The **latexrelease** package[*]

The LaTeX3 Project

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This file is maintained by the LaTeX Project team.
Bug reports can be opened (category `latex`) at

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1   Introduction

Prior to the 2015 release of LaTeX, essentially no changes had been made to the LaTeX format code for some years, with all improvements being instead added to the package fixltx2e.

While this worked at a technical level it meant that you had to explicitly opt-in to bug fixes and improvements, and the vast majority of documents did not benefit.

As described in LaTeX News 22, a new policy is being implemented in which improvements will now be added to the format by default, and this latexrelease package may be used to ensure stability where needed, either by making a new format use an older definition of some commands, or conversely may be used to supply the new definitions for use with an old format.

The basic use is:

```
\RequirePackage[2015/01/01]{latexrelease}
\documentclass{article}
....
```

After such a declaration the document will use definitions current in the January 2015 LaTeX, whether the actual format being used is older, or newer than that date. In the former case a copy of `latexrelease.sty` would need to be made available for use with the older format. This may be used, for example, to share a document between co-workers using different LaTeX releases, or to protect a document from being affected by system updates. As well as the definitions within the format itself, individual packages may use the commands defined here to adjust their definitions to the specified date as described below.

The bulk of this package, after some initial setup and option handling consists of a series of `\IncludeInRelease` commands which have been extracted from the main source files of the LaTeX format. These contain the old and new versions of any commands with modified definitions.

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2 Package Options

- *yyyy/mm/dd* or *yyyy-nn-dd* The package accepts any possible LaTeX format date as argument, although dates in the future for which the current release of this package has no information will generate a warning. Dates earlier than 2015 will work but will roll back to some point in 2015 when the method was introduced.

- `current` This is the default behaviour, it does not change the effective date of the format but does ensure that the `\IncludeInRelease` command is defined.

- `latest` sets the effective date of the format to the release date of this file, so in an older format applies all patches currently available.

3 Release Specific Code

The `\IncludeInRelease` mechanism allows the kernel developer to associate code with a specific date to choose different versions of definitions depending on the date specified as an option to the latexrelease package. Is also available for use by package authors (or even in a document if necessary).

`\IncludeInRelease` {⟨*code-date*⟩}[⟨*format-date*⟩]{⟨*label*⟩}{⟨*message*⟩}⟨*code*⟩`\EndIncludeInRelease`

{⟨**code-date**⟩} This date is associated with the {⟨*code*⟩} argument and will be compared to the requested date in the option to the latexrelease.

[⟨**format-date**⟩] This optional argument can be used to specify a format date with the code in addition to the mandatory {⟨*code-date*⟩} argument. This can be useful for package developers as described below.

{⟨**label**⟩} The {⟨*label*⟩} argument is an identifier (string) that within a given package must be a unique label for each related set of optional definitions. Per package at most one code block from all the `\IncludeInRelease` declarations with the same label will be executed.

{⟨**message**⟩} The {⟨*message*⟩} is an informative string that is used in messages. It has no other function.

⟨**code**⟩ Any TeX code after the `\IncludeInRelease` arguments up until the and the following `\EndIncludeInRelease` is to be conditionally included depending on the date of the format as described below.

The `\IncludeInRelease` declarations with a given label should be in reverse chronological order in the file. The one chosen will depend on this order, the effective format version and the date options, as described below.

If your package mypackage defines a `\widget` command but has one definition using the features available in the 2015 LaTeX release, and a different definition is required for older formats then you can use:

```
\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease
```

```
\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

If a document using this package is used with a format with effective release date of 2015/01/01 or later the new code will be used, otherwise the old code will be used. Note the *effective release date* might be the original LaTeX release date as shown at the start of every LaTeX job, or it may be set by the latexrelease package, so for example a document author who wants to ensure the new version is used could use

```
\RequirePackage[2015/01/01]{latexrelease}
\documentclass{article}
\usepackage{mypackage}
```

If the document is used with a LaTeX format from 2014 or before, then latexrelease will not have been part of the original distribution, but it may be obtained from a later LaTeX release or from CTAN and distributed with the document, it will make an older LaTeX release act essentially like the 2015 release.

3.1   Intermediate Package Releases

The above example works well for testing against the latex format but is not always ideal for controlling code by the release date of the *package*. Suppose LaTeX is not updated but in March you update the mypackage package and modify the definition of \widget. You could code the package as:

```
\IncludeInRelease{2015/03/01}{\widget}{Widget Definition}
 \def\widget{even newer improved March version}%
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

This would work and allow a document author to choose a date such as

```
\RequirePackage[2015/03/01]{latexrelease}
\documentclass{article}
\usepackage{mypackage}
```

To use the latest version, however it would have disadvantage that until the next release of LaTeX, by default, if the document does not use latexrelease to specify a date, the new improved code will not be selected as the effective date will be 2015/01/01 and so the first code block will be skipped.

For this reason \IncludeInRelease has an optional argument that specifies an alternative date to use if a date option has not been specified to latexrelease.

```
\IncludeInRelease{2015/03/01}[2015/01/01]{\widget}{Widget Definition}
 \def\widget{even newer improved March version}%
```

```
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

Now, by default on a 2015/01/01 LaTeX format, the first code block will compare the format date to the optional argument 2015/01/01 and so will execute the *even newer improved* version. The remaining blocks using the `\widget` label argument will all then be skipped.

If on the other hand the document requests an explicit release date using latexrelease then this date will be used to decide what code block to include.

3.2   Using \IncludeInRelease in Packages

If `\IncludeInRelease` is used within a package then all such conditional code needs to be within such declarations, e.g., it is not possible in the above example to have the "current" definition of `\widget` somewhere in the main code and only the two older definitions inside `\IncludeInRelease` declarations. If you would do this then one of those `\IncludeInRelease` declarations would be included overwriting the even newer code in the main part of the package. As a result your package may get fragmented over time with various `\IncludeInRelease` declarations sprinkled throughout your code or you have to interrupt the reading flow by putting those declarations together but not necessarily in the place where they belong.

To avoid this issue you can use the following coding strategy: place the current `\widget` definition in the main code where it correctly belongs.

```
  ...
 \def\widget {even newer improved March version}
 \def\@widget{newly added helper command no defined in older releases}
  ...
```

Then, near the end of your package place the following:

```
\IncludeInRelease{2015/03/01}[2015/01/01]{\widget}{Widget Definition}
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
 \let\@widget\@undefined % this doesn't exist in earlier releases
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

This way the empty code block hides the other `\IncludeInRelease` declarations unless there is an explicit request with a date 2015/01/01 or earlier.

Now if you make a further change to `\widget` in the future you simply copy the current definition into the empty block and add a new empty declaration with

todays date and the current format date. This way your main code stays readable and the old versions accumulate at the end of the package.[1]

The only other "extra effort" necessary when using this approach is that it may be advisable to undo new definitions in the code block for the previous release, e.g., in the above example we undefined `\@widget` as that isn't available in the 2015/01/01 release but was defined in the main code. If all your conditional code is within `\IncludeInRelease` declarations that wouldn't been necessary as the new code only gets defined if that release is chosen.

4 fixltx2e

As noted above, prior to the 2015 LaTeX release updates to the LaTeX kernel were not made in the format source files but were made available in the fixltx2e package. That package is no longer needed but we generate a small package from this source that just makes a warning message but otherwise does nothing.

5 Implementation

We require at least a somewhat sane version of LaTeX 2_ε. Earlier ones where really quite different from one another.

```
1 ⟨*latexrelease⟩
2 \NeedsTeXFormat{LaTeX2e}[1996/06/01]
```

6 Setup

`\IncludeInRelease`
`\EndIncludeInRelease`

```
3 \DeclareOption*{%
4   \def\@IncludeInRelease#1[#2]{\@IncludeInRele@se{#1}}%
5   \let\requestedpatchdate\CurrentOption}
6 \DeclareOption{latest}{%
7   \let\requestedpatchdate\latexreleaseversion}
8 \DeclareOption{current}{%
9   \let\requestedpatchdate\fmtversion}

10 \ExecuteOptions{current}
11 \ProcessOptions\relax
```

Sanity check options, it allows some non-legal dates but always ensures `requestedLaTeXdate` gets set to a number. Generate an error if there are any non digit tokens remaining after removing the //.

```
12 \def\reserved@a{%
13 \edef\requestedLaTeXdate{\the\count@}%
14 \reserved@b}
15 \def\reserved@b#1\\{%
16 \def\reserved@b{#1}%
```

---

[1] Of course there may be some cases in which the old code has to be in a specific place within the package as other code depends on it (e.g., if you `\let` something to it). In that case you have to place the code variations in the right place in your package rather than accumulating them at the very end.

```
17 \ifx\reserved@b\@empty\else
18 \PackageError{latexrelease}%
19            {Unexpected option \requestedpatchdate}%
20            {The option must be of the form yyyy/mm/dd or yyyy-mm-dd}%
21 \fi}
22 \afterassignment\reserved@a
23 \count@\expandafter
24   \@parse@version\expandafter0\requestedpatchdate//00\@nil\\
```

less precautions needed for \fmtversion

```
25 \edef\currentLaTeXdate{%
26    \expandafter\@parse@version\fmtversion//00\@nil}

27 \ifnum\requestedLaTeXdate=\currentLaTeXdate
28 \PackageWarningNoLine{latexrelease}{%
29  Current format date selected, no patches applied}
30 \expandafter\endinput
31 \fi
```

A newer version of latexrelease should have been distributed with the later format.

```
32 \ifnum\currentLaTeXdate
33   >\expandafter\@parse@version\latexreleaseversion//00\@nil
34 \PackageWarningNoLine{latexrelease}{%
35 The current package is for an older LaTeX format:\MessageBreak
36 LaTeX \latexreleaseversion\space\MessageBreak
37 Obtain a newer version of this package!}
38 \expandafter\endinput
39 \fi
```

can't patch into the future, could make this an error but it has some uses to control package updates so allow for now.

```
40 \ifnum\requestedLaTeXdate
41   >\expandafter\@parse@version\latexreleaseversion//00\@nil
42 \PackageWarningNoLine{latexrelease}{%
43 The current package is for LaTeX \latexreleaseversion:\MessageBreak
44 It has no patches beyond that date\MessageBreak
45 There may be an updated version\MessageBreak
46 of this package available from CTAN}
47 \expandafter\endinput
48 \fi
```

Update the format version to the requested date.

```
49 \let\fmtversion\requestedpatchdate
50 \let\currentLaTeXdate\requestedLaTeXdate
```

7 Individual Changes

The code for each change will be inserted at this point, extracted from the kernel source files.

```
51 ⟨/latexrelease⟩
```

8 fixltx2e

Generate a stub fixltx2e package:

```
52 ⟨*fixltx2e⟩
53 \IncludeInRelease{2015/01/01}{\fixltxe}{Old fixltx2e package}
54 \NeedsTeXFormat{LaTeX2e}
55 \PackageWarningNoLine{fixltx2e}{%
56 fixltx2e is not required with releases after 2015\MessageBreak
57 All fixes are now in the LaTeX kernel.\MessageBreak
58 See the latexrelease package for details}
59 \EndIncludeInRelease
60 \IncludeInRelease{0000/00/00}{\fixltxe}{Old fixltx2e package}
61 \def\@outputdblcol{%
62   \if@firstcolumn
63     \global\@firstcolumnfalse
64     \global\setbox\@leftcolumn\copy\@outputbox
65     \splitmaxdepth\maxdimen
66     \vbadness\maxdimen
67     \setbox\@outputbox\vbox{\unvbox\@outputbox\unskip}%
68     \setbox\@outputbox\vsplit\@outputbox to\maxdimen
69     \toks@\expandafter{\topmark}%
70     \xdef\@firstcoltopmark{\the\toks@}%
71     \toks@\expandafter{\splitfirstmark}%
72     \xdef\@firstcolfirstmark{\the\toks@}%
73     \ifx\@firstcolfirstmark\@empty
74       \global\let\@setmarks\relax
75     \else
76       \gdef\@setmarks{%
77         \let\firstmark\@firstcolfirstmark
78         \let\topmark\@firstcoltopmark}%
79     \fi
80   \else
81     \global\@firstcolumntrue
82     \setbox\@outputbox\vbox{%
83       \hb@xt@\textwidth{%
84         \hb@xt@\columnwidth{\box\@leftcolumn \hss}%
85         \hfil
86         {\normalcolor\vrule \@width\columnseprule}%
87         \hfil
88         \hb@xt@\columnwidth{\box\@outputbox \hss}}}%
89   \@combinedblfloats
90     \@setmarks
91     \@outputpage
92     \begingroup
93       \@dblfloatplacement
94       \@startdblcolumn
95       \@whilesw\if@fcolmade \fi{\@outputpage\@startdblcolumn}%
96     \endgroup
97   \fi}
98 \def\end@dblfloat{%
99   \if@twocolumn
100    \@endfloatbox
101    \ifnum\@floatpenalty <\z@
102      \@largefloatcheck
```

```latex
103        \global\dp\@currbox1sp %
104        \@cons\@currlist\@currbox
105        \ifnum\@floatpenalty <-\@Mii
106          \penalty -\@Miv
107          \@tempdima\prevdepth
108          \vbox{}%
109          \prevdepth\@tempdima
110          \penalty\@floatpenalty
111        \else
112          \vadjust{\penalty -\@Miv \vbox{}\penalty\@floatpenalty}\@Esphack
113        \fi
114      \fi
115    \else
116      \end@float
117    \fi
118 }
119 \def\@testwrongwidth #1{%
120    \ifdim\dp#1=\f@depth
121    \else
122      \global\@testtrue
123    \fi}
124 \let\f@depth\z@
125 \def\@dblfloatplacement{\global\@dbltopnum\c@dbltopnumber
126      \global\@dbltoproom \dbltopfraction\@colht
127      \@textmin \@colht
128      \advance \@textmin -\@dbltoproom
129      \@fpmin \dblfloatpagefraction\textheight
130      \@fptop \@dblfptop
131      \@fpsep \@dblfpsep
132      \@fpbot \@dblfpbot
133      \def\f@depth{1sp}}
134 \def \@doclearpage {%
135      \ifvoid\footins
136        \setbox\@tempboxa\vsplit\@cclv to\z@ \unvbox\@tempboxa
137        \setbox\@tempboxa\box\@cclv
138        \xdef\@deferlist{\@toplist\@botlist\@deferlist}%
139        \global \let \@toplist \@empty
140        \global \let \@botlist \@empty
141        \global \@colroom \@colht
142        \ifx \@currlist\@empty
143        \else
144          \@latexerr{Float(s) lost}\@ehb
145          \global \let \@currlist \@empty
146        \fi
147        \@makefcolumn\@deferlist
148        \@whilesw\if@fcolmade \fi{\@opcol\@makefcolumn\@deferlist}%
149        \if@twocolumn
150          \if@firstcolumn
151            \xdef\@deferlist{\@dbltoplist\@deferlist}%
152            \global \let \@dbltoplist \@empty
153            \global \@colht \textheight
154            \begingroup
155               \@dblfloatplacement
156               \@makefcolumn\@deferlist
```

```
157          \@whilesw\if@fcolmade \fi{\@outputpage
158                                      \@makefcolumn\@deferlist}%
159            \endgroup
160          \else
161            \vbox{}\clearpage
162          \fi
163        \fi
164        \ifx\@deferlist\@empty \else\clearpage \fi
165      \else
166        \setbox\@cclv\vbox{\box\@cclv\vfil}%
167        \@makecol\@opcol
168        \clearpage
169      \fi
170 }
171 \def \@startdblcolumn {%
172   \@tryfcolumn \@deferlist
173   \if@fcolmade
174   \else
175     \begingroup
176       \let \reserved@b \@deferlist
177       \global \let \@deferlist \@empty
178       \let \@elt \@sdblcolelt
179       \reserved@b
180     \endgroup
181   \fi
182 }
183 \def\@addtonextcol{%
184   \begingroup
185     \@insertfalse
186     \@setfloattypecounts
187     \ifnum \@fpstype=8
188     \else
189       \ifnum \@fpstype=24
190       \else
191         \@flsettextmin
192         \@reqcolroom \ht\@currbox
193         \advance \@reqcolroom \@textmin
194         \ifdim \@colroom>\@reqcolroom
195           \@flsetnum \@colnum
196           \ifnum\@colnum>\z@
197             \@bitor\@currtype\@deferlist
198             \@testwrongwidth\@currbox
199             \if@test
200             \else
201               \@addtotoporbot
202             \fi
203           \fi
204         \fi
205       \fi
206     \fi
207     \if@insert
208     \else
209       \@cons\@deferlist\@currbox
210     \fi
```

```
211  \endgroup
212 }
213 \def\@addtodblcol{%
214   \begingroup
215   \@insertfalse
216   \@setfloattypecounts
217   \@getfpsbit \tw@
218   \ifodd\@tempcnta
219     \@flsetnum \@dbltopnum
220     \ifnum \@dbltopnum>\z@
221       \@tempswafalse
222       \ifdim \@dbltoproom>\ht\@currbox
223         \@tempswatrue
224       \else
225         \ifnum \@fpstype<\sixt@@n
226           \advance \@dbltoproom \@textmin
227           \ifdim \@dbltoproom>\ht\@currbox
228             \@tempswatrue
229           \fi
230           \advance \@dbltoproom -\@textmin
231         \fi
232       \fi
233       \if@tempswa
234         \@bitor \@currtype \@deferlist
235         \@testwrongwidth\@currbox
236         \if@test
237         \else
238           \@tempdima -\ht\@currbox
239           \advance\@tempdima
240             -\ifx \@dbltoplist\@empty \dbltextfloatsep \else
241                                       \dblfloatsep \fi
242           \global \advance \@dbltoproom \@tempdima
243           \global \advance \@colht \@tempdima
244           \global \advance \@dbltopnum \m@ne
245           \@cons \@dbltoplist \@currbox
246           \@inserttrue
247         \fi
248       \fi
249     \fi
250   \fi
251   \if@insert
252   \else
253     \@cons\@deferlist\@currbox
254   \fi
255   \endgroup
256 }
257 \def \@addtocurcol {%
258    \@insertfalse
259    \@setfloattypecounts
260    \ifnum \@fpstype=8
261    \else
262      \ifnum \@fpstype=24
263      \else
264        \@flsettextmin
```

```
265            \advance \@textmin \@textfloatsheight
266            \@reqcolroom \@pageht
267            \ifdim \@textmin>\@reqcolroom
268              \@reqcolroom \@textmin
269            \fi
270            \advance \@reqcolroom \ht\@currbox
271            \ifdim \@colroom>\@reqcolroom
272              \@flsetnum \@colnum
273              \ifnum \@colnum>\z@
274                \@bitor\@currtype\@deferlist
275              \@testwrongwidth\@currbox
276                \if@test
277                \else
278                  \@bitor\@currtype\@botlist
279                  \if@test
280                    \@addtobot
281                  \else
282                    \ifodd \count\@currbox
283                      \advance \@reqcolroom \intextsep
284                      \ifdim \@colroom>\@reqcolroom
285                        \global \advance \@colnum \m@ne
286                        \global \advance \@textfloatsheight \ht\@currbox
287                        \global \advance \@textfloatsheight 2\intextsep
288                        \@cons \@midlist \@currbox
289                        \if@nobreak
290                          \nobreak
291                          \@nobreakfalse
292                          \everypar{}%
293                        \else
294                          \addpenalty \interlinepenalty
295                        \fi
296                        \vskip \intextsep
297                        \box\@currbox
298                        \penalty\interlinepenalty
299                        \vskip\intextsep
300                        \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
301                        \outputpenalty \z@
302                        \@inserttrue
303                      \fi
304                    \fi
305                    \if@insert
306                    \else
307                      \@addtotoporbot
308                    \fi
309                  \fi
310                \fi
311              \fi
312            \fi
313          \fi
314        \fi
315        \if@insert
316        \else
317          \@resethfps
318          \@cons\@deferlist\@currbox
```

```
319    \fi
320 }
321 \def\@xtryfc #1{%
322    \@next\reserved@a\@trylist{}{}%
323    \@currtype \count #1%
324    \divide\@currtype\@xxxii
325    \multiply\@currtype\@xxxii
326    \@bitor \@currtype \@failedlist
327    \@testfp #1%
328    \@testwrongwidth #1%
329    \ifdim \ht #1>\@colht
330       \@testtrue
331    \fi
332    \if@test
333       \@cons\@failedlist #1%
334    \else
335       \@ytryfc #1%
336    \fi}
337 \def\@ztryfc #1{%
338    \@tempcnta\count #1%
339    \divide\@tempcnta\@xxxii
340    \multiply\@tempcnta\@xxxii
341    \@bitor \@tempcnta {\@failedlist \@flfail}%
342    \@testfp #1%
343    \@testwrongwidth #1%
344    \@tempdimb\@tempdima
345    \advance\@tempdimb\ht #1%
346    \advance\@tempdimb\@fpsep
347    \ifdim \@tempdimb >\@colht
348       \@testtrue
349    \fi
350    \if@test
351       \@cons\@flfail #1%
352    \else
353       \@cons\@flsucceed #1%
354       \@tempdima\@tempdimb
355    \fi}
356 \def\@{\spacefactor\@m{}}
357 \def\@tempa#1#2{#1#2\relax}
358 \ifx\setlength\@tempa
359    \def\setlength#1#2{#1 #2\relax}
360 \fi
361 \def\addpenalty#1{%
362    \ifvmode
363       \if@minipage
364       \else
365          \if@nobreak
366          \else
367             \ifdim\lastskip=\z@
368                \penalty#1\relax
369             \else
370                \@tempskipb\lastskip
371                \begingroup
372                   \advance \@tempskipb
```

```
373              \ifdim\prevdepth>\maxdepth\maxdepth\else
374                  \ifdim \prevdepth = -\@m\p@ \z@ \else \prevdepth \fi
375                \fi
376              \vskip -\@tempskipb
377              \penalty#1%
378              \vskip\@tempskipb
379           \endgroup
380           \vskip -\@tempskipb
381           \vskip \@tempskipb
382         \fi
383       \fi
384     \fi
385   \else
386     \@noitemerr
387   \fi}
388 \def\@fnsymbol#1{%
389   \ifcase#1\or \TextOrMath\textasteriskcentered *\or
390   \TextOrMath \textdagger \dagger\or
391   \TextOrMath \textdaggerdbl \ddagger \or
392   \TextOrMath \textsection  \mathsection\or
393   \TextOrMath \textparagraph \mathparagraph\or
394   \TextOrMath \textbardbl \|\or
395   \TextOrMath {\textasteriskcentered\textasteriskcentered}{**}\or
396   \TextOrMath {\textdagger\textdagger}{\dagger\dagger}\or
397   \TextOrMath {\textdaggerdbl\textdaggerdbl}{\ddagger\ddagger}\else
398   \@ctrerr \fi
399 }
400 \begingroup\expandafter\expandafter\expandafter\endgroup
401 \expandafter\ifx\csname eTeXversion\endcsname\relax
402 \DeclareRobustCommand\TextOrMath{%
403   \ifmmode  \expandafter\@secondoftwo
404   \else     \expandafter\@firstoftwo \fi}
405 \protected@edef\TextOrMath#1#2{\TextOrMath{#1}{#2}}
406 \else
407 \protected\expandafter\def\csname TextOrMath\space\endcsname{%
408   \ifmmode  \expandafter\@secondoftwo
409   \else     \expandafter\@firstoftwo \fi}
410 \edef\TextOrMath#1#2{%
411   \expandafter\noexpand\csname TextOrMath\space\endcsname
412   {#1}{#2}}
413 \fi
414 \def\@esphack{%
415   \relax
416   \ifhmode
417     \spacefactor\@savsf
418     \ifdim\@savsk>\z@
419       \nobreak \hskip\z@skip  % <------
420       \ignorespaces
421     \fi
422   \fi}
423 \def\@Esphack{%
424   \relax
425   \ifhmode
426     \spacefactor\@savsf
```

13

```
427      \ifdim\@savsk>\z@
428        \nobreak \hskip\z@skip  % <------
429        \@ignoretrue
430        \ignorespaces
431      \fi
432    \fi}
433 \DeclareRobustCommand\em
434         {\@nomath\em \ifdim \fontdimen\@ne\font >\z@
435                        \eminnershape \else \itshape \fi}
436 \def\eminnershape{\upshape}
437 \DeclareRobustCommand*\textsubscript[1]{%
438   \@textsubscript{\selectfont#1}}
439 \def\@textsubscript#1{%
440   {\m@th\ensuremath{_{\mbox{\fontsize\sf@size\z@#1}}}}}
441 \def\@DeclareMathSizes #1#2#3#4#5{%
442   \@defaultunits\dimen@ #2pt\relax\@nnil
443   \if $#3$%
444     \expandafter\let\csname S@\strip@pt\dimen@\endcsname\math@fontsfalse
445   \else
446     \@defaultunits\dimen@ii #3pt\relax\@nnil
447     \@defaultunits\@tempdima #4pt\relax\@nnil
448     \@defaultunits\@tempdimb #5pt\relax\@nnil
449     \toks@{#1}%
450     \expandafter\xdef\csname S@\strip@pt\dimen@\endcsname{%
451       \gdef\noexpand\tf@size{\strip@pt\dimen@ii}%
452       \gdef\noexpand\sf@size{\strip@pt\@tempdima}%
453       \gdef\noexpand\ssf@size{\strip@pt\@tempdimb}%
454       \the\toks@
455     }%
456   \fi
457 }
458 \providecommand*\MakeRobust[1]{%
459   \@ifundefined{\expandafter\@gobble\string#1}{%
460     \@latex@error{The control sequence `\string#1' is undefined!%
461       \MessageBreak There is nothing here to make robust}%
462     \@eha
463   }%
464   {%
465     \@ifundefined{\expandafter\@gobble\string#1\space}%
466     {%
467       \expandafter\let\csname
468       \expandafter\@gobble\string#1\space\endcsname=#1%
469       \edef\reserved@a{\string#1}%
470       \def\reserved@b{#1}%
471       \edef\reserved@b{\expandafter\strip@prefix\meaning\reserved@b}%
472       \edef#1{%
473         \ifx\reserved@a\reserved@b
474           \noexpand\x@protect\noexpand#1%
475         \fi
476         \noexpand\protect\expandafter\noexpand
477         \csname\expandafter\@gobble\string#1\space\endcsname}%
478     }%
479     {\@latex@info{The control sequence `\string#1' is already robust}}%
480   }%
```

```
481 }
482 \MakeRobust\(
483 \MakeRobust\)
484 \MakeRobust\[
485 \MakeRobust\]
486 \MakeRobust\makebox
487 \MakeRobust\savebox
488 \MakeRobust\framebox
489 \MakeRobust\parbox
490 \MakeRobust\rule
491 \MakeRobust\raisebox
492 \def\@xfloat #1[#2]{%
493   \@nodocument
494   \def \@captype {#1}%
495   \def \@fps {#2}%
496   \@onelevel@sanitize \@fps
497   \def \reserved@b {!}%
498   \ifx \reserved@b \@fps
499     \@fpsadddefault
500   \else
501     \ifx \@fps \@empty
502       \@fpsadddefault
503     \fi
504   \fi
505   \ifhmode
506     \@bsphack
507     \@floatpenalty -\@Mii
508   \else
509     \@floatpenalty-\@Miii
510   \fi
511   \ifinner
512     \@parmoderr\@floatpenalty\z@
513   \else
514     \@next\@currbox\@freelist
515       {%
516        \@tempcnta \sixt@@n
517        \expandafter \@tfor \expandafter \reserved@a
518          \expandafter :\expandafter =\@fps
519          \do
520           {%
521            \if \reserved@a h%
522              \ifodd \@tempcnta
523              \else
524                \advance \@tempcnta \@ne
525              \fi
526            \else\if \reserved@a t%
527              \@setfpsbit \tw@
528            \else\if \reserved@a b%
529              \@setfpsbit 4%
530            \else\if \reserved@a p%
531              \@setfpsbit 8%
532            \else\if \reserved@a !%
533              \ifnum \@tempcnta>15
534                \advance\@tempcnta -\sixt@@n\relax
```

```
535            \fi
536          \else
537            \@latex@error{Unknown float option `\reserved@a'}%
538            {Option `\reserved@a' ignored and `p' used.}%
539            \@setfpsbit 8%
540          \fi\fi\fi\fi\fi
541          }%
542      \@tempcntb \csname ftype@\@captype \endcsname
543      \multiply \@tempcntb \@xxxii
544      \advance \@tempcnta \@tempcntb
545      \global \count\@currbox \@tempcnta
546      }%
547    \@fltovf
548  \fi
549  \global \setbox\@currbox
550    \color@vbox
551      \normalcolor
552      \vbox \bgroup
553        \hsize\columnwidth
554        \@parboxrestore
555        \@floatboxreset
556 }
557 \def\@stpelt#1{\global\csname c@#1\endcsname \m@ne\stepcounter{#1}}
558 \EndIncludeInRelease
559 ⟨/fixltx2e⟩
```