}}}%
44 }}
45 \CustomizeMathJax{\newcommand{\Diamonddotleft}{%
46 \mathrel{\unicode{x02190}}!\unicode{x027D0}}}%
47 }}
48
49 \CustomizeMathJax{\newcommand{\boxRight}{%
50 \mathrel{\unicode{x025A1}}!\unicode{x021D2}}}%
51 }}
52 \CustomizeMathJax{\newcommand{\boxLeft}{%
53 \mathrel{\unicode{x021D0}}!\unicode{x025A1}}}%
54 }}
55 \CustomizeMathJax{\newcommand{\boxdotRight}{%
56 \mathrel{\unicode{x022A1}}!\unicode{x021D2}}}%
57 }}
58 \CustomizeMathJax{\newcommand{\boxdotLeft}{%
59 \mathrel{\unicode{x021D0}}!\unicode{x022A1}}}%
60 }}
61
62 \CustomizeMathJax{\newcommand{\DiamondRight}{%
63 \mathrel{\unicode{x025C7}}!\unicode{x021D2}}}%
64 }}
65 \CustomizeMathJax{\newcommand{\DiamondLeft}{%
66 \mathrel{\unicode{x021D0}}!\unicode{x025C7}}}%
67 }}
68 \CustomizeMathJax{\newcommand{\DiamonddotRight}{%
69 \mathrel{\unicode{x027D0}}!\unicode{x021D2}}}%
70 }}
71 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{%
72 \mathrel{\unicode{x021D0}}!\unicode{x027D0}}}%
73 }}
74 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
75
76 \CustomizeMathJax{\newcommand{\circleright}{%
77 \mathrel{\unicode{x025CB}}!\unicode{x02192}}}%
78 }}
79 \CustomizeMathJax{\newcommand{\circleleft}{%
80 \mathrel{\unicode{x02190}}!\unicode{x025CB}}}%
81 }}
82 \CustomizeMathJax{\newcommand{\circledotright}{%
83 \mathrel{\unicode{x02299}}!\unicode{x02192}}}%
84 }}
85 \CustomizeMathJax{\newcommand{\circledotleft}{%
86 \mathrel{\unicode{x02190}}!\unicode{x02299}}}%
87 }}
88 \CustomizeMathJax{\let\circleddotright\circledotright}
89 \CustomizeMathJax{\let\circleddotleft\circledotleft}
90
91 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
92 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
93 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-!\bullet}}}
94 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet!-}}}
95 \CustomizeMathJax{\newcommand{\multimapdotboth}{%

```

```

96 \mathrel{\!\!\bullet\!-\!\!\bullet\!}\!%
97 }}
98 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
99 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x22B7}}}}
100
101 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
102 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{\!|\!}}}%
103 }}
104 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
105 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{\!|\!}}}%
106 }}
107 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
108 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{\!|\!}}}%
109 }}
110 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
111 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{\!|\!}}}%
112 }}
113
114 \CustomizeMathJax{\newcommand{\bignplus}{%
115 \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x22C2}}}%
116 }}
117 \CustomizeMathJax{\let\bigcapplus\bignplus}
118 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
119
120 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
121 \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x2A05}}}%
122 }}
123 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf
124
125 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
126 \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}%
127 }}
128 \CustomizeMathJax{\let\sqcupplus\bigsqcupplus}% from kpfonts-otf
129
130 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
131 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
132 \mathrel{\unicode{x0005C}\!\!\!\unicode{x0005C}}}%
133 }}
134
135 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\!\unicode{x2237}}}}
136 \CustomizeMathJax{\let\eqqcolon\Eqqcolon}% for kpfonts-otf
137 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\!\!\unicode{x2237}}}}
138 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
139
140 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}
141 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}
142 \CustomizeMathJax{\newcommand{\Colonapprox}{%
143 \mathrel{\unicode{x2237}\!\!\approx}%
144 }}
145 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}\!\!\sim}}}
146
147 \CustomizeMathJax{\newcommand{\strictif}{%
148 \mathrel{\unicode{x0297D}}}%
149 }}% right fish tail
150 \CustomizeMathJax{\newcommand{\strictfi}{%
151 \mathrel{\unicode{x0297C}}}%
152 }}% left fish tail
153 \CustomizeMathJax{\newcommand{\strictiff}{%
154 \mathrel{\unicode{x0297C}\!\!\!\unicode{x0297D}}}%
155 }}% left/right fish tails

```

```

156
157 \CustomizeMathJax{\newcommand{\circledwedge}{%
158 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}%
159 }}
160 \CustomizeMathJax{\newcommand{\circledvee}{%
161 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02228}}}%
162 }}
163 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
164
165 \CustomizeMathJax{\newcommand{\openJoin}{%
166 \mathrel{\unicode{x2AA4}}}%
167 }}% overlapping ><
168 \CustomizeMathJax{\newcommand{\opentimes}{%
169 \mathrel{\unicode{x2AA4}}}%
170 }}% overlapping ><
171
172 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
173
174 \CustomizeMathJax{\newcommand{\lambdabar}{%
175 \mathord{\LWROverlaysymbols{\raise{.5ex}{-}}{\lambda}}}%
176 }}
177
178 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
179
180 \CustomizeMathJax{\newcommand{\Wr}{%
181 \mathbin{\unicode{x02240}\!\!\unicode{x02240}}}%
182 }}
183
184 \CustomizeMathJax{\newcommand{\dashleftrightharrow}{%
185 \mathrel{\unicode{x021E0}\!\!\unicode{x021E2}}}%
186 }}
187 \CustomizeMathJax{\let\leftrightdasharrow\dashleftrightharrow}% for kpfonts-otf
188
189 \end{warpMathJax}

```

---

File 596 **lwarp-common-mathjax-overlaysymbols.sty**

§ 711 Package **common-mathjax-overlaysymbols**

lwarp-common-mathjax-overlaysymbols Common code used by a number of packages to overlay two symbols for MATHJAX.

(Pkg)

for HTML output:

```
1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]
```

\LWROverlaysymbols

$\{\langle symbol \rangle\} \{\langle symbol \rangle\}$

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWROverlaysymbols}[2]{%
5 \mathord{%
6 \smash{%
7 \mathop{\#2\strut}%
8 \limits^{\smash{\lower3ex{\#1}}}%
9 }%
10 \strut%
11 }%

```

12 }}

13

14 \end{warpMathJax}

# Change History

## § 712 Chg Hist

For the most recent changes, see page 1393.

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| v0.013 | \LWR@restoreorigformatting:<br>Added \nobreakspace. .... 555                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | \LWR@htmlsectionfilename: Fix:<br>Links to home page. .... 352                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| v0.10  | General: 2016/03/08 Initial version 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | v0.15                                                                                                                                                                                                                                                                                                                                                                                                                                     | General: 2016/04/06 ..... 1<br>Added. .... 846                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| v0.11  | General: 2016/03/11 ..... 1<br>Added section: Operating-System<br>portability. .... 235<br>Added section: Selecting the<br>operating system. .... 120<br>Test Suite: MS-WINDOWS in<br>README.txt ..... 1<br>Test Suite: limages and index in<br>README.txt ..... 1                                                                                                                                                                                                                                                                      | Amperсанд (&): Fixed handling<br>when passed as an argument. 460<br>Docs: Added warning icons for<br>items needing special<br>attention. .... 209<br>Docs: Clarify print/HTML output. 120<br>Docs: Moved the supported<br>features table to the<br>introduction. .... 69<br>Files: lwarp_formal.css added. . . 1<br>Fix: steps counter ..... 846<br>Fixed & handling. .... 844<br>Test Suite: test_suite_formal.css<br>file added. .... 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| v0.12  | General: 2016/03/14 ..... 1<br>Global: Uses \p@(type) in float<br>captions. .... 1<br>Test Suite: Sub-figures ..... 1<br>\LWR@newhtmlfile: Bugfix: toc<br>with numbered files. .... 403                                                                                                                                                                                                                                                                                                                                                 | v0.16                                                                                                                                                                                                                                                                                                                                                                                                                                     | General: 2016/04/11 ..... 1<br>\titlingpage: Improved<br>print-output spacing. .... 431<br>xfrac: Adjusted for the use of any<br>font: ..... 1286<br>Added XeLaTeX, LuaLaTeX<br>support. .... 210<br>Docs: Font and UTF-8 support. 102<br>Docs: Moved location of<br>\usepackage{lwarp}. .... 106<br>Docs: Text not converting. .... 201<br>Lwarp no longer selects<br>fonts. .... 102, 246<br>Removed package: suffix ..... 1<br>Test Suite: Improved titlingpage. 431<br>Test Suite: Lwarp no longer<br>selects fonts. .... 1<br>Test Suite: Supports XeLaTeX,<br>LuaLaTeX. .... 1 |
| v0.13  | General: 2016/03/24 ..... 1<br>Fix dollar-redefined bug for<br>newer package. .... 1220<br>Removed package: subfig ..... 1<br>Test Suite: Ordinals, Subcaption . 1<br>\CaptionSeparator: Fix for newer<br>babel package. .... 533<br>\LWR@LwarpStart: \up and \fup .. 422                                                                                                                                                                                                                                                               | v0.17                                                                                                                                                                                                                                                                                                                                                                                                                                     | General: 2016/04/14 ..... 1<br>mdframed: Added. .... 981<br>Test Suite: Fix: Print-version<br>front-matter page numbers. . . 1<br>Test Suite: Mdfamed ..... 1<br>\LWR@htmlsectionfilename: Fix:<br>Links when entire doc is one<br>HTML page. .... 352                                                                                                                                                                                                                                                                                                                               |
| v0.14  | General: 2016/03/31 ..... 1<br>floatrow: Added. .... 842<br>Docs: Commands for a<br>successful HTML conversion. . 126<br>Docs: Commands into a<br>warpprint environment. .... 123<br>Docs: Newclude limitations. . . 179<br>Docs: Table: Cross-referencing<br>data structures. .... 513<br>Docs: Table: Float data<br>structures. .... 529<br>Docs: Trademarks section. .... 206<br>Docs: Troubleshooting<br>cross-references. .... 201<br>Test Suite: Assigned cleveref<br>name for Test Float. .... 1<br>Test Suite: Floatrow ..... 1 | v0.18                                                                                                                                                                                                                                                                                                                                                                                                                                     | General: 2016/05/19 ..... 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                                     |          |                                                                                        |      |
|-------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------|------|
| graphics: Add: svg file extension. . . . .                                          | 884      | titles: null \pagestyle and<br>\thispagestyle for HTML. . . . .                        | 1222 |
| graphics: Fix: \linewidth,<br>\textwidth, \textheight<br>inside a minipage. . . . . | 884      | \HomeHTMLFilename: Docs: Escape<br>filename underscores. . . . .                       | 351  |
| graphics: Improved HTML output<br>linebreaks. . . . .                               | 884      | \hspace: Fix: \hspace length<br>computations. . . . .                                  | 633  |
| graphics: em, ex, %, px<br>dimensions preserved. . . . .                            | 884      | \HTMLFilename: Docs: Escape<br>filename underscores. . . . .                           | 351  |
| File: lwarp.css: Improved toc<br>outline display. . . . .                           | 1        | \LateximageFontSizeName: Add:<br>User-adjustable<br>math/lateximage font size. . . . . | 586  |
| Files: lwarp.css and<br>lwarp_formal.css: Improved<br>responsive design. . . . .    | 1        | \LWR@doequation: MATHJAX<br>support. . . . .                                           | 576  |
| Microtype disabled during HTML<br>generation . . . . .                              | 246      | \LWR@doubledollar: MATHJAX<br>support. . . . .                                         | 569  |
| PDF Unicode input characters. . . . .                                               | 228      | \LWR@filestart: lwarp_mathjax.txt<br>loaded. . . . .                                   | 418  |
| Test Suite: Verse package . . . . .                                                 | 1        | \LWR@LwarpStart: Enabled \ equal<br>to \newline. . . . .                               | 421  |
| \hspace: \hspace supported. . . . .                                                 | 633      | \LWR@minipagestartpars:<br>Suppresses paragraph tags<br>between minipages. . . . .     | 632  |
| lateximage: pdfcrop: -- hires<br>added. . . . .                                     | 589      | \LWR@subsingledollar: MATHJAX<br>support. . . . .                                      | 567  |
| Reorganize \HomeHTMLFilename<br>logic. . . . .                                      | 589      | \minipagefullwidth: Added: No<br>width tag for the next minipage<br>in HTML. . . . .   | 610  |
| Suppress extra space. . . . .                                                       | 589      | \warpHTMLonly: Added. . . . .                                                          | 244  |
| \LWR@myshorttoc: Reorganize<br>\HomeHTMLFilename logic. . . . .                     | 537      | \warpprintonly: Replaces<br>\rowprintedonly. . . . .                                   | 244  |
| \LWR@newhtmlfile: sideroc after<br>title, improving responsive<br>design. . . . .   | 402      | \xfracHTMLfontsize: Added. . . . .                                                     | 1286 |
| \LWR@requesttoc: Reorganize<br>\HomeHTMLFilename logic. . . . .                     | 424      |                                                                                        |      |
| \LWR@subhyperref: Improved HTML<br>output linebreaks. . . . .                       | 525      | v0.20                                                                                  |      |
| \LWR@subhyperrefclass: Improved<br>HTML output linebreaks. . . . .                  | 525      | General: 2017/02/09 . . . . .                                                          | 1    |
| \LWR@subinlineimage: Suppress<br>extra space. . . . .                               | 528      | afterpage: Added. . . . .                                                              | 663  |
| minipage: Fix: \linewidth,<br>\textwidth, \textheight<br>inside a minipage. . . . . | 611      | alltt: Added. . . . .                                                                  | 668  |
| verse: Supports verse, memoir<br>packages. . . . .                                  | 1263     | bookmark: Added. . . . .                                                               | 709  |
|                                                                                     |          | caption and subcaption<br>supported. . . . .                                           | 1    |
| v0.19                                                                               |          | cleveref and referencing patches:<br>Applied \AfterEndPreamble. . . . .                | 764  |
| General: 2016/06/08 . . . . .                                                       | 1        | draftwatermark: Added. . . . .                                                         | 783  |
| css for table note item. . . . .                                                    | 1218     | eso-pic: Added. . . . .                                                                | 805  |
| MATHJAX support added. . . . .                                                      | 573, 581 | everypage: Added. . . . .                                                              | 809  |
| multirow: Added optional args. . . . .                                              | 1014     | extramarks: Added. . . . .                                                             | 810  |
| xcolor: Supports colored \rule. . . . .                                             | 1278     | fancyhdr: Added. . . . .                                                               | 817  |
| Adapts to tikz version. . . . .                                                     | 1220     | float: Improved float caption type<br>handling. . . . .                                | 839  |
| Avoids MATHJAX. . . . .                                                             | 560      | graphics: Fix: Expands filename. . . . .                                               | 884  |
| cleveref: Loaded<br>\AtEndPreamble. . . . .                                         | 607      | graphics: Fix: \linewidth in a<br>floatrow. . . . .                                    | 884  |
| Docs: Math options. . . . .                                                         | 106      | hyperref: Additional user<br>macros. . . . .                                           | 896  |
| Docs: Table: Cross-referencing<br>data structures, updated. . . . .                 | 513      | keyfloat: Added. . . . .                                                               | 920  |
| File: lwarp.css:<br>tnoteitemheader added. . . . .                                  | 1        | letterspace: User-interface<br>emulated. . . . .                                       | 933  |
| File: lwarp_mathjax.txt added. . . . .                                              | 1        | listings: Added. . . . .                                                               | 944  |
| Introduction: MATHJAX support<br>mentioned. . . . .                                 | 66       | ltcaption: Added. . . . .                                                              | 955  |
| Options: mathsvg and mathjax . . . . .                                              | 238      | lwarp-newproject: Added. . . . .                                                       | 271  |
|                                                                                     |          | microtype: User-interface<br>emulated. . . . .                                         | 997  |

|                                     |      |                                    |     |
|-------------------------------------|------|------------------------------------|-----|
| needspace: Added. . . . .           | 1026 | \InlineClass: Renamed from         |     |
| nowidow: Added. . . . .             | 1041 | "inlineclass". . . . .             | 367 |
| placeins: Added. . . . .            | 1078 | \LWR@closeparagraph: \unskip       |     |
| ragged2e: Added. . . . .            | 1087 | extra spaces. . . . .              | 371 |
| setspace: Improved support. .       | 1110 | No break tags in the start/end of  |     |
| sympytex: Added. . . . .            | 1189 | a tabular. . . . .                 | 371 |
| textpos: Added. . . . .             | 1210 | \LWR@endofline: Fix: \\ . . . . .  | 632 |
| titleps: Added. . . . .             | 1222 | \LWR@filestart: Adds meta          |     |
| titlesec: Added. . . . .            | 1225 | description. . . . .               | 418 |
| titletoc: Added. . . . .            | 1227 | \LWR@htmldivclass: Added           |     |
| titling: Improved compatibility.    | 1229 | optional style. . . . .            | 365 |
| tocloft: Added. . . . .             | 1238 | \LWR@htmllementclass: Added        |     |
| wallpaper: Added. . . . .           | 1268 | optional style. . . . .            | 365 |
| wrapfig: Added. . . . .             | 1270 | \LWR@htmlsectionfilename:          |     |
| xetexko: Added. . . . .             | 1284 | HTMLFilename: removed              |     |
| Added @, <, > columns. . . . .      | 453  | additional trailing '-'; and may   |     |
| Added single-expansion data         |      | be empty. . . . .                  | 352 |
| arrays. . . . .                     | 346  | Sections called "Index" or "index" |     |
| Code factored into independent      |      | have an underscore prepended       |     |
| lwarp_html files. . . . .           | 650  | to their filenames if no prefix. . | 352 |
| Docs: Examples for generating       |      | \LWR@hyperindexrefsbtwo: Print     |     |
| HTML file names. . . . .            | 117  | mode provided in case hyperref     |     |
| Docs: Improved index. . . . .       | 1    | not used. . . . .                  | 552 |
| Enhanced titling support. . . .     | 429  | \LWR@longtabledatacaptiontag:      |     |
| File: lwarp.css: Minor fixes for    |      | Fix: Pars in captions. . . . .     | 497 |
| validation. . . . .                 | 1    | LWR@nestspan: Fix: Minipages       |     |
| File: lwarpmk used to compile       |      | inside a span. . . . .             | 362 |
| print, HTML, indexes, and           |      | \LWR@section: Combined             |     |
| lateximages. . . . .                | 1    | higher-level sections together     |     |
| Fix: \linewidth in a floatrow. .    | 844  | into files. . . . .                | 409 |
| Moved sidebar and example code      |      | \LWR@setOSWindows: Auto-detects    |     |
| to test suite. . . . .              | 1    | operating system. . . . .          | 237 |
| Page geometry set to 6in wide       |      | \LWR@subhtmllementclass:           |     |
| with large margins. . . . .         | 247  | Factored code. . . . .             | 364 |
| Parallel versions of aux files for  |      | \pageref: Added. . . . .           | 523 |
| print/HTML. . . . .                 | 1    | \SetHTMLFileNumber: Add: Control   |     |
| Removed reliance on make, grep,     |      | file numbers. . . . .              | 351 |
| gawk. . . . .                       | 1    | \tracinglwarp: Added. . . . .      | 260 |
| Tabular: \unskip extra spaces. .    | 453  | verbatim: Added. . . . .           | 441 |
| Test Suite: HTML meta               |      | v0.21                              |     |
| descriptions. . . . .               | 1    | General: 2017/02/23 . . . . .      | 1   |
| BlockClass: Added optional style.   | 366  | fontenc: Added. . . . .            | 853 |
| Renamed from "blockclass". . .      | 366  | lwarpmk: Fix: lwarpmk again for    |     |
| \BlockClassSingle: Renamed from     |      | WINDOWS. . . . .                   | 326 |
| "LWR@htmldivclassline". . . .       | 366  | lwarpmk: Fix: lwarpmk limages      |     |
| \cpagerefFor: User-redefinable      |      | for WINDOWS. . . . .               | 326 |
| word for page references. . . .     | 765  | lwarpmk: Fix: lwarpmk uses         |     |
| \dotfill: Inserts an ellipsis. . .  | 632  | lateximages text file instead of   |     |
| \hfill: Inserts a \quad. . . . .    | 631  | shell script. . . . .              | 326 |
| \HomeHTMLFilename: No longer        |      | Add: Errors for misplaced          |     |
| escape underscores. . . . .         | 351  | packages. . . . .                  | 211 |
| \hrulefill: Inserts a short rule. . | 631  | Docs: Added internet class. . . .  | 75  |
| \hspace: Add: Supports HTML thin    |      | Docs: Added TeX2page, GladTeX. .   | 75  |
| breakable space. . . . .            | 633  | Docs: Installing on WINDOWS. . .   | 81  |
| \HTMLDescription: Added             |      | File: lwarp_tutorial.txt           |     |
| \NewHTMLdescription.                |      | added. . . . .                     | 85  |
| (Renamed in v0.30.) . . . . .       | 379  | \LWR@filestart: Skip title if not  |     |
| \HTMLFilename: No longer escape     |      | given. . . . .                     | 418 |
| underscores. . . . .                | 351  | \LWR@LwarpStart: Changed           |     |
|                                     |      | lateximages to a .txt file. . . .  | 421 |

|                                                                                                  |      |                                                                                                                                |        |
|--------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------|--------|
| \LWR@newhtmlfile: Skip title if not given. . . . .                                               | 402  | framed: Added. . . . .                                                                                                         | 860    |
| \marginpar: Fixed source listing. . . . .                                                        | 387  | lips: Added. . . . .                                                                                                           | 943    |
| \marginparBlock: Fixed source listing. . . . .                                                   | 388  | mdframed: Help avoid hyphenation. . . . .                                                                                      | 983    |
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| lwarp-common-mathjax-newpctxmath:          |                  | libertinustlmath: Added $\left/$         |            |
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| $\mathbin$ . . . . .                       | 971              | Added $\left/\right$ support             |            |
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| shuffle: Added $\mathbin$ ,                |                  | epstopdf: Updated date to v2.11. . .     | 801        |
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| txgrees: Added. . . . .                    | 1250             | fixmath: Added. . . . .                  | 836        |

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| mathastext: Added. . . . .               | 968  | General: 2021/02/18 . . . . .            | 1         |
| mathspec: Added. . . . .                 | 973  | acro: Updated to v3.5. . . . .           | 657       |
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| simplebnf: Added. . . . .                | 1116 | isomath: Added. . . . .                  | 914       |
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| svg: Updated date to v2.02j. . . . .     | 1188 | lpic: Added. . . . .                     | 954       |
| swfigure: Added. . . . .                 | 1189 | luavlna: Added. . . . .                  | 961       |
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| \LWR@formattedenv: Improved              |      | skmath: Added. . . . .                   | 1154      |
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# General Index

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# Troubleshooting Index

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[illegible]



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