

The Obsolete Package `tocstyle`*

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While the main classes of the KOMA-Script bundle were made, there were several ideas for formatting the table of contents and lists of floats, but almost none of them were implemented. One reason was, that the KOMA-Script author didn't like to change the L^AT_EX kernel at a class, because this may result in several problems with other packages. The package `tocstyle` was an experiment to fill the gap.

Since KOMA-Script 3.20 most of the features of `tocstyle` are also provided by other KOMA-Script packages like `tocbasic`.

Since KOMA-Script 3.31 the package has been removed from KOMA-Script. It is deprecated and should not be used any longer.

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1. Package Status

Package `tocstyle` has alpha status for a very long time (since 2007), despite the fact that it was very stable all over the years. The main reason for this is that it was an experiment and I always intended to make a better successor. Another reason was, that there are known issues, which are hardly to fix. So `tocstyle` never became an official part of `KOMA-Script`. Nevertheless it has been published with `KOMA-Script`, because I thought it would be an useful addition. I never thought that the interim status of the package would be for more than eight years.

With `KOMA-Script` 3.20 several features of `tocstyle` can be found also

in `tocbasic`. I recommend to use that official and essential part of KOMA-Script instead of `tocstyle` whenever possible. With KOMA-Script 3.31 `tocstyle` has moved from KOMA-Script bundle to KOMA-Script-obsolete.

2. How It Works

Loading the package `tocstyle` will redefine the kernel macro `\@starttoc`. Using the redefined `\@starttoc` will redefine `\@dottedtocline`, `\l@part` down to `\l@subparagraph`, `\l@figure`, and `\l@table`, if and only if `tocstyle` wasn't deactivated for all TOCs or this TOC. Usage the redefined `\@dottedtocline` will redefine `\numberline`.

Redefining `\@starttoc`, `\@dottedtocline`, and `\numberline` will activate the features of `tocstyle` for all lists that uses these, e.g. table of contents, list of figures and list of tables at the standard or the KOMA-Script classes. But while not all classes uses `\@dottedtocline` and `\@numberline` for all entries to table of contents and list of floats the package redefines some other macros that are typically used for those entries. These are e.g. `\l@part`, `\l@chapter` and some more. If the class even does not use those macros, you may not use `tocstyle` to change the lists. The term TOC will be used for all kind of list, that may be processed by `tocstyle`. The package tests whether the original kernel macros `\@starttoc`, `\@dottedtocline`, and `\numberline` were used or not and warns if not.

Package `tocstyle` needs some more information. For the standard and the KOMA-Script classes these informations may be detected by the package. If the result is not the expected, you may configure these informations manually.

The entries of every TOC has a depth. See the counter `tocdepth` for more information about the depth. You may change several settings for the entries of either all depths of all TOCs, all depths of one TOC, or one depth of one TOC.

But most users will not need to set up `tocstyle` at this low level. They simply will select one of the predefined styles and maybe select one of the optional features.

3. Optional Features

Optional features will be selected using a package option while loading the package or using the package option as a global option loading the class using `\documentclass`. Optional features change general behaviour of all TOCs.

`tocindentauto`
`tocindentmanual`

With option `tocindentauto` all widths at the TOCs are calculated by `tocstyle`. The calculation of the width needs at least one \LaTeX run with all TOC entries. So you need at least three \LaTeX runs:

- one to write all the TOC entries to the TOC file
- one with the known TOC entries from the TOC file but unknown widths
- one with the known TOC entries from the TOC file and known widths

If the TOC entries changed between the second and the third run — e.g. because of page numbers changed — you'll need one more run (and so on).

Note: The widths of all entries of same depth and same TOC are same. Don't ask for less width of page numbers at the first than the last TOC page!

`tocgraduated` The option `tocgraduated` selects the graduated version of all TOCs.
`tocflat` You know the graduated version from the standard classes. Entries of
`tocfullflat` lower depth are indented against entries of higher depth. This may e.g. look like:

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The option `tocflat` selects the flat—aka left aligned—version of all TOCs. You know the flat version from the KOMA-Script classes using option `tocleft`. This may e.g. look like:

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The option `tocfullflat` is similar to flat version of all TOCs, but there is even no box of same width for the numbers of all entries. This may e.g. look like:

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Default is option `tocgraduated`.

`tocbreaksstrict`
`tocbreakscareless` Default option `tocbreaksstrict` sets a lot of penalties before and after TOC entries to avoid page break between a TOC entry and it's parent. But sometimes you may like to allow more page breaks. You may use option `tocbreakscareless` for this.

`toctextentriesindented`
`toctextentriesleft` With default option `toctextentriesleft` unnumbered TOC entries, e.g. from KOMA-Script command `\addchap`, are indented only as wide as the number of numbered TOC entries of the same level are. But with option `toctextentriesindented` these are indented as if they have an empty number.

4. Using TOC Styles

Package `tocstyle` has several predefined toc styles. Most users will never need to define their own toc style but only select one of the predefined and maybe configure it by one of the options described at the previous section.

`\usetocstyle` You may set the style of one or all TOCs. If you want to set the style of all TOCs, you'd simply say `\usetocstyle{<style>}`. This will set all settings of the given style to all TOCs. Individual settings will overwrite this general setting.

If you use `\usetocstyle[<TOC>]{<style>}`, only the style of the given TOC will be set. This will be done *after* the general setting. Only individual settings of single features may overwrite the setting of the style.

The table 1 shows the predefined styles, that may be used as mandatory argument of `\tocstyle`. The optional argument `<TOC>` is the shortcut

Table 1: Predefined TOC Styles

standard	A style similar to the standard classes. All width are predefined to the width of the standard classes, but may be overwritten by the general options (see section 3). The depth -1 (part) and 0 (chapter) are set in bold face (<code>\bfseries</code>). If no depth 0 was found at the TOC, depth 1 (section) will be set in bold face, too. All other depth will be set in normal font. Depth -1 (part) will be set using <code>\large</code> . The font changes are valid for the page numbers, too.
KOMAlike	A style similar to the KOMA-Script classes. This is almost the same like standard , but instead of bold face <code>\usekomafont{disposition}</code> will be used if <code>\usekomafont</code> was defined and sans serif, bold face (<code>\sffamily\bfseries</code>) if not.
classic	Like KOMAlike but all page numbers are set using normal font.
allwithdot	Like classic but dots between entry text and page numbers are used at all depths.
noonewithdot	Like classic but not dots between entry text and page numbers are used.
nopagecolumn	Like noonewithdot but also the gap between text and page numbers is omitted. This means, that the page numbers are set 1 em after the text.

(file extension) of the TOC. Examples of known shortcuts are shown at table 2.

Note: Before you're setting a style the style of the TOCs are unspecified. This means that some entries may be set using `tocstyle` others may not.

`\deactivatetocstyle` Both commands have one optional argument $\langle TOC \rangle$. You may deactivate the influence of `tocstyle` for a TOC and reactivate it. If you use `\deactivatetocstyle` without the optional argument or empty optional argument, the influence of `tocstyle` for all TOCs will be deactivated and may reactivated only using `\reactivatetocstyle` without the optional argument or empty optional argument too.

After deactivation of `tocstyle` for one TOC or all TOCs you may continue configuring TOCs. All these changes will be used after reactivation.

Table 2: Known TOC Shortcuts

<code>toc</code>	Table of contents of almost all known classes.
<code>lof</code>	List of figures of almost all known classes.
<code>lot</code>	List of tables of almost all known classes.
<code>lol</code>	List of listings of package listings. Currently the usability of listings with <code>tocstyle</code> is not recommended. Maybe it works, maybe not. Maybe you should try <code>\deactivatetocstyle[lol]</code> .

5. Setting-up Single Features

At the previous section you've learned how to select a predefined TOC style. You were also told, that you may change one or more features against the used predefined TOC style for one or all depth of one or all TOCs. Now you will learn how to do this.

`\settocfeature` These commands are used to set a single feature either of all depth of all
`\settocstylefeature` TOCs (`\settocfeature {<feature>} {<command>}`) or `\settocstylefeature {<feature>} {<commands>}`), or of all depth of a single TOC (`\settocfeature [TOC] {<feature>} {<commands>}`), or of a single depth of all TOCs (`\settocstylefeature [depth] {<feature>} {<commands>}`), or of a single depth of a single TOC (`\settocfeature [TOC] [depth] {<feature>} {<commands>}`).

Parameter `<commands>` is a list of commands. In most cases these must not be commands, that need an argument. So you should e.g. not use `\textbf` but `\bfseries` to switch to bold face. Parameter `<feature>` is the feature, that may be configured with parameter `<commands>`. All known features are show at table 3.

The order of used commands for a feature is

1. commands for all depths of all TOCs,
2. commands for all depth of a single TOC,
3. commands for a single depth of all TOCs,
4. commands for a single depth of a single TOC,

and settings of `\usetocstyle` may be overwritten by `\settocfeature` und `\settocstylefeature`.

Table 3: Features that May Be Set

dothook	will be executed before any dot of the dot line
entryhook	hook before the entry will be set
entryvskip	initial vertical skip amount (if not set 0pt plus .2pt will be used)
leaders	commands for fillin the gap between entry text and page number (if not set the default leaders command with dots will be used)
pagenumberbox	the box command for setting the page number (if not set the default box of with <code>\@pnumwidth</code> will be used); note, that this has to be a command with exactly one argument
pagenumberhook	hook before the page number will be set at the page number box
parfillskip	add this amount to the default value of <code>\parfillskip</code> after setting up all lengths
raggedhook	the only allowed values here are <code>\raggedright</code> or nothing
spaceafternumber	amount of minimum space after the entry number, if the needed width will be calculated automaticly

6. Defining New TOC Styles

Now you know how to select a predefined TOC style and how to change single features. But wouldn't it be nice to define your own TOC style?

`\newtocstyle` You may do this using `\newtocstyle` [*parent style*] [*exclude features*] {*style name*} {\settocstylefeature-commands}. If you used the optional argument *parent style* all features of the parent style will be part of the new style, before overwriting them with the features of the {\settocstylefeature-commands}. You should not use any other commands at the last argument. But at `\newtocstyle` the command `\settocfeature` becomes an alias for `\settocstylefeature` to avoid to much mistakes.

The second optional argument is a comma separated list of feature names. If it is used, these features of the parent style (and all ancestors of the parent) will not be part of the new style.

`\aliastoc` Using `\aliastoc`{*original-TOC*}{*alias-TOC*} you may define an alias for a TOC. The first argument is the original TOC for that the second argument should be the alias. An alias-TOC will be processed with all settings, that were done for the original-TOC. Internally this command is used as default for the optional, first argument of `\showtoc`.

7. Processing a TOC

While \LaTeX inputs a toc file it processes the commands of the TOC. These commands mainly produce the entries of the toc. Some commands are only available or valid while a TOC is processed. But be carefull: Some of these are read-only commands. Changing such a read-only command may result in various errors!

`\@starttoc` The internal comand `\@starttoc` is defined by the \LaTeX kernel. It is used by package and class authors to build commands like `\tableofcontents` or `\listoffigures`. Without using it you will not get a toc file. `tocstyle` redefines it, to add pre- and post-processing commands. The original definition found by `tocstyle` will be used inside the redefinition.

`\showtoc`

`\showtoc` [*preproression*]{*TOC*} is an addition of `tocstyle`. Using it will procude a copy of TOC and process this copy. The copy will be done just after creating the original TOC. The copy will be an alias for the original file. The extension of the copy is the generated alias if *TOC*. You may generate the alias using `\aliastoc` at the optional argument of `\showtoc`. The default for this optional argument will be `\aliastoc\tocstyleTOC\tocstyleAliasTOC` and the default alias `\tocstyleAliasTOC` will be `\tocstyleTOC` extended by a number. The first TOC example at section 3 was made using

```
\showtoc [{%
```

```

\aliastoc{\tocstyleTOC}{toc}%
\usetocstyle[toc]{standard}%
\settocfeature[toc]{raggedhook}{\raggedright}%
\selecttocstyleoption{tocgraduated}%
}]{toc}

```

If you want to show a copy of the table of contents, that shows only depth 1 of the headlines you may simply use:

```

\showtoc [{%
\expandafter\value{tocdepth}=1\relax
\aliastoc{\tocstyleTOC}{toc}%
}]{toc}

```

or

```

\newcounter{savedtocdepth}
\setcounter{savedtocdepth}{\value{tocdepth}}
\setcounter{tocdepth}{1}
\showtoc{toc}
\setcounter{tocdepth}{\value{savedtocdepth}}

```

`\tocstyleTOC` These are read-only macros. While processing a TOC using `\@starttoc` or `\showtoc`, `\tocstyleAliasTOC` is the shortcut, that is valid for the features and `\tocstyleTOC` is valid for the file extension to be used.

`\tocstyledepth` This is a read-only macro. While processing a single toc entry with `\@dottedtocline` this is the depth (first argument of `\@dottedtocline`) of this entry. Most users will never need this, but it is often used internally. Because of this *you should never change it!*

`\iftochasdepth` Using `\iftochasdepth{<TOC>}{<depth>}{<true>} {<false>}` you may test, if an entry of a given depth was already output to a TOC. If so the commands of argument `<true>` will be processed. If not so the commands of argument `<false>` will be processed.

8. Configuration file

There's another feature for new toc styles. If there's a file `tocstyle.cfg` it will be loaded at the end of the package. This is usefull to define your own toc styles.

9. Implementation

```

1 \PackageWarningNoLine{tocstyle}{%
2 THIS IS A DEPRECATED ALPHA VERSION!\MessageBreak
3 USAGE OF THIS VERSION IS ON YOUR OWN RISK!\MessageBreak
4 EVERYTHING MAY HAPPEN!\MessageBreak
5 THE PACKAGE IS FROZEN WITH ALL IT'S BUGS!\MessageBreak
6 THERE IS NO SUPPORT, IF YOU USE THIS PACKAGE!\MessageBreak

```

```

7 Maybe it would be better, not to load this package%
8 }

```

9.1. Option

Options change general behaviour of TOCs.

```
\selecttocstyleoption
```

```

9 \newif\if@tocstyle@penalties
10 \newif\iftocstyle@autolength
11 \newif\iftocstyle@indentnotnumbered
12 \newcount\tocstyle@indentstyle\tocstyle@indentstyle=\z@
13 \newcommand*\selecttocstyleoption}[1]{%
14   \begingroup
15     \edef\@tempa{#1}%
16     \edef\@tempb{tocbreaksstrict}%
17     \ifx\@tempa\@tempb\aftergroup\@tocstyle@penaltiestrue\else
18       \edef\@tempb{tocbreakscareless}%
19       \ifx\@tempa\@tempb\aftergroup\@tocstyle@penaltiesfalse\else
20         \edef\@tempb{tocindentauto}%
21         \ifx\@tempa\@tempb\aftergroup\tocstyle@autolengthtrue\else
22           \edef\@tempb{tocindentmanual}%
23           \ifx\@tempa\@tempb\aftergroup\tocstyle@autolengthfalse\else
24             \edef\@tempb{tocgraduated}%
25             \ifx\@tempa\@tempb
26               \aftergroup\tocstyle@indentstyle\aftergroup\z@
27             \else
28               \edef\@tempb{tocflat}%
29               \ifx\@tempa\@tempb
30                 \aftergroup\tocstyle@indentstyle\aftergroup\@ne
31                 \aftergroup\relax
32               \else
33                 \edef\@tempb{tocfullflat}%
34                 \ifx\@tempa\@tempb
35                   \aftergroup\tocstyle@indentstyle\aftergroup\tw@
36                   \aftergroup\relax
37                 \else
38                   \edef\@tempb{toctextentriesindented}%
39                   \ifx\@tempa\@tempb\aftergroup\tocstyle@indentnotnumberedtrue
40                   \else
41                     \edef\@tempb{toctextentriesleft}%
42                     \ifx\@tempa\@tempb
43                       \aftergroup\tocstyle@indentnotnumberedfalse
44                     \else
45                       \PackageError{tocstyle}{unknown option ‘#1’}{%
46                         You’ve told me to select toc style option
47                         ‘#1’,\MessageBreak
48                         but tocstyle doesn’t know an option named ‘#1’}%
49                     \fi
50                   \fi

```

```

51             \fi
52         \fi
53     \fi
54     \fi
55     \fi
56     \fi
57     \fi
58 \endgroup
59 }

```

```

chapter Do we have \chapter and \l@chapter?
nochapter 60 \newif\iftochaschapter\tochaschapterfalse
\iftochaschapter 61 \ifcsname l@chapter\endcsname
62 \ifcsname chapter\endcsname
63 \tochaschaptertrue
64 \fi
65 \fi

```

```

tocbreaksstrict Switch on extended pernalties.
tocbreakscareless 66 \DeclareOption{tocbreaksstrict}{\selecttocstyleoption\CurrentOption}
67 \DeclareOption{tocbreakscareless}{\selecttocstyleoption\CurrentOption}

```

```

tocindentauto
tocindentmanual 68 \DeclareOption{tocindentauto}{\selecttocstyleoption\CurrentOption}
69 \DeclareOption{tocindentmanual}{\selecttocstyleoption\CurrentOption}

```

```

toctextentriesindented
toctextentriesleft 70 \DeclareOption{toctextentriesindented}{\selecttocstyleoption\CurrentOption}
71 \DeclareOption{toctextentriesleft}{\selecttocstyleoption\CurrentOption}

```

```

tocgraduated
tocflat 72 \DeclareOption{tocgraduated}{\selecttocstyleoption\CurrentOption}
tocfullflat 73 \DeclareOption{tocflat}{\selecttocstyleoption\CurrentOption}
74 \DeclareOption{tocfullflat}{\selecttocstyleoption\CurrentOption}

```

Defaults and others:

```

75 \ExecuteOptions{tocbreaksstrict,tocindentauto,tocgraduated,%
76 toctextentriesleft}
77 \ProcessOptions\relax

78 \ifcsname if@tocleft\endcsname
79 \expandafter\let\csname if@tempswa\expandafter\endcsname
80 \csname if@tocleft\endcsname
81 \else
82 \@tempswafalse
83 \fi
84 \if@tempswa
85 \PackageWarningNoLine{tocstyle}{%
86 You should not use class option 'toc=flat'!\MessageBreak

```

```

87     This may result in errors or unexpected results.\MessageBreak
88     I'll try to deactivate 'toc=flat', now.\MessageBreak
89     You may use package options 'tocflat' and \MessageBreak
90     'tocindentauto' instead of 'toc=flat'%
91     \csname @tocleftfalse\endcsname
92 \fi

```

9.2. Body

There are two parts at `tocstyle`:

- redefining internal \LaTeX kernel macros,
- defining new macros and redefining class macros.

Redefining \LaTeX kernel macros may not be switched of. But redefining class macros will only be on demand.

9.2.1. Redefining \LaTeX Kernel Macros

Some \LaTeX kernel macros must be redefined to add the new functionality. Before redefining them, we test against the definition at kernel 2005/12/01

```

\@starttoc The original definition will be extended by defaults for \parskip, \parindent
\tocstyle@saved@@starttoc and \parfillskip and storage of the shortcut of the current TOC.
93 \newcommand*\tocstyle@saved@starttoc{}
94 \let\tocstyle@saved@starttoc\@starttoc
95 \renewcommand*\@starttoc}[1]{%
96   \tocstyle@pre@starttoc{#1}%
97   \tocstyle@saved@starttoc{#1}%
98   \tocstyle@post@starttoc{#1}%
99 }

```

```

\tocstyle@saved@dottedtocline For saving the unchanged definition (at \begindocument):
100 \newcommand*\tocstyle@saved@dottedtocline}{}

```

```

\tocstyle@dottedtocline Implement new definition and redefine:

```

```

101 \newcommand*\tocstyle@dottedtocline}[5]{%
102   \let\numberline\tocstyle@numberline
103   \ifnum #1>\c@tocdepth \else

```

Penalty feature: no page break between higher and lower depths.

```

104   \if@tocstyle@penalties
105     \begingroup
106       \@tempcnta 20010
107       \advance \@tempcnta by -#1
108       \ifnum \@tempcnta>\lastpenalty
109         \aftergroup\penalty\aftergroup\@lowpenalty
110       \fi

```

```

111     \endgroup
112     \fi
    Activation of all features for this TOC and depth:
113     \edef\tocstyledepth{#1}%
114     \tocstyle@activate@features
    Similar to kernel command but if feature entryvskip was set use \addvspace:
115     \ifx\tocstyle@feature@entryvskip\relax
116         \vskip \z@ \@plus.2\p@
117     \else
118         \addvspace{\tocstyle@feature@entryvskip}%
119     \fi
120     {%
    Preinitialization of lengths and skips and then call a hook
121         \parskip \z@ \parindent \z@ \leftskip \z@ \rightskip \z@
122         \tocstyle@feature@raggedhook
    Set number indent to \@tempdimb and text indent to \@tempdima.
123         \@tempdima #3\relax
124         \@tempdimb #2\relax
125 <trace>         \typeout{number indent by \string\l@... (\tocstyleTOC, \tocstyledepth)
126 <trace>         \typeout{text indent by \string\l@... (\tocstyleTOC, \tocstyledepth):
    Calc auto lengths. Use max. of last run of parents if available.
127         \ifnum #1>\z@\relax
128             \@tempcnta #1\relax \advance\@tempcnta \m@ne
129             \ifcsname tocstyle@maxskipwidth@\tocstyleTOC @\the\@tempcnta\endcsname
130                 \ifcsname tocstyle@maxnumwidth@\tocstyleTOC @\the\@tempcnta\endcsname
131                     \@tempdimb
132                     \csname tocstyle@maxskipwidth@\tocstyleTOC @\the\@tempcnta\endcsname
133                     \advance\@tempdimb
134                     \csname tocstyle@maxnumwidth@\tocstyleTOC @\the\@tempcnta\endcsname
135                 \fi
136             \fi
137         \fi
138 <trace>         \typeout{number indent by parent (\tocstyleTOC, \tocstyledepth): \spa
139         \ifcsname tocstyle@skipwidth@\tocstyleTOC @#1\endcsname
140             \ifdim \@tempdimb>
141                 \csname tocstyle@skipwidth@\tocstyleTOC @#1\endcsname\relax
142                 \expandafter\xdef\csname tocstyle@skipwidth@\tocstyleTOC
143                     @#1\endcsname{\the\@tempdimb}%
144             \fi
145         \else
146             \expandafter\xdef\csname tocstyle@skipwidth@\tocstyleTOC
147                 @#1\endcsname{\the\@tempdimb}%
148             \fi
149         \iftocstyle@autolength
150             \ifcsname tocstyle@maxskipwidth@\tocstyleTOC @#1\endcsname
151                 \@tempdimb \csname tocstyle@maxskipwidth@\tocstyleTOC @#1\endcsname

```

```

152         \relax
153     \fi
154     \ifcsname tocstyle@maxnumwidth@\tocstyleTOC @#1\endcsname
155         \@tempdima \csname tocstyle@maxnumwidth@\tocstyleTOC @#1\endcsname
156     \relax
157 \fi
158 <trace>         \typeout{text indent calculated (\tocstyleTOC, \tocstyledepth): \th
159 <trace>         \typeout{number indent calculated (\tocstyleTOC, \tocstyledepth): \
160     \else
161         \@tempdimb #2\relax
162 <trace>         \typeout{number indent explicite (\tocstyleTOC, \tocstyledepth): \t
163 \fi
164 \ifcsname tocstyle@unumwidth@\tocstyleTOC @\endcsname
165     \ifdim \@tempdima>
166         \csname tocstyle@unumwidth@\tocstyleTOC @\endcsname\relax
167         \expandafter\xdef\csname tocstyle@unumwidth@\tocstyleTOC
168             @\endcsname{\the\@tempdima}%
169     \fi
170 \else
171     \expandafter\xdef\csname tocstyle@unumwidth@\tocstyleTOC
172         @\endcsname{\the\@tempdima}%
173 \fi
174 \ifcase\tocstyle@indentstyle\relax\else
175     \@tempdimb \z@
176     \ifcsname tocstyle@maxunumwidth@\tocstyleTOC @\endcsname
177         \@tempdima \csname tocstyle@maxunumwidth@\tocstyleTOC @\endcsname
178     \relax
179 \fi
180 <trace>         \typeout{text noindent (\tocstyleTOC, \tocstyledepth): \the\@tempdi
181 <trace>         \typeout{number noindent (\tocstyleTOC, \tocstyledepth): \the\@temp
182 \fi

```

Advance instead of set, because of the hook above:

```

183     \advance\parindent \@tempdimb\@afterindenttrue
184     \advance\leftskip \parindent
185     \advance\rightskip \@toCRMarg
186     \parfillskip -\rightskip
187     \ifx\tocstyle@feature@parfillskip\relax\else
188         \advance\parfillskip \tocstyle@feature@parfillskip\relax
189     \fi
190     \interlinepenalty\@M
191     \leavevmode
192     \advance\leftskip \@tempdima
193     \null\nobreak

```

\hskip\leftskip optional moved to \numberline

```

194     \iftocstyle@indentnotnumbered\else
195         \hskip -\leftskip
196     \fi

```

Change at start of the entry


```

197     \tocstyle@feature@entryhook
Similar to kernel command but if feature leaders was set use this in-
stead of the default leaders. And if feature dothook was set (default is
\normalfont) use this at the default leaders.
198     {#4}\nobreak
199     \ifx\tocstyle@feature@leaders\relax
200         \leaders\hbox{${\m@th
201             \mkern \@dotsep mu\hbox{\tocstyle@feature@dothook .}}%
202             \mkern \@dotsep mu$}\hfill
203     \else
204         \tocstyle@feature@leaders
205     \fi
206     \nobreak
207     \ifx\tocstyle@feature@pagenumberbox\relax
208     \hb@xt@\@pnumwidth{\hfil\tocstyle@feature@pagenumberhook #5%
209         \kern-\p@\kern\p@}%
210     \else
211         \tocstyle@feature@pagenumberbox{\tocstyle@feature@pagenumberhook #5%
212         \kern-\p@\kern\p@}%
213     \fi
214     \par
215 }%
```

Last change is, another penalty change:

```

216     \if\tocstyle@penalties
217         \bgroup
218             \@tempcnta 20009
219             \advance\@tempcnta by -#1
220             \edef\reserved@a{\egroup\penalty\the\@tempcnta\relax}%
221         \reserved@a
222     \fi
223 \fi}
```

\tocstyle@saved@numberline Define a new \numberline, that will do all the job after \begindocument
\tocstyle@numberline and one to save the original definition.

```

224 \newcommand*{\tocstyle@saved@numberline}{}
225 \newcommand*{\tocstyle@numberline}[1]{%
226     \begingroup
227         \ifx\tocstyle@feature@spaceafternumber\relax
228             \settowidth\@tempdima{\tocstyle@numberline{#1}\enskip}%
229         \else
230             \settowidth\@tempdima{\tocstyle@numberline{#1}}%
231             \advance \@tempdima \tocstyle@feature@spaceafternumber\relax
232         \fi
233         \ifcsname tocstyle@numwidth@\tocstyleTOC @\tocstyledepth\endcsname
234             \ifdim \@tempdima >
235                 \csname tocstyle@numwidth@\tocstyleTOC @\tocstyledepth\endcsname\relax
236                 \expandafter\xdef\csname tocstyle@numwidth@\tocstyleTOC
237                 @\tocstyledepth\endcsname{\the\@tempdima}%
```

```

238     \fi
239   \else
240     \expandafter\xdef\csname tocstyle@numwidth@\tocstyleTOC
241       @\tocstyledepth\endcsname{\the\@tempdima}%
242     \fi
243   \endgroup
244   \iftocstyle@indentnotnumbered
245     \hskip -\leftskip
246   \fi
247   \ifcase \tocstyle@indentstyle
248     \hb@xt@\@tempdima{\tocstyle@@numberline{#1}\hfil}%
249   \or
250     \hb@xt@\@tempdima{\tocstyle@@numberline{#1}\hfil}%
251   \else
252     \ifx\tocstyle@feature@spaceafternumber\relax
253       \hbox{\tocstyle@@numberline{#1}\enskip}%
254     \else
255       \hbox{\tocstyle@@numberline{#1}\hskip
256         \tocstyle@feature@spaceafternumber\relax}%
257     \fi
258   \fi
259 }

```

```

\tocstyle@@numberline Do the main work!
260 \newcommand*{\tocstyle@@numberline}[1]{%
261   #1\csname autodot\endcsname
262 }

```

9.2.2. Redefining Class Macros

```

\l@part Try to redefine the toc commands at startup.
\l@chapter 263 \AtBeginDocument{%
\l@section 264   \@ifpackageloaded{tocbasic}{%
\l@subsection 265     \@ifpackagelater{tocbasic}{2016/03/01}{%
\l@subsubsection 266       \PackageWarningNoLine{tocstyle}{%
\l@paragraph 267         Usage of ‘tocstyle’ with new ‘tocbasic’ detected.\MessageBreak
\l@subparagraph 268           This is not an error! You can do this.\MessageBreak
\l@table 269             Nevertheless, you should note, combining ‘tocstyle’\MessageBreak
\l@figure 270               with this version of ‘tocbasic’ will break several\MessageBreak
271                 features of ‘tocbasic’. You should use ‘tocstyle’\MessageBreak
272                 features instead of ‘tocbasic’ attributes for all\MessageBreak
273                 entry changes you want.\MessageBreak
274                 You may also get additional warnings because of\MessageBreak
275                 redefined ‘\string\numberline’. Ignore them}%
276               }{}%
277             }{}%
278   \@ifpackageloaded{etoc}{%
279     \PackageWarningNoLine{tocstyle}{%
280       Usage of ‘tocstyle’ with ‘etoc’ detected.\MessageBreak

```

```

281     I suggest to use either 'tocstyle' or 'etoc'\MessageBreak
282     but not both of them together}%
283 }{}%
284 \@ifpackageloaded{titletoc}{%
285     \PackageWarningNoLine{tocstyle}{%
286         Usage of 'tocstyle' with 'titletoc' detected.\MessageBreak
287         I suggest to use either 'tocstyle' or 'titletoc'\MessageBreak
288         but not both of them together. I expect even\MessageBreak
289         error messages because of this combination}%
290 }{}%
291 \def\tocstyle@test@level{-1}%
292 \def\tocstyle@test@levelname{part}%
293 \@whiles\ifcsname l@\tocstyle@test@levelname\endcsname\fi{%
294     \setbox\@tempboxa\vbox{\hsize\maxdimen
295         \let\normalcolor\relax
296         \let\color\@gobble
297         \edef\reserved@a{%
298             \expandafter\noexpand\csname l@\tocstyle@test@levelname\endcsname{%
299                 \noexpand\tocstyle@l@define{\tocstyle@test@levelname}%
300                     {\tocstyle@test@level}%
301             }{}%
302         }%
303     \reserved@a
304 }%
305 \edef\tocstyle@test@levelname{sub\tocstyle@test@levelname}%
306 \edef\tocstyle@test@level{\the\numexpr\tocstyle@test@level+1}%
307 }%
308 \ifnum\tocstyle@test@level<\z@
309     \def\tocstyle@test@level{0}%
310 \fi
311 \def\tocstyle@test@levelname{chapter}%
312 \@whiles\ifcsname l@\tocstyle@test@levelname\endcsname\fi{%
313     \setbox\@tempboxa\vbox{\hsize\maxdimen
314         \let\normalcolor\relax
315         \let\color\@gobble
316         \edef\reserved@a{%
317             \expandafter\noexpand\csname l@\tocstyle@test@levelname\endcsname{%
318                 \noexpand\tocstyle@l@define{\tocstyle@test@levelname}%
319                     {\tocstyle@test@level}%
320             }{}%
321         }%
322     \reserved@a
323 }%
324 \edef\tocstyle@test@levelname{sub\tocstyle@test@levelname}%
325 \edef\tocstyle@test@level{\the\numexpr\tocstyle@test@level+1}%
326 }%
327 \ifnum\tocstyle@test@level<\@ne
328     \def\tocstyle@test@level{1}%
329 \fi

```

```

330 \def\tocstyle@test@levelname{section}%
331 \@whiles\ifcsname l@\tocstyle@test@levelname\endcsname\fi{%
332   \setbox\@tempboxa\vbox{\hsize\maxdimen
333     \let\normalcolor\relax
334     \let\color\@gobble
335     \edef\reserved@a{%
336       \expandafter\noexpand\csname l@\tocstyle@test@levelname\endcsname{%
337         \noexpand\tocstyle@l@define{\tocstyle@test@levelname}%
338           {\tocstyle@test@level}%
339       }{}}%
340   }%
341   \reserved@a
342 }%
343 \edef\tocstyle@test@levelname{sub\tocstyle@test@levelname}%
344 \edef\tocstyle@test@level{\the\numexpr\tocstyle@test@level+1}%
345 }%
346 \def\tocstyle@test@levelname{paragraph}%
347 \@whiles\ifcsname l@\tocstyle@test@levelname\endcsname\fi{%
348   \setbox\@tempboxa\vbox{\hsize\maxdimen
349     \let\normalcolor\relax
350     \let\color\@gobble
351     \edef\reserved@a{%
352       \expandafter\noexpand\csname l@\tocstyle@test@levelname\endcsname{%
353         \noexpand\tocstyle@l@define{\tocstyle@test@levelname}%
354           {\tocstyle@test@level}%
355       }{}}%
356   }%
357   \reserved@a
358 }%
359 \edef\tocstyle@test@levelname{sub\tocstyle@test@levelname}%
360 \edef\tocstyle@test@level{\the\numexpr\tocstyle@test@level+1}%
361 }%
362 \def\tocstyle@test@level{1}%
363 \def\tocstyle@test@levelname{table}%
364 \@whiles\ifcsname l@\tocstyle@test@levelname\endcsname\fi{%
365   \setbox\@tempboxa\vbox{\hsize\maxdimen
366     \let\normalcolor\relax
367     \let\color\@gobble
368     \edef\reserved@a{%
369       \expandafter\noexpand\csname l@\tocstyle@test@levelname\endcsname{%
370         \noexpand\tocstyle@l@define{\tocstyle@test@levelname}%
371           {\tocstyle@test@level}%
372       }{}}%
373   }%
374   \reserved@a
375 }%
376 \edef\tocstyle@test@levelname{sub\tocstyle@test@levelname}%
377 \edef\tocstyle@test@level{\the\numexpr\tocstyle@test@level+1}%
378 }%

```

```

379 \def\tocstyle@test@level{1}%
380 \def\tocstyle@test@levelname{figure}%
381 \@whiles\ifcsname l@\tocstyle@test@levelname\endcsname\fi{%
382   \setbox\@tempboxa\vbox{\hsize\maxdimen
383     \let\normalcolor\relax
384     \let\color\@gobble
385     \edef\reserved@a{%
386       \expandafter\noexpand\csname l@\tocstyle@test@levelname\endcsname{%
387         \noexpand\tocstyle@l@define{\tocstyle@test@levelname}%
388           {\tocstyle@test@level}%
389       }{}}%
390   }%
391   \reserved@a
392 }%
393 \edef\tocstyle@test@levelname{sub\tocstyle@test@levelname}%
394 \edef\tocstyle@test@level{\the\numexpr\tocstyle@test@level+1}%
395 }%

```

`\@dottedtocline` This will be used even for undotted toc lines. First check the definition, then redefine.

```

396 \def\@tempa#1#2#3#4#5{%
397   \ifnum #1>\c@tocdepth \else
398     \vskip \z@ \@plus.2\p@
399     {\leftskip #2\relax \rightskip \@tocrmarg \parfillskip -\rightskip
400     \parindent #2\relax\@afterindenttrue
401     \interlinepenalty\@M
402     \leavevmode
403     \@tempdima #3\relax
404     \advance\leftskip \@tempdima \null\nobreak\hskip -\leftskip
405     {#4}\nobreak
406     \leaders\hbox{$\m@th
407       \mkern \@dotsep mu\hbox{.}\mkern \@dotsep
408       mu$}\hfill
409     \nobreak
410     \hb@xt@\@pnumwidth{\hfil \normalfont \normalcolor #5}%
411     \par}%
412   \fi}%
413 \ifx\@dottedtocline\@tempa\else
414   \def\@tempa#1#2#3#4#5{%
415     \ifnum #1>\c@tocdepth \else
416       \vskip \z@ \@plus.2\p@
417       {\leftskip #2\relax \rightskip \@tocrmarg \parfillskip -\rightskip
418       \parindent #2\relax\@afterindenttrue
419       \interlinepenalty\@M
420       \leavevmode
421       \@tempdima #3\relax
422       \advance\leftskip \@tempdima \null\nobreak\hskip -\leftskip
423       {#4}\nobreak
424       \leaders\hbox{$\m@th

```

```

425          \mkern \@dotsep mu\hbox{.}\mkern \@dotsep
426          mu$}\hfill
427          \nobreak
428          \hb@xt@\@pnumwidth{\hfil \normalfont \normalcolor #5\kern-\p@\kern\p@}%
429          \par}%
430          \fi}%
431          \ifx\@dottedtocline\@tempa\else
432            \tocstyle@macrochangewarning\@dottedtocline
433          \fi
434          \fi
435          \let\tocstyle@saved@dottedtocline\@dottedtocline

```

`\numberline` This macro needed to be redefined to calculate the width of the numbers. First of all: check the definition. This is a bit more difficult, because of respecting KOMA-Script:

```

436 \def\@tempa#1{\hb@xt@\@tempdima{#1\autodot\hfil}}%
437 \ifx\numberline\@tempa\else
438   \def\@tempa#1{\hb@xt@\@tempdima{#1\hfil}}%
439   \ifx\numberline\@tempa\else
440     \tocstyle@macrochangewarning\numberline
441   \fi
442 \fi
443 \let\tocstyle@saved@numberline\numberline
444 }

```

`\tocstyle@macrochangewarning`

```

445 \newcommand*{\tocstyle@macrochangewarning}[1]{%
446   \PackageWarningNoLine{tocstyle}{%
447     unexpected \string#1\space definition!\MessageBreak
448     You are either using an unknown LaTeX kernel\MessageBreak
449     version, an unknown class or package, that redefines\MessageBreak
450     \string#1, or a \string#1\space
451     redefinition\MessageBreak
452     at the document preamble.\MessageBreak
453     Because of this you may get unexpected results!\MessageBreak
454     Maybe it would be better not to use package tocstyle}%
455   \PackageInfo{tocstyle}{Unexpected definition is:\MessageBreak
456     \meaning#1}%
457 }

```

`\tocstyle@l@define`

```

\tocstyle@activate@all@l 458 \newcommand*{\tocstyle@activate@all@l}{%
459 \newcommand*{\tocstyle@l@define}[2]{%
460   \advance\leftskip-\@tempdima
461   \edef\@tempa{%
462     \noexpand\global\noexpand\let
463     \expandafter\noexpand\csname tocstyle@saved@l@#1\endcsname
464     \expandafter\noexpand\csname l@#1\endcsname
465     \noexpand\gdef

```

```

466 \expandafter\noexpand\csname tocstyle@l@#1\endcsname{%
467 \noexpand\@dottedtocline{#2}{\the\leftskip}{\the\@tempdima}}%
468 \noexpand\g@addto@macro\noexpand\tocstyle@activate@all@l{%
469 \noexpand\let\expandafter\noexpand\csname l@#1\endcsname
470 \expandafter\noexpand\csname tocstyle@l@#1\endcsname
471 }%
472 }%
473 \PackageInfo{tocstyle}{prepare \expandafter\string
474 \csname l@#1\endcsname\space for redefinition}%
475 \@tempa
476 }

```

9.2.3. New Macros

`\showtoc`

```

477 \newcommand*{\showtoc}[2][\aliastoc\tocstyleTOC\tocstyleAliasTOC]{%
478 \ifcsname tocstyle@copyname@#2\endcsname
479 \@tempcnta \csname tocstyle@copyname@#2\endcsname\relax
480 \advance\@tempcnta \@ne
481 \expandafter\xdef\csname tocstyle@copyname@#2\endcsname{\the\@tempcnta}%
482 \else
483 \expandafter\xdef\csname tocstyle@copyname@#2\endcsname{1}%
484 \fi
485 \ifx\@dofilelist\relax\let\@dofilelist\@empty\fi
486 \edef\@tempa{\noexpand\g@addto@macro\noexpand\@dofilelist{%
487 \noexpand\tocstyle@copy@toc{#2}{\csname
488 tocstyle@copyname@#2\endcsname}}%
489 }\@tempa%
490 \beginingroup
491 \edef\tocstyleAliasTOC{#2}%
492 \edef\tocstyleTOC{#2\csname tocstyle@copyname@#2\endcsname}%
493 #1
494 \tocstyle@pre@starttoc{#2\csname tocstyle@copyname@#2\endcsname}%
495 \makeatletter
496 \@input{\jobname.#2\csname tocstyle@copyname@#2\endcsname}%
497 \@nobreakfalse
498 \tocstyle@post@starttoc{#2\csname tocstyle@copyname@#2\endcsname}%
499 \endgroup
500 }

```

`\tocstyle@copy@toc`

```

501 \newcommand*{\tocstyle@copy@toc}[2]{%
502 \if@filesw
503 \beginingroup
504 \endlinechar=\m@ne

```

While L^AT_EX does not close the files, we have to do it know.

```

505 \immediate\closeout\csname tf@#1\endcsname
506 \immediate\openin\@inputcheck \jobname.#1

```

```

507     \immediate\openout\@partaux \jobname.#1#2
508     \loop\unless\ifeof\@inputcheck
509         \immediate\readline\@inputcheck to \@tempa
510         \immediate\write\@partaux{\@tempa}%
511     \repeat
512     \immediate\closeout\@partaux
513     \immediate\closein\@inputcheck
514 \endgroup
515 \fi
516 }

```

`\aliastoc` Internal use not the real TOC shortcut but another one.

```

517 \newcommand*\aliastoc}[2]{%
518   \expandafter\edef\csname tocstyle@alias@TOC@#1\endcsname{#2}%
519 }

```

`\tocstyle@pre@starttoc` Commands before and after the original `\@starttoc`.

```

\tocstyle@post@starttoc 520 \newcommand*\tocstyle@pre@starttoc}[1]{%
521   \begingroup
522     \expandafter\ifx\csname tocstyle@deactivated@\endcsname\relax
523     \expandafter\ifx\csname tocstyle@deactivated@#1\endcsname\relax\relax
524     \tocstyle@activetrue
525   \else
526     \tocstyle@activefalse
527   \fi
528 \else
529   \tocstyle@activefalse
530 \fi
531 \iftocstyle@active
532   \let\@dottedtocline\tocstyle@dottedtocline
533   \parskip \z@
534   \parindent \z@
535   \parfillskip \z@\@plus 1fil
536   \ifcsname tocstyle@alias@TOC@#1\endcsname
537     \edef\tocstyleAliasTOC{\csname tocstyle@alias@TOC@#1\endcsname}%
538   \else
539     \edef\tocstyleAliasTOC{#1}%
540   \fi
541   \edef\tocstyleTOC{#1}%
542   \tocstyle@activate@all@l
543 \fi
544 }
545 \newcommand*\tocstyle@post@starttoc}[1]{%
546   \iftocstyle@active
547   \if@filesw
548     \ifcsname tocstyle@unumwidth@#1\endcsname
549     \protected@write\@auxout{}{%
550       \protect\tocstyle@set@width{unum}{#1}-}{%
551       \csname tocstyle@unumwidth@#1\endcsname}%

```



```

552     }%
553     \fi
554     \expandafter\let\expandafter\@tempa
555     \csname tocstyle@depthlist@#1\endcsname
556     \ifx\@tempa\relax\else
557     \expandafter\@for \expandafter\@tempa\expandafter:\expandafter=\@tempa
558     \do {%
559         \ifcsname tocstyle@numwidth@#1@\@tempa\endcsname
560         \protected@write\@auxout{}{%
561             \protect\tocstyle@set@width{num}{#1}{\@tempa}{%
562                 \csname tocstyle@numwidth@#1@\@tempa\endcsname}%
563             }%
564         \fi
565         \ifcsname tocstyle@skipwidth@#1@\@tempa\endcsname
566         \protected@write\@auxout{}{%
567             \protect\tocstyle@set@width{skip}{#1}{\@tempa}{%
568                 \csname tocstyle@skipwidth@#1@\@tempa\endcsname}%
569             }%
570         \fi
571     }%
572     \fi
573     \fi
574     \fi
575 \endgroup
576 }

```

`\tocstyle@set@width` Some classes do not use `\numberline`. This may result in negativ widths (esp. negativ skips). Following special handling of negativ values improves the toc handling of the standard classes. Nevertheless indentation of not numbered entries does not work with such classes!

```

577 \newcommand*{\tocstyle@set@width}[4]{%
578     \iftocstyle@indentnotnumbered
579     \ifdim #4<\z@
580         \expandafter\gdef\csname tocstyle@max#1width@#2@#3\endcsname{%
581             \dimexpr #4/2\relax}%
582     \else
583     \expandafter\gdef\csname tocstyle@max#1width@#2@#3\endcsname{#4}%
584     \fi
585 \else
586     \ifdim #4<\z@
587     \expandafter\gdef\csname tocstyle@max#1width@#2@#3\endcsname{\z@}%
588     \else
589     \expandafter\gdef\csname tocstyle@max#1width@#2@#3\endcsname{#4}%
590     \fi
591 \fi
592 }
593 \AtBeginDocument{%
594     \if@filesw
595     \immediate\write\@auxout{%

```

```

596     \string\providecommand*\string\tocstyle@set@width[4]{}%
597   }%
598   \fi
599 }

```

`\tocstyleTOC` Shortcut of the current processed TOC. Empty outside of TOCs.

```

\tocstyleAliasTOC 600 \newcommand*\tocstyleTOC{}
601 \newcommand*\tocstyleAliasTOC{}

```

`\tocstyledepth` Current depth of the current processed TOC entry.

```

602 \newcommand*\tocstyledepth{}

```

`\deactivatetocstyle` You may (de)activate all influence of `tocstyle` either for one or all TOCs.

```

\reactivatetocstyle 603 \newif\iftocstyle@active
604 \newcommand*\deactivatetocstyle}[1] []{%
605   \expandafter\let\csname tocstyle@deactivated@#1\endcsname\@empty}
606 \newcommand*\reactivatetocstyle}[1] []{%
607   \expandafter\let\csname tocstyle@deactivated@#1\endcsname\relax}

```

`\settocfeature` The primary command to set the features of a depth of a TOC.

```

\@settocfeature 608 \newcommand*\@settocfeature}[1] []{%
\@@@settocfeature 609   \kernel@ifnextchar[ {\@@settocfeature[#{1}]}{\@@settocfeature[#{1}] []}
610 }
611 \def\@@settocfeature[#1][#2]#3#4{%
612   \trace \typeout{exclude: \tocstyle@feature@excludelist}%
613   \@expandtwoargs\in@{,#3,}{,\tocstyle@feature@excludelist,}%
614   \ifin@ \else
615     \expandafter\ifcsname tocstyle@feature@#3\endcsname
616     \@namedef{tocstyle@feature@#3@#1@#2}{#4}%
617     \begingroup
618     \expandafter\let\expandafter\@tempa
619     \csname tocstyle@commandlist@#1\endcsname
620     \@expandtwoargs\in@{,\tocstyle@feature@#3@#1@#2,}{,\@tempa,}%
621     \ifin@\let\@tempa\endgroup\else
622     \edef\@tempa{\endgroup
623       \noexpand\expandafter\noexpand\ifx
624       \noexpand\csname tocstyle@commandlist@#1\noexpand\endcsname\relax
625       \noexpand\expandafter\noexpand\expandafter\noexpand\expandafter
626       \noexpand\def
627       \noexpand\else
628       \noexpand\expandafter\noexpand\expandafter\noexpand\expandafter
629       \noexpand\l@addto@macro
630       \noexpand\fi
631       \noexpand\csname tocstyle@commandlist@#1\noexpand\endcsname%
632       {tocstyle@feature@#3@#1@#2,}}%
633     \fi
634     \@tempa
635   \else
636     \PackageError{tocstyle}{unkown feature ‘#3’}{%

```

```

637         You've told me to set up toc style feature '#3',\MessageBreak
638         but I don't know this feature.\MessageBreak
639         See the tocstyle manual for all known feature.\MessageBreak
640     }%
641 \fi
642 \fi
643 }
644 \newcommand*\settocfeature{}
645 \let\settocfeature\@settocfeature

```

`\l@addto@macro` Something like `\g@addto@macro` but only with local effect. While other packages or classes may also define this, `\providecommand` will be used.

```

646 \providecommand{\l@addto@macro}[2]{%
647 \edef#1{\unexpanded\expandafter{#1#2}}%
648 }%

```

`\settocstylefeature` Same as above without TOC argument.

```

\@settocstylefeature 649 \newcommand*\@settocstylefeature}{%
650 \kernel@ifnextchar[ {\@settocfeature []}{\@settocfeature [] []}%
651 }
652 \newcommand*\settocstylefeature{}
653 \let\settocstylefeature\@settocstylefeature

```

Different commands will be defined:

`\tocstyle@feature@!<feature!>@@` Global feature (all TOCs all depths).

`\tocstyle@feature@@!<feature!>@!<TOC!>@` All depth feature for one TOC.

`\tocstyle@feature@@!<feature!>@@!<depth!>` All TOCs feature for one depth.

`\tocstyle@feature@!<feature!>@!<TOC!>@!<depth!>` One depth of one TOC feature.

`\tocstyle@activate@features` Activates the features

```

654 \newcommand*\tocstyle@activate@features}{%
655 \expandafter\ifx\csname tocstyle@depthlist@\tocstyleTOC\endcsname\relax
656 \expandafter\xdef\csname tocstyle@depthlist@\tocstyleTOC\endcsname{%
657 \tocstyledepth}%
658 \else
659 \expandafter\let\expandafter\@tempa
660 \csname tocstyle@depthlist@\tocstyleTOC\endcsname
661 \@expandtwoargs\in@{,\tocstyledepth,}{,\@tempa,}%
662 \ifin@ \else
663 \expandafter\xdef\csname tocstyle@depthlist@\tocstyleTOC\endcsname{%
664 \csname tocstyle@depthlist@\tocstyleTOC\endcsname,\tocstyledepth}%
665 \fi
666 \fi
667 \expandafter\@for \expandafter\@tempa
668 \expandafter:\expandafter=\tocstyle@featurelist \do

```

```

669  {%
670    \@ifundefined{tocstyle@feature@\@tempa @\tocstyleAliasTOC @\tocstyledepth}{%
671      \@ifundefined{tocstyle@feature@\@tempa @@\tocstyledepth}{%
672        \@ifundefined{tocstyle@feature@\@tempa @\tocstyleAliasTOC @}{%
673          \@ifundefined{tocstyle@feature@\@tempa @@}{%
674            \expandafter\let\csname tocstyle@feature@\@tempa\endcsname\relax
675          }{%
676            \expandafter\let\csname tocstyle@feature@\@tempa
677              \expandafter\endcsname
678              \csname tocstyle@feature@\@tempa @@\endcsname
679            }%
680          }{%
681            \expandafter\let\csname tocstyle@feature@\@tempa
682              \expandafter\endcsname
683              \csname tocstyle@feature@\@tempa @\tocstyleAliasTOC @\endcsname
684            }%
685          }{%
686            \expandafter\let\csname tocstyle@feature@\@tempa
687              \expandafter\endcsname
688              \csname tocstyle@feature@\@tempa @@\tocstyledepth\endcsname
689            }%
690          }{%
691            \expandafter\let\csname tocstyle@feature@\@tempa
692              \expandafter\endcsname
693              \csname tocstyle@feature@\@tempa @\tocstyleAliasTOC @\tocstyledepth\endcsname
694            }%
695          }%
696 }

```

`\newtocstyle` Defining a new TOC style. First optional argument is a TOC style, that will be activated before the new definitions. Note that all new definitions will overwrite the parent's definitions. So a new TOC style, that defines all features doesn't need a parent.

```

697 \newcommand*{\newtocstyle}{%
698   \kernel@ifnextchar [{\@newtocstyle}{\@newtocstyle []}]
699 \newcommand*{\@newtocstyle}{%
700   \def\@newtocstyle[#1]{%
701     \kernel@ifnextchar [{\@@newtocstyle[{#1}]}{\@newtocstyle[{#1}] []}]
702   \newcommand*{\@@newtocstyle}{%
703     \def\@@newtocstyle[#1][#2]#3#4{%
704       \@ifundefined{tocstyle@style@#3}{%
705         \@ifundefined{tocstyle@style@#1}{%
706           \ifx \relax#1\relax\else
707             \PackageError{tocstyle}{unknown parent TOC style '#1'}{%
708               You've told me to inheritate parent TOC style '#1',\MessageBreak
709               but there's no TOC style '#1' defined.}%
710           \fi
711           \expandafter\def\csname tocstyle@style@#3\endcsname{#4}%
712         }{%

```

```

713     \expandafter\def\csname tocstyle@style@#3\endcsname{%
714         \edef\reserved@a{%
715             \noexpand\l@addto@macro\noexpand\tocstyle@feature@excludelist{#2}%
716             \noexpand\@usetocstyle{#1}%
717             \noexpand\def\noexpand\tocstyle@feature@excludelist{%
718                 \tocstyle@feature@excludelist}%
719             }\reserved@a
720             #4%
721         }%
722     }%
723 }{%
724     \PackageError{tocstyle}{TOC style ‘#3’ already defined}{%
725         You’ve tried to define a new TOC style ‘#3’,\MessageBreak
726         but there’s already a TOC style named ‘#3’.%}
727 }%
728 }
729 \newcommand*{\tocstyle@feature@excludelist}{}

```

`\usetocstyle` Use the predefined TOC style. You may define `\tocstyle@deprecated@style@foo` to mark TOC style `foo` to be deprecated. If `\tocstyle@deprecated@style@foo` is `\@empty` TOC style `deprecated@foo` will be used instead almost silently. Otherwise TOC style `\tocstyle@deprecated@style@foo` will be used instead and the user will be told about this change.

```

730 \newcommand*{\usetocstyle}[2][ ]{%
731     \@ifundefined{tocstyle@deprecated@style@#2}{%
732         \@ifundefined{tocstyle@style@#2}{%
733             \PackageError{tocstyle}{unknown TOC style ‘#2’}{%
734                 You’ve told me to use TOC style ‘#2’,\MessageBreak
735                 but there’s no TOC style ‘#2’ defined.%}
736         }{%
737             \def\settocfeature{%
738                 \kernel@ifnextchar[ ]
739                 {\@settocfeature[#1]}{\@settocfeature[#1][ ]}%
740             }%
741             \let\settocstylefeature\settocfeature

```

Deactivate all known features for this TOC

```

742     \expandafter\ifx\csname tocstyle@commandlist@#1\endcsname\relax
743     \else
744         \expandafter\expandafter\expandafter\@for
745         \expandafter\expandafter\expandafter\@tempa
746         \expandafter\expandafter\expandafter:%
747         \expandafter\expandafter\expandafter=%
748         \csname tocstyle@commandlist@#1\endcsname
749         \do{%
750             \expandafter\let\csname \@tempa\endcsname\relax
751         }%

```

So there are no more known features for this TOC.

```

752     \expandafter\let\csname tocstyle@commandlist@#1\endcsname\relax

```

```

753     \fi
      Activate all known features for this style and TOC
754     \@usetocstyle{#2}%
755     \let\settocfeature\@settocfeature
756     \let\settocstylefeature\@settocstylefeature
757   }%
758 }{%
759   \expandafter\ifx\csname tocstyle@deprecated@style@#2\endcsname\@empty
760     \PackageWarning{tocstyle}{%
761       deprecated TOC style '#2'!\MessageBreak
762       You should not longer use this style,\MessageBreak
763       because it will be removed soon.\MessageBreak
764       You should select another TOC style}%
765     \usetocstyle[#{#1}]{deprecated@#2}%
766   \else
767     \PackageWarning{tocstyle}{%
768       deprecated TOC style '#2'!\MessageBreak
769       You should use TOC style '\csname
770       tocstyle@deprecated@style@#2\endcsname'\MessageBreak
771       instead of '#2'}%
772   \fi
773 }%
774 }
775 \newcommand*{\@usetocstyle}[1]{%
776   \csname tocstyle@style@#1\endcsname
777 }

```

```

\tocstyle@featurelist Comma seperated list of all known features
778 \newcommand*{\tocstyle@featurelist}{%
779   pagenumberhook,entryhook,dothook,entryvskip,leaders,raggedhook,%
780   spaceafternumber,parfillskip,pagumberbox,%
781 }

```

```

\tocstyle@feature@pagenumberhook
\tocstyle@feature@pagenumberhook 782 \newcommand*{\tocstyle@feature@pagenumberhook}{}
\tocstyle@feature@entryhook 783 \let\tocstyle@feature@pagenumberhook\relax
\tocstyle@feature@dothook 784 \newcommand*{\tocstyle@feature@pagumberbox}{}
\tocstyle@feature@entryvskip 785 \let\tocstyle@feature@pagumberbox\relax
\tocstyle@feature@leaders 786 \newcommand*{\tocstye@feature@entryhook}{}
\tocstyle@feature@parfillskip 787 \let\tocstyle@feature@entryhook\relax
\tocstyle@feature@raggedhook 788 \newcommand*{\tocstye@feature@dothook}{}
\tocstyle@feature@spaceafternumber 789 \let\tocstyle@feature@dothook\relax
\tocstyle@feature@spaceafternumber 790 \newcommand*{\tocstye@feature@entryvskip}{}
\tocstyle@feature@spaceafternumber 791 \let\tocstyle@feature@entryvskip\relax
\tocstyle@feature@spaceafternumber 792 \newcommand*{\tocstye@feature@leaders}{}
\tocstyle@feature@spaceafternumber 793 \let\tocstyle@feature@leaders\relax
\tocstyle@feature@spaceafternumber 794 \newcommand*{\tocstye@feature@parfillskip}{}
\tocstyle@feature@spaceafternumber 795 \let\tocstyle@feature@parfillskip\relax
\tocstyle@feature@spaceafternumber 796 \newcommand*{\tocstye@feature@raggedhook}{}

```

```

797 \let\tocstyle@feature@raggedhook\relax
798 \newcommand*{\tocstyle@feature@spaceafternumber}{ }
799 \let\tocstyle@feature@spaceafternumber\relax

```

`\iftochasdepth` Uses `\tocstyle@depthlist@<TOC>` to test, if the TOC has the depth already.

```

800 \newcommand*{\iftochasdepth}[2]{%
801   \begingroup
802     \expandafter\let\expandafter\@tempa\csname tocstyle@depthlist@#1\endcsname
803     \ifx\@tempa\relax
804       \aftergroup\@secondoftwo
805     \else
806       \@expandtwoargs\in{,#2,}{,\@tempa}%
807       \expandafter\aftergroup\ifin@
808       \@firstoftwo
809     \else
810       \@secondoftwo
811     \fi
812   \fi
813 \endgroup
814 }

```

9.2.4. Defining Some TOC Styles

`\ext@toc` From version 0.2i the indirect extension for the auxiliary file of the table of contents is used like the KOMA-Script classes do.

```

815 \providecommand*{\ext@toc}{toc}

816 \newtocstyle{standard}{%
817   \settocfeature{dothook}{\normalfont}%
818   \settocfeature[-1]{entryhook}{\bfseries}%
819   \settocfeature[-1]{entryvskip}{2.25em\@plus\p@}%
820   \settocfeature[-1]{leaders}{\hfill}%
821   \settocfeature[0]{entryvskip}{1em\@plus\p@}%
822   \settocfeature[0]{leaders}{\hfill}%
823   \settocfeature[0]{entryhook}{\bfseries}
824   \iftochaschapter\else
825     \settocfeature[1]{entryvskip}{1em\@plus\p@}%
826     \settocfeature[1]{leaders}{\hfill}%
827     \settocfeature[1]{entryhook}{ }
828     \ifx\tocstyleAliasTOC\ext@toc\bfseries\fi
829   }%
830 \fi
831 }
832 \begingroup\expandafter\expandafter\expandafter\endgroup
833 \expandafter\ifx\csname KOMAClassName\endcsname\relax
834   \newtocstyle{KOMAlike}{%
835     \settocfeature{dothook}{\normalfont}%
836     \settocfeature[-1]{entryhook}{\sffamily\bfseries}%

```

```

837 \settocfeature[-1]{entryvskip}{2.25em\@plus\p@}%
838 \settocfeature[-1]{leaders}{\hfill}%
839 \settocfeature[-1]{pagenumberhook}{\sffamily\bfseries}%
840 \settocfeature[0]{entryvskip}{1em\@plus\p@}%
841 \settocfeature[0]{leaders}{\hfill}%
842 \settocfeature[0]{entryhook}{\sffamily\bfseries}
843 \settocfeature[0]{pagenumberhook}{\sffamily\bfseries}%
844 \iftochaschapter\else
845 \settocfeature[1]{entryvskip}{1em\@plus\p@}%
846 \settocfeature[1]{leaders}{\hfill}%
847 \settocfeature[1]{entryhook}{%
848 \ifx\tocstyleAliasTOC\ext@toc\sffamily\bfseries\fi
849 }%
850 \settocfeature[1]{pagenumberhook}{%
851 \ifx\tocstyleAliasTOC\ext@toc\sffamily\bfseries\fi
852 }%
853 \fi
854 }
855 \else
856 \newtocstyle{KOMAlike}{%
857 \settocfeature{dothook}{\normalfont}%
858 \settocfeature[-1]{entryhook}{\usekomafont{partentry}}%
859 \settocfeature[-1]{entryvskip}{2.25em\@plus\p@}%
860 \settocfeature[-1]{leaders}{\hfill}%
861 \settocfeature[-1]{pagenumberhook}{\usekomafont{partentrypagenumber}}%
862 \settocfeature[0]{entryvskip}{1em\@plus\p@}%
863 \settocfeature[0]{leaders}{\hfill}%
864 \settocfeature[0]{entryhook}{\usekomafont{chapterentry}}%
865 \settocfeature[0]{pagenumberhook}{\usekomafont{chapterentrypagenumber}}%
866 \iftochaschapter\else
867 \settocfeature[1]{entryvskip}{1em\@plus\p@}%
868 \settocfeature[1]{leaders}{\hfill}%
869 \settocfeature[1]{entryhook}{%
870 \begingroup
871 \ifx\tocstyleAliasTOC\ext@toc
872 \def\@tempa{\endgroup\usekomafont{sectionentry}}%
873 \else
874 \let\@tempa\endgroup
875 \fi
876 \@tempa
877 }%
878 \settocfeature[1]{pagenumberhook}{%
879 \begingroup
880 \ifx\tocstyleAliasTOC\ext@toc
881 \def\@tempa{\endgroup\usekomafont{sectionentrypagenumber}}%
882 \else
883 \let\@tempa\endgroup
884 \fi
885 \@tempa

```



```

886     }%
887     \fi
888   }
889 \fi
890 \newcommand*{\tocstyle@deprecated@style@KOMAScript}{KOMAlike}%
891 \newtocstyle[KOMAlike]{classic}{%
892   \settocfeature[-1]{pagenumberhook}{\normalfont\normalcolor}%
893   \settocfeature[0]{pagenumberhook}{\normalfont\normalcolor}%
894   \iftochaschapter\else
895     \settocfeature[1]{pagenumberhook}{\normalfont\normalcolor}%
896   \fi
897   \settocfeature{pagenumberhook}{\normalfont\normalcolor}%
898   \settocfeature{raggedhook}{\raggedright}%
899 }
900 \newtocstyle[classic][leaders]{allwithdot}{%
901 \newtocstyle[allwithdot]{noonewithdot}{%
902   \settocfeature{leaders}{\hfill}%
903 }
904 \newtocstyle[classic][leaders]{nopagecolumn}{%
905   \settocfeature{leaders}{\quad}%
906   \settocfeature{parfillskip}{\z@ plus 1fil}%
907   \settocfeature{pagenumberbox}{\hbox}%
908 }

```

9.2.5. Defining Some TOC Styles

Loading a optional configuration file.

```

909 \InputIfFileExists{tocstyle.cfg}{%
910   \PackageInfo{tocstyle}{using tocstyle.cfg}%
911 }{%
912   \PackageInfo{tocstyle}{no tocstyle.cfg found}%
913 }

```

A. Examples for the Different TOC Styles

Here you will find the table of contents of this document set in the different TOC styles. All are set with option `tocindentauto`.

A.1. Graduated Versions

First of all all graduated versions of the table of contents

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A.1.6. nopagecolumn with Option tocgraduated

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A.2. Flat Versions

Now, all flat versions of the table of contents

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A.2.6. nopagecolumn with Option tocflat

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