

# The `appendix` package\*

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## Abstract

The `appendix` package provides some facilities for modifying the typesetting of appendix titles. Further, `(sub)appendices` environments are available that can be used, for example, for per chapter/section appendices.

The package is designed to work only with classes that have a `\chapter` and/or `\section` command. It has not been tested with other packages that change the definitions of the sectioning commands.

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## 1 Introduction

In the standard classes the `\appendix` command does the following:

- For classes with Chapters:
  - Resets the chapter and section counters to zero
  - Sets `\@chapapp` to `\appendixname`.
  - Redefines `\thechapter` to produce alphabetic appendix numbers.
- For the other classes
  - Resets the section and subsection counters to zero.

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\*This file (`appendix.dtx`) has version number v1.2c, last revised 2020/02/08.

- Redefines `\thesection` to produce alphabetic appendix numbers.

The `appendix` package provides additional appendixing capabilities. It cooperates with the `hyperref` package<sup>1</sup> but may be problematic when used with packages that change the definition of the sectioning commands.

Portions of the package were developed as part of a class and package bundle for typesetting ISO standards [Wil96]. This manual is typeset according to the conventions of the L<sup>A</sup>T<sub>E</sub>X DOCSTRIP utility which enables the automatic extraction of the L<sup>A</sup>T<sub>E</sub>X macro source files [GMS94].

Section 2 describes the usage of the package. Commented source code for the package is in Section 3.

## 2 The appendix package

The `appendix` package provides some commands that can be used in addition to the `\appendix` command. It also provides a new environment that can be used instead of the `\appendix` command. The environment provides some additional actions with respect to the simple `\appendix`. First the new commands will be described and then the new environment will be discussed.

`\appendixpage` The `\appendixpage` command will typeset a heading in the style of a `\part` heading for the class. The wording of the heading is given by the value of `\appendixpagename`.

`\addappheadtotoc` This command will insert general heading into the Table of Contents (ToC). The text is given by the value of `\appendixtocname`. If used, the command must come before the first appendix, as it is meant to be used to introduce the appendix titles in the ToC.

The above commands can be used in conjunction with the traditional `\appendix` command, which they should immediately follow. For example:

```
\appendix
\appendixpage
\addappheadtotoc
```

`\noappendicestocpagenum` By default the `\addappheadtotoc` command puts a page number in the ToC. This can be prevented by using `\noappendicestocpagenum`. For symmetry, the `\appendicestocpagenum` command ensures that a page number is put in the ToC.

**NOTE:** Unless `\noappendicestocpagenum` is used the `\addappheadtotoc` command uses the current page number when it makes the entry in the ToC. The `\appendixpage` command puts a heading in the document like a `\part` heading; in un-chaptered documents the `\part` heading appears in the ordinary run of the text like a `\section` heading, but in chaptered documents it is on a page by itself. That is, in chaptered documents `\appendixpage` does a `\clear[double]page` typesets the heading, and then does another `\clear[double]page`. Therefore, in

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<sup>1</sup>With thanks to Hylke W. van Dijk ([hylke@ubicom.tudelft.nl](mailto:hylke@ubicom.tudelft.nl)) who pointed out that version 1.1 did not and set me on the track for supporting the `hyperref` package.

a chaptered document the above sequence of commands will use the page number *after* the `\appendixpage` as the ToC entry<sup>2</sup> and if the ordering is reversed (i.e., `\addappheadtotoc \appendixname`) then the page number *before* `\appendixname` will be used as the ToC entry. For chaptered documents it is probably best to do:

```
\clearpage % or \cleardoublepage
\addappheadtotoc
\appendixpage
```

which will use the page number of `\appendixpage` as the ToC entry.

```
\appendixname
\appendixtocname
\appendixpagename
```

The `\appendixname` command is defined in those classes that provide for chapters. It is provided in this package whether or not it has been defined in the class. It's default value is 'Appendix'. The default value of both `\appendixtocname` and `\appendixpagename` is 'Appendices'. These names can all be changed via `\renewcommand`. For example,

```
\renewcommand{\appendixtocname}{List of appendices}
```

`appendices`

The `appendices` environment can be used instead of the `\appendix` command. It provides more functionality than is possible from the combination of the `\appendix`, `\addappheadtotoc` and `\appendixpage` commands. The functions of the `appendices` environment are usually accessed through the package options, but there are declarations that may be used instead. The options are:

- `toc` Put a header (e.g., 'Appendices') into the Table of Contents (the ToC) before listing the appendices. (This is done by calling the `\addappheadtotoc` command.)
- `page` Puts a title (e.g., 'Appendices') into the document at the point where the `appendices` environment is begun. (This is done by calling the `\appendixpage` command.)
- `title` Adds a name (e.g., 'Appendix') before each appendix title in the body of the document. The name is given by the value of `\appendixname`. Note that this is the default behaviour for classes that have chapters.
- `titletoc` Adds a name (e.g., 'Appendix') before each appendix listed in the ToC. The name is given by the value of `\appendixname`.
- `header` Adds a name (e.g., 'Appendix') before each appendix in page headers. The name is given by the value of `\appendixname`. Note that this is the default behaviour for classes that have chapters.

Depending on the particular package options that are set and the document class, the `appendices` environment may change the definition of elements of the sectioning commands (e.g., `\chapter` or `\section`). This may be a problem if the environment is used in conjunction with any other package that makes changes to these commands. If this is the case, then you will have to examine the code for

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<sup>2</sup>With thanks to Eduardo Jacob ([edu@kender.es](mailto:edu@kender.es)) for pointing this out.

the `appendices` environment and make any necessary changes to one or the other of the packages (via your own package file). The changes to the sectional heading commands are discarded at the end of the `appendices` environment.

<code>\appendixtocon</code> <code>\appendixtocoff</code> <code>\appendixpageon</code> <code>\appendixpageoff</code> <code>\appendixtitleon</code> <code>\appendixtitleoff</code> <code>\appendixtitletocon</code> <code>\appendixtitletocoff</code> <code>\appendixheaderon</code> <code>\appendixheaderoff</code> <code>\restoreapp</code>	<code>\appendixtocon</code> is a declaration equivalent to the <code>toc</code> option. The <code>\appendixtocoff</code> declaration is equivalent to not using that option. <code>\appendixpageon</code> is a declaration equivalent to the <code>page</code> option. The <code>\appendixpageoff</code> declaration is equivalent to not using that option. <code>\appendixtitleon</code> is a declaration equivalent to the <code>title</code> option. The <code>\appendixtitleoff</code> declaration is equivalent to not using that option. <code>\appendixtitletocon</code> is a declaration equivalent to the <code>titletoc</code> option. The <code>\appendixtitletocoff</code> declaration is equivalent to not using that option. <code>\appendixheaderon</code> is a declaration equivalent to the <code>header</code> option. The <code>\appendixheaderoff</code> declaration is equivalent to not using that option.
---	---

The `appendices` environment restores the prior value of the chapter/section counter at the end of the environment, so the environment may be used between the main document divisions. By default, the appendix counter value is saved and restored by the environment. That means that appendices in a series of `appendices` environments will be lettered sequentially. To make the lettering start from A each time, put the following into the preamble:

```
\renewcommand{\restoreapp}{}
```

`subappendices` Within the `subappendices` environment, an appendix is introduced by a `\section` command in chaptered documents, otherwise it is introduced by a `\subsection` command. Effectively, this provides for appendices at the end of a main document division, as an integral part of the division. The `subappendices` environment supports only the `title` and `titletoc` options.

`\setthesection` By default, the ‘`subappendices`’ are numbered like normal (sub)sections, except that the (sub)section number itself is typeset as an uppercase letter. This behaviour can be changed by redefining these `\setthe...` commands. For example, to just have a letter not prepended by the main division number, do:  
`\renewcommand{\setthesection}{\Alph{section}}` or  
`\renewcommand{\setthesubsection}{\Alph{subsection}}` as appropriate.

## 2.1 Known problems

There is an unfortunate interaction between the L<sup>A</sup>T<sub>E</sub>X kernel commands `\include` and `\addcontentsline`. If these are used like this:

```
\addcontentsline{toc}{...}{addtotoc}
\include{import}
```

then the text of the `\addcontentsline` command (‘`addtotoc`’ in the example) is not written to the appropriate (toc) file until *after* the included file has written all its entries out to the (toc) file. As far as I can tell, there is no way around this behaviour without rewriting parts of the L<sup>A</sup>T<sub>E</sub>X kernel code.

It is thus up to the author to avoid putting an `\addcontentsline` command (or a command that internally uses `\addcontentsline`, as does the

\addapheadtotoc command) before an \included file that writes out to the same file. Things work as expected if the \addcontentsline command is placed within the \included file, or if the imported file is \inputed instead of \included.

### 3 The package code

Announce the name and version of the package, which requires L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>.

```

1 <*usc>
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{appendix}[2020/02/08 v1.2c extra appendix facilities]
   Check that an \appendix command is actually defined and emit a warning if
not.
4 \begingroup\expandafter\expandafter\expandafter\endgroup
5 \expandafter\ifx\csname appendix\endcsname\relax
6   \PackageWarningNoLine{appendix}{%
7     No \protect\appendix\space command in this document class!%
8     \MessageBreak
9     Trying to create an appendix will probably fail%
10  }%
11 \fi

```

In order to try and avoid name clashes with other packages, each internal name will include the character string @pp.

```

\if@knownclass@pp These are used when we need to decide what appendix style is being used for the
\if@chapter@pp document. Assume the article class or other without chapters.
12 \newif\if@chapter@pp\@chapter@ppfalse
13 \newif\if@knownclass@pp\@knownclass@ppfalse
   Check the sectioning commands.
14 \@ifundefined{chapter}{%
15   \@ifundefined{section}{}{\@knownclass@pptrue}}{%
16   \@chapter@pptrue\@knownclass@pptrue}

\phantomsection We need to provide \phantomsection if hyperref is not used and, whether or not
\the@pps hyperref is used, we need to define a counter here to support potential hyperrefs
\if@pphyper (used to disambiguate (sub)appendices). \if@pphyper is TRUE if the hyperref
package is used.
17 \providecommand{\phantomsection}{}
18 \newcounter{@pps}
19 \renewcommand{\the@pps}{\alph{@pps}}
20 \newif\if@pphyper
21 \@pphyperfalse
22 \AtBeginDocument{%
23   \@ifpackageloaded{hyperref}{\@pphypertrue}{}
24

```

```

\if@dotoc@pp A set of booleans for the options. Default is the appendices environment does
\if@dotitle@pp nothing more than the \appendix command does unless one or more options are
\if@dotitletoc@pp set.
\if@dohead@pp 25 \newif\if@dotoc@pp\@dotoc@ppfalse
\if@dopage@pp 26 \newif\if@dotitle@pp\@dotitle@ppfalse
                27 \newif\if@dotitletoc@pp\@dotitletoc@ppfalse
                28 \newif\if@dohead@pp\@dohead@ppfalse
                29 \newif\if@dopage@pp\@dopage@ppfalse

```

Now we can do the five options.

```

30 \DeclareOption{toc}{\@dotoc@pptrue}
31 \DeclareOption{title}{\@dotitle@pptrue}
32 \DeclareOption{titletoc}{\@dotitletoc@pptrue}
33 \DeclareOption{header}{\@dohead@pptrue}
34 \DeclareOption{page}{\@dopage@pptrue}

```

Process the options now.

```
35 \ProcessOptions\relax
```

Issue a warning if `\chapter` and `\section` are undefined, then quit.

```

36 \newcommand{\@ppendinput}{}
37 \if@knownclass@pp\else
38   \PackageWarningNoLine{appendix}%
39     {There is no \protect\chapter\space or \protect\section\space command.\MessageBreak
40       The appendix package will not be used}
41   \renewcommand{\@ppendinput}{\endinput}
42 \fi
43 \@ppendinput
44

```

`\appendixtocon` Declarative forms of the toc option.

```

\appendixtocoff 45 \newcommand{\appendixtocon}{\@dotoc@pptrue}
                 46 \newcommand{\appendixtocoff}{\@dotoc@ppfalse}

```

`\appendixpageon` Declarative forms of the page option.

```

\appendixpageoff 47 \newcommand{\appendixpageon}{\@dopage@pptrue}
                  48 \newcommand{\appendixpageoff}{\@dopage@ppfalse}

```

`\appendixtitleon` Declarative forms of the title option.

```

\appendixtitleoff 49 \newcommand{\appendixtitleon}{\@dotitle@pptrue}
                   50 \newcommand{\appendixtitleoff}{\@dotitle@ppfalse}

```

`\appendixtitletocon` Declarative forms of the titletoc option.

```

\appendixtitletocoff 51 \newcommand{\appendixtitletocon}{\@dotitletoc@pptrue}
                     52 \newcommand{\appendixtitletocoff}{\@dotitletoc@ppfalse}

```

`\appendixheaderon` Declarative forms of the header option.

```

\appendixheaderoff 53 \newcommand{\appendixheaderon}{\@dohead@pptrue}
                    54 \newcommand{\appendixheaderoff}{\@dohead@ppfalse}

```

<code>\@ppsavesec</code>	For the <code>appendices</code> environment we need to save and restore the main document
<code>\@pprestoresec</code>	division number and the appendix number. The <code>\restoreapp</code> command is the
<code>\@ppsaveapp</code>	one for the user.
<code>\restoreapp</code>	<pre> 55 \newcounter{@ppsavesec} 56 \newcounter{@ppsaveapp} 57 \setcounter{@ppsaveapp}{0} 58 \newcommand{\@ppsavesec}{% 59   \ifchapter@pp \setcounter{@ppsavesec}{\value{chapter}} \else 60     \setcounter{@ppsavesec}{\value{section}} \fi} 61 \newcommand{\@pprestoresec}{% 62   \ifchapter@pp \setcounter{chapter}{\value{@ppsavesec}} \else 63     \setcounter{section}{\value{@ppsavesec}} \fi} 64 \newcommand{\@ppsaveapp}{% 65   \ifchapter@pp \setcounter{@ppsaveapp}{\value{chapter}} \else 66     \setcounter{@ppsaveapp}{\value{section}} \fi} 67 \newcommand{\restoreapp}{% 68   \ifchapter@pp \setcounter{chapter}{\value{@ppsaveapp}} \else 69     \setcounter{section}{\value{@ppsaveapp}} \fi} </pre>
<code>\appendixname</code>	These commands hold the names that might be used. <code>\appendixname</code> may have
<code>\appendixtocname</code>	been defined in the class. The others are new.
<code>\appendixpagename</code>	<pre> 70 \providecommand{\appendixname}{Appendix} 71 \newcommand{\appendixtocname}{Appendices} 72 \newcommand{\appendixpagename}{Appendices} </pre>
<code>\appendixpage</code>	The command to typeset a page announcing the start of the appendices. It is based on the <code>\part</code> definition (either from the <code>book</code> class or the <code>article</code> class).
	<pre> 73 \newcommand{\appendixpage}{% 74   \ifchapter@pp \@chap@pppage \else \@sec@pppage \fi 75 } </pre>
<code>\clear@ppage</code>	The non-chaptered classes do not define <code>\if@openright</code> , but we need to use this for chaptered documents to clear the appropriate pages. <code>\clear@ppage</code> does the right thing, but must only be called in chapter related code, otherwise there will be error message like <code>extra \else</code> or <code>extra \fi</code> .
	<pre> 76 \newcommand{\clear@ppage}{% 77   \if@openright\cleardoublepage\else\clearpage\fi} 78 </pre>
<code>\@chap@pppage</code>	Do an appendix page in chapter style. Copy code from the <code>book</code> class <code>\part</code> command, but use <code>\appendixpagename</code> as the title.
	<pre> 79 \newcommand{\@chap@pppage}{% 80   \clear@ppage 81   \thispagestyle{plain}% 82   \if@twocolumn\onecolumn\@tempwattrue\else\@tempwafalse\fi 83   \null\vfil 84   \markboth{}{}% 85   {\centering </pre>

```

86 \interlinepenalty \@M
87 \normalfont
88 \huge \bfseries \appendixpagename\par}%

```

Add to ToC if requested

```

89 \if@dotoc@pp
90 \addappheadtotoc
91 \fi

```

In the book class the `\part` command is finished off by calling `\@endpart`. There are two problems with this in this package. (1) `\@endpart` is not defined in article style classes and (2) it always throws a blank page which does not look good if the `openany` option is used. So, code it all up here.

```

92 \vfil\newpage
93 \if@twoside
94 \if@openright
95 \null
96 \thispagestyle{empty}%
97 \newpage
98 \fi
99 \fi
100 \if@tempwa
101 \twocolumn
102 \fi
103 }
104

```

`\@sec@pppage` Copy code from the article class `\part` command, but use `\appendixpagename` as the title.

```

105 \newcommand{\@sec@pppage}{%
106 \par
107 \addvspace{4ex}%
108 \@afterindentfalse
109 {\parindent \z@ \raggedright
110 \interlinepenalty \@M
111 \normalfont
112 \huge \bfseries \appendixpagename%
113 \markboth{}{}\par}%

```

Add to ToC if requested

```

114 \if@dotoc@pp
115 \addappheadtotoc
116 \fi
117 \nobreak
118 \vskip 3ex
119 \@afterheading
120 }
121

```

`\if@pptoctpage` The `\addappheadtotoc` command adds an ‘appendices’ line to the ToC. The style `\noappendicestocpagenum` is the same as used in `tocbibind` for the ‘List of figures’ line. That is, as a Chapter `\appendicestocpagenum` `\addappheadtotoc`



heading or a Section heading. `\if@pptocpage` controls whether or not a page number is put into the ToC.

```

122 \newif\if@pptocpage
123   \@pptocpagetrue
124 \newcommand{\noappendicestocpagenum}{\@pptocpagefalse}
125 \newcommand{\appendicestocpagenum}{\@pptocpagetrue}
126 \newcommand{\addappheadtotoc}{%
127   \phantomsection
128   \if@chapter@pp
Chaptered document
129     \if@pptocpage
130       \addcontentsline{toc}{chapter}{\appendixtocname}%
131     \else
132       \if@pphyper
133         \addtocontents{toc}%
134           {\protect\contentsline{chapter}{\appendixtocname}{\@currentHref}}%
135       \else
136         \addtocontents{toc}%
137           {\protect\contentsline{chapter}{\appendixtocname}{}}%
138       \fi
139     \fi
140 \else
Not a chaptered document
141   \if@pptocpage
142     \addcontentsline{toc}{section}{\appendixtocname}%
143   \else
144     \if@pphyper
145       \addtocontents{toc}%
146         {\protect\contentsline{section}{\appendixtocname}{\@currentHref}}%
147     \else
148       \addtocontents{toc}%
149         {\protect\contentsline{section}{\appendixtocname}{}}%
150     \fi
151   \fi
152 \fi
153 }
154

```

For my reference, here is the standard version of the `\appendix` macro, but modified for both chaptered and unchaptered documents.

```

\newcommand{\appendix}{\par
\if@chapter@pp
  \setcounter{chapter}{0}%
  \setcounter{section}{0}%
  \gdef\@chapapp{\appendixname}%
  \gdef\thechapter{\@Alph@c@chapter}
\else
  \setcounter{section}{0}%

```

```

    \setcounter{subsection}{0}%
    \gdef\thesection{\@Alph\c@section}
  \fi
}

```

And this equivalently is what the hyperref package does.

```

\def\Hy@chapterstring{chapter}
\def\Hy@appendixstring{appendix}
\def\Hy@chapapp{\Hy@chapterstring}
\let\Hy@org@appendix\appendix
\def\appendix{%
  \Hy@org@appendix
  \ifchapter@pp
    \gdef\theHchapter{\Alph{chapter}}%
  \else
    \gdef\theHsection{\Alph{section}}%
  \fi
  \xdef\Hy@chapapp{\Hy@appendixstring}%
}

```

`\theH@pps` We are going to use `\theH@pps` to disambiguate contents of appendices that might have the same hyperref marks. It is `\provided` as if the `appendix` and `hyperref` are in the ‘wrong’ order then somehow `hyperref` defines it before `appendix` can get to it.

```

155 \providecommand{\theH@pps}{\alph{@pps}}
156

```

`\@resets@pp` Resets the appropriate sectioning counters and names. This does almost exactly what the default `\appendix` command does, except that it saves and restores sectional numbering. It saves the sectional number at the start and restores the appendix number at the end.

```

157 \newcommand{\@resets@pp}{\par
158   \@ppsavesec
159   \stepcounter{@pps}
160   \setcounter{section}{0}%
161   \ifchapter@pp
162     \setcounter{chapter}{0}%
163     \renewcommand\@chapapp{\appendixname}%
164     \renewcommand\thechapter{\@Alph\c@chapter}%
165   \else
166     \setcounter{subsection}{0}%
167     \renewcommand\thesection{\@Alph\c@section}%
168   \fi
169   \if@pphyper
    Now handle the hyperref tweaks.
170   \ifchapter@pp

```

```

171     \renewcommand{\theHchapter}{\theH@pps.\Alph{chapter}}%
172   \else
173     \renewcommand{\theHsection}{\theH@pps.\Alph{section}}%
174   \fi
175   \xdef\Hy@chapapp{\Hy@appendixstring}%
176 \fi
177 \restoreapp
178 }
179

```

**appendices** This is the heart of the package. Start it off by doing the resetting done by the `\appendix` command. Then do the simple options before getting into the complications of redefinitions. Remember to take care of an interaction between `\addappheadtotoc` and `\appendixpage`.

```

180 \newenvironment{appendices}{%
181   \@resets@pp
182   \if@dotoc@pp
183     \if@dopage@pp           % both page and toc
184     \if@chapter@pp        % chapters
185     \clear@ppage
186   \fi
187   \appendixpage
188   \else                   % toc only
189     \if@chapter@pp        % chapters
190     \clear@ppage
191   \fi
192   \addappheadtotoc
193 \fi
194 \else
195   \if@dopage@pp           % page only
196   \appendixpage
197 \fi
198 \fi

```

There is only one other option applicable to the chapter style, so do it now and clear the way for doing the section style. To implement the `titletoc` option, we redefine the `\addcontentsline` command.

```

199 \if@chapter@pp
200   \if@dotitletoc@pp \@redotocentry@pp{chapter} \fi
201 \else

```

The rest of the code is specific to the section style. While we're in the mood we might as well finish off doing the `titletoc` option.

```

202   \if@dotitletoc@pp \@redotocentry@pp{section} \fi

```

The next piece of code implements the `header` option by providing a special version of `\sectionmark`.

```

203   \if@dohead@pp
204     \def\sectionmark##1{%
205       \if@twoside

```

```

206     \markboth{\@formatsecmark@pp{##1}}{}
207     \else
208     \markright{\@formatsecmark@pp{##1}}{}
209     \fi}
210 \fi

```

The next piece of code implements the title option by doing cunning things with the `\@secntformat`.<sup>3</sup>

```

211 \if@dotitle@pp
212 \def\sectionname{\appendixname}
213 \def\@secntformat##1{\@ifundefined{##1name}{}{\csname ##1name\endcsname\ }%
214 \csname the##1\endcsname\quad}
215 \fi
216 \fi}{%

```

At the end of the environment, save the appendix number and restore the sectional number.

```

217 \@ppsaveapp\@pprestoresec}
218

```

```

\setthesection The user commands for specifying the numbering style for subappendices.
\setthesubsection 219 \newcommand{\setthesection}{\thechapter.\Alph{section}}
220 \newcommand{\setthesubsection}{\thesection.\Alph{subsection}}
221

```

```

\@resets@ppsub Similar to \@resets@pp except that it is for use within the subappendices environment; as such, it is a bit simpler.

```

```

222 \newcommand{\@resets@ppsub}{\par
223 \stepcounter{@pps}
224 \if@chapter@pp
225 \setcounter{section}{0}
226 \renewcommand{\thesection}{\setthesection}
227 \else
228 \setcounter{subsection}{0}
229 \renewcommand{\thesubsection}{\setthesubsection}
230 \fi
231 \if@pphyper

```

Now handle the hyperref tweaks.

```

232 \if@chapter@pp
233 \renewcommand{\theHsection}{\theH@pps.\setthesection}%
234 \else
235 \renewcommand{\theHsubsection}{\theH@pps.\setthesubsection}%
236 \fi
237 \xdef\Hy@chapapp{\Hy@appendixstring}%
238 \fi
239 }
240

```

---

<sup>3</sup>From a posting to `comp.tex.tex` by Donald Arseneau on 13 August 1998.

`subappendices` The environment for subappendices. Start it off by doing the resetting of the `\(sub)section` command.

```
241 \newenvironment{subappendices}{%
242   \@resets@ppsub
```

There are two options applicable to the chapter style. To implement the `titletoc` option, we redefine the `\addcontentsline` command.

```
243 \if@chapter@pp
244   \if@dotitletoc@pp \@redotocentry@pp{section} \fi
```

To implement the `title` option we do cunning things with the `\@secntformat` command.

```
245   \if@dotitle@pp
246     \def\sectionname{\appendixname}
247     \def\@secntformat##1{\@ifundefined{##1name}{}{\csname ##1name\endcsname\ }%
248       \csname the##1\endcsname\quad}
249   \fi
250 \else
```

The rest of the code is for the section style.

```
251   \if@dotitletoc@pp \@redotocentry@pp{subsection} \fi
252   \if@dotitle@pp
253     \def\subsectionname{\appendixname}
254     \def\@secntformat##1{\@ifundefined{##1name}{}{\csname ##1name\endcsname\ }%
255       \csname the##1\endcsname\quad}
256   \fi
257 \fi}{}
258
```

`\@formatsecmark@pp` Formats the page header for a redefined `\sectionmark`.

```
259 \newcommand{\@formatsecmark@pp}[1]{%
260   \MakeUppercase{\appendixname\space
261     \ifnum \c@secnumdepth >\z@
262       \thesection\quad
263     \fi
264     #1}}
```

`\@redotocentry@pp` In order to implement the `titletoc` option we redefine the `\addcontentsline` command which is used to put entries into the ToC. `\@redotocentry@pp{<sect>}` does the redefinition, where `<sect>` is the name of the sectional heading (i.e., either chapter or section).

```
265 \newcommand{\@redotocentry@pp}[1]{%
```

Save the original definition of `\addcontentsline`. Then start the redefinition.

```
266 \let\oldacl@pp=\addcontentsline
267 \def\addcontentsline##1##2##3{%
```

Check if writing to ToC and appropriate section.

```
268   \def\@pptempa{##1}\def\@ptempb{toc}%
269   \ifx\@pptempa\@ptempb
```

Adding to the ToC file, so check on the sectioning command.

```
270     \def\@pptempa{##2}\def\@pptempb{#1}%
271     \ifx\@pptempa\@pptempb
```

The sectioning command is the same as that specified by the argument to `\@redotocentry@pp`, so get on with the redefinition.

```
272 \oldacl@pp{##1}{##2}{\appendixname\space ##3}%
273     \else
```

The heading was different from the argument. No redefinition is required, so call the original `\addcontentsline`.

```
274     \oldacl@pp{##1}{##2}{##3}%
275     \fi
276     \else
```

Adding to a file that is not the ToC. No redefinition is required, so call the original `\addcontentsline`.

```
277     \oldacl@pp{##1}{##2}{##3}%
278     \fi}
279 }
```

The end of this package.

```
280 </usc>
```

## References

- [GMS94] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LaTeX Companion*. Addison-Wesley Publishing Company, 1994.
- [Wil96] Peter R. Wilson. *LaTeX for standards: The LaTeX package files user manual*. NIST Report NISTIR, June 1996.

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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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