

# Creating commented editions<sup>\*†</sup>

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## Abstract

The *commedit* package is intended to typeset commented editions.

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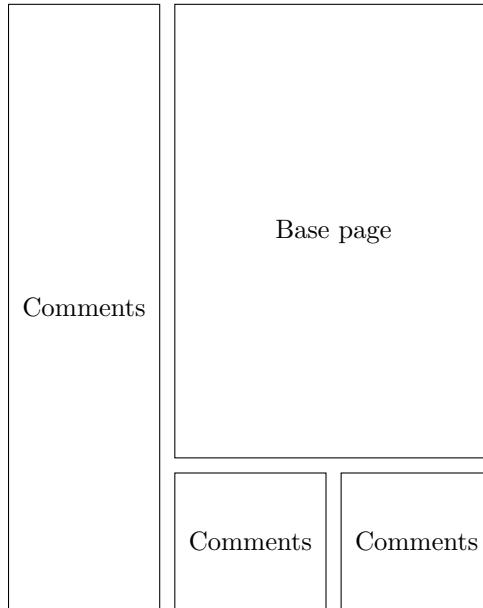


Figure 1: A page of a commented edition. This page has one “tall” and two “short” columns.

## 1 Introduction

This package is intended for commented editions. An example of commented edition is a teacher’s book based on a student’s textbook. Each page of a teacher’s book is a page from the textbook *and* comments for the teacher.

The aim is to have a single source for two books: the “base” edition and the commented edition, which reproduces the pages from the base one and adds comments around it (see Figure 1). In fact, commented edition can have both base pages with comments, and “normal” pages with free text.

The implementation of this idea is the following. We insert into the base file comments in the form

```
\begin{commEditComments}
...
\end{commEditComments}
```

Processing the base source gives us the base PDF file *and* the commented edition `.tex` file. Processing the latter gives us the commented edition.

During the processing the base PDF file must be present, since the commented edition uses it to extract the pages to include into the output. You also need the base AUX file to process the labels in the base documents.

## 2 User manual

### 2.1 Document structure

The structure of the main source file is shown on Figure 2. It has three kinds of special environments:

1. Exactly one `commeditPreamble` environment in the preamble.
2. Zero or more `commeditText` environments anywhere *after* `commeditPreamble`.
3. Zero or more `commeditComments` environments anywhere *after* `commeditPreamble`.

Below we discuss there environments in detail.

### 2.2 Setting up commenting edition

`commeditPreamble` The environment `\begin{commeditPreamble}{<filename>} ... \end{commeditPreamble}`

must be present in the preamble of the base document. It has one mandatory argument, the name of the commented edition file. The contents of the environment are written as the preamble of the file `filename.tex`, so they must start with `\documentclass`, which might be different from the document class of the base edition. `commeditPreamble` may add additional packages. Note that commented edition reads the `.aux` file of the base edition. Since packages like `babel` or `hyperref` change the format of this file, their usage must be the same in the base and commented edition: either both editions use such package, or both do not use it.

The following commands are recognized in this environment.

The length `\commentscolskip` is the distance between comment columns. By default 6 mm.

The length `\commentscolwidth` is the width of the comment columns. By default 55.5 mm.

The lengths `\commentscolTheight` and `\commentscolSheight` are the heights of “tall” and “short” comment columns (see Figre 1). By default 256 mm and 58 mm.

The width of the box with the base page is `\basepageboxwidth`. The height of the box is `\commentscolTheight`. The base page is aligned with the top left point of this box. By default 153 mm.

The base pages are included with `\includegraphics` command. `\basepageargs` can be used to set up arguments of this command, for example, if you want to scale the pages,

```
\basepageargs{width=153 mm, height=100mm}
```

`\commentsOddPageSetup`  
`\commentsEvenPageSetup`

The setup of the pages is set by the macros `\commentsOddPageSetup{<Number of left tall columns>}{<Number of short columns>}{<Number of right tall columns>}` and `\commentsEvenPageSetup{<Number of left tall columns>}{<Number of short columns>}{<Number of right tall columns>}`. The defaults are

```

\documentclass... % Document class for the main edition
...
\usepackage{commedit}
\begin{commeditPreamble}{filename}
    \documentclass... % Document class for the main edition
    \usepackage{commedit}
    Preamble for commented edition
\end{commeditPreamble}
...
\begin{document}

\begin{commeditText}
    Text for the commented edition
\end{commeditText}

Base text
Base text
...
\begin{commeditComments}
    Comments text
\end{commeditComments}
Base text
....
\begin{commeditComments}
    Comments text
\end{commeditComments}
Base text
....
\begin{comments}
    Comments text
\end{comments}
Base text
....
\begin{commeditText}
    Text for the commented edition
\end{commeditText}
Base test
\end{document}

```

Figure 2: Structure of the main source file

```
\commentsOddPageSetup{0}{2}{1}
\commentsEvenPageSetup{1}{2}{0}
```

**\commentsContinuationPageSetup** If comments overflow the the base edition pages, they continue on *continuation pages*. The command `\commentsContinuationPageSetup{<number of columns>}` sets up the number of columns for these pages (by default 3).

**\commentsHook** A hook executed for all comments pages, for example

```
\commentsHook{\small\normalfont}
```

The environemnt must *not* include the `\begindocument` line since it is added, along with some technical stuff, by the package itself.

The commands `\commentsraggedbottom` and `\commentsflushbottom` produce either columns of comments with no stretchability, or with aligned last lines. The default is `\commentsraggedbottom`.

### 2.3 Commented pages

**commeditComments** The enivronment `commeditComments` sets up comments for the page of the base edition. There could be several such environments on the given base edition page—actually, since in `TEX` pagination is done algorithmically, one cannot determine beforehand how many of them are there.

### 2.4 Normal pages

**commeditText** Normal pages in the commented edition are set up with the environment `commeditText`. Note that setting up normal pages can begin only if the comments for the current page are flushed. Therefore `commeditText` inserts `\clearpage` into the base edition.

### 2.5 Floats and other T<sub>E</sub>Xnicalities

In the commented edition the normal L<sup>A</sup>T<sub>E</sub>X output routine is changed. This means that a number of familiar L<sup>A</sup>T<sub>E</sub>X features do not work or work differently from the way one used to.

On the comments pages only one column floats are allowed, and these actually do not float: they are output where they are introduced (as if they were using `h!` specifier).

You cannot use `\marginpar` commands for pages with comments. You still can use them with the “normal pages”, however.

All footnotes for the commented pages are printed at the end of the commented pages.

Page breaking commands start new columns instead of new pages.

```
figure
table
\marginpar
\footnote
\pagebreak
  \newpage
\clearpage
```

### 3 Implementation

```
1 {*style}
```

#### 3.1 Base file commands

\ifCommentedEdition Whether this is a base or commented edition.

```
2 \newif\ifCommentedEdition  
3 \CommentedEditionfalse
```

\@commeditout The file to write the the data to

```
4 \newwrite\@commeditout  
5 \AtEndDocument{\ifCommentedEdition\else  
6   \cleardoublepage  
7   \immediate\write\@commeditout{\string\end{commentsBox}}%  
8   \immediate\write\@commeditout{\string\end{document}}%  
9   \closeout\@commeditout  
10 \fi}
```

\@write@comments The workhorse. Mainly from Scott Pakin's `filecontents` package and L<sup>A</sup>T<sub>E</sub>X kernel. The comments are from them.

```
11 \begingroup%  
12 \tempcnta=1  
13 \loop  
14   \catcode\tempcnta=12 %  
15   \advance\tempcnta\@ne %  
16 \ifnum\tempcnta<32 %  
17 \repeat %  
18 \catcode`*=11 %  
19 \catcode`\^M\active%  
20 \catcode`\^L\active\let\^L\relax%  
21 \catcode`\^I\active%  
22 \gdef\@write@comments{  
23   \let\do\@makeother\dospecials%
```

If there are active characters in the upper half (e.g., from `inputenc` there would be confusion so we render everything harmless.

```
24 \count@ 128\relax%  
25 \loop%  
26   \catcode\count@ 11\relax%  
27   \advance\count@\@ne%  
28   \ifnum\count@<\@ccilvi%  
29   \repeat%  
30 \edef\E{\@backslashchar end\string{\@currenvir\string}}%  
31 \edef\reserved@b{  
32   \def\noexpand\reserved@b{  
33     #####1\#2\#3\relax}%  
34 \reserved@b{  
35   \ifx\relax##3\relax%
```

There was no \end{filecontents}

```
36      \write\@commreditout{##1}%
37      \else%
```

There was a \end{filecontents}, so stop this time.

```
38      \edef^^M{\noexpand\end{\@currenvir}}%
39      \ifx\relax##1\relax%
40      \else%
```

Text before the \end, write it with a warning.

```
41      \@latex@warning{Writing text ‘##1’ before %
42                      \string\end{\@currenvir}\MessageBreak as last line of \@currenvir}%
43      \write\@commreditout{##1}%
44      \fi%
45      \ifx\relax##2\relax%
46      \else%
```

Text after the \end, ignore it with a warning.

```
47      \@latex@warning{%
48                      Ignoring text ‘##2’ after \string\end{\@currenvir}}%
49      \fi%
50      \fi%
51      ^^M}%
52 \catcode`\^\L\active%
53 \let\L@\undefined%
54 \def^\L{\@ifundefined L^\J^\J}%
55 \catcode`\^\I\active%
56 \let\I@\undefined%
57 \def^\I{\@ifundefined I\space\space}%
58 \catcode`\^M\active%
59 \edef^M##1^M{%
60     \noexpand\reserved@b##1\E\relax}%
61 \endgroup%
```

\immediate@write@comments The version of \@write@comments, which does not wait till the end of page

```
62 \begingroup%
63 \tempcnta=1
64 \loop
65   \catcode\@tempcnta=12 %
66   \advance\@tempcnta\@ne %
67 \ifnum\@tempcnta<32 %
68 \repeat %
69 \catcode`\*=11 %
70 \catcode`\^M\active%
71 \catcode`\^\L\active\let^\L\relax%
72 \catcode`\^\I\active%
73 \gdef\immediate@write@comments{%
74   \let\do\@makeother\dospecials%
```

If there are active characters in the upper half (e.g., from `inputenc` there would be confusion so we render everything harmless.

```

75   \count@ 128\relax%
76   \loop%
77     \catcode\count@ 11\relax%
78     \advance\count@ \One%
79     \ifnum\count@<\@ccclvi%
80     \repeat%
81 \edef\E{\@backslashchar end\string{\@currenvir\string}{}%
82 \edef\reserved@b{%
83   \def\noexpand\reserved@b{%
84     ####1\#2\#3\relax}%
85 \reserved@b{%
86   \ifx\relax##3\relax%

```

There was no \end{filecontents}

```

87   \immediate\write\@commreditout{##1}%
88   \else%

```

There was a \end{filecontents}, so stop this time.

```

89   \edef^\M{\noexpand\end{\@currenvir}{}%
90   \ifx\relax##1\relax%
91   \else%

```

Text before the \end, write it with a warning.

```

92   \@latex@warning{Writing text ‘##1’ before %
93     \string\end{\@currenvir}\MessageBreak as last line of \@currenvir}%
94   \immediate\write\@commreditout{##1}%
95   \fi%
96   \ifx\relax##2\relax%
97   \else%

```

Text after the \end, ignore it with a warning.

```

98   \@latex@warning{%
99     Ignoring text ‘##2’ after \string\end{\@currenvir}{}%
100    \fi%
101    \fi%
102    ^\M}%
103 \catcode`^\L\active%
104 \let\L\@undefined%
105 \def^\L{\@ifundefined L^J^J}%
106 \catcode`^\I\active%
107 \let\I\@undefined%
108 \def^\I{\@ifundefined I\space\space}%
109 \catcode`^\M\active%
110 \edef^\M##1^\M{%
111   \noexpand\reserved@b##1\#E\relax}%
112 \endgroup%

```

\commreditPreamble Writing the preamble

```

113 \def\commreditPreamble{\immediate\closeout\@commreditout
114 \immediate\openout\@commreditout=#
115 \immediate@write@comments}

```

```

\endcommeditPreamble Close the preamble
116 \def\endcommeditPreamble{%
117   \immediate\write\@commreditout{\string\usepackage{commedit}}%
118   \immediate\write\@commreditout{\string\CommentedEditiontrue}%
119   \immediate\write\@commreditout{\string\def\string\BaseEditionName{\jobname}}%
120   \immediate\write\@commreditout{\string\usepackage[graphicx]}%
121   \immediate\write\@commreditout{\string\usepackage[strict]{changepage}}%
122   \immediate\write\@commreditout{\string\begin{document}}%
123   \immediate\write\@commreditout{\string\begin{commentsBox}}}

\commeditComments The main environment
124 \def\commeditComments{\@write@comments}

\endcommeditComments We add \par at the end of each comments
125 \def\endcommeditComments{%
126   \write\@commreditout{\string\par}%

\commeditText Normal pages. We issue \clearpage, which might close the current comments
and open the new one, close the just opened comments, typeset the text in the
commented edition and reopen the comments.
127 \def\commeditText{\clearpage
128   \immediate\write\@commreditout{\string\end{commentsBox}}%
129 \immediate@write@comments}

\endcommeditText Opening the new comments page
130 \def\endcommeditText{%
131   \immediate\write\@commreditout{\string\par}%
132   \immediate\write\@commreditout{\string\begin{commentsBox}}}

\commedit@base@pageno The true page number of the current page
133 \newcount\@commedit@base@pageno
134 \global\@commedit@base@pageno=1\relax

We write the commands to every shipout. First, we need a package. atbegshi
is more powerful, but for our purpose everyshi is fine.
135 \RequirePackage{everyshi}

We need to patch this package, however, since we want to execute the hook after
shipout!

\@EveryShipoutEnd@Hook We define the hook
136 \newcommand\@EveryShipoutEnd@Hook{\ifCommentedEdition\else
137   \immediate\write\@commreditout{\string\end{commentsBox}}%
138   \immediate\write\@commreditout{\string\typesetComments{\the\@commedit@base@pageno}}%
139   \immediate\write\@commreditout{\string\begin{commentsBox}}%
140   \global\advance\@commedit@base@pageno by 1\relax
141 \fi}

```

\@EveryShipout@Output And add to the macro

```
142 \renewcommand{\@EveryShipout@Output}{%
143   \@EveryShipout@Hook%
144   \@EveryShipout@AtNextHook%
145   \gdef\@EveryShipout@AtNextHook{}%
146   \@EveryShipout@Org@Shipout\box\@cclv\relax
147   \@EveryShipoutEnd@Hook%
148 }
```

## 3.2 Typesetting commented edition

### 3.2.1 Setting things up

We need to read the aux file for the base edition

```
149 \RequirePackage{etoolbox}
150 \AtEndPreamble{\ifCommentedEdition
151   \begin{group}\@floatplacement\dblfloatplacement
152   \makeatletter\let\@writefile\@gobbletwo
153   \global\let\@multiplelabels\relax
154   \input{\BaseEditionName.aux}\endgroup
155 }
```

\commentscolskip The distance between columns

```
156 \newlength\commentscolskip
157 \setlength\commentscolskip{6mm}
```

\commentscolwidth The width of the comments column

```
158 \newlength\commentscolwidth
159 \setlength\commentscolwidth{55.5mm}
```

\commentscolTheight The height of the “tall” columns

```
160 \newlength\commentscolTheight
161 \setlength\commentscolTheight{256mm}
```

\commentscolSheight The height of the “short” columns

```
162 \newlength\commentscolSheight
163 \setlength\commentscolSheight{58mm}
```

\basepageboxwidth The width of the base page box

```
164 \newlength\basepageboxwidth
165 \setlength\basepageboxwidth{153mm}
```

\basepageargs Arguments for \includegraphics

```
166 \def\basepageargs#1{\gdef\@basepageargs{#1}}
167 \basepageargs{}
```

```

\commentsOddPageSetup The odd page structure
168 \def\commentsOddPageSetup#1#2#3{%
169   \gdef\@commeditOddLeftCols{#1}%
170   \gdef\@commeditOddMiddleCols{#2}%
171   \gdef\@commeditOddRightCols{#3}%
172 \commentsOddPageSetup{0}{2}{1}

\commentsEvenPageSetup The even page structure
173 \def\commentsEvenPageSetup#1#2#3{%
174   \gdef\@commeditEvenLeftCols{#1}%
175   \gdef\@commeditEvenMiddleCols{#2}%
176   \gdef\@commeditEvenRightCols{#3}%
177 \commentsEvenPageSetup{1}{2}{0}

\commentsContinuationPageSetup The number of continuation columns
178 \def\commentsContinuationPageSetup#1{%
179   \gdef\@commeditContinuationCols{#1}%
180 \commentsContinuationPageSetup{3}

@\commentstexttop Top of the column
181 \let@\commentstexttop\relax

@\commentstextbottom Top of the column
182 \let@\commentstextbottom\relax

\commentsraggedbottom Ragged bottom columns (the default) commentstexttop
\commentsflushbottomFlushed bottom columns

@\tempboxb A temp box
183 \newbox@\tempboxb

\commentsHook Everything we did not think about...
184 \def\commentsHook#1{\gdef\@commentsHook{#1}}
185 \commentsHook{}

3.2.2 Gathering comments

@\commedit@box The box with comments
186 \newbox@\commedit@box

@\commentsfotins The box for footnotes in comments
187 \newbox@\commentsfotins

@\commentsfotnotetext The version of \footnotetext for comments
188 \long\def@\commentsfotnotetext#1{%
189   \global\setbox@\commentsfotins\vbox{%
190     \unvbox@\commentsfotins

```

```

191   \reset@font\footnotesize
192   \hsize\commentscolwidth
193   \parboxrestore
194   \protected@edef\@currentlabel{%
195     \csname p@footnote\endcsname\thefnmark
196   }%
197   \color@begingroup
198   \makefntext{%
199     \rule{z@\footnotesepr\ignorespaces#1\@finalstrut\strutbox}%
200   \color@endgroup}}

```

\comments@xfloat The version of \xfloat inside comments

```

201 \def\comments@xfloat[#2]{%
202   \nодокумент
203   \def\@capttype{#1}%
204   \setbox\@tempboxb
205   \color@vbox
206   \normalcolor
207   \vbox\bgrouп
208   \hsize\columnwidth
209   \parboxrestore
210   \floatboxreset}

```

\comments@end@float We do not move float to the list, but just typeset it in place.

```

211 \def\comments@end@float{%
212   \endfloatbox
213   \vskip\intextsep
214   \box\@tempboxb
215   \penalty\interlinepenalty
216   \vskip\intextsep}

```

\commentsBox The box of comments

```

217 \def\commentsBox{\hsize=\commentscolwidth\global\setbox\commedit@box=\vbox\bgrouп
218   \let\@footnotetext=\commentsfotnotetext
219   \let\@dblfloat\xfloat
220   \let\xfloat=\comments@xfloat
221   \let\end@float\comments@end@float
222   \let\end@dblfloat\comments@end@float
223   \let\columnwidth=\commentscolwidth
224   \normalsize\normalfont
225   \commentshook
226   \unvbox\commedit@box}

```

\endcommentsBox Closing the box

```

227 \def\endcommentsBox{\egroup}

```

\@commedit@page@box The box to hold the page so far with comments

```

228 \newbox\commedit@pagebox

```

```

\typesetComments Typesetting the box of comments
229 \def\typesetComments#1{\clearpage\bggroup
230   \let\columnwidth=\commentscolwidth
231   \setbox\@commredit@pagebox=\hbox{}\splittopskip=\z@\topskip=\z@
232   \ifvoid\@commentsfootins\else
233     \setbox\@commredit@box=\vbox{\unvbox\@commredit@box
234       \vskip \skip\footins
235       \color@begingroup
236       \normalcolor
237       \footnoterule
238       \unvbox \@commentsfootins
239       \color@endgroup}%
240   \fi
241   \setbox\@commredit@box=\vbox{\unvbox\@commredit@box\vfill}%
242   \checkoddpage\ifoddpage
243     \global\def\@commreditLeftCols{\@commreditOddLeftCols}%
244     \global\def\@commreditMiddleCols{\@commreditOddMiddleCols}%
245     \global\def\@commreditRightCols{\@commreditOddRightCols}%
246   \else
247     \global\def\@commreditLeftCols{\@commreditEvenLeftCols}%
248     \global\def\@commreditMiddleCols{\@commreditEvenMiddleCols}%
249     \global\def\@commreditRightCols{\@commreditEvenRightCols}%
250   \fi
251   \ifnum\@commreditLeftCols>0\relax
252     \tempcnta=\@commreditLeftCols\relax
253     \loop
254       \setbox\@tempboxb=\vsplit\@commredit@box to
255       \commentscolTheight\relax
256       \setbox\@tempboxb=\vbox to \commentscolTheight{%
257         \commentstexttop
258         \unvbox\@tempboxb
259         \commentstextbottom}%
260       \setbox\@commredit@pagebox=\hbox{\noindent\box\@commredit@pagebox
261         \box\@tempboxb
262         \hskip\commentscols skip\relax}%
263       \global\setbox\@commredit@box=\box\@commredit@box
264       \advance\tempcnta by -1\relax
265     \ifnum\tempcnta>0\repeat
266   \fi
267   \setbox\@tempboxa=\hbox{}%
268   \ifnum\@commreditMiddleCols>0\relax
269     \tempcnta=\@commreditMiddleCols\relax
270     \loop
271       \setbox\@tempboxb=\vsplit\@commredit@box to
272       \commentscolSheight\relax
273       \setbox\@tempboxb=\vbox to \commentscolSheight{%
274         \commentstexttop
275         \unvbox\@tempboxb
276         \commentstextbottom}%

```

```

277      \setbox\@tempboxa=\hbox{\noindent\box\@tempboxa
278      \box\@tempboxb}%
279      \global\setbox\@commredit@box=\box\@commredit@box
280      \advance\@tempcnta by -1\relax
281      \ifnum\@tempcnta>0\relax
282          \setbox\@tempboxa=\hbox{\noindent\box\@tempboxa
283          \hskip\commentscolskip\relax}%
284      \repeat
285  \fi
286  \ifx\@basepageargs\@empty\relax
287      \def\@commredit@args{page=#1}%
288  \else
289      \edef\@commredit@args{page=#1,\@basepageargs}%
290  \fi
291  \hsize=\basepageboxwidth
292  \setbox\@tempboxa=\vbox to \commentscolTheight \bgroup
293      \hbox{\fbox{\noindent\expandafter\includegraphics\expandafter[\@commredit@args]{\BaseEditionImage}}\vfill\box\@tempboxa\egroup
294  \setbox\@commredit@pagebox=\hbox{\box\@commredit@pagebox
295      \box\@tempboxa}%
296  \ifnum\@commreditRightCols>0\relax
297      \atempcnta=\@commreditRightCols\relax
298      \loop
299          \setbox\@tempboxb=\vsplit\@commredit@box to
300          \commentscolTheight\relax
301          \setbox\@tempboxb=\vbox to \commentscolTheight{%
302              \commentstexttop
303              \unvbox\@tempboxb
304              \commentstextbottom}%
305          \setbox\@commredit@pagebox=\hbox{\noindent\box\@commredit@pagebox
306              \hskip\commentscolskip\relax
307              \box\@tempboxb}%
308          \global\setbox\@commredit@box=\box\@commredit@box
309          \advance\@tempcnta by -1\relax
310          \ifnum\@tempcnta>0\repeat
311      \fi
312      \noindent\box\@commredit@pagebox\par
313      \global\setbox\@commredit@box=\box\@commredit@box
314      \egroup\vfill\clearpage
315      \ifdim\ht\@commredit@box>\baselineskip
316          \typesetContinuation\fi
317  \typesetContinuation
```

\typesetContinuation Continuation boxes

```

318 \def\typesetContinuation{\clearpage\bgroup
319  \setbox\@commredit@pagebox=\hbox{}\splittopskip=\z@\relax
320  \atempcnta=\@commreditContinuationCols\relax
321  \loop
322      \setbox\@tempboxb=\vsplit\@commredit@box to
323      \commentscolTheight\relax
324      \setbox\@tempboxb=\vbox to \commentscolTheight{%
```

```

325      \@commentstexttop
326      \unvbox\@tempboxb
327      \@commentstextbottom}%
328      \setbox\@commredit@pagebox=\hbox{\noindent\box\@commredit@pagebox
329          \box\@tempboxb}%
330      \global\setbox\@commredit@box=\box\@commredit@box
331      \advance\@tempcnta by -1\relax
332      \ifnum\@tempcnta>0\relax
333          \setbox\@commredit@pagebox=\hbox{\noindent\box\@commredit@pagebox
334              \hskip\commentscolskip\relax}%
335      \repeat
336      \noindent\box\@commredit@pagebox\par
337      \global\setbox\@commredit@box=\box\@commredit@box
338      \egroup\vfill\clearpage
339      \ifdim\ht\@commredit@box>\baselineskip
340          \typesetContinuation\fi}

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### 3.3 Final incantations

341 ⟨/style⟩

## Change History

v1.01	\@commentsfootnotetext: Added macro .....	11
	\@commentstextbottom: Added macro .....	11
	\@commentstexttop: Added macro .....	11
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	\commentsBox: Added footnotes, floats .....	12
	\commentsflushbottom: Added macro .....	11
	\commentsraggedbottom: Added macro .....	11
	\typesetComments: Added footnotes to the end of the box	13
v1.02	\@commentsfootins: Added macro .....	11

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

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