

The **etoc** package

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Abstract

The **etoc** package gives to the user complete control on how the entries of the table of contents should be constituted from the *name*, *number*, and *page number* of each sectioning unit. This goes via the definition of *line styles* for each sectioning level used in the document. The package provides its own custom line styles. Simpler ones are given as examples in the documentation. The simplest usage will be to take advantage the layout facilities of packages dealing with list environments.

The `\tableofcontents` command may be used arbitrarily many times and it has a variant `\localtableofcontents` which prints tables of contents ‘local’ to the current surrounding document unit. An extension of the `\label/\ref` syntax allows to reproduce (with another layout) a TOC defined somewhere else in the document.

The formatting inherited (and possibly customized by other packages) from the document class may also be used in *compatibility mode*. Regarding the *global toc display*, **etoc** provides pre-defined styles based on a multi-column format, optionally with a frame or a ruled title.

As the assignment of levels to the sectioning units can be changed at any time, **etoc** can be used in a quite general manner to also create custom “lists of”, additionally to the tables of contents related to the document sectioning units. No auxiliary file is used apart from the usual `.toc` file.

Foreword

Popular packages dealing with TOCs include `tocloft`, `titletoc` and `minitoc`. Why another one? well, initially I started **etoc** for my own use, and only later found out about the above mentioned packages ...

As is well explained in the `tocloft` package documentation, the standard L^AT_EX layout for the Table of Contents is buried in the class definitions. In particular, most of the lengths therein are hardcoded, and the only way for the user to change them is to recopy the class definitions into the document and then change them to obtain what is desired (within suitable `\makeatletter` and `\makeatother`). The more reasonable alternative is to use a dedicated package such as `tocloft` or to use another flexible document class.

However, although now things are hopefully not hard-coded, one still has to go through the package or class interface. This means one has to memorize a (possibly large) number of macros which will serve only to this task, and one will always be constrained to customizing one initially given layout.

The spirit of **etoc** is something else. The user will deal with the *name*, the *number* and the *page number* corresponding to each document sectional division (and found in a line of the `.toc` file) in a completely arbitrary manner: they are made available via the `\etocname`, `\etocnumber`, and `\etocpage` commands.

etoc is compatible with the `article`, `book`, `report`, `scrartcl`, `scrbook`, `scrreprt` and `memoir` classes.

CONTENTS

Change history

v1.02 [2012/11/18]

initial version

v1.04 [2012/11/24]

a (possibly local) table of contents can be labeled:

`\tableofcontents \label{toc:1}`

and reproduced elsewhere in the document (with a possibly completely different layout):

`\tableofcontents \ref{toc:1}`

v1.05 [2012/12/01]

`\localtableofcontents` replaces `\tableofcontents*` (for compatibility with the memoir class) compatibility with KOMA-script and memoir document classes.

v1.06 [2012/12/07]

the standard macros `\@section` etc... are modified only during the calls to `\tableofcontents`; they can thus be customized as will by

the user (with the help of a package like `tocloft`) and this will be taken into account by `etoc` for the TOCs typeset in compatibility mode.

v1.07 [2013/01/29]

new commands:

`\etocthenname`, `\etocthenumber`, `\etocthepage`, `\etoclink`,

`\etoc toccontentsline`, `\etoc toccontentsline*`

`\etocnoper`, `\etocaftercontentshook`

modified command: `\etocmulticolstyle`

new documentation section ‘surprising uses of `etoc`’ which explains how to do ‘lists of arbitrary things’, in addition to the tables of contents.

v1.07b [2013/02/02]

decision is made to remove the `\xspace` from the macros `\etocname`, `\etocnumber`, `\etocpage`.

additional examples in the documentation.

TABLE OF CONTENTS

Part I. Overview

Initial motivation: nested lists **1, p. 4**

Limitations intrinsic to the use of environments 1.1, p. 4

Line styles and toc display style **2, p. 4**

`\etocsettocstyle` for the toc display 2.1, p. 5

`\etocsetstyle` for the line styles 2.2, p. 5

Compatibility mode 2.3, p. 5

Arbitrarily many TOCs, and local ones too **3, p. 6**

Labeling and reusing elsewhere 3.1, p. 6

The hyperref option `bookmarksdepth` 3.2, p. 6

On manually adding layout commands to the `.toc` file 3.3, p. 7

Shuffling the levels with `\etocsetlevel` 3.4, p. 7

Local table of contents for this part 3.5, p. 8

A simple example **4, p. 9**

Surprising uses of `etoc` **5, p. 11**

The TOC of TOCs 5.1, p. 11

Arbitrary “Lists Of...” 5.2, p. 12

A TOC with a fancy layout 5.3, p. 13

Part II. Package commands for line styles

The `\etocsetstyle` command **6, p. 15**

The `\etocname` and `\etocpage` commands 6.1, p. 15

The `\etocskipfirstprefix` command 6.2, p. 16

CONTENTS

The <code>\etocnumber</code> command	6.3, p. 16
The <code>\etocifnumbered</code> switch.	
The <code>\etocthenname</code> , <code>\etocthenumber</code> , and <code>\etocthepage</code> commands	6.4, p. 17
The <code>\etoclink</code> command	6.5, p. 17
The <code>\etocsetlevel</code> command	6.6, p. 18
This is a (pale) red subsection for illustrative purposes.	
Am I also red?	7, p. 19
A comparison	8, p. 19

Part III. Package commands for toc display styles

Specifying the toc display style	9, p. 23
The command <code>\etocruledstyle</code>	9.1, p. 23
The command <code>\etocmulticolstyle</code>	9.2, p. 24
The command <code>\etocstyle</code> .	
The command <code>\etocruled</code>	9.3, p. 25
The commands <code>\etocframedstyle</code> and <code>\etocframed</code>	9.4, p. 25
Headings, titles, <code>\etocinnertopsep</code>	9.5, p. 25
The command <code>\etocsettocstyle</code>	9.6, p. 26
The compatibility mode <code>\etocstandard- displaystyle</code>	9.7, p. 26
Starred variants of the <code>\tableofcon- tents</code> etc... commands	10, p. 26
Table of contents for this part	11, p. 27
Testing the compatibility mode	11.1, p. 27
A framed display	11.2, p. 27
A (crazy) inline display	11.3, p. 29

Part IV. Using and customiz- ing `etoc`

Summary of the main style commands	12, p. 30
Setting up local styles	12.1, p. 30
Setting up toc display styles	12.2, p. 30
Displaying tables of contents	12.3, p. 31
Labels and references	12.4, p. 31
An example	12.5, p. 31
Customizing <code>etoc</code>	13, p. 33
Customizing the <code>etoc</code> pre-defined line styles	13.1, p. 33
Customizing the toc display styles	13.2, p. 34

Part V. Tips

... and tricks	14, p. 36
Hacking framed parboxes	14.1, p. 36
Interverting the levels	14.2, p. 36
All subsections of this document	14.3, p. 37
Compatibility with other packages	14.4, p. 38
T _E Xnical matters	14.5, p. 38
Errors and catastrophes	14.6, p. 38

Part VI. The code

Implementation	15, p. 39
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Part I.

Overview

1. Initial motivation: nested lists

The initial impetus was to feed nested list environments with the data consisting of the *name*, *number*, and *page number* as recorded in the `.toc` file.¹ For example, typesetting the line corresponding to the first sub-section in a given section would open a list environment which would be closed only when a section, chapter, or part line entry in the `.toc` file would be encountered. `etoc` allows to do this very easily and the opening and closing may be for example `\begin{enumerate}` and `\end{enumerate}` pairs, will all the customizing allowed by packages such as `enumitem`.

1.1. Limitations intrinsic to the use of environments

There is a first limitation to this method: the `.toc` file may contain other commands, such as language changing commands, which do not expect to see their scope limited in this way inside a group (\LaTeX 's environments create groups). Therefore the package own line styles (illustrated by the main table of contents in this document) do not make use of environments to avoid that problem.

A second limitation is that one may nest at most 4 levels of `enumerate` environments, and 4 levels of `itemize` environment. I tried alternating them and did succeed to nest 6 levels (and not 8 alas . . . ²). With `\etocnumber` as the optional parameter to `\item`: `\item[\etocnumber]` one may transform the `itemize` into an enumerated list... anyway, 4 levels of sectional divisions in a TOC are generally sufficient, and again using `enumerate` environments is only a possibility provided by `etoc`, it is by no means mandatory to use them in the line styles specifications.

We will give in this manual a simple-minded example of nested use of `enumerate` environments. More sophisticated examples would use more sophisticated `enumitem` options. One may say then that again the user has to memorize some customizing! indeed, but the syntax and option names to memorize are in no way related only to matters of tables of contents, hence an economy of use of the poor brain.

The built-in default “line styles” provided by the package do not make use of environments.

2. Line styles and toc display style

A distinction shall be made between the *line styles*, *i.e.* the way the name, number and page numbers are used at each level, and the *toc display style* (for lack of a better name) which tells how the title should be set, whether an entry in the `.toc` file should be made, whether the contents should be typeset with multiple columns, etc... the latter is governed by the

¹I got started about this through reading this question on the \TeX Stackexchange site:
tex.stackexchange.com/questions/79682

²this is surely a well-known issue which I did not at all investigate any further.

2. Line styles and toc display style

command `\etocsettocstyle` (or some higher-level commands) and the former by the command `\etocsetstyle`.

2.1. `\etocsettocstyle` for the toc display

The low-level `\etocsettocstyle` command allows to decide what should be done before and after the line entries of the TOC are typeset, and in particular how the title should be printed. It has two arguments, the first one is executed before the TOC contents (typically it will print “Contents” and define suitable head-marks) and the second is executed after the TOC contents.

`etoc` provides four (customizable) higher level toc styles: `\etocmulticolstyle`, `\etocdisplaystyle`, `\etocruledstyle`, and `\etocframedstyle`. All use the `multicol` package with a default of two columns (single-column mode is of course allowed).

These commands must be followed either by `\tableofcontents` or `\localtableofcontents`.

2.2. `\etocsetstyle` for the line styles

The command to inform `etoc` of what to do with `\etocname`, `\etocnumber`, and `\etocpage` is called `\etocsetstyle`. It has five mandatory arguments. The first one is the name of the sectional unit: a priori known names are `book`, `part`, `chapter`, `section`, `subsection`, `subsubsection`, `paragraph`, and `subparagraph`. The four other arguments say: 1) *what to do when this level is first encountered, down from a more general one*, then 2) & 3) (two arguments, a ‘prefix’ and a ‘contents’) *what to do when a new entry of that type is found*, and 4) *the last argument is the code to execute when a division unit of higher importance is again hit upon*.

2.3. Compatibility mode

Both for the “line styles” and the “toc display style”, it is possible to switch into a compatibility mode which uses the defaults from the document class.³ This is activated by:

```
\etocstandardlines % ‘line entries’ as without \usepackage{etoc}  
\etocstandarddisplaystyle % ‘toc display’ as without \usepackage{etoc}
```

If the command `\etocsetstyle` has not been used in the preamble the package will be at `\begin{document}` in this compatibility mode: hence just adding `\usepackage{etoc}` should hopefully not change anything to the look of a previously existing document, under the `article`, `book`, `report`, `scrartcl`, `scrbook`, `scrreprt` and `memoir` classes.

Any use of `\etocsetstyle` in the preamble or body of the document turns off the compatibility mode for line styles (but not for the global display style; for this one needs to use the command `\etocsettocstyle`).

To exit after `\etocstandardlines` from compatibility mode one uses the command `\etocdisplaystyle`, which re-activates the latest line styles as defined by `\etocsetstyle` (if their scope was not limited to a group or environment). The command `\etocdefaultlines` resets the line styles to be the package initial default ones.

³for the “toc display style” `etoc` checks if it knows the class, and if not defaults to the `article` class layout.

3. Arbitrarily many TOCs, and local ones too

etoc allows arbitrarily many `\tableofcontents` commands in your document. The line styles and the toc display style may of course be changed in-between. Furthermore `\localtableofcontents` will print local tables of contents⁴: *i.e.* all sections and sub-units inside a given chapter, or all subsubsections and lower inside a given subsection, etc . . .

3.1. Labeling and reusing elsewhere

etoc allows the labeling of a TOC with `\label{toc:A}` and will redisplay it elsewhere when told `\tableofcontents\ref{toc:A}`. The actual layout (title inclusive) used for the cloned TOC will be decided locally. The line styles and toc display style (including the title) will be the current ones and the current value of the `tocdepth` counter is obeyed. As an example here is the table of contents of Part IV:

I am from far away	
12. Summary of the main style commands	30
12.1. Setting up local styles	30
12.2. Setting up toc display styles	30
12.3. Displaying tables of contents	31
12.4. Labels and references	31
12.5. An example	31
13. Customizing etoc	33
13.1. Customizing the etoc pre-defined line styles	33
13.2. Customizing the toc display styles	34

We actually did something like:

```
\tableofcontents \label{toc:d}\ref{toc:c}
```

Hence the [present location](#) can itself now be referred to via `\ref{toc:d}`: it gives the id of this TOC⁵ in the sequence of document TOCs, and will be a link if package `hyperref` is used.

However one should not use elsewhere `\tableofcontents \ref{toc:d}`. Due to the way **etoc** implements the cloning, the doubly cloned TOC will be typeset as a full table of contents. So to clone again, one should use the original: `\tableofcontents \ref{toc:c}`.

3.2. The `hyperref` option `bookmarksdepth`

When modifying the counter `tocdepth` for the purposes of multiple uses of `\tableofcontents` or `\localtableofcontents`, one should consider that package `hyperref` by

⁴Up to version 1.04 we called this `\tableofcontents*`, but for reasons of compatibility with the `memoir` class, we have decided to drop this usage.

⁵*i.e.* 3, there was an invisible TOC with id 2 at the beginning of this part.

3. Arbitrarily many TOCs, and local ones too

default takes into account the *current* value of the `tocdepth` counter to decide whether the final pdf output will contain a bookmark corresponding to the used sectioning command. Thus, one often will have to reset `tocdepth` to its previous value immediately after the display of the table of contents.

Or, there is the `bookmarksdepth=n` option of package `hyperref`, with n the desired document bookmarks depth, which can be numeric or the name of a level known to `hyperref`. The present document passed `bookmarksdepth=3` as option to `hyperref`, so as to not have to reset `tocdepth` each time its value was changed.

3.3. On manually adding layout commands to the .toc file

When displaying in that way many tables of contents in the same document one should of course beware of the impact of adding manually things to the .toc file. For example, inserting

```
\addtocontents{toc}{\string\clearpage}
```

just before a `\part` to fix the problem when some part entry (in the table of contents) is isolated at the bottom of one page, will cause problems with multiple TOCs: this `\clearpage` will be executed by `etoc` each time a `\tableofcontents` or `\localtableofcontents` command is encountered! The more prudent thing is to have issued rather:

```
\addtocontents{toc}{\string\myclearpage},
```

to have a `\let\myclearpage\relax` at the top level of the document and to use where needed something like:

```
\let\myclearpage\clearpage
\tableofcontents
\let\myclearpage\relax
```

The `memoir` class has the command `\settocdepth` which writes a `\changetocdepth` command inside the .toc file. This will impact the typesetting by `etoc` of all tables of contents, with possibly unexpected results: imagine the document has `\settocdepth{chapter}` at some point to avoid having the sections from subsequent chapters be listed in the main table of contents. Then a local table of contents in one of these chapters will print a title but will be without any entry. A solution is to do `\begingroup \renewcommand*\changetocdepth[1]{} \localtableofcontents \endgroup`, and to set the desired level for the local table of contents with the other `memoir` command `\maxtocdepth`.⁶

3.4. Shuffling the levels with `\etocsetlevel`

The intrinsic levels manipulated by `etoc` are numeric: from -2 (which corresponds to book in the `memoir` class) down to 5 (subparagraph). But the assignment of a numeric level to a given name can be modified at any time with the command `\etocsetlevel{<level_name>}{<n>}`. In conjunction with the use of the L^AT_EX `tocdepth` counter, this has powerful applications: `<level_name>` does not have to coincide with an actual document sectioning command, and `etoc` can be used to print arbitrary “lists of

⁶The `memoir` class allows multiple calls to the `\tableofcontents` command, so these issues already arise there, independently of `etoc`, see page 170 of the `memoir` manual.

3. Arbitrarily many TOCs, and local ones too

things”, using no other auxiliary file than the .toc file. This is explained further in the section 5.

3.5. Local table of contents for this part

Immediately after the line in the source file starting with the first \part we wrote:

```
\setcounter{tocdepth}{-3}
\localtableofcontents \label{toc:partone}
```

The `tocdepth` being set to -3, nothing at all was typeset in the page (`etoc` cancels printing even the heading of the TOC if the `tocdepth` is -2 or less, except for the `memoir` class for which it needs to be -3 or less). We can then display here this TOC with:

```
\setcounter{tocdepth}{3}
\tableofcontents \ref{toc:partone}
```

Contents of Part One		
1	Initial motivation: nested lists	4
1.1	Limitations intrinsic to the use of environments	4
2	Line styles and toc display style	4
2.1	\etocsettocstyle for the toc display	5
2.2	\etocsetstyle for the line styles	5
2.3	Compatibility mode	5
3	Arbitrarily many TOCs, and local ones too	6
3.1	Labeling and reusing elsewhere	6
3.2	The hyperref option <i>bookmarksdepth</i>	6
3.3	On manually adding layout commands to the .toc file	7
3.4	Shuffling the levels with \etocsetlevel	7
3.5	Local table of contents for this part	8
4	A simple example	9
5	Surprising uses of <code>etoc</code>	11
5.1	The TOC of TOCs	11
5.2	Arbitrary “Lists Of...”	12
5.3	A TOC with a fancy layout	13

The actual design is not pre-built in `etoc`; it uses the `etoc` ‘framed’ style with a background color and a dummy empty title, the actual title having been put inside the frame

4. A simple example

as part of the `<start>` code of the section ‘line style’. The frame borders have been set to have the same color as the one which serves as background for the entire thing. This design (with other colors) is in use also for [this other toc](#), and the coding used is to be found at its location.

Here is now a far simpler design.

4. A simple example

Here is a simple example of use of the package functionalities. We display again the local table of contents for this part but choose font sizes and style which would be used rather for, respectively, chapters and sections in an average length memoir.

<hr/>		
<i>My Beautiful Thesis</i>		
Chapter 1	Initial motivation: nested lists	4
1.1	<i>Limitations intrinsic to the use of environments</i>	4
Chapter 2	Line styles and toc display style	4
2.1	<i><code>\etocsettocstyle</code> for the toc display</i>	5
2.2	<i><code>\etocsetstyle</code> for the line styles</i>	5
2.3	<i>Compatibility mode</i>	5
Chapter 3	Arbitrarily many TOCs, and local ones too	6
3.1	<i>Labeling and reusing elsewhere</i>	6
3.2	<i>The <code>hyperref</code> option <code>bookmarksdepth</code></i>	6
3.3	<i>On manually adding layout commands to the <code>.toc</code> file</i>	7
3.4	<i>Shuffling the levels with <code>\etocsetlevel</code></i>	7
3.5	<i>Local table of contents for this part</i>	8
Chapter 4	A simple example	9
Chapter 5	Surprising uses of <code>etoc</code>	11
5.1	<i>The TOC of TOCs</i>	11
5.2	<i>Arbitrary “Lists Of...”</i>	12
5.3	<i>A TOC with a fancy layout</i>	13

4. A simple example

And now, the line style specifications. They have some redundancy for clarity, and do not care about what to do at possible page breaks. Also, this does not care about potential multi-column use.

```
\begingroup % we start a group to keep the style changes local
% the changes to paragraph layout parameters done in the style
% specifications would anyhow have been kept local as the TOCs are
% always typeset by the package in a group.
\newlength{\tocleftmargin}    \setlength{\tocleftmargin}{5cm}
\newlength{\tocrightmargin}   \setlength{\tocrightmargin}{1cm}

\etocsetstyle{section}        % would be chapter in real life
{\addvspace{1ex}\parfillskip0pt
 \leftskip\tocleftmargin      % was already done in title
 \rightskip\the\tocrightmargin plus 1fil
 \parindent0pt\color{cyan}}   % again this was already done
{\bfseries\LARGE\upshape\addvspace{1ex}\leavevmode}
{\llap{Chapter\hspace{.5em}}{\etocnumber}\hspace{.75cm}}{\etocname}
 \hfill\makebox[-\tocrightmargin][l]{\makebox[0pt]{\etocpage}}\par}
{}

\etocsetstyle{subsection}     % would be section in real life
{}
{\mdseries\large\addvspace{.5ex}\leavevmode}
{\llap{\etocnumber\hspace{.75cm}}{\textit{\etocname}}%
 \hfill\makebox[-\tocrightmargin][l]{\makebox[0pt]{\etocpage}}\par}
{}

% \color{cyan}\parindent0pt and \leftskip\tocleftmargin
% were repeated in the <start> code of the “section style”,
% for clarity of code.

\etocsettocstyle{\color{cyan}\parindent0pt \leftskip\tocleftmargin
 \leavevmode\leaders\hrule height 1pt\hfill\
 \huge\textit{My Beautiful Thesis}\par}{\bigskip}

\tableofcontents \ref{toc:partone}
\endgroup
```

As one can see, the code uses the basic commands from $\text{T}_{\text{E}}\text{X}$ / $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ for paragraph layouts and an efficient mix of plain $\text{T}_{\text{E}}\text{X}$ and $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ syntaxes.

Users not so knowledgeable in the $\text{T}_{\text{E}}\text{X}$ syntax (for cause of having been exposed only to $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ “introductions”) have the possibility explained earlier to use nested `enumerate` environments, of course this means mastering another syntax.

However, using as here the $\text{T}_{\text{E}}\text{X}$ primitives `\par`, `\leftskip`, `\rightskip`, `\parfillskip`, ... is by far the surest way to completely understand and master what happens. Any user of $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ should learn their signification.

5. Surprising uses of **etoc**

5.1. The TOC of TOCs

Here is the numbered and linked list of all tables of contents which are displayed within this document: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#), [16](#). And to obtain it here we just wrote:⁷

```
Here is the numbered and linked list of all
tables of contents which are displayed within
this document: \tableofcontents.
```

The preparatory work was the following. First, we defined a counter `visibletoc` whose vocation is to get incremented at each displayed toc. **etoc** has its own private counter but it counts all TOCs, even those not displayed because the `tocdepth` value was `-2` or `-3`.

We could have added manually `\refstepcounter{visibletoc}` and `\label` commands at all suitable locations in the document source, and we would then have used here `\ref` commands, but this imposes heavy manual editing of the source.

There is a much better way: there is a hook `\etocaftertitlehook` and we told it to increment the `visibletoc` counter and to write a line to the `.toc` file, in a manner analogous to what sectioning commands such as `chapter`, `section`, or `subsection` do. As **etoc** increments its own private counter even before typesetting the title of a table of contents, this provides (most of the time) a better link destination than any counter manipulated from inside `\etocaftertitlehook` (for which the link would target the area just after the title). So, rather than including `\refstepcounter{visibletoc}` inside `\etocaftertitlehook`, we just put there `\stepcounter{visibletoc}` followed by the package command `\etoccontentsline{<level_name>}{<name>}`. This command has the same effect as:

```
\addcontentsline{toc}{<level_name>}{<name>}
```

but its usefulness is to circumvent the automatic creation of bookmarks by the `hyperref` package, as they don't make much sense here (and elicit a complaint of `hyperref` that the bookmark level is 'unknown').

The package provides a starred variant `\etoccontentsline*`, which will allow the creation of bookmarks but has a third mandatory argument which is the level to be used by these bookmarks.

Finally, the preamble of the document did `\etocsetlevel{visibletoc}{6}`. The level 6 (or anything with a higher number) is ignored, even if `tocdepth` has value 10 for example; this is independently of whether **etoc** uses the document class default line styles or its own line styles, or the ones defined by the user with the `\etocsetstyle` command. So there is no need to worry that something could go wrong.

Then, only here we have set `\etocsetlevel{visibletoc}{0}`. And to display only this kind of entries we assign temporarily to part and chapter level 1 (or anything higher than zero) and set `tocdepth` to the value 0. We also did `\etocsetstyle{visibletoc}{\etocskipfirstprefix}{, }{\etocname}{}` which defines an inline display with the comma as separator. Finally, as **etoc** issues `\par` automatically by default just before typesetting a table of contents, we had to use the command `\etocnoper` to turn off this behavior.

Here are the implementation details:

⁷click the '5' in the list to get confirmation...

5. Surprising uses of **etoc**

```
. . . in the preamble:
\newcounter{visibletoc}
\renewcommand{\etocaftertitlehook}
  {\stepcounter{visibletoc}\etoccontentsline{visibletoc}{\thevisibletoc}}
\etocsetlevel{visibletoc}{6}
. . .
\begin{document}
. . . document body
\subsection{Surprising uses of etoc}
\begingroup
  \etocnopar
  \etocsetlevel{part}{1}
  \etocsetlevel{chapter}{1}
  \etocsetlevel{visibletoc}{0}
  \etocsetstyle{visibletoc}
    {\etocskipfirstprefix}{, }{{\color{niceone}\etocname}}{}
  \etocsettocstyle{}{} % don't set any title, rules or frame or multicol!
  \setcounter{tocdepth}{0} % display only the 'visibletoc' entries from .toc
```

Here is the numbered and linked list of all tables of contents which are displayed within this document: `\tableofcontents`.
`\endgroup`

After `\etocsetstyle{visibletoc}{...}{...}{...}{...}`, all future TOCs (not in compatibility mode) will use the defined style for level 0 (which is normally the level for chapters). To keep these changes strictly local the simplest manner is to put everything inside a group.

Subsection 14.2 gives another use of the shuffling of levels.

5.2. Arbitrary “Lists Of...”

This idea of interverting the levels is very powerful and allows to let **etoc** display lists of arbitrary things contained in the document. All of that still using nothing else than the `.toc` file! Example: imagine a document with dozens of exercises, perhaps defined as `\newtheorem{exercise}{}[section]`. Let us explain how to instruct **etoc** to display an hyperlinked list of all these exercises. For this we put in the preamble:

```
\newtheorem{exerci}{}[section]
% the exercise number will be recoverable with \etocname: v-----v
\newcommand*\exercisetotoc{\etoccontentsline{exercise}{\theexerci}}
\newenvironment{exercise}{\begin{exerci}\exercisetotoc}{\end{exerci}}
\etocsetlevel{exercise}{6}
```

The above was motivated by question 94766 on the T_EX-StackExchange site. The counter `exerci` is already incremented by the `exerci` theorem environment, and provides the correct destination for the link added by package `hyperref`. The command `\exercisetotoc` adds for each exercise a line to the `.toc` file, corresponding to a fictitious document unit with name ‘exercise’. A four-column list, including the sections, can then be typeset with the following code:

```
\begingroup
```

5. Surprising uses of *etoc*

```

\setcounter{tocdepth}{2}      % section is at level 1
\etocsetlevel{exercise}{2}
\etocsetlevel{chapter}{3}    % no chapters
\etocsetlevel{subsection}{3} % no subsections
\etocsetlevel{part}{3}       % no parts
\etocsetstyle{exercise}{}{} % \etocname = exercise number
    {\noindent\etocname\strut\leaders\etoclineleaders\hfill\etocpage\par}
    {\pagebreak[2]\vskip\baselineskip}
\etocsetstyle{section}{}{}
    {\noindent\strut{\bfseries\large\etocnumber\hskip.5em\etocname}\par}
    {\nopagebreak[3]}{}
\etocruledstyle[4]{\Large\bfseries List of the exercises}
\setlength{\columnseprule}{.4pt}
\tableofcontents
\endgroup

```

We used `\etoccontentsline` and not `\addcontentsline{toc}{..}{..}` as we didn't want to have bookmark creation done by `hyperref`. To allow creation of bookmarks at the specific level $\langle n \rangle$, one can use (here with $\langle n \rangle = 2$):

```
\newcommand{\exercisetotoc}{\etoccontentsline*{exercise}{\theexerci}{2}}
```

In the above, recall that \LaTeX counters are global. The current `tocdepth` value is 2, and if not reset it will prevent `hyperref` to assign bookmarks to sub-subsections (level 3). The global `hyperref` option `bookmarksdepth` can be used to avoid having to systematically reset `tocdepth` after having changed it.

5.3. A TOC with a fancy layout

Another question (numbered 61297) on the \TeX StackExchange site was about using \LaTeX to obtain a table of contents where the sections from a given chapter would be represented by a number range (like 18–22 for a given chapter, 42–49 for another one ... of course to be inserted automatically in the TOC). The next page is the result of my effort at using *etoc* for this problem. How this was done will be found on the above cited site.

This is not an image inclusion, the TOC is produced from its original `tex` source inserted in this document after replacement of `part`, `chapter` or `section` with `dummypart`, `dummychapter` and `dummysection` (and there is also a dummy page count). We copied the line styles used in the original and displayed the table of contents following:

```

\etocsetlevel{dummypart}{-1} \etocsetlevel{part}{2}
\etocsetlevel{dummychapter}{0} \etocsetlevel{chapter}{2}
\etocsetlevel{dummysection}{1} \etocsetlevel{section}{2}
\setcounter{tocdepth}{1}

```

TABLE OF CONTENTS

PART I

				SECTIONS.	PAGE.
Introductory	...	...	...	1—8	5
				Concord.	
LESSON.					
1.	Concord of Subject and Verb	...	...	9—17	7
2.	Concord of Substantive and Adjective	...	...	18—22	9
	Concord of Relative and its Antecedent	...	...	23—25	

PART II

Government.

3.	The Accusative Case	...	...	...	17
	General uses	...	...	26—30	
	Particular uses	...	...	31—37	
4.	Verbs governing two Accusatives	...	...	38—41	23
5.	The Causal	...	...	42—49	25
6.	The Instrumental Case	...	...	...	27
	General uses	...	...	50—54	
	Particular uses	...	...	55—59	
7.	The Dative Case	...	...	...	33
	General uses	...	...	60—65	
	Particular uses	...	...	66—71	
8.	The Ablative Case	...	...	...	39
	General uses	...	...	72—75	
	Particular uses	...	...	76—86	
9.	The Locative Case	...	...	...	45
	General uses	...	...	87—92	
	Particular uses	...	...	93—100	

Part II.

Package commands for line styles

Contents of this second part

6 The `\etocsetstyle` command (page 15)

6.1 The `\etocname` and `\etocpage` commands (p. 15)

6.2 The `\etocskipfirstprefix` command (p. 16)

6.3 The `\etocnumber` command (p. 16)

The `\etocifnumbered` switch.

6.4 The `\etocthenname`, `\etocthenumber`, and `\etocthepage` commands (p. 17)

6.5 The `\etoclink` command (p. 17)

6.6 The `\etocsetlevel` command (p. 18)

This is a (pale) red subsection for illustrative purposes.

7 Am I also red? (page 19)

8 A comparison (page 19)

6. The `\etocsetstyle` command

6.1. The `\etocname` and `\etocpage` commands

Let us explain how `etoc` was used to produce the table of contents displayed at the beginning of this second part. This is a local table of contents, and we used the command `\localtableofcontents`.

We shall distinguish between the *line styles* and the *toc display style*. The line styles were (essentially) obtained in the following manner:⁸

```
\etocsetstyle{section}
{\begin{enumerate}}
{\normalsize\bfseries\rmfamily\item}
{\etocname{} (page \etocpage)}
{\end{enumerate}}
```

```
\etocsetstyle{subsection}
{\begin{enumerate}}
{\normalfont\item}
{\etocname{} (p.~\etocpage)}
```

⁸the present document has `\renewcommand{\familydefault}{\sfdefault}` in its preamble, hence `\normalfont` switches to the sans typeface; so in the section line-style, I wrote `\rmfamily` instead.

6. The `\etocsetstyle` command

```
{\end{enumerate}}

\etocsetstyle{subsubsection}
{\par\nobreak\begingroup\normalfont
\footnotesize\itshape\etocskipfirstprefix}
{\allowbreak\,--\,}
{\etocname}
{.\hfil\par\endgroup\pagebreak[3]}
```

These provisory style definitions rely on the automatic numbering generated by the `enumerate` environments but it is much better to use the further command `\etocnumber` inside the item label, which gives the real thing. The improved definitions will thus be explained later.

Each `\etocsetstyle` command has five mandatory arguments:

$$\backslash\mathrm{etocsetstyle}\{\langle levelname \rangle\}\{\langle start \rangle\}\{\langle prefix \rangle\}\{\langle contents \rangle\}\{\langle finish \rangle\}$$

The initially recognized `\levelname`'s are the sectioning levels of the standard document classes: from *part* (or *book* which is used by the `memoir` class) down to *subparagraph*.

The `⟨start⟩` code is executed when a toc entry of that level is encountered and the previous one was at a higher level. The `⟨finish⟩` code is executed when one again encounters a higher level toc entry. In the mean-time all entries for that level are typeset by executing first the `⟨prefix⟩` code and then the `⟨contents⟩` code.

The commands `\etocname`, `\etocnumber` and `\etocpage` are provided for use inside the `{\langle prefix \rangle}` and `{\langle contents \rangle}` parts of the `\etocsetstyle` specification. They represent of course, the name, number, and page number of the corresponding toc entry.⁹

6.2. The `\etocskipfirstprefix` command

The chosen subsubsection style also uses the command `\etocskipfirstprefix`, which, if present, *must* be the very last one in the *start* code. It instructs to not use for the first item the specified “prefix” code.

With this style, one would have to be imaginative to design something then for paragraph and subparagraph entries! perhaps as superscripts? Well, usually one does not need paragraphs and subparagraphs numbered and listed in the TOC, so our putative user here chose a design where no provision is made for them and added the definitive:

```
\etocsetstyle{paragraph}{}{}{}{}{}  
\etocsetstyle{subparagraph}{}{}{}{}{}{}
```

This is also the situation with the default package line styles!

6.3. The `\etocnumber` command

So far, our specifications would use the numbering generated by the `enumerate` environments, but of course we generally want the actual numbers as found in the `.toc` file. This is available via the `\etocnumber` command. To get the labels in the `enumerate` list to use it we can proceed with the syntax `label=` from the package `enumitem`:

up to version 1.07a the package put an `\xspace` in each of `\etocname`, `\etocnumber`, and `\etocpage`, but this wasn't such a great idea and has now been removed.

6. The `\etocsetstyle` command

```
\etocsetstyle{section}
{\begin{enumerate}[label=\etocnumber]}
{\normalsize\bfseries\rmfamily\item}
{\etocname{} (page \etocpage)}
{\end{enumerate}}
```

Rather than just `\etocnumber` we then used something like `\fbox{\etocnumber}`. Note that `\etocnumber` is a protected command which explains why it can be used inside the label specification without needing an added `\protect`.

6.3.1. The `\etocifnumbered` switch

The `\fbox` would give an unaesthetic result in the case of an unnumbered section (which ended up in the table of contents via an `\addcontentsline` command).¹⁰

The `\etocifnumbered{<A>}{}` command executes `<A>` if the number exists, and `` if not. So we use it in the code which was finally chosen for the section level:

```
\etocsetstyle{section}
{\begin{enumerate}[leftmargin=.75cm, label=\etocifnumbered
  {{{\fboxrule1pt\fcolorbox{green}{white}{\etocnumber}}}}}
{\normalsize\bfseries\rmfamily\item}
{\etocname{} (page \etocpage)}
{\end{enumerate}}

\etocsetstyle{subsection}
{\begin{enumerate}[leftmargin=0cm, label=\etocnumber]}
{\normalfont \item}
{\etocname{} (p.~\etocpage)}
{\end{enumerate}}
```

If we had changed only the section level, and not the subsection level, an error on compilation would have occurred because the package style for subsections expects to start ‘in vertical mode’. An additional `\par` token in the `<contents>` part of the section level would have fixed this: `{... (page \etocpage)\par}`.

6.4. The `\etocthenname`, `\etocthenumber`, and `\etocthepage` commands

It is sometimes desirable to have access to the name, number and page number without the `hyperref` link data: something similar to the starred variant of the `\ref` command, when package `hyperref` is used. For example one may wish to use the unit or page number in some kind of numeric context, or change its formatting. This is provided by the `\etocthe...` commands.

These commands are not protected, so in moving argument contexts (for example in a label specification) they should be preceded by `\protect`.

6.5. The `\etoclink` command

The command `\etoclink{<linkname>}` can be used in the line style specifications in a manner analogous to the argument-less commands `\etocname`, `\etocnumber` and

¹⁰as seen below we use `\fcolorbox` rather than `\fbox`. Due to some redefinition made by package `xcolor`, had we used `\fbox` (and not used `hyperref`) we would have needed `\protect\fbox`.

6. The `\etocsetstyle` command

`\etocpage`. It creates a link (if such a link was added by `hyperref` to the `.toc` file entry) whose destination is the corresponding document unit and whose name is the given argument.

Hence `\etoclink{\etocthename}` is like the original `\etocname`, except that `\etocname` starts with a `\leavevmode` (this was found out to be necessary when `hyperref` has added its link data, during testing of various uses of the first versions of **etoc**).

The command `\etoclink` is protected.

6.6. The `\etocsetlevel` command

As already explained in the section 5, one can inform **etoc** of a level to associate to a given sectioning command with `\etocsetlevel`. For example:

```
\etocsetlevel{cell}{0}  
\etocsetlevel{molecule}{1}  
\etocsetlevel{atom}{2}  
\etocsetlevel{nucleus}{3}
```

Of course, in compatibility mode, it will be assumed here that the macros `\l@cell`, `\l@molecule`, ..., pre-exist. If no table of contents is typeset in compatibility mode, then all that matters is that the line styles have been set. If for example `section` is at level 1, then there is no need to do a `\etocsetstyle{molecule}` if `\etocsetstyle{section}` has already been done (and it has been done by the package itself in its definition of its own line styles).

The accepted levels run from -2 to 6 inclusive. Anything else is mapped to 6, which is a dummy level, never displayed. The package does:

```
\etocsetlevel{book}{-2}  
\etocsetlevel{part}{-1}  
\etocsetlevel{chapter}{0}  
\etocsetlevel{section}{1}  
\etocsetlevel{subsection}{2}  
\etocsetlevel{subsubsection}{3}  
\etocsetlevel{paragraph}{4}  
\etocsetlevel{subparagraph}{5}
```

Its own line styles are activated by `\etocdefaultlines`. They are illustrated by the main table of contents of this document. The level assignments can be modified at anytime, as has been explained in the section 5.

6.6.1. This is a (pale) red subsubsection for illustrative purposes

Just before this subsubsection we did:

```
\color{red!50}  
\addtocontents{toc}{\string\color{red!50}}
```

The title here would be red in the `article` class, but is black in the `scrartcl` class. In both classes the corresponding entry in the main table of contents at the beginning of this document is red; it is not red in the table of contents at the beginning of this second document part. The reason is that the `<finish>` code for the subsubsection level closed a group; the definition was:

```
\etocsetstyle{subsubsection}  
{\par\nobreak\beginngroup\normalfont
```

7. Am I also red?

```
\footnotesize\itshape\etocskipfirstprefix}
{\allowbreak\,--\,}
{\etocname}
{.\hfil\par\endgroup\pagebreak[3]} <--- here is the \endgroup
```

This illustrates the discussion from subsection 1.1. The default package line styles do not contain group opening and closing instructions, so the influence (within TOCs such as the main one in this document) of the added line in the .toc file will propagate until it is cancelled by another explicit such command inserted in the .toc file.

7. Am I also red?

Well, actually no in this `scrartcl` class but I assure you I was in the `article` class!

```
\normalcolor
\addtocontents{toc}{\string\normalcolor}
```

Back to black. Note that this scope problem arises in real life in a multi-lingual document, as the `babel` package writes to the .toc file the language changes occurring in the document. There is no easy general solution¹¹ to this, but it will probably concern only a minority of cases. Again, the line styles defined by `etoc` do not use groups.

8. A comparison

The main table of contents was done in the `etoc` style. Let us issue here again two `\tableofcontents` commands, one with the document class style (with some special centered title in place of the standard Contents heading) and the other one with the style we defined in the previous part on the basis of `enumerate` environments.

```
\setcounter{secnumdepth}{4}
\setcounter{tocdepth}{4}
```

Let us use the standard formatting of entries, as is provided by the document class, and a two-column layout:

```
\etocstandardlines
\etocruledstyle{% 2 is the default number of columns
  \renewcommand{\etocptprule}{\hrule height0pt}%
  \normalfont\normalsize\rmfamily\itshape
  \parbox{.8\linewidth}{\centering
    This is the global table of contents with standard
    (to the {\ttfamily scrartcl} class) entries
    (and on two columns). Contrarily to
    \hyperref[toc:test]{\color{niceone}the next TOC}
    it contains paragraph entries.}}
\tableofcontents
```

¹¹one can insert by hand the language changes in each concerned sectioning command.

8. A comparison

*This is the global table of contents with standard (to the `scrartcl` class) entries (and on two columns). Contrarily to *the next TOC* it contains paragraph entries.*

I. Overview	4	6.3. The <code>\etocnumber</code> command	16
1. Initial motivation: nested lists	4	6.3.1. The <code>\etocifnumbered</code> switch . . .	17
1.1. Limitations intrinsic to the use of environments	4	6.4. The <code>\etocthenname</code> , <code>\etocthenumber</code> , and <code>\etocthepage</code> commands	17
2. Line styles and toc display style	4	6.5. The <code>\etoclink</code> command	17
2.1. <code>\etocsettocstyle</code> for the toc display	5	6.6. The <code>\etocsetlevel</code> command	18
2.2. <code>\etocsetstyle</code> for the line styles	5	6.6.1. This is a (pale) red subsubsection for illustrative purposes	18
2.3. Compatibility mode	5		
3. Arbitrarily many TOCs, and local ones too	6	7. Am I also red?	19
3.1. Labeling and reusing elsewhere	6	8. A comparison	19
3.2. The <code>hyperref</code> option <code>bookmarksdepth</code>	6	III. Package commands for toc display styles	23
3.3. On manually adding layout commands to the <code>.toc</code> file	7	9. Specifying the toc display style	23
3.4. Shuffling the levels with <code>\etocsetlevel</code>	7	9.1. The command <code>\etocruledstyle</code>	23
3.5. Local table of contents for this part	8	9.2. The command <code>\etocmulticolstyle</code>	24
4. A simple example	9	9.2.1. The command <code>\etoc-tocstyle</code>	24
5. Surprising uses of <code>etoc</code>	11	9.2.1.1. <code>\etoc-tocstyle-with-marks</code> .	24
5.1. The TOC of TOCs	11	9.2.1.2. Do we really want paragraph entries in the TOC? .	24
5.2. Arbitrary “Lists Of...” . . .	12	9.2.1.3. really? .	24
5.3. A TOC with a fancy layout	13	9.3. The command <code>\etocruled</code>	25
II. Package commands for line styles	15	9.4. The commands <code>\etocframedstyle</code> and <code>\etocframed</code>	25
6. The <code>\etocsetstyle</code> command	15		
6.1. The <code>\etocname</code> and <code>\etocthepage</code> commands	15		
6.2. The <code>\etocskipfirstprefix</code> command	16		

8. A comparison

9.5. Headings, titles, <code>\etocin-</code> <code>nertopsep</code>	25	12.4. Labels and references	31
9.6. The command <code>\etocset-</code> <code>tocstyle</code>	26	12.5. An example	31
9.7. The compatibility mode <code>\etocstandarddisplay-</code> <code>style</code>	26	13. Customizing <code>etoc</code>	33
10. Starred variants of the <code>\table-</code> <code>ofcontents</code> etc... commands	26	13.1. Customizing the <code>etoc</code> pre- defined line styles	33
11. Table of contents for this part	27	13.2. Customizing the toc dis- play styles	34
11.1. Testing the compatibility mode	27	V. Tips	36
11.2. A framed display	27	14. ... and tricks	36
11.3. A (crazy) inline display . .	29	14.1. Hacking framed parboxes .	36
IV. Using and customizing <code>etoc</code>	30	14.2. Interverting the levels . . .	36
12. Summary of the main style com- mands	30	14.3. All subsections of this doc- ument	37
12.1. Setting up local styles . . .	30	14.4. Compatibility with other packages	38
12.2. Setting up toc display styles	30	14.5. \TeX nicl matters	38
12.3. Displaying tables of contents	31	14.6. Errors and catastrophes . .	38
		VI. The code	39
		15. Implementation	39

We then switch to our set-up from the previous part and add to it:

```
\etocsetstyle{part}
{\begin{enumerate}[label=\etocnumber,leftmargin=1.5em]}
{\etocfontminusone\item}
{\etocname}
{\end{enumerate}}
\tableofcontents \label{toc:test} \ref{toc:main}
```

This is the global table of contents using quickly defined (and easily improvable) enumerate environments for part, section and subsection, and an ad hoc in-line italic style for subsubsection.

I Overview

(page 4)

1 Initial motivation: nested lists (page 4)

1.1 Limitations intrinsic to the use of environments (p. 4)

2 Line styles and toc display style

2.1 `\etocsettocstyle` for the toc display (p. 5)

2.2 `\etocsetstyle` for the line styles (p. 5)

2.3 Compatibility mode (p. 5)

3 Arbitrarily many TOCs, and local ones too (page 6)

- 3.1 Labeling and reusing elsewhere (p. 6)
- 3.2 The hyperref option *bookmarks-depth* (p. 6)
- 3.3 On manually adding layout commands to the .toc file (p. 7)
- 3.4 Shuffling the levels with `\etocsetlevel` (p. 7)
- 3.5 Local table of contents for this part (p. 8)

4 A simple example (page 9)

5 Surprising uses of **etoc** (page 11)

- 5.1 The TOC of TOCs (p. 11)
- 5.2 Arbitrary “Lists Of...” (p. 12)
- 5.3 A TOC with a fancy layout (p. 13)

II Package commands for line styles

6 The `\etocsetstyle` command (page 15)

- 6.1 The `\etocname` and `\etocpage` commands (p. 15)
- 6.2 The `\etocskipfirstprefix` command (p. 16)
- 6.3 The `\etocnumber` command (p. 16)
The `\etocifnumbered` switch.
- 6.4 The `\etocthenname`, `\etocthenumber`, and `\etocthepage` commands (p. 17)
- 6.5 The `\etoclink` command (p. 17)
- 6.6 The `\etocsetlevel` command (p. 18)

This is a (pale) red subsubsection for illustrative purposes.

7 Am I also red? (page 19)

8 A comparison (page 19)

III Package commands for toc display styles

9 Specifying the toc display style (page 23)

- 9.1 The command `\etocruledstyle` (p. 23)
- 9.2 The command `\etocmulticolstyle` (p. 24)
The command `\etocstocstyle`.
- 9.3 The command `\etocruled` (p. 25)
- 9.4 The commands `\etocframedstyle` and `\etocframed` (p. 25)
- 9.5 Headings, titles, `\etocinner-topsep` (p. 25)
- 9.6 The command `\etocsettocstyle` (p. 26)
- 9.7 The compatibility mode `\etocstandarddisplaystyle` (p. 26)

10 Starred variants of the `\tableofcontents` etc... commands (page 26)

11 Table of contents for this part (page 27)

- 11.1 Testing the compatibility mode (p. 27)
- 11.2 A framed display (p. 27)
- 11.3 A (crazy) inline display (p. 29)

IV Using and customizing **etoc**

12 Summary of the main style commands (page 30)

- 12.1 Setting up local styles (p. 30)
- 12.2 Setting up toc display styles (p. 30)
- 12.3 Displaying tables of contents (p. 31)
- 12.4 Labels and references (p. 31)
- 12.5 An example (p. 31)

13 Customizing **etoc** (page 33)

- 13.1 Customizing the **etoc** pre-defined line styles (p. 33)
- 13.2 Customizing the toc display styles (p. 34)

V Tips

14 ... and tricks (page 36)

14.1 Hacking framed parboxes (p. 36)

14.2 Interverting the levels (p. 36)

14.3 All subsections of this document
(p. 37)

14.4 Compatibility with other pack-
ages (p. 38)

14.5 T_EXnical matters (p. 38)

14.6 Errors and catastrophes (p. 38)

VI The code

15 Implementation (page 39)

Part III.

Package commands for toc display styles

```
\setcounter{tocdepth}{-3}  
\localtableofcontents \label{toc:globalcmds}
```

9. Specifying the toc display style

The *toc display* style says whether the TOC appears with multiple columns or just one, whether the title is typeset as in the `article` or `book` class, or should be centered above the entries, with rules on its sides, or if the entire TOC should be put in a frame. For example, to opt for a ruled heading and single column layout, one issues commands of the following type:

```
\etocruledstyle[1]{Title}  
  \tableofcontents (or \localtableofcontents)  
shortcuts:  
  \etocruled[1]{Title} (or \etoclocalruled[1]{Title})
```

9.1. The command `\etocruledstyle`

The general format of `\etocruledstyle` is:

```
\etocruledstyle[number of columns]{title of the toc}
```

Note that the title is horizontal material, if it does not fit on one line it should be put in a `\parbox` of a given width. We did this and even enclosed the parboxes in `\fbox`s to get frames around them. For the example with the standard formatting we did not use an `\fbox` and got rid of the horizontal rules via:

```
\renewcommand{\etocstoprule}{\hrule height 0pt}
```

The green frame for the heading of the table of contents at the [start of the second part of this document](#) was obtained with:

```
\etocruledstyle[1]{\etocfontminusone\color{green}%
```

9. Specifying the toc display style

```
\fboxrule1pt\fboxsep1ex
\framebox[\linewidth]
{\normalcolor\hss Contents of this second part\hss}}
```

9.2. The command `\etocmulticolstyle`

This is also a command with one optional and one mandatory argument:

`\etocmulticolstyle[<number_of_columns>]{<heading>}`

The *<number_of_columns>* can go from 1 to 10 (it defaults to 2, and from 2 on is passed to a `multicols` environment). The *<heading>* should be some ‘vertical’ material like:

<heading> = `\section*{<title>}`

[*New with 1.07*] An explicit `\par` not being accepted in the *<heading>* argument (this is actually a restriction originating in the `multicols` environment), an implicit one is automatically added by `etoc` at the end of the argument, as in this example which shows how the main table of contents of this document was configured:

```
\etocmulticolstyle{\noindent\bfseries\Large
\leaders\hrule height1pt\hfill
\MakeUppercase{Table of Contents}}
```

After `\etocmulticolstyle` all future `\tableofcontents` will use the specified style, if not changed in-between. A shortcut for just one table of contents and not affecting the styles of later TOCs is:

`\etocmulticol[<number_of_columns>]{<heading>}`

And there is also `\etoclocalmulticol[<number_of_columns>]{<heading>}`.

9.2.1. The command `\etocstyle`

`\etocstyle[<kind>]{<number_of_columns>}{<title>}`
= `\etocmulticolstyle[number_of_columns]{\kind*{title}}`

where *kind* is one of `chapter`, `section`, ... and defaults to `chapter` or `section` depending on the document class.

9.2.1.1. `\etocstylewithmarks` [*<kind>*] [*<number_of_columns>*] [*<title>*] [*<mark>*]
= `\etocmulticolstyle[number_of_columns]{\kind*{title \markboth{\MakeUppercase{mark}}}}`

where *kind* is one of `chapter`, `section`, ... The actual display of the marks depends on the settings of the page style. There is variant `\etocstylewithmarksnouc` which does not uppercase.

9.2.1.2. Do we really want paragraph entries in the TOC?

9.2.1.3. really?

9.3. The command `\etocruled`

As a shortcut to set the style with `\etocruledstyle` and then issue a `\tableofcontents`, all inside a group so that future table of contents will not be affected, there is:

`\etocruled[⟨number_of_columns⟩]{⟨title⟩}`

And the local form will be `\etoclocalruled`.

9.4. The commands `\etocframedstyle` and `\etocframed`

Same mechanism:

`\etocframedstyle[⟨number_of_columns⟩]{⟨title⟩}`

and the accompanying shortcut:

`\etocframed[⟨number_of_columns⟩]{⟨title⟩}`

Here the entire table of contents is framed, hence this can only work if it fits on a page. Note that the title itself is not framed, if one wants a frame one should set it up inside the `⟨title⟩` argument to `\etocframedstyle` or `\etocframed`. There is also `\etoclocalframedstyle` and `\etoclocalframed`.

9.5. Headings, titles, `\etocinnertopsep`

[*modified in v1.07*] There is a slight difference between `\etocmulticolstyle` and `\etocruledstyle` or `\etocframedstyle`. For `\etocmulticolstyle` the mandatory `⟨heading⟩` argument can be something like: `\section*{Table of Contents}`. On the contrary `\etocruledstyle` and `\etocframedstyle` expect an argument “in LR mode” (to use the terminology from the *LaTeX, a document preparation system*). This means that multiline contents arguments to `\etocruledstyle` or `\etocframedstyle` must be enclosed in something like a `\parbox`.

[*new in v1.07*] The command `\etocmulticolstyle` now also accepts horizontal mode material in its mandatory argument `⟨heading⟩`: it internally automatically adds a closing `\par`. So one can use for example `\etocmulticolstyle{Hello World}`. Speaking of `\par`, there is a `multicols` aspect which has nothing to do with **etoc**, the input on the left creates a compilation error:

<pre>\begin{multicols}{2}[hello\par world] someone here? \end{multicols}</pre>	<pre>\let\oldpar\par \begin{multicols}{2}[hello\oldpar world] at least me. \end{multicols}</pre>
--	--

But the code on the right does not. So the package provides `\etocoldpar` as a substitute for `\par` (it executes `\let\etocoldpar\par` just before starting the `multicols` environment and automatically add it to close the heading, and before the vertical skip of value `\etocinnertopsep`).¹² The command `\etocoldpar` can also be used explicitly in the mandatory argument to `\etocmulticolstyle`.

An important dimension used by all three of `\etocmulticolstyle`, `\etocruledstyle` and `\etocframedstyle` is `\etocinnertopsep`. It gives the amount of separation

¹²this command `\etocoldpar` (= working `\par` in the argument to `\etocmulticolstyle`) is not related to the switch `\etocnopar` whose purpose is to tell **etoc** not to do a `\par` before the table of contents.

10. Starred variants of the `\tableofcontents` etc... commands

between the heading and the start of the contents. Its default value is 2ex and it is changed by `\renewcommand*{\etocinnertopsep}{\langle new_value \rangle}`, not with `\setlength`.

9.6. The command `\etocsettocstyle`

This is a command with two mandatory arguments:

`\etocsettocstyle{\langle before_toc \rangle}{\langle after_toc \rangle}`

The `{\langle before_toc \rangle}` part is responsible for typesetting the heading, for example it can be something like `\section*{\contentsname}`.

Generally speaking this heading should leave \TeX in vertical mode when the actual typesetting of the contents will start: the line styles (either from the standard classes or the package default line styles) expect to start in ‘vertical mode’.

It can also contain instructions to mark the page headings. Or it could check (book class) to see if two-column mode is on, and switch to one-column style, and the `\langle after_toc \rangle` part would then reenact the two-column mode.

The previously described commands `\etocmulticolstyle`, `\etocruledstyle`, and `\etocframedstyle` actually call `\etocsettocstyle` as a lower-level routine, and start a `multicols` environment in `{\langle before_toc \rangle}` to close it in `{\langle after_toc \rangle}`.

9.7. The compatibility mode `\etocstandarddisplaystyle`

etoc will then emulate what the document class would have done regarding the global display style of the table of contents, in its absence. All customizing from inside the class should be obeyed, too.

10. Starred variants of the `\tableofcontents` etc... commands

The `\tableofcontents`, `\localtableofcontents`, `\etocmulticol`, etc... have starred variants (the star must be before the other arguments). For all but the `memoir` class, they are like the original. For the `memoir` class, the original prints an entry in the `.toc` file, as is the usage for the original `\tableofcontents` command in that class, whereas the starred variants do not, as is the habit in that class.

As soon as one starts using local table of contents one discovers that the default `memoir` thing which is to create a `chapter` entry for each TOC is not convenient. The command `\etocmemoirtotocfmt{\langle kind \rangle}{\langle name \rangle}` will change the format (`\langle kind \rangle` is `chapter`, `section`, `subsection`... and `\langle name \rangle` can be for example `\contentsname`.) The initial set-up is with `chapter` and `\contentsname`.

The format of the actual heading of the TOC should also be set appropriately (for example with `\etocstyle`), to use the identical division unit as in the first argument to `\etocmemoirtotocfmt`.

A weird situation arises when one has two successive `\localtableofcontents` (obviously this is not a truly real life situation), just after a `\part` for example. The first one creates (if the default has not been modified as indicated above) a `Chapter` heading which is written to the `.toc`. Then the second one thinks to be local to this chapter . . . and as a result it displays nothing. The fix is to define the second one to be a clone of the first one.

11. Table of contents for this part

Independently of the situation with the `memoir` class there is generally speaking a hook macro called `\etocaftertitlehook` which is inhibited by using the starred variants of the displaying commands. Except for the `memoir` class, this hook is initially defined to do nothing. There is also `\etocaftercontentshook`, similarly defined to do nothing. They can be used for some special effects.

11. Table of contents for this part

11.1. Testing the compatibility mode

As a third example we now print the local table of contents for this part. First we will test the compatibility mode.¹³ The original was invisibly defined with a label at the beginning of this part III.

```
\KOMAoptions{toc=left}
\etocstandarddisplaystyle % necessary for the display to obey toc=left
\etocstandardlines
\setcounter{tocdepth}{3}
\tableofcontents \ref{toc:globalcmds}
```

Contents

9. Specifying the toc display style	23
9.1. The command <code>\etocruledstyle</code>	23
9.2. The command <code>\etocmulticolstyle</code>	24
9.2.1. The command <code>\etoctocstyle</code>	24
9.3. The command <code>\etocruled</code>	25
9.4. The commands <code>\etocframedstyle</code> and <code>\etocframed</code>	25
9.5. Headings, titles, <code>\etocinnertopsep</code>	25
9.6. The command <code>\etocsettocstyle</code>	26
9.7. The compatibility mode <code>\etocstandarddisplaystyle</code>	26
10. Starred variants of the <code>\tableofcontents</code> etc... commands	26
11. Table of contents for this part	27
11.1. Testing the compatibility mode	27
11.2. A framed display	27
11.3. A (crazy) inline display	29

11.2. A framed display

We now opt for a “framed” style, using the package default line styles and some colors added.

¹³the present document uses the `scrartcl` class, and we check here that the `etoc` compatibility mode does respect the customizing done via the class commands.

*This is a table of contents à la **etoc**, but just for the sections and subsections in this part. As it is put in a frame, it has to be small enough to fit on the current page. It has the label `toc:b`.*

Specifying the toc display style

... 9, p. 23

The command `\etocruledstyle`

... 9.1, p. 23

The command `\etocmulticol-`

`style` ... 9.2, p. 24

The command `\etocstyle`.

The command `\etocruled` . .

... 9.3, p. 25

The commands `\etocframed-`

`style` and `\etocframed` . . .

... 9.4, p. 25

Headings, titles, `\etocinner-`

`topsep` . . . 9.5, p. 25

The command `\etocsettocstyle`

... 9.6, p. 26

The compatibility mode `\etoc-`

`standarddisplaystyle` . . .

... 9.7, p. 26

Starred variants of the `\table-`

`ofcontents` etc... commands

... 10, p. 26

Table of contents for this part

... 11, p. 27

Testing the compatibility mode

... 11.1, p. 27

A framed display . . 11.2, p. 27

A (crazy) inline display

... 11.3, p. 29

```
\etocdefaultlines
\begingroup % we use a group to limit the scope of the next commands
\renewcommand{\etoccolumnsep}{3em}
\renewcommand{\etocinnerleftsep}{2em}
\renewcommand{\etocinnerrightsep}{2em}
% specify a background color for the toc contents
\renewcommand{\etocbkgcolorcmd}{\color{yellow!10}}
%\renewcommand{\etocbkgcolorcmd}{\relax}
% set up the top and bottom rules
\renewcommand{\etoctoprule}{\hrule height 1pt}
\renewcommand{\etoctoprulecolorcmd}{\color{red!25}}
\renewcommand{\etocbottomrule}{\hrule height 1pt}
\renewcommand{\etocbottomrulecolorcmd}{\color{red!25}}
% set up the left and right rules
\renewcommand{\etocleftrule}{\vrule width 5pt}
\renewcommand{\etocrightrule}{\vrule width 5pt}
\renewcommand{\etocleftrulecolorcmd}{\color{red!25}}
\renewcommand{\etocrightrulecolorcmd}{\color{red!25}}
% use \fcolorbox to set up a colored frame for the title
\fbxrule1pt
\etocframedstyle{\normalsize\rmfamily\itshape
  \fcolorbox{red}{white}{\parbox{.8\linewidth}{\centering
    This is a table of contents \a la \etoc, but just for
    the sections and subsections in this part. As it is put
    in a frame, it has to be small enough to fit on the
    current page. It has the label |toc:b|.}}}}
% set up a label for future (or earlier...) reference
\setcounter{tocdepth}{3}
\tableofcontents \label{toc:b} \ref{toc:globalcmds}
```

\endgroup

11.3. A (crazy) inline display

Let us finally make some crazy inline display of the table of contents of this entire document. We will typeset the subsections as footnotes... This kind of style is suitable for a hyperlinked document, not for print!

Here is the inline table of contents. **Overview:** *Initial motivation: nested lists¹⁴, Line styles and toc display style¹⁵, Arbitrarily many TOCs, and local ones too¹⁶, A simple example, Surprising uses of **etoc**¹⁷.* **Package commands for line styles:** *The \etocsetstyle command¹⁸, Am I also red?, A comparison.* **Package commands for toc display styles:** *Specifying the toc display style¹⁹, Starred variants of the \tableofcontents etc... commands, Table of contents for this part²⁰.* **Using and customizing etoc:** *Summary of the main style commands²¹, Customizing etoc²².* **Tips:** *... and tricks²³.* **The code:** *Implementation.*

```
\begingroup
\setcounter{tocdepth}{3}
\newsavebox{\forsubsections}
\etocsetstyle{part}{\etocskipfirstprefix}{. \upshape}{\bfseries\etocname:~}{\}
\etocsetstyle{section}{\itshape\etocskipfirstprefix}{, }{\mdseries\etocname}{\}
\etocsetstyle{subsection}
  {\begin{lrbox}{\forsubsections}\upshape\etocskipfirstprefix}
  {; }
  {\etocname}
  {\end{lrbox}\footnote{\unhbox\forsubsections.}}
\etocsetstyle{subsubsection}{(\itshape\etocskipfirstprefix}
  {, }{\etocname}{\}\upshape)}
\etocsettocstyle{Here is the inline table of contents. }{.\par}
\tableofcontents
\endgroup
```

¹⁴Limitations intrinsic to the use of environments.

¹⁵\etocsettocstyle for the toc display; \etocsetstyle for the line styles; Compatibility mode.

¹⁶Labeling and reusing elsewhere; The hyperref option *bookmarksdepth*; On manually adding layout commands to the .toc file; Shuffling the levels with \etocsetlevel; Local table of contents for this part.

¹⁷The TOC of TOCs; Arbitrary “Lists Of...”; A TOC with a fancy layout.

¹⁸The \etocname and \etocpage commands; The \etocskipfirstprefix command; The \etocnumber command (*The \etocifnumbered switch*); The \etocthenname, \etocthenumber, and \etocthepage commands; The \etoclink command; The \etocsetlevel command (*This is a (pale) red subsubsection for illustrative purposes*).

¹⁹The command \etocruledstyle; The command \etocmulticolstyle (*The command \etoc tocstyle*); The command \etocruled; The commands \etocframedstyle and \etocframed; Headings, titles, \etocinnertopsep; The command \etocsettocstyle; The compatibility mode \etocstandarddisplaystyle.

²⁰Testing the compatibility mode; A framed display; A (crazy) inline display.

²¹Setting up local styles; Setting up toc display styles; Displaying tables of contents; Labels and references; An example.

²²Customizing the etoc pre-defined line styles; Customizing the toc display styles.

²³Hacking framed parboxes; Interverting the levels; All subsections of this document; Compatibility with other packages; T_EXnical matters; Errors and catastrophes.

Part IV.

Using and customizing **etoc**

This is a table of contents for the sections and subsections in this part. It carries the label `toc:c`

Summary of the main style commands 12, p. 30	Labels and references . . . 12.4, p. 31
Setting up local styles . . . 12.1, p. 30	An example 12.5, p. 31
Setting up toc display styles 12.2, p. 30	Customizing etoc 13, p. 33
Displaying tables of contents 12.3, p. 31	Customizing the etoc pre-defined line styles 13.1, p. 33
	Customizing the toc display styles 13.2, p. 34

12. Summary of the main style commands

12.1. Setting up local styles

```
\etocsetstyle{\levelname}{\start}{\prefix}{\contents}{\finish}  
\etocname, \etocnumber, \etocpage, \etocifnumbered{\A}{\B}  
\etocthenname, \etocthenumber, \etocthepage, \etoclink
```

12.2. Setting up toc display styles

```
\etocmulticolstyle[\number_of_columns]{\heading}  
\etocstyle[\kind]{\number_of_columns}{\title}  
\etocstylewithmarks[\kind]{\number_of_columns}{\title}{\mark}  
\etocstylewithmarksnouc[\kind]{\number_of_columns}{\title}{\mark}  
\etocruledstyle[\number_of_columns]{\title}  
\etocframedstyle[\number_of_columns]{\title}  
\etocsettocstyle{\before_toc}{\after_toc}
```

12.3. Displaying tables of contents

```
\tableofcontents
\localtableofcontents
\etocmulticol[⟨number_of_columns⟩]{⟨heading⟩}
\etoclocalmulticol[⟨number_of_columns⟩]{⟨heading⟩}
\etocruled[⟨number_of_columns⟩]{⟨title⟩}
\etoclocalruled[⟨number_of_columns⟩]{⟨title⟩}
\etocframed[⟨number_of_columns⟩]{⟨title⟩}
\etoclocalframed[⟨number_of_columns⟩]{⟨title⟩}
and their starred variants
```

12.4. Labels and references

The commands (starred or not) to actually display the table of contents can be followed with optional labels or references:

```
\tableofcontents \label{toc:here}
\tableofcontents \ref{toc:far}
\tableofcontents \label{toc:here} \ref{toc:far}
\localtableofcontents \label{toc:here}
similarly with \etocmulticol etc . . .
```

The commands for local tables of contents do *not* react to a `\ref` following them.

When re-displaying another toc, only its contents are transferred: both the line styles and the toc display style are the ones currently defined, not the ones from the cloned toc.

12.5. An example

I got motivated by a question²⁴ I saw on the T_EX StackExchange site. I copied the color RGB specifications from an answer which had been provided to the question. The `\etocframedstyle` puts the title on the top rule in a centered position. This is not very convenient for this example so we included the title as part of the `⟨start⟩` code at section level, to get it *inside* the frame.

```
\setcounter{tocdepth}{3}
\begingroup
\definecolor{subsecnum}{RGB}{13,151,225}
\definecolor{secbackground}{RGB}{0,177,235}
\definecolor{tocbackground}{RGB}{212,237,252}

\renewcommand{\etocbkgcolorcmd}{\color{tocbackground}}
\renewcommand{\etoclefttrulecolorcmd}{\color{tocbackground}}
\renewcommand{\etocrighttrulecolorcmd}{\color{tocbackground}}
\renewcommand{\etocbottomrulecolorcmd}{\color{tocbackground}}
\renewcommand{\etoctoprerulecolorcmd}{\color{tocbackground}}
```

²⁴tex.stackexchange.com/questions/83184

12. Summary of the main style commands

```

\renewcommand{\etoclefttrule}{\vrule width 1cm}
\renewcommand{\etocrighttrule}{\vrule width .5cm}
\renewcommand{\etocbottomrule}{\hrule height 12pt}
\renewcommand{\etocbottomrule}{\hrule height 12pt}

\renewcommand{\etocinnertopsep}{0pt}
\renewcommand{\etocinnerbottomsep}{0pt}
\renewcommand{\etocinnerleftsep}{0pt}
\renewcommand{\etocinnerrightsep}{0pt}

\newcommand\shiftedwhiterule[2]{%
  \hbox to \linewidth{\color{white}%
    \hspace{1pt}\leaders\vrule height1pt\hfil}\nointerlineskip
  \vskip#2}

\etocsetstyle{subsubsection}{\etocskipfirstprefix}
{\shiftedwhiterule{\leftskip}{6pt}}
{\sffamily\footnotesize
  \leftskip2.5cm\hangindent1cm\rightskip1cm\noindent
  \hbox to 1cm{\color{subsecnum}\etocnumber\hss}%
  \color{black}\etocname\leaders\hbox to .2cm{\hss.}\hfill
  \rlap{\hbox to 1cm{\hss\etocpage\hskip.2cm}}\par
  \nointerlineskip\vskip3pt}
{}}

\etocsetstyle{subsection}{\etocskipfirstprefix}
{\shiftedwhiterule{1.5cm}{6pt}}
{\sffamily\small
  \leftskip1.5cm\hangindent1cm\rightskip1cm\noindent
  \hbox to 1cm{\color{subsecnum}\etocnumber\hss}%
  \color{black}\etocname\leaders\hbox to .2cm{\hss.}\hfill
  \rlap{\hbox to 1cm{\hss\etocpage\hskip.2cm}}\par
  \nointerlineskip\vskip6pt}
{}}

\newcommand{\coloredstuff}[2]{%
  \leftskip0pt\rightskip0pt\parskip0pt
  \fboxsep0pt % \colorbox uses \fboxsep also when no frame!
  \noindent\colorbox{secbackground}
    {\parbox{\linewidth}{%
      \vskip5pt
      {\noindent\color{#1}#2\par\nointerlineskip}
      \vskip3pt}}%
  \par\nointerlineskip}

\etocsetstyle{section}
{\coloredstuff{white}
  {\hfil \hyperref[toc:b]{\bfseries\large I am a twin of
    that other TOC (click me!)}\hfil}}
{\vskip3pt\sffamily\small}
{\coloredstuff{white}{\hbox to 1.5cm{\hss\etocnumber\hskip.2cm}%
  \etocname\hfill\hbox{\etocpage\hskip.2cm}}\vskip6pt}
{}}

\etocframedstyle[1]{}
\tableofcontents \label{toc:clone} \ref{toc:globalcmds}
\endgroup

```


13. Customizing **etoc**

The coding is a bit involved²⁵ as it does not use any additional package. A better solution would be to use some package to set up a background color possibly extending accross pages, as the framed style (which we used to get this background color) can only deal with material short enough to fit on one page.

Regarding colors, generally speaking all color commands inside **etoc** are initially defined to do nothing, and the choice to use or not colors is left to the user.

I am a twin of that other TOC (click me!)		
9	Specifying the toc display style	23
9.1	The command <code>\etocruledstyle</code>	23
9.2	The command <code>\etocmulticolstyle</code>	24
9.2.1	The command <code>\etocstocstyle</code>	24
9.3	The command <code>\etocruled</code>	25
9.4	The commands <code>\etocframedstyle</code> and <code>\etocframed</code> ..	25
9.5	Headings, titles, <code>\etocinnertopsep</code>	25
9.6	The command <code>\etocsettocstyle</code>	26
9.7	The compatibility mode <code>\etocstandarddisplaystyle</code> ..	26
10	Starred variants of the <code>\tableofcontents</code> etc... commands	26
11	Table of contents for this part	27
11.1	Testing the compatibility mode	27
11.2	A framed display	27
11.3	A (crazy) inline display	29

13. Customizing **etoc**

13.1. Customizing the **etoc** pre-defined line styles

We will simply list the relevant commands as defined in the package. Customizing them goes through suitable `\renewcommands`:

```
\newcommand*\etocfontminustwo{\normalfont \LARGE \bfseries}
\newcommand*\etocfontminusone{\normalfont \large \bfseries}
\newcommand*\etocfontzero{\normalfont \large \bfseries}
\newcommand*\etocfontone{\normalfont \normalsize \bfseries}
\newcommand*\etocfonttwo{\normalfont \normalsize}
\newcommand*\etocfontthree{\normalfont \footnotesize}
```

²⁵and reveals the author's preference for the T_EX syntax...

13. Customizing *etoc*

```
\newcommand*\etocsepminustwo{4ex plus .5ex minus .5ex}
\newcommand*\etocsepminusone{4ex plus .5ex minus .5ex}
\newcommand*\etocsepzero{2.5ex plus .4ex minus .4ex}
\newcommand*\etocseppone{1.5ex plus .3ex minus .3ex}
\newcommand*\etocseptwo{1ex plus .15ex minus .15ex}
\newcommand*\etocsepthree{.25ex plus .05ex minus .05ex}

\newcommand*\etocminustwoleftmargin{1.5em plus 0.5fil}
\newcommand*\etocminustworightmargin{1.5em plus -0.5fil}
\newcommand*\etocminusoneleftmargin{1em}
\newcommand*\etocminusonerightmargin{1em}

\newcommand*\etocbaselinespreadminustwo{1}
\newcommand*\etocbaselinespreadminusone{1}
\newcommand*\etocbaselinespreadzero{1}
\newcommand*\etocbaselinespreadone{1}
\newcommand*\etocbaselinespreadtwo{1}
\newcommand*\etocbaselinespreadthree{.9}

\newcommand*\etocclineleaders
{\hbox{\normalfont\normalsize\hbox to 2ex {\hss.\hss}}}

\newcommand*\etocabbrevpagename{p.~}
\newcommand*\etocpartname{\partname}
\newcommand*\etocbookname{Book}
```

No customizing of the standard line styles is possible from within *etoc*. As already explained, when `\etocstandardlines` has been issued, the package just makes itself very discrete and acts only at the global level, and the TOC entries are (hopefully) formatted as would have happened in the absence of *etoc*.²⁶

The `\etocstandardlines` compatibility mode will work also with sectioning commands made known to *etoc* via `\etocsetlevel`, under the condition of course that these sectioning commands are accompanied with all the relevant definitions for typesetting toc entries in the L^AT_EX default manner (existence of the macros `\l@something . . .`).

Using the command `\etocsetstyle`, be it in the preamble or in the body of the document, has the secondary effect of switching off the compatibility mode.

13.2. Customizing the toc display styles

Again we list the relevant macros, what they do should be legible from their names. Note that `\renewcommand`'s and not `\setlength`'s have to be used for what appear to be lengths, and that color commands are not just color specifications, they must include `\color`, and are canceled by re-defining them to do `\relax`.

```
\newcommand*\etocabovetocskip{3.5ex plus 1ex minus .2ex}
\newcommand*\etocbelowntocskip{3.5ex plus 1ex minus .2ex}
```

²⁶with the KOMA-script classes, we noticed that `\etocstandarddisplaystyle` was apparently needed for the KOMA options `toc=left` to be active at the level of the line entries.

13. Customizing *etoc*

```
\newcommand*\etoccolumnsep{2em}
\newcommand*\etocmulticolsep{0ex}
\newcommand*\etocmulticolpretolerance{-1}
\newcommand*\etocmulticoltolerance{200}
\newcommand*\etocdefaultnbcol{2}
\newcommand*\etocinnertopsep{2ex}
\newcommand*\etoctoprule{\hrule}
\newcommand*\etoctoprulecolorcmd{\relax}

% for the framed style only:
\newcommand*\etocinnerleftsep{2em}
\newcommand*\etocinnerrightsep{2em}
\newcommand*\etocinnerbottomsep{3.5ex}

\newcommand*\etocleftrule{\vrule}
\newcommand*\etocrightrule{\vrule}
\newcommand*\etocbottomrule{\hrule}
\newcommand*\etocleftrulecolorcmd{\relax}
\newcommand*\etocrightrulecolorcmd{\relax}
\newcommand*\etocbottomrulecolorcmd{\relax}

\newcommand*\etocbkgcolorcmd{\relax}

% hooks
\newcommand\etocframedmphook{\relax}
```

The `\etocframedmphook` is positioned immediately after the beginning of a minipage environment where the contents of the framed TOC are typeset.

The `\dotscolorcmd` things are initially set to be `\relax`, so there is no need to do `\usepackage{color}` if the document does not use colors. If the scope of a change to a color command such as `\etocbkgcolorcmd` has not been limited to a group and one then wishes to let it again be `\relax` one must use a `\renewcommand` and not `\let\etocbkgcolorcmd\relax`.

Regarding the dimensions of the top rule they can be specified in ex's or em's as in this example:

```
\renewcommand{\etoctoprule}{\hrule height 1ex}
```

The package code is done in such a manner that it is the font size in instance at the end of typesetting the title argument to `\etocruledtoc` or `\etocframedtoc` which will be used for the meaning of the '1ex'. Of course also the other rule commands can have their dimensions in font relative units, but their values are decided on the basis of the font in effect just before the table of contents.

The top and bottom rules do not have to be rules and can be horizontal *leaders* (of a specified height) in the general T_EX sense. However the left and right rules are not used as (horizontal) leaders but as objects of a given specified width. Note that *only* the Plain T_EX syntax for rules is accepted here.

Part V.

Tips

14. ... and tricks

14.1. Hacking framed parboxes

```
\renewcommand\etocstoprule{\hrule height 2pt depth 2pt}
\etocruled{\color{green}\fboxrule2pt\fboxsep1ex
  \fbox{\raisebox{-\fontdimen22\textfont2}
    {\color{blue}\parbox{.5\linewidth}
      {\normalfont This text is perfectly centered
        vertically with respect to the
        surrounding horizontal rules.}}}}
\ref{toc:globalcmds}
```

This text is perfectly centered vertically with respect to the surrounding horizontal rules.

Specifying the toc display style	The command <code>\etocsettocstyle</code>
9, p. 23	9.6, p. 26
The command <code>\etocruledstyle</code>	The compatibility mode <code>\etocstandarddisplaystyle</code>
9.1, p. 23	9.7, p. 26
The command <code>\etocmulticolstyle</code>	Starred variants of the <code>\tableofcontents</code> etc... commands
9.2, p. 24	10, p. 26
The command <code>\etocstyle</code> .	
The command <code>\etocruled</code>	Table of contents for this part
9.3, p. 25	11, p. 27
The commands <code>\etocframedstyle</code> and <code>\etocframed</code>	Testing the compatibility mode
9.4, p. 25	11.1, p. 27
Headings, titles, <code>\etocinnertopsep</code>	A framed display
9.5, p. 25	11.2, p. 27
	A (crazy) inline display
	11.3, p. 29

14.2. Interverting the levels

Let us display and count all subsections occurring in this document (see section 5 for other uses of this technique):

```
\setcounter{tocdepth}{2}
\etocsetlevel{part}{3}
\etocsetlevel{section}{3}
\etocsetstyle{subsection}{\begin{enumerate}[itemsep=0pt,%
label=,leftmargin=0pt]}
{\normalfont\bfseries\item}
{\roman{enumi}. \normalfont\etocname{ } (\etocnumber, p.\~\etocpage)}
```

```
{\end{enumerate}}
\renewcommand{\etoccolumnsep}{2.75em}
\renewcommand{\columnseprule}{1pt}
\etocmarkbothnouc{List of all subsections}
\etocmulticol[3]{\subsection{All subsections of this document}}
\setcounter{tocdepth}{3}
```

14.3. All subsections of this document

- | | | |
|---|---|---|
| <p>i. Limitations intrinsic to the use of environments (1.1, p. 4)</p> <p>ii. <code>\etocsettocstyle</code> for the toc display (2.1, p. 5)</p> <p>iii. <code>\etocsetstyle</code> for the line styles (2.2, p. 5)</p> <p>iv. Compatibility mode (2.3, p. 5)</p> <p>v. Labeling and reusing elsewhere (3.1, p. 6)</p> <p>vi. The hyperref option <code>bookmarksdepth</code> (3.2, p. 6)</p> <p>vii. On manually adding layout commands to the .toc file (3.3, p. 7)</p> <p>viii. Shuffling the levels with <code>\etocsetlevel</code> (3.4, p. 7)</p> <p>ix. Local table of contents for this part (3.5, p. 8)</p> <p>x. The TOC of TOCs (5.1, p. 11)</p> <p>xi. Arbitrary “Lists Of...” (5.2, p. 12)</p> <p>xii. A TOC with a fancy layout (5.3, p. 13)</p> <p>xiii. The <code>\etocname</code> and <code>\etocpage</code> commands (6.1, p. 15)</p> <p>xiv. The <code>\etocskipfirstprefix</code> command (6.2, p. 16)</p> | <p>xv. The <code>\etocnumber</code> command (6.3, p. 16)</p> <p>xvi. The <code>\etocthename</code>, <code>\etocthenumber</code>, and <code>\etocthepage</code> commands (6.4, p. 17)</p> <p>xvii. The <code>\etoclink</code> command (6.5, p. 17)</p> <p>xviii. The <code>\etocsetlevel</code> command (6.6, p. 18)</p> <p>xix. The command <code>\etocruledstyle</code> (9.1, p. 23)</p> <p>xx. The command <code>\etocmulticolstyle</code> (9.2, p. 24)</p> <p>xxi. The command <code>\etocruled</code> (9.3, p. 25)</p> <p>xxii. The commands <code>\etocframedstyle</code> and <code>\etocframed</code> (9.4, p. 25)</p> <p>xxiii. Headings, titles, <code>\etocinnertopsep</code> (9.5, p. 25)</p> <p>xxiv. The command <code>\etocsettocstyle</code> (9.6, p. 26)</p> <p>xxv. The compatibility mode <code>\etocstandarddisplaystyle</code> (9.7, p. 26)</p> <p>xxvi. Testing the compatibility mode (11.1, p. 27)</p> <p>xxvii. A framed display (11.2, p. 27)</p> <p>xxviii. A (crazy) inline display (11.3, p. 29)</p> | <p>xxix. Setting up local styles (12.1, p. 30)</p> <p>xxx. Setting up toc display styles (12.2, p. 30)</p> <p>xxxi. Displaying tables of contents (12.3, p. 31)</p> <p>xxxii. Labels and references (12.4, p. 31)</p> <p>xxxiii. An example (12.5, p. 31)</p> <p>xxxiv. Customizing the <code>etoc</code> pre-defined line styles (13.1, p. 33)</p> <p>xxxv. Customizing the toc display styles (13.2, p. 34)</p> <p>xxxvi. Hacking framed parboxes (14.1, p. 36)</p> <p>xxxvii. Interverting the levels (14.2, p. 36)</p> <p>xxxviii. All subsections of this document (14.3, p. 37)</p> <p>xxxix. Compatibility with other packages (14.4, p. 38)</p> <p>xl. T_EXnical matters (14.5, p. 38)</p> <p>xli. Errors and catastrophes (14.6, p. 38)</p> |
|---|---|---|

14.4. Compatibility with other packages

etoc uses the packages `multicol`.²⁷ It is `hyperref` aware and hopefully `hyperref` compatible! It doesn't matter whether **etoc** or `hyperref` is loaded first.

The contents of the `.toc` file (if it exists) are read into memory by **etoc** once, at the time of `\usepackage{etoc}`. The `.toc` file will be opened for write operations only at the time of the first TOC displaying command.

When a `\localtableofcontents` is inserted by the user in the document, a line containing an **etoc** inner command and an identification number is added to the `.toc` file. The correct local table of contents will be displayed only on the next latex run.

etoc expects the document sectioning units to write their data into the file having extension `.toc`, in the form of lines containing the `\contentsline` command and its arguments. The macros `\etocname`, `\etocnumber`, and `\etocpage` contain the `hyperref` links, if present (note that the `linktoc=all` option of `hyperref` tells it to put a link also in the page number corresponding to a given toc entry). The tables of contents of the present document are fully linked.

It is possible to customize (using package `tocloft` for example) throughout the document the macros `\l@section`, `\l@subsection` ... and the effect will be seen in the next table of contents typeset by **etoc** in compatibility mode.

14.5. T_EXnical matters

The `\etocname`, `\etocnumber`, `\etocpage` and `\etocifnumbered` are protected against premature expansion. They contain suitable `hyperref` links if package `hyperref` is loaded and active for the TOC. The command `\etoclink` is also protected against premature expansion.

On the other hand `\etocthenname`, `\etocthenumber`, `\etocthepage` do not represent `hyperref` links, and are *not* protected against expansion.

The commands such as `\etocsetstyle`, `\etocsetlevel`, `\etocsettocstyle`, `\etocmulticolstyle`, `\etocruledstyle`, `\etocframedstyle` obey L^AT_EX's groups. All TOCs are typeset inside groups.

14.6. Errors and catastrophes

After using `\etocsetstyle` for one level, the remaining uncustomized levels use the **etoc**'s default styles (those which are activated by `\etocdefaultlines`). One has to make sure that all levels needed for the next table of contents are mutually compatible.

When using multiple `\tableofcontents` commands in a document, one should beware from adding typesetting instructions directly in the `.toc` file, as they will be executed by **etoc** for all TOCs: even for a `\localtableofcontents` it doesn't matter if that instruction seems to concern material outside of its scope, it will get executed nevertheless. If absolutely necessary these instructions should be done in such a way that they can be activated or deactivated easily from the document source, as need be.

Do not clone a clone but produce rather twins by cloning the same original local table of contents.

As is usual with toc and labels, after each change, one has to run latex a certain number of times to let the produced document get its final appearance (at least twice).

²⁷ up to version 1.07a it also used package `xspace`, and but this has been removed.

Part VI.

The code

This source file `etoc.dtx` produces `etoc.sty` when one does `latex etoc.dtx` or `pdflatex etoc.dtx` (an `etoc.ins` file is also produced, for distributions expecting it for installation). Two more runs are necessary to finish producing the documentation. The `etoc.sty` file should be moved to a suitable location within the \TeX installation.

15. Implementation

Writing-up source code comments is hopefully for a future release.

```
1 \ProvidesPackage{etoc}
2 [2013/02/02 v1.07b easily customizable TOCs (jfb)]
3 \NeedsTeXFormat{LaTeX2e}
4 \RequirePackage{multicol}
5 % \RequirePackage{xspace} %% REMOVED (1.07b)
6 \DeclareOption*{\PackageWarning{etoc}{Option ‘\CurrentOption’ is unknown.}}
7 \ProcessOptions\relax

placeholder for comments
8 \newtoks\Etoc@toctoks
9 \def\Etoc@par{\par}
10 \newcommand*{\etocnopar}{\def\Etoc@par{}}
11 \newif\ifEtoc@jj % book
12 \newif\ifEtoc@j % part
13 \newif\ifEtoc@ % chapter
14 \newif\ifEtoc@i % section
15 \newif\ifEtoc@ii % subsection
16 \newif\ifEtoc@iii % subsubsection
17 \newif\ifEtoc@iv % paragraph
18 \newif\ifEtoc@v % subparagraph
19 \newif\ifEtoc@number
20 \newif\ifEtoc@hyperref
21 \newif\ifEtoc@tocwithid
22 \newif\ifEtoc@standard
23 \newif\ifEtoc@part

placeholder for comments
24 \newif\ifEtoc@localtoc
25 \newif\ifEtoc@skipthisone
26 \newif\ifEtoc@stoptoc
27 \newif\ifEtoc@notactive
28 \newcounter{etoc@tocid}
29 \newif\ifEtoc@mustclosegroup
30 \newif\ifEtoc@tocopenedforwrite

placeholder for comments
31 \ifclassloaded{memoir}{\def\Etoc@minf{-\thr@@}}{\def\Etoc@minf{-\tw@}}
32 \def\Etoc@@minustwo@{-\tw@}
```

15. Implementation

```

33 \let\Etoc@@minusone@@\m@ne
34 \chardef\Etoc@@zero@@ 0
35 \let\Etoc@@one@@ \@ne
36 \let\Etoc@@two@@ \tw@
37 \let\Etoc@@three@@ \thr@@
38 \chardef\Etoc@@four@@ 4
39 \chardef\Etoc@@five@@ 5
40 \chardef\Etoc@@six@@ 6
41 \let\Etoc@localtop\Etoc@@minustwo@@
42 \def\Etoc@@minustwo@{minustwo}
43 \def\Etoc@@minusone@{minusone}
44 \def\Etoc@@zero@{zero}
45 \def\Etoc@@one@{one}
46 \def\Etoc@@two@{two}
47 \def\Etoc@@three@{three}
48 \def\Etoc@@four@{four}
49 \def\Etoc@@five@{five}
50 %\def\Etoc@@six@{six}

placeholder for comments
51 \def\Etoc@levellist{}
52 \def\Etoc@newlevel#1{%
53   \def\Etoc@levellist@elt{\noexpand\Etoc@levellist@elt\noexpand}%
54   \edef\Etoc@levellist{\Etoc@levellist\Etoc@levellist@elt#1}}
55 \def\etocsetlevel#1#2{%
56   \expandafter\Etoc@newlevel\csname l@#1\endcsname
57   \ifcase#2\relax
58     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@zero@@
59     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@zero@
60   \or
61     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@one@@
62     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@one@
63   \or
64     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@two@@
65     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@two@
66   \or
67     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@three@@
68     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@three@
69   \or
70     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@four@@
71     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@four@
72   \or
73     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@five@@
74     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@five@
75   \or
76     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@six@@
77   \else
78     \ifnum#2=\m@ne
79       \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@minusone@@
80       \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@minusone@
81     \else
82       \ifnum#2=-\tw@
83         \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@minustwo@@

```


15. Implementation

```

84     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@minustwo@
85 \else
86     \PackageWarning{etoc}
87         {unexpected value ‘#2’ in \string\etocsetlevel.^^}%
88         Should be -2,-1, 0, 1, 2, 3, 4, 5, or 6. Set to 6 (=ignored)}%
89     \expandafter\let\csname Etoc@#1@@\endcsname\Etoc@@six@@
90 \fi\fi\fi}
91 \etocsetlevel{book}{-2}
92 \etocsetlevel{part}{-1}
93 \etocsetlevel{chapter}{0}
94 \etocsetlevel{section}{1}
95 \etocsetlevel{subsection}{2}
96 \etocsetlevel{subsubsection}{3}
97 \etocsetlevel{paragraph}{4}
98 \etocsetlevel{subparagraph}{5}

placeholder for comments
99 \def\Etoc@setflags #1{%
100 \ifcase #1\relax
101     \global\Etoc@vfalse
102     \global\Etoc@ivfalse
103     \global\Etoc@iiifalse
104     \global\Etoc@iifalse
105     \global\Etoc@ifalse
106     \global\Etoc@true
107 \or
108     \global\Etoc@vfalse
109     \global\Etoc@ivfalse
110     \global\Etoc@iiifalse
111     \global\Etoc@iifalse
112     \global\Etoc@ittrue
113 \or
114     \global\Etoc@vfalse
115     \global\Etoc@ivfalse
116     \global\Etoc@iiifalse
117     \global\Etoc@iittrue
118 \or
119     \global\Etoc@vfalse
120     \global\Etoc@ivfalse
121     \global\Etoc@iiittrue
122 \or
123     \global\Etoc@vfalse
124     \global\Etoc@ivtrue
125 \or
126     \global\Etoc@vtrue
127 \else
128     \ifnum#1=\m@ne
129         \global\Etoc@vfalse
130         \global\Etoc@ivfalse
131         \global\Etoc@iiifalse
132         \global\Etoc@iifalse
133         \global\Etoc@ifalse
134         \global\Etoc@false

```

15. Implementation

```

135     \global\Etoc@jtrue
136   \else
137     \global\Etoc@vfalse
138     \global\Etoc@ivfalse
139     \global\Etoc@iiiifalse
140     \global\Etoc@iifalse
141     \global\Etoc@ifalse
142     \global\Etoc@false
143     \global\Etoc@jfalse
144     \global\Etoc@jjtrue
145   \fi
146 \fi}

placeholder for comments
147 \AtBeginDocument{%
148 \ifpackageloaded{hyperref}{\Etoc@hyperreftrue
149                               \def\Etoc@et@hop#1#2#3#4#5{#1{#3}{#4}{#5}#2}}
150                               {\Etoc@hyperreffalse
151                               \def\Etoc@et@hop#1#2#3#4{#1{#3}{#4}#2}}}
152 \def\Etoc@swa#1{%
153   \Etoc@et@hop
154   {\Etoc@savedcontentsline{#1}}
155   {\Etoc@prefix\Etoc@contents}}
156 \def\Etoc@swb#1{%
157   \Etoc@et@hop
158   {\Etoc@savedcontentsline{#1}}
159   {\Etoc@contents}}
160 \let\etocskipfirstprefix\@thirdofthree

placeholder for comments
161 \def\Etoc@etoccontentsline#1{%
162   \global\expandafter\let\expandafter\Etoc@tmp\csname Etoc@#1@\endcsname
163   \Etoc@skipthisonefalse
164   \ifEtoc@hyperref
165     \def\Etoc@next{\expandafter\@gobbletwo\@gobblefour}%
166   \else
167     \def\Etoc@next{\expandafter\@gobble\@gobblefour}%
168   \fi
169   \ifnum\Etoc@tmp=\Etoc@@six@@
170     \Etoc@skipthisonetrue
171   \else
172     \ifEtoc@localtoc
173       \let\Etoc@prenext\relax
174       \ifEtoc@stoptoc
175         \Etoc@skipthisonetrue
176       \fi
177       \ifnum\Etoc@tmp<\Etoc@localtop
178         \def\Etoc@prenext{\global\Etoc@stoptoctrue}%
179         \Etoc@skipthisonetrue
180       \fi
181       \ifEtoc@notactive
182         \def\Etoc@prenext{\Etoc@setflags{\Etoc@tmp}}%
183         \Etoc@skipthisonetrue

```

15. Implementation

```

184     \fi
185     \Etoc@prenext
186   \fi
187 \fi
188 \ifnum\c@tocdepth<\Etoc@tmp\relax\else
189 \ifEtoc@skipthisone\else
190 \global\let\Etoc@next\relax
191 \ifcase\Etoc@tmp
192   \ifEtoc@v \Etoc@end@five\fi
193   \ifEtoc@iv \Etoc@end@four\fi
194   \ifEtoc@iii \Etoc@end@three\fi
195   \ifEtoc@ii \Etoc@end@two\fi
196   \ifEtoc@i \Etoc@end@one\fi
197   \ifEtoc@ \else \def\Etoc@next{\Etoc@begin@zero}\fi
198   \def\Etoc@contents{\Etoc@contents@zero}%
199   \def\Etoc@prefix{\Etoc@prefix@zero}%
200 \or
201   \ifEtoc@v \Etoc@end@five\fi
202   \ifEtoc@iv \Etoc@end@four\fi
203   \ifEtoc@iii \Etoc@end@three\fi
204   \ifEtoc@ii \Etoc@end@two\fi
205   \ifEtoc@i \else \def\Etoc@next{\Etoc@begin@one}\fi
206   \def\Etoc@contents{\Etoc@contents@one}%
207   \def\Etoc@prefix{\Etoc@prefix@one}%
208 \or
209   \ifEtoc@v \Etoc@end@five\fi
210   \ifEtoc@iv \Etoc@end@four\fi
211   \ifEtoc@iii \Etoc@end@three\fi
212   \ifEtoc@ii \else \def\Etoc@next{\Etoc@begin@two}\fi
213   \def\Etoc@contents{\Etoc@contents@two}%
214   \def\Etoc@prefix{\Etoc@prefix@two}%
215 \or
216   \ifEtoc@v \Etoc@end@five\fi
217   \ifEtoc@iv \Etoc@end@four\fi
218   \ifEtoc@iii \else \def\Etoc@next{\Etoc@begin@three}\fi
219   \def\Etoc@contents{\Etoc@contents@three}%
220   \def\Etoc@prefix{\Etoc@prefix@three}%
221 \or
222   \ifEtoc@v \Etoc@end@five\fi
223   \ifEtoc@iv \else \def\Etoc@next{\Etoc@begin@four}\fi
224   \def\Etoc@contents{\Etoc@contents@four}%
225   \def\Etoc@prefix{\Etoc@prefix@four}%
226 \or
227   \ifEtoc@v \else \def\Etoc@next{\Etoc@begin@five}\fi
228   \def\Etoc@contents{\Etoc@contents@five}%
229   \def\Etoc@prefix{\Etoc@prefix@five}%
230 \else
231   \ifnum\Etoc@tmp=\m@ne
232     \ifEtoc@v \Etoc@end@five\fi
233     \ifEtoc@iv \Etoc@end@four\fi
234     \ifEtoc@iii \Etoc@end@three\fi
235     \ifEtoc@ii \Etoc@end@two\fi

```

15. Implementation

```

236     \ifEtoc@i \Etoc@end@one\fi
237     \ifEtoc@ \Etoc@end@zero\fi
238     \ifEtoc@j \else \def\Etoc@next{\Etoc@begin@minusone}\fi
239     \def\Etoc@contents{\Etoc@contents@minusone}%
240     \def\Etoc@prefix{\Etoc@prefix@minusone}%
241     \else
242     \ifEtoc@v \Etoc@end@five\fi
243     \ifEtoc@iv \Etoc@end@four\fi
244     \ifEtoc@iii \Etoc@end@three\fi
245     \ifEtoc@ii \Etoc@end@two\fi
246     \ifEtoc@i \Etoc@end@one\fi
247     \ifEtoc@ \Etoc@end@zero\fi
248     \ifEtoc@j \Etoc@end@minusone\fi
249     \ifEtoc@jj \else \def\Etoc@next{\Etoc@begin@minustwo}\fi
250     \def\Etoc@contents{\Etoc@contents@minustwo}%
251     \def\Etoc@prefix{\Etoc@prefix@minustwo}%
252     \fi
253 \fi
254     \ifnum\Etoc@tmp=\m@ne\Etoc@parttrue\else\Etoc@partfalse\fi
255     \Etoc@setflags{\Etoc@tmp}%
256 \fi\fi
257 \Etoc@next
258 \@firstoftwo{\Etoc@swa{#1}}{\Etoc@swb{#1}}

```

placeholder for comments

```

259 \def\Etoc@lxyz #1#2{%
260     \@namedef{etoclink }##1{##1}% fall-back if no links
261     \@namedef{etocpage }{\leavevmode #2}%
262     \Etoc@getthepage #2\etoc@
263     \@namedef{etocname }{\leavevmode #1}%
264     \def\etocthename{#1}%
265     \Etoc@getnb #1\relax\relax\etoc@
266     \ifEtoc@number\else
267         \ifEtoc@part
268             \Etoc@getit #1\hspace\relax\etoc@
269         \fi
270     \fi}

```

placeholder for comments

```

271 \def\Etoc@getnb #1{\let\Etoc@next\Etoc@getnb@nohyp
272 \ifEtoc@hyperref\ifx #1\hyper@linkstart
273     \let\Etoc@next\Etoc@getnb@hyp
274 \fi\fi
275 \Etoc@next #1}
276 %
277 \def\Etoc@getit #1{\let\Etoc@next\Etoc@getit@nohyp
278 \ifEtoc@hyperref\ifx #1\hyper@linkstart
279     \let\Etoc@next\Etoc@getit@hyp
280 \fi\fi
281 \Etoc@next #1}
282 %
283 \def\Etoc@getthepage #1{\let\Etoc@next\Etoc@getthepage@nohyp
284 \ifEtoc@hyperref\ifx #1\hyper@linkstart

```

15. Implementation

```

285 \let\Etoc@next\Etoc@getthepage@hyp
286 \fi\fi
287 \Etoc@next #1}
288 \def\Etoc@getthepage@nohyp #1\etoc@{\def\etocthepage{#1}}
289 \def\Etoc@getthepage@hyp #1#2#3#4#5\etoc@{%
290 \namedef{etoclink }##1{#1{#2}{#3}{##1}#5}%
291 \def\etocthepage{#4}}

placeholder for comments

292 %
293 \def\Etoc@getnb@nohyp #1#2#3\etoc@{%
294 \def\Etoc@getname ##1\relax\relax\etoc@{%
295 \@namedef{etocname }{\leavevmode ##1}%
296 \def\etocthename{##1}%
297 }%
298 \ifx #1\numberline
299 \@namedef{etocnumber }{\leavevmode #2}%
300 \def\etocthenumber{#2}%
301 \Etoc@numbertrue
302 \Etoc@getname #3\etoc@
303 \else
304 \@namedef{etocnumber }{\leavevmode}%
305 \def\etocthenumber{}%
306 \Etoc@numberfalse
307 \fi
308 }

placeholder for comments

309 \def\Etoc@getnb@hyp #1#2#3#4#5#6\etoc@{%
310 \@namedef{etoclink }##1{#1{#2}{#3}{##1}#5}%
311 \def\Etoc@getname ##1\relax\relax\etoc@{%
312 \@namedef{etocname }{\leavevmode #1{#2}{#3}{##1}#5}%
313 \def\etocthename{##1}%
314 }%
315 \def\Etoc@getnbr ##1##2##3\etoc@{%
316 \ifx ##1\numberline
317 \@namedef{etocnumber }{\leavevmode #1{#2}{#3}{##2}#5}%
318 \def\etocthenumber{##2}%
319 \Etoc@numbertrue
320 \Etoc@getname ##3\etoc@
321 \else
322 \@namedef{etocnumber }{\leavevmode}%
323 \def\etocthenumber{}%
324 \Etoc@numberfalse
325 \def\etocthename{#4}%
326 \fi}%
327 \Etoc@getnbr #4\relax\relax\etoc@
328 }

placeholder for comments

329 \def\Etoc@getit@nohyp #1\hspace#2#3\etoc@{%
330 \def\Etoc@getname ##1\hspace\relax\etoc@{%
331 \@namedef{etocname }{\leavevmode ##1}%
332 \def\etocthename{##1}%

```

15. Implementation

```

333     }%
334 \ifx\relax#2\else
335     \@namedef{etocnumber }{\leavevmode #1}%
336     \def\etocthenumber{#1}%
337     \Etoc@numbertrue
338     \Etoc@getname #3\etoc@
339 \fi
340 }

placeholder for comments
341 \def\Etoc@getit@hyp #1#2#3#4#5#6\etoc@{%
342 \def\Etoc@getname ##1\hspace\relax\etoc@{%
343     \@namedef{etocname }{\leavevmode #1{#2}{#3}{##1}#5}%
344     \def\etocthename{##1}%
345     }%
346 \def\Etoc@getnbr ##1\hspace##2##3\etoc@{%
347     \ifx\relax##2\else
348         \@namedef{etocnumber }{\leavevmode #1{#2}{#3}{##1}#5}%
349         \def\etocthenumber{##1}%
350         \Etoc@numbertrue
351         \Etoc@getname ##3\etoc@
352     \fi}%
353 \Etoc@getnbr #4\hspace\relax\etoc@}

placeholder for comments
354 \edef\etocpage{\noexpand\protect\expandafter
355     \noexpand\csname etocpage \endcsname}
356 \edef\etocname{\noexpand\protect\expandafter
357     \noexpand\csname etocname \endcsname}
358 \edef\etocnumber{\noexpand\protect\expandafter
359     \noexpand\csname etocnumber \endcsname}
360 \edef\etoclink{\noexpand\protect\expandafter
361     \noexpand\csname etoclink \endcsname}
362 \@namedef{etocifnumbered }{\ifEtoc@number
363     \expandafter\@firstoftwo\else\expandafter\@secondoftwo\fi}
364 \edef\etocifnumbered{\noexpand\protect\expandafter\noexpand
365     \csname etocifnumbered \endcsname}

placeholder for comments
366 \def\Etoc@readtoc#1{%
367 \ifEOF #1
368     \let\Etoc@nextread\@gobble
369     \global\Etoc@toctoks=\expandafter{\the\Etoc@toctoks}%
370 \else
371     \let\Etoc@nextread\Etoc@readtoc
372     \read #1 to \Etoc@buffer
373     \Etoc@toctoks=\expandafter\expandafter\expandafter
374         {\expandafter\the\expandafter\Etoc@toctoks\Etoc@buffer}%
375 \fi
376 \Etoc@nextread{#1}%
377 }
378 \IfFileExists{\jobname .toc}
379     {\endlinechar=-1 \makeatletter
380     \newread\Etoc@tf

```

15. Implementation

```
381      \openin\Etoc@tf\@filef@und
382      \Etoc@readtoc\Etoc@tf
383      \closein\Etoc@tf}}{\typeout{No file \jobname .toc.}}
placeholder for comments
384 \def\Etoc@starttoc{%
385 \begingroup
386 \makeatletter
387 \ifEtoc@hyperref
388   \ifx\hyper@last\@undefined
389   \ltx@ifpackageloaded {parskip}{\parskip \z@ }{}%
390   \IfFileExists {\jobname .toc}
391   {\Hy@WarningNoLine
392    {old toc file detected, not used; run LaTeX again (cheers from etoc)}}%
393   \global\Etoc@toctoks={}
394 {} \fi \fi
395 \if@filesw \newwrite \tf@toc
396 \immediate \openout \tf@toc \jobname .toc\relax \fi \@nobreakfalse
397 \endgroup}
placeholder for comments
398 \def\Etoc@toctoc{%
399   \global\Etoc@vfalse
400   \global\Etoc@ivfalse
401   \global\Etoc@iiifalse
402   \global\Etoc@iifalse
403   \global\Etoc@ifalse
404   \global\Etoc@false
405   \global\Etoc@jfalse
406   \global\Etoc@jjfalse
407 \ifEtoc@standard
408   \etoc@setstyle{@minustwo}{}{}{}{}%
409   \etoc@setstyle{@minusone}{}{}{}{}%
410   \etoc@setstyle{@zero}{}{}{}{}%
411   \etoc@setstyle{@one}{}{}{}{}%
412   \etoc@setstyle{@two}{}{}{}{}%
413   \etoc@setstyle{@three}{}{}{}{}%
414   \etoc@setstyle{@four}{}{}{}{}%
415   \etoc@setstyle{@five}{}{}{}{}%
416 \else
417   \def\Etoc@levellist@elt##1{\let##1\Etoc@lxyz}%
418   \Etoc@levellist
419   \let\booknumberline\numberline
420   \let\partnumberline\numberline
421   \let\chapternumberline\numberline
422 \fi
423 \the\Etoc@toctoks
424 \ifEtoc@notactive\else
425   \ifEtoc@v \Etoc@end@five\fi
426   \ifEtoc@iv \Etoc@end@four\fi
427   \ifEtoc@iii \Etoc@end@three\fi
428   \ifEtoc@ii \Etoc@end@two\fi
429   \ifEtoc@i \Etoc@end@one\fi
```

15. Implementation

```

430 \ifEtoc@ \Etoc@end@zero\fi
431 \ifEtoc@j \Etoc@end@minusone\fi
432 \ifEtoc@jj \Etoc@end@minustwo\fi
433 \fi}

placeholder for comments
434 \def\etoc@@startlocaltoc#1#2{%
435 \let\Etoc@next\relax
436 \ifEtoc@localtoc
437 \ifEtoc@notactive
438 \ifnum #1=#2\relax
439 \ifEtoc@jj \let\Etoc@localtop\Etoc@@minusone@@ \fi
440 \ifEtoc@j \let\Etoc@localtop\Etoc@@zero@@ \fi
441 \ifEtoc@ \let\Etoc@localtop\Etoc@@one@@ \fi
442 \ifEtoc@i \let\Etoc@localtop\Etoc@@two@@ \fi
443 \ifEtoc@ii \let\Etoc@localtop\Etoc@@three@@ \fi
444 \ifEtoc@iii \let\Etoc@localtop\Etoc@@four@@ \fi
445 \ifEtoc@iv \let\Etoc@localtop\Etoc@@five@@ \fi
446 \ifEtoc@v \let\Etoc@localtop\Etoc@@six@@ \fi
447 \def\Etoc@next{\global\Etoc@notactivefalse
448 \global\Etoc@vfalse
449 \global\Etoc@ivfalse
450 \global\Etoc@iiifalse
451 \global\Etoc@iifalse
452 \global\Etoc@ifalse
453 \global\Etoc@false
454 \global\Etoc@jfalse
455 \global\Etoc@jjfalse}%
456 \fi
457 \fi\fi
458 \Etoc@next}
459 \let\etoc@startlocaltoc\@gobble

placeholder for comments
460 \def\Etoc@localtableofcontents#1{%
461 \edef\Etoc@tmp{#1}%
462 \ifnum\Etoc@tmp<\@ne
463 \PackageWarning{etoc}
464 {Unknown toc id: run LaTeX to get references right}%
465 \leavevmode --unknown etoc ref: run latex again--\par
466 \let\Etoc@next\@gobble\else\let\Etoc@next\@firstofone\fi
467 \Etoc@next
468 {\edef\etoc@startlocaltoc##1{%
469 \noexpand\etoc@@startlocaltoc{##1}{#1}}
470 \Etoc@localtoctrue
471 \let\Etoc@localtop\Etoc@@minustwo@@
472 \global\Etoc@stoptocfalse
473 \global\Etoc@notactivetrue
474 \Etoc@tableofcontents}%
475 \endgroup\ifEtoc@mustclosegroup\expandafter\endgroup\fi}

placeholder for comments
476 \def\Etoc@getrefno #1#2\etoc@{#1}
477 \def\Etoc@getref #1{\ifundefined{r@#1}{0}{\expandafter\expandafter\expandafter

```


15. Implementation

```

478 \Etoc@getrefno\csname r@#1\endcsname\relax\etoc@}}
479 \def\Etoc@ref#1{\Etoc@localtableofcontents{\Etoc@getref{#1}}}
480 \def\Etoc@label#1{\label{#1}%
481 \futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}
482 {\def\1{\Etoc@again}\expandafter
483 \gdef\1 {\futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}}

placeholder for comments
484 \def\Etoc@t@bleofcontents{%
485 \ifx\Etoc@nexttoken\label
486 \def\Etoc@next{\expandafter\Etoc@label\@gobble}\else
487 \ifx\Etoc@nexttoken\@sptoken
488 \let\Etoc@next\Etoc@again\else
489 \ifEtoc@tocwithid
490 \def\Etoc@next{\Etoc@localtableofcontents{\c@etoc@tocid}}%
491 \else
492 \ifx\Etoc@nexttoken\ref
493 \def\Etoc@next{\expandafter\Etoc@ref\@gobble}%
494 \else
495 \def\Etoc@next{\Etoc@localtocfalse
496 \global\Etoc@notactivefalse
497 \Etoc@tableofcontents
498 \endgroup
499 \ifEtoc@mustclosegroup\expandafter\endgroup\fi}%
500 \fi
501 \fi\fi\fi\Etoc@next}

placeholder for comments
502 \def\table@fcontents{%
503 \refstepcounter{etoc@tocid}%
504 \Etoc@tocwithidfalse
505 \futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}
506 \def\localtable@fcontents{%
507 \refstepcounter{etoc@tocid}%
508 \addtocontents{toc}
509 {\string\etoc@startlocaltoc{\arabic{etoc@tocid}}}%
510 \Etoc@tocwithidtrue
511 \futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}

placeholder for comments
512 \newcommand*\etocaftertitlehook{}
513 \newcommand*\etocaftercontentshook{}
514 \renewcommand*\tableofcontents{%
515 \ifEtoc@tocopenedforwrite\else\Etoc@starttoc\fi
516 \global\Etoc@tocopenedforwritetrue
517 \Etoc@par\begingroup
518 \def\etoc@startlocaltoc##1{\etoc@@startlocaltoc{##1}{\c@etoc@tocid}}%
519 \@ifstar
520 {\def\Etoc@aftertitlehook{}\table@fcontents}
521 {\let\Etoc@aftertitlehook\etocaftertitlehook\table@fcontents}}
522 \newcommand*\localtableofcontents{%
523 \ifEtoc@tocopenedforwrite\else\Etoc@starttoc\fi
524 \global\Etoc@tocopenedforwritetrue
525 \Etoc@par\begingroup\@ifstar

```

15. Implementation

```

526 {\def\Etoc@aftertitlehook{}\localtable@fcontents}
527 {\let\Etoc@aftertitlehook\etocaftertitlehook\localtable@fcontents}}

placeholder for comments

528 \newcommand\etocsettocstyle[2]{%
529 \def\Etoc@tableofcontents
530 {\ifnum\c@tocdepth>\Etoc@minf\let\Etoc@@next\@firstofone\else
531 \let\Etoc@@next\@gobble\fi
532 \Etoc@@next{#1\Etoc@aftertitlehook
533 \let\Etoc@savedcontentsline\contentsline
534 \let\contentsline\Etoc@etoccontentsline
535 \Etoc@toctoc
536 \let\Etoc@n@xt\relax
537 \ifEtoc@tocwithid\else
538 \ifEtoc@localtoc
539 \ifEtoc@notactive
540 \def\Etoc@n@xt{\Etoc@localtocfalse
541 \global\Etoc@notactivefalse
542 \Etoc@toctoc}%
543 \fi\fi\fi
544 \Etoc@n@xt
545 \etocaftercontentshook
546 #2}}}

placeholder for comments

547 \newcommand*\etocsetstyle{\Etoc@standardfalse\etoc@setstyle}
548 \long\def\etoc@setstyle#1#2#3#4#5{%
549 \long\expandafter\def
550 \csname Etoc@begin@\csname Etoc@#1@\endcsname\endcsname {#2}%
551 \long\expandafter\def
552 \csname Etoc@prefix@\csname Etoc@#1@\endcsname\endcsname {#3}%
553 \long\expandafter\def
554 \csname Etoc@contents@\csname Etoc@#1@\endcsname\endcsname {#4}%
555 \long\expandafter\def
556 \csname Etoc@end@\csname Etoc@#1@\endcsname\endcsname {#5}}

placeholder for comments

557 \newcommand*\etocfontminustwo{\normalfont \LARGE \bfseries}
558 \newcommand*\etocfontminusone{\normalfont \large \bfseries}
559 \newcommand*\etocfontzero{\normalfont \large \bfseries}
560 \newcommand*\etocfontone{\normalfont \normalsize \bfseries}
561 \newcommand*\etocfonttwo{\normalfont \normalsize}
562 \newcommand*\etocfontthree{\normalfont \footnotesize}

placeholder for comments

563 \newcommand*\etocsepminustwo{4ex \@plus .5ex \@minus .5ex}
564 \newcommand*\etocsepminusone{4ex \@plus .5ex \@minus .5ex}
565 \newcommand*\etocsepzero{2.5ex \@plus .4ex \@minus .4ex}
566 \newcommand*\etocseppone{1.5ex \@plus .3ex \@minus .3ex}
567 \newcommand*\etocseptwo{1ex \@plus .15ex \@minus .15ex}
568 \newcommand*\etocsepthree{.25ex \@plus .05ex \@minus .05ex}

placeholder for comments

569 \newcommand*\etocbaselinespreadminustwo{1}
570 \newcommand*\etocbaselinespreadminusone{1}

```

15. Implementation

```
571 \newcommand*\etocbaselinespreadzero{1}
572 \newcommand*\etocbaselinespreadone{1}
573 \newcommand*\etocbaselinespreadtwo{1}
574 \newcommand*\etocbaselinespreadthree{.9}

placeholder for comments
575 \newcommand*\etocminustwoleftmargin{1.5em plus 0.5fil}
576 \newcommand*\etocminustworightmargin{1.5em plus -0.5fil}
577 \newcommand*\etocminusoneleftmargin{1em}
578 \newcommand*\etocminusonerightmargin{1em}
579 \newcommand*\etoclineleaders
580   {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
581 \newcommand*\etocabbrevpagename{p.~}
582 \newcommand*\etocpartname{\partname}
583 \newcommand*\etocbookname{Book}

placeholder for comments The macro \etocdefaultlines was initially called \etoc-
tocols. Now \etoclines just does \Etoc@standardfalse.
584 \def\etocdefaultlines{\Etoc@standardfalse}

placeholder for comments
585 \etoc@setstyle{@minustwo}{\etocskipfirstprefix}{\pagebreak[3]}
586 {\begingroup \etocfontminustwo
587   \addvspace{\etocsepminustwo}%
588   \parindent \z@
589   \leftskip \etocminustwoleftmargin
590   \rightskip \etocminustworightmargin
591   \parfillskip \@flushglue
592   \vbox{\etocifnumbered{\etocbookname~\etocnumber:~}{ }\etocname
593     \baselineskip\etocbaselinespreadminustwo\baselineskip\par}%
594   \addvspace{\etocsepminusone}\nobreak
595 \endgroup}
596 {}%
597 \etoc@setstyle{@minusone}{\etocskipfirstprefix}{\pagebreak[3]}
598 {\begingroup \etocfontminusone
599   \addvspace{\etocsepminusone}%
600   \parindent \z@
601   \leftskip \etocminusoneleftmargin
602   \rightskip \etocminusonerightmargin
603   \parfillskip \@flushglue
604   \vbox{\etocpartname\etocifnumbered{ \etocnumber.~}{ } \etocname
605     \baselineskip\etocbaselinespreadminusone\baselineskip\par}%
606   \addvspace{\etocsepzero}\nobreak
607 \endgroup}
608 {}%
609 \etoc@setstyle{@zero}
610 {\addpenalty\@highpenalty\etocskipfirstprefix}{\pagebreak[2]}
611 {\begingroup
612   \etocfontzero
613   \addvspace{\etocsepzero}%
614   \parindent \z@ \parfillskip \@flushglue
615   \vbox{\etocifnumbered{\etocnumber\space}{ }\etocname
616     \baselineskip\etocbaselinespreadzero\baselineskip\par}%
617   \addvspace{\etocsepone}\addpenalty\@itempenalty
```

15. Implementation

```

618 \endgroup}
619 {\addpenalty\@secpenalty}%
    placeholder for comments
620 \etoc@setstyle{@one}
621 {\addpenalty\@medpenalty\etocskipfirstprefix}{\pagebreak[1]}
622 {\begingroup\etocfontone
623 \addvspace{\etocseppone}%
624 \parindent \z@ \parfillskip \z@
625 \setbox\z@\vbox{\parfillskip\@flushglue
626 \etocname\par\setbox\tw@\lastbox
627 \global\setbox\@ne\hbox{\unhbox\tw@ }}%
628 \dimen\z@=\wd\@ne
629 \setbox\z@=\etoclineleaders
630 \advance\dimen\z@\wd\z@
631 \etocifnumbered
632 {\setbox\tw@\hbox{\etocnumber, \etocabbrevpagename\etocpage}}
633 {\setbox\tw@\hbox{\etocabbrevpagename\etocpage}}%
634 \advance\dimen\z@\wd\tw@
635 \ifdim\dimen\z@ < \linewidth
636     \vbox{\etocname~% modified in 1.07b (after removal of \xspace)
637     \leaders\box\z@\hfil\box\tw@
638     \baselineskip\etocbaselinespreadone\baselineskip\par}
639 \else
640     \vbox{\etocname~% modified in 1.07b
641     \leaders\copy\z@\hfil\break
642     \hbox{ }\leaders\box\z@\hfil\box\tw@
643     \baselineskip\etocbaselinespreadone\baselineskip\par}
644 \fi
645 \addvspace{\etocsepttwo}\addpenalty\@itempenalty
646 \endgroup}
647 {\addpenalty\@secpenalty}%
    placeholder for comments
648 \etoc@setstyle{@two}
649 {\addpenalty\@medpenalty\etocskipfirstprefix}
650 {\pagebreak[1]}
651 {\begingroup\etocfonttwo
652 \addvspace{\etocsepttwo}%
653 \parindent \z@ \parfillskip \z@
654 \setbox\z@\vbox{\parfillskip\@flushglue
655 \etocname\par\setbox\tw@\lastbox
656 \global\setbox\@ne\hbox{\unhbox\tw@ }}%
657 \dimen\z@=\wd\@ne
658 \setbox\z@=\etoclineleaders
659 \advance\dimen\z@\wd\z@
660 \etocifnumbered
661 {\setbox\tw@\hbox{\etocnumber, \etocabbrevpagename\etocpage}}
662 {\setbox\tw@\hbox{\etocabbrevpagename\etocpage}}%
663 \advance\dimen\z@\wd\tw@
664 \ifdim\dimen\z@ < \linewidth
665     \vbox{\etocname~%
666     \leaders\box\z@\hfil\box\tw@

```

15. Implementation

```

667      \baselineskip\etocbaselinespreadtwo\baselineskip\par}
668  \else
669      \vbox{\etocname~%
670      \leaders\copy\z@\hfil\break
671      \hbox{}\leaders\box\z@\hfil\box\tw@
672      \baselineskip\etocbaselinespreadtwo\baselineskip\par}
673 \fi
674 \addvspace{\etocsepthree}\addpenalty\@itempenalty
675 \endgroup}
676 {\addpenalty\@secpenalty}%

placeholder for comments
677 \etoc@setstyle{@three}
678 {\nopagebreak
679 \etocfontthree
680 \addvspace{\etocsepthree}%
681 \nointerlineskip\noindent
682 \etocskipfirstprefix}
683 {\allowbreak\,--\,}
684 {\etocname}
685 {\.\hfil\beginingroup
686 \baselineskip\etocbaselinespreadthree\baselineskip
687 \par\endgroup
688 \addpenalty{-\@highpenalty}}%

placeholder for comments
689 \etoc@setstyle{@four}{}{}{}{}{}%
690 \etoc@setstyle{@five}{}{}{}{}{}%
691 }

placeholder for comments
692 \newcommand*\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
693 \newcommand*\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
694 \newcommand*\etoccolumnsep{2em}
695 \newcommand*\etocmulticolsep{0ex}
696 \newcommand*\etocmulticolpretolerance{-1}
697 \newcommand*\etocmulticoltolerance{200}
698 \newcommand*\etocdefaultnbcol{2}
699 \newcommand*\etocinnertopsep{2ex}

placeholder for comments
700 \newcommand\etocmulticolstyle[2][\etocdefaultnbcol]{%
701 \etocsettocstyle
702   {\let\etocoldpar\par
703   \addvspace{\etocabovetocskip}%
704   \ifnum #1>\@ne\let\Etoc@next\@firstoftwo
705   \else \let\Etoc@next\@secondoftwo\fi
706   \Etoc@next}%
707   \multicolpretolerance\etocmulticolpretolerance
708   \multicoltolerance\etocmulticoltolerance
709   \setlength{\columnsep}{\etoccolumnsep}%
710   \setlength{\multicolsep}{\etocmulticolsep}%
711   \begin{multicols}{#1}[#2\etocoldpar\addvspace{\etocinnertopsep}]}
712 % 2013/01/29: erroneous \etocsepminusone at last replaced by \etocinnertopsep

```

15. Implementation

```

713 % and definition of \etocoldpar added as multicols chokes on \par as part of #2
714     {\#2\par\addvspace{\etocinnertopsep}%
715         \pretolerance\etocmulticolpretolerance
716         \tolerance\etocmulticoltolerance}}
717 {\ifnum #1>\@ne\let\Etoc@next\@firstofone
718     \else \let\Etoc@next\@gobble\fi
719     \Etoc@next{\end{multicols}}}%
720 \addvspace{\etocbelowtocskip}}}

placeholder for comments
721 \newcommand*\etocinnerbottomsep{3.5ex}
722 \newcommand*\etocinnerleftsep{2em}
723 \newcommand*\etocinnerrightsep{2em}
724 \newcommand*\etoctoprule{\hrule}
725 \newcommand*\etocleftrule{\vrule}
726 \newcommand*\etocrightrule{\vrule}
727 \newcommand*\etocbottomrule{\hrule}
728 \newcommand*\etoctoprulecolorcmd{\relax}
729 \newcommand*\etocbottomrulecolorcmd{\relax}
730 \newcommand*\etocleftrulecolorcmd{\relax}
731 \newcommand*\etocrightrulecolorcmd{\relax}

placeholder for comments
732 \def\etoc@ruledheading #1{%
733     \hb@xt@\linewidth{\color@begingroup
734         \hss #1\hss\hskip-\linewidth
735         \etoctoprulecolorcmd\leaders\etoctoprule\hss
736         \phantom{#1}%
737         \leaders\etoctoprule\hss\color@endgroup}%
738     \nointerlineskip\vskip\etocinnertopsep}

placeholder for comments
739 \newcommand*\etocruledstyle[2][\etocdefaultnbcoll]{%
740 \etocsettocstyle
741     {\addvspace{\etocabovetocskip}%
742     \ifnum #1>\@ne\let\Etoc@next\@firstoftwo
743         \else \let\Etoc@next\@secondoftwo\fi
744     \Etoc@next
745         {\multicolpretolerance\etocmulticolpretolerance
746         \multicoltolerance\etocmulticoltolerance
747         \setlength{\columnsep}{\etoccolumnsep}%
748         \setlength{\multicolsep}{\etocmulticolsep}%
749         \begin{multicols}{#1}[\etoc@ruledheading{#2}]}
750     {\etoc@ruledheading{#2}\nobreak
751         \pretolerance\etocmulticolpretolerance
752         \tolerance\etocmulticoltolerance}}
753 {\ifnum #1>\@ne\let\Etoc@next\@firstofone
754     \else \let\Etoc@next\@gobble\fi
755     \Etoc@next{\end{multicols}}}%
756 \addvspace{\etocbelowtocskip}}}

placeholder for comments
757 \newcommand\etocframedmphook{\relax}
758 \newcommand*\etocbkgcolorcmd{\relax}

```

15. Implementation

```

759 \def\Etoc@relax{\relax}
760 \newbox\etoc@framed@titlebox
761 \newbox\etoc@framed@contentsbox
762 \newcommand*\etocframedstyle[2][\etocdefaultnbcoll]{%
763 \etocsettocstyle{%
764     \addvspace{\etocabovetocskip}%
765     \sbox\z@{\#2}%
766     \dimen\z@\dp\z@
767     \ifdim\wd\z@<\linewidth \dp\z@\z@ \else \dimen\z@\z@ \fi
768 \setbox\etoc@framed@titlebox=\hb@xt@\linewidth{\color@begingroup
769     \hss
770     \ifx\etocbkgcolorcmd\Etoc@relax\else
771         \sbox\tw@{\color{white}%
772         \vrule\@width\wd\z@\@height\ht\z@\@depth\dimen\z@}%
773         \ifdim\wd\z@<\linewidth \dp\tw@\z@\fi
774         \box\tw@
775         \hskip-\wd\z@
776     \fi
777     \copy\z@
778     \hss
779     \hskip-\linewidth
780     \etocoprulcolorcmd\leaders\etocoprul\hss%
781     \hskip\wd\z@
782     \etocoprulcolorcmd\leaders\etocoprul\hss\color@endgroup}%
783 \setbox\z@\hbox{\etocleftrule\etocrightrule}%
784 \dimen\tw@\linewidth\advance\dimen\tw@-\wd\z@
785 \advance\dimen\tw@-\etocinnerleftsep
786 \advance\dimen\tw@-\etocinnerrightsep
787 \setbox\etoc@framed@contentsbox=\vbox\bgroup
788 \hsize\dimen\tw@
789 \kern\dimen\z@
790 \vskip\etocinnertopsep
791 \hbox\bgroup
792 \begin{minipage}{\hsize}%
793 \etocframedmhook
794 \ifnum #1>\@ne\let\Etoc@next\@firstoftwo
795 \else \let\Etoc@next\@secondoftwo\fi
796 \Etoc@next
797 {\multicolpretolerance\etocmulticolpretolerance
798 \multicoltolerance\etocmulticoltolerance
799 \setlength{\columnsep}{\etoccolumnsep}%
800 \setlength{\multicolsep}{\etocmulticolsep}%
801 \begin{multicols}{#1}}
802 {\pretolerance\etocmulticolpretolerance
803 \tolerance\etocmulticoltolerance}}
804 {\ifnum #1>\@ne\let\Etoc@next\@firstofone
805 \else \let\Etoc@next\@gobble\fi
806 \Etoc@next\end{multicols}\unskip}%
807 \end{minipage}%
808 \egroup
809 \vskip\etocinnerbottomsep
810 \egroup

```

15. Implementation

```

811 \vbox{\hsize\linewidth
812 \ifx\etocbkgcolorcmd\Etoc@relax\else
813 \kern\ht\etoc@framed@titlebox
814 \kern\dp\etoc@framed@titlebox
815 \hb@xt@\linewidth{\color@begingroup
816 \etocleftrulecolorcmd\etocleftrule
817 \etocbkgcolorcmd
818 \leaders\vrule
819 \@height\ht\etoc@framed@contentsbox
820 \@depth\dp\etoc@framed@contentsbox
821 \hss
822 \etocrightrulecolorcmd\etocrightrule
823 \color@endgroup}\nointerlineskip
824 \vskip-\dp\etoc@framed@contentsbox
825 \vskip-\ht\etoc@framed@contentsbox
826 \vskip-\dp\etoc@framed@titlebox
827 \vskip-\ht\etoc@framed@titlebox
828 \fi
829 \box\etoc@framed@titlebox\nointerlineskip
830 \hb@xt@\linewidth{\color@begingroup
831 {\etocleftrulecolorcmd\etocleftrule}%
832 \hss\box\etoc@framed@contentsbox\hss
833 \etocrightrulecolorcmd\etocrightrule\color@endgroup}
834 \nointerlineskip
835 \vskip\ht\etoc@framed@contentsbox
836 \vskip\dp\etoc@framed@contentsbox
837 \hb@xt@\linewidth{\color@begingroup\etocbottomrulecolorcmd
838 \leaders\etocbottomrule\hss\color@endgroup}}
839 \addvspace{\etocbelowtocskip}}}

placeholder for comments

840 \newcommand\etoc@multicoltoc[2][\etocdefaultnbcol]{%
841 \etocmulticolstyle[#1]{#2}%
842 \tableofcontents}
843 \newcommand\etoc@multicoltoi[2][\etocdefaultnbcol]{%
844 \etocmulticolstyle[#1]{#2}%
845 \tableofcontents*}
846 \newcommand\etoc@local@multicoltoc[2][\etocdefaultnbcol]{%
847 \etocmulticolstyle[#1]{#2}%
848 \localtableofcontents}
849 \newcommand\etoc@local@multicoltoi[2][\etocdefaultnbcol]{%
850 \etocmulticolstyle[#1]{#2}%
851 \localtableofcontents*}

placeholder for comments

852 \newcommand*\etoc@ruledtoc[2][\etocdefaultnbcol]{%
853 \etocruledstyle[#1]{#2}%
854 \tableofcontents}
855 \newcommand*\etoc@ruledtoi[2][\etocdefaultnbcol]{%
856 \etocruledstyle[#1]{#2}%
857 \tableofcontents*}
858 \newcommand*\etoc@local@ruledtoc[2][\etocdefaultnbcol]{%
859 \etocruledstyle[#1]{#2}%

```


15. Implementation

```
860 \localtableofcontents}
861 \newcommand*\etoc@local@ruledtoci[2][\etocdefaultnbcol]{%
862 \etocruledstyle[#1]{#2}%
863 \localtableofcontents*}
placeholder for comments
864 \newcommand*\etoc@framedtoc[2][\etocdefaultnbcol]{%
865 \etocframedstyle[#1]{#2}%
866 \tableofcontents}
867 \newcommand*\etoc@framedtoci[2][\etocdefaultnbcol]{%
868 \etocframedstyle[#1]{#2}%
869 \tableofcontents*}
870 \newcommand*\etoc@local@framedtoc[2][\etocdefaultnbcol]{%
871 \etocframedstyle[#1]{#2}%
872 \localtableofcontents}
873 \newcommand*\etoc@local@framedtoci[2][\etocdefaultnbcol]{%
874 \etocframedstyle[#1]{#2}%
875 \localtableofcontents*}
placeholder for comments
876 \def\etocmulticol{\begingroup
877 \Etoc@mustclosegrouptrue
878 \@ifstar
879 {\etoc@multicoltoctoci}
880 {\etoc@multicoltoctoc}}
881 \def\etocruled{\begingroup
882 \Etoc@mustclosegrouptrue
883 \@ifstar
884 {\etoc@ruledtoci}
885 {\etoc@ruledtoc}}
886 \def\etocframed{\begingroup
887 \Etoc@mustclosegrouptrue
888 \@ifstar
889 {\etoc@framedtoci}
890 {\etoc@framedtoc}}
891 \def\etoclocalmulticol{\begingroup
892 \Etoc@mustclosegrouptrue
893 \@ifstar
894 {\etoc@local@multicoltoctoci}
895 {\etoc@local@multicoltoctoc}}
896 \def\etoclocalruled{\begingroup
897 \Etoc@mustclosegrouptrue
898 \@ifstar
899 {\etoc@local@ruledtoci}
900 {\etoc@local@ruledtoc}}
901 \def\etoclocalframed{\begingroup
902 \Etoc@mustclosegrouptrue
903 \@ifstar
904 {\etoc@local@framedtoci}
905 {\etoc@local@framedtoc}}
placeholder for comments
906 \def\etocarticlestyle{%
907 \etocsettocstyle
```

15. Implementation

```

908     {\section *{\contentsname
909         \@mkboth {\MakeUppercase \contentsname}
910         {\MakeUppercase \contentsname}}}
911     {}
912 \def\etocarticlestylenomarks{%
913     \etocsettocstyle
914     {\section *{\contentsname}}
915     {}
916
917     placeholder for comments
918
919 \def\etocbookstyle{%
920     \etocsettocstyle
921     {\if@twocolumn \@restonecoltrue \onecolumn \else \@restonecolfalse \fi
922     \chapter *{\contentsname
923         \@mkboth {\MakeUppercase \contentsname}
924         {\MakeUppercase \contentsname}}}
925     {\if@restonecol \twocolumn \fi}}
926 \def\etocbookstylenomarks{%
927     \etocsettocstyle
928     {\if@twocolumn \@restonecoltrue \onecolumn \else \@restonecolfalse \fi
929     \chapter *{\contentsname}}
930     {\if@restonecol \twocolumn \fi}}
931 \let\etocreportstyle\etocbookstyle
932 \let\etocreportstylenomarks\etocbookstylenomarks
933 \def\etocmemoirtocformat #1#2{%
934     \def\Etoc@addsuitablecontentsline{\addcontentsline {toc}{#1}{#2}}%
935     \renewcommand*{\etocaftertitlehook}{%
936         \ifmem@em@starred@listof
937         \else\phantomsection\aftergroup\Etoc@addsuitablecontentsline\fi}}
938 \def\etocmemoirstyle{%
939     \etocsettocstyle
940     {\ensureonecol \par \begingroup \@nameuse {@tocmaketitle}
941     \Etoc@aftertitlehook\let\Etoc@aftertitlehook\relax
942     \parskip \cftparskip \@nameuse {cfttocbeforelisthook}}
943     {\@nameuse {cfttocafterlisthook}\endgroup\restorefromonecol}}
944
945     placeholder for comments
946
947 \def\etocscrartclstyle{%
948     \etocsettocstyle
949     {\let\if@dynlist\if@tocleft
950     \iftocfeature {toc}{onecolumn}
951     {\iftocfeature {toc}{leveldown}
952     {}
953     {\if@twocolumn \aftergroup \twocolumn \onecolumn \fi }}
954     {}%
955     \tocbasic@listhead {\listoftocname}%
956     \begingroup \expandafter \expandafter \expandafter
957     \endgroup \expandafter
958     \ifx
959     \csname microtypesetup\endcsname \relax
960     \else
961     \iftocfeature {toc}{noprotection}}
962     {\microtypesetup {protection=false}}%

```

15. Implementation

```

957 \PackageInfo {tocbasic}%
958 {character protrusion at toc deactivated}}%
959 \fi
960 \setlength {\parskip }{\z@ }%
961 \setlength {\parindent }{\z@ }%
962 \setlength {\parfillskip }{\z@ \@plus 1fil}%
963 \csname tocbasic@@before@hook\endcsname
964 \csname tb@toc@before@hook\endcsname}
965 {\csname tb@toc@after@hook\endcsname
966 \csname tocbasic@@after@hook\endcsname}}
967 \let\etocscrbookstyle\etocscrartclstyle
968 \let\etocscrreprtstyle\etocscrartclstyle

placeholder for comments
969 \newcommand*\etocstandarddisplaystyle{\etocarticlestyle}
970 \newcommand*\etocmarkboth[1]{%
971 \mkboth{\MakeUppercase{#1}}{\MakeUppercase{#1}}}
972 \newcommand*\etocmarkbothnouc[1]{\mkboth{#1}{#1}}
973 \newcommand\etocstyle[3][section]{\etocmulticolstyle[#2]%
974 {\csname #1\endcsname *{#3}}}
975 \newcommand\etocstylewithmarks[4][section]{\etocmulticolstyle[#2]%
976 {\csname #1\endcsname *{#3}\etocmarkboth{#4}}}%
977 \newcommand\etocstylewithmarksnouc[4][section]{\etocmulticolstyle[#2]%
978 {\csname #1\endcsname *{#3}\etocmarkbothnouc{#4}}}%

placeholder for comments
979 \def\Etoc@redefetocstyle#1{%
980 \renewcommand\etocstylewithmarks[4][#1]
981 {\etocmulticolstyle[##2]%
982 {\csname ##1\endcsname *{##3}\etocmarkboth{##4}}}%
983 \renewcommand\etocstylewithmarksnouc[4][#1]
984 {\etocmulticolstyle[##2]%
985 {\csname ##1\endcsname *{##3}\etocmarkbothnouc{##4}}}%
986 \renewcommand\etocstyle[3][#1]{%
987 \etocmulticolstyle[##2]{\csname ##1\endcsname *{##3}}}%
988 \@ifclassloaded{scrartcl}
989 {\renewcommand*\etocstandarddisplaystyle{\etocscrartclstyle}}{}
990 \@ifclassloaded{book}
991 {\renewcommand*\etocfontone{\normalfont\normalsize}
992 \renewcommand*\etocstandarddisplaystyle{\etocbookstyle}
993 \Etoc@redefetocstyle{chapter}}{}
994 \@ifclassloaded{report}
995 {\renewcommand*\etocfontone{\normalfont\normalsize}
996 \renewcommand*\etocstandarddisplaystyle{\etocreportstyle}
997 \Etoc@redefetocstyle{chapter}}{}
998 \@ifclassloaded{scrbook}
999 {\renewcommand*\etocfontone{\normalfont\normalsize}
1000 \renewcommand*\etocstandarddisplaystyle{\etocscrbookstyle}
1001 \Etoc@redefetocstyle{chapter}}{}
1002 \@ifclassloaded{scrreprt}
1003 {\renewcommand*\etocfontone{\normalfont\normalsize}
1004 \renewcommand*\etocstandarddisplaystyle{\etocscrreprtstyle}
1005 \Etoc@redefetocstyle{chapter}}{}

```

15. Implementation

```
1006 \@ifclassloaded{memoir}
1007     {\renewcommand*{\etocfontone{\normalfont\normalsize}
1008       \etocmemoirtoc\tocfmt{chapter}{\contentsname}%
1009       \renewcommand*{\etocstandarddisplaystyle{\etocmemoirstyle}
1010       \Etoc@redefetocstyle{chapter}}{}}
    placeholder for comments
1011 \def\Etoc@addtocontents #1#2%
1012     {\ifEtoc@hyperref
1013       \addtocontents {toc}{\protect\contentsline
1014         {#1}{#2}%
1015         {\thepage }{\@currentHref }}%
1016     \else
1017       \addtocontents {toc}{\protect\contentsline
1018         {#1}{#2}{\thepage }}%
1019     \fi}
1020 \def\Etoc@addcontentsline@ #1#2#3%
1021     {\@namedef{toclevel@#1}{#3}%
1022     \addcontentsline {toc}{#1}{#2}}
1023 \DeclareRobustCommand*\etoc\toccontentsline{
1024     {\@ifstar{\Etoc@addcontentsline@}{\Etoc@addtocontents}}
1025 %
1026 \newcommand*\etocstandardlines{\Etoc@standardtrue}
1027 \newcommand*\etoc\toclines{\Etoc@standardfalse} % 1.07b
1028 %
1029 \etocdefaultlines % for initialization
1030 \etocstandardlines % removed silly AtBeginDocument temporarily added for 1.07
1031 \etocstandarddisplaystyle
1032 \endinput
```