



Ivan Valbusa

The
fontsize
package

v0.7 – 2021/02/10

Legalese

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Feedback

If you have any questions, feedback or requests please email me at `ivan dot valbusa at gmail dot com`. If you need specific features not already implemented, remember to attach the example files.

User's guide to fontsize

A small package to change the font size

v0.7 – 2021/02/10

Ivan Valbusa

ivan dot valbusa at gmail dot com

Abstract

The fontsize package allows you to set arbitrary sizes for the main font of the document and to adjust the line spacing accordingly. It also provides new font sizing commands and lets you generate your own .clo file for better tuning.

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Credits

The code is an excerpt of the scrextend and scrfontsizes packages (Neukam et al. 2020), with few minor changes to make it completely independent of the KOMA-script bundle and with a couple of new features. The package is updated to version 3390 2019-11-18 17:09:35Z of the scrkernel-fonts.dtx file.

Caveat

Although effective with any value of the font size (as long as the font is scalable), the package is meant for small font size changes. For truly optimal results you should (re)define your own .clo file. In fact note that the file generated with \generateclofile, as well as the macros redefined via \changefontsize, are a subset of the standard .clo files.

1 Usage

The package can be loaded, as usual, with:

```
\usepackage[<options>]{fontsize}
```

1.1 Options

fontsize = $\langle\text{fontsize}\rangle$ default: 10pt

Sets the normal size to $\langle\text{fontsize}\rangle$ and the normal line spacing to $1.2\langle\text{fontsize}\rangle$. The other sizes (`\tiny`, `\scriptsize`, `\small`, ecc.) and line spacings are set proportionally. You can use any unit recognized by T_EX and you can omit the unit as well (in which case it defaults to pt).

cloname = $\langle\text{name}\rangle$ default: fontsize

If declared *before* `fontsize`, it loads the file named $\langle\text{name}\rangle\langle\text{fontsize}\rangle$.clo to setup the font sizes. This file can be generated through the `\generateclofile` command (see below).

1.2 Commands

\changefontsize[$\langle\text{baselineskip}\rangle$][$\langle\text{fontsize}\rangle$] iff $\langle\text{baselineskip}\rangle \geq \langle\text{fontsize}\rangle$

Sets the normal size to $\langle\text{fontsize}\rangle$ and the normal line spacing to $\langle\text{baselineskip}\rangle$. The other sizes (`\tiny`, `\scriptsize`, `\small`, ecc.) and line spacings are set proportionally. If the first optional argument is omitted, the command has the same effect of the `fontsize` option. You can use any unit recognized by T_EX and you can omit the unit as well (in which case it defaults to pt). For example:

```
\changefontsize[13.5pt]{11.5pt}
```

\generateclofile{ $\langle\text{name}\rangle$ }[$\langle\text{baselineskip}\rangle$][$\langle\text{fontsize}\rangle$] iff $\langle\text{baselineskip}\rangle \geq \langle\text{fontsize}\rangle$

Generates a file named $\langle\text{name}\rangle\langle\text{fontsize}\rangle$.clo in which the normal size is $\langle\text{fontsize}\rangle$ and the normal line spacing is $\langle\text{baselineskip}\rangle$. The other sizes (`\tiny`, `\scriptsize`, `\small`, ecc.) and line spacings are set proportionally. You can use any unit recognized by T_EX and you can omit the unit as well (in which case it defaults to pt). If `cloname= $\langle\text{name}\rangle$` and `fontsize= $\langle\text{fontsize}\rangle$` , the generated file will be automatically used to setup the main sizes.



In fact the .clo file is only needed if you intend to modify it. In this case remember to comment the command, otherwise the edited file will be overwritten.

```
\usepackage[cloname=fs,fontsize=11.5]{fontsize}    % loads fs11.5.clo
\generateclofile{fs}[13.5]{11.5}                  % creates fs11.5.clo
```

\printsamples{ $\langle\text{baselineskip}\rangle$ }[$\langle\text{fontsize}\rangle$][$\langle\text{sizes}\rangle$] iff $\langle\text{baselineskip}\rangle \geq \langle\text{fontsize}\rangle$

A command thought to test the `fontsize` settings. It prints a text sample for every size given in the third optional argument. If this argument is omitted, it prints a sample for each available size. See the examples on page 7.

```
\printsamples{13pt}{11pt}[normalsizer,normalsizerr,normalsizerrr]
\printsamples{13.5pt}{12pt}
```

2 New font sizing commands

The package provides three additional font sizing commands for each standard size:

<code>\tiny</code>	Lipsum	<code>\LARGE</code>	Lipsum
<code>\tinyr</code>	Lipsum	<code>\LARGE r</code>	Lipsum
<code>\tinyrr</code>	Lipsum	<code>\LARGE rr</code>	Lipsum
<code>\tinyrrr</code>	Lipsum	<code>\LARGE rrr</code>	Lipsum
<code>\scriptsize</code>	Lipsum	<code>\LARGE rrrr</code>	Lipsum
<code>\scriptsize r</code>	Lipsum	<code>\huge</code>	Lipsum
<code>\scriptsize rr</code>	Lipsum	<code>\huger</code>	Lipsum
<code>\scriptsize rrr</code>	Lipsum	<code>\huger</code>	Lipsum
<code>\footnotesize</code>	Lipsum	<code>\huger</code>	Lipsum
<code>\footnotesize r</code>	Lipsum	<code>\huger</code>	Lipsum
<code>\footnotesize rr</code>	Lipsum	<code>\huger</code>	Lipsum
<code>\footnotesize rrr</code>	Lipsum	<code>\Huge</code>	Lipsum
<code>\small</code>	Lipsum	<code>\Huger</code>	Lipsum
<code>\small r</code>	Lipsum	<code>\Huger</code>	Lipsum
<code>\small rr</code>	Lipsum	<code>\Hugerr</code>	Lipsum
<code>\small rrr</code>	Lipsum	<code>\Hugerr</code>	Lipsum
<code>\normalsize</code>	Lipsum	<code>\HUGEr</code>	Lipsum
<code>\normalsize r</code>	Lipsum	<code>\HUGEr</code>	Lipsum
<code>\normalsize rr</code>	Lipsum	<code>\HUGE</code>	Lipsum
<code>\normalsize rrr</code>	Lipsum	<code>\HUGEr</code>	Lipsum
<code>\large</code>	Lipsum	<code>\HUGEr</code>	Lipsum
<code>\large r</code>	Lipsum	<code>\HUGEr</code>	Lipsum
<code>\large rr</code>	Lipsum	<code>\HUGEr</code>	Lipsum
<code>\large rrr</code>	Lipsum	<code>\HUGErr</code>	Lipsum
<code>\Large</code>	Lipsum	<code>\HUGErr</code>	Lipsum
<code>\Large r</code>	Lipsum	<code>\HUGErrr</code>	Lipsum
<code>\Large rr</code>	Lipsum		Lipsum
<code>\Large rrr</code>	Lipsum		Lipsum



If you want these commands to work as expected, the font must be smoothly scalable. This is the case of many Type 1 and Open Type fonts. Anyway, if the font has optical sizes, unusual things can happen: some larger sizes may appear smaller. For example, with the Latin Modern 12 pt typeface a similar situation can be encountered:

<code>\largerr</code>	15.84 pt	Hello world	
<code>\larger</code>	15.12 pt	Hello world	
<code>\large</code>	14.40 pt	Hello world	

In fact the font used for the `\larger` ‘Hello world’ is bigger than that used for the `\large` one. This optical effect is due to the minor thickness of the stems, which makes the words appear shorter and clearer, but not less high (as you can see in the figure on the right which shows the letter H appropriately scaled to see the differences better).

<code>\tiny</code>	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00
<code>\tinyr</code>	4.33	4.60	4.88	5.15	5.42	5.69	5.96	6.23	6.50
<code>\tinyrr</code>	4.67	4.96	5.25	5.54	5.83	6.12	6.42	6.71	7.00
<code>\tinyrrr</code>	5.00	5.31	5.62	5.94	6.25	6.56	6.88	7.19	7.50
<code>\scriptsize</code>	5.33	5.67	6.00	6.33	6.67	7.00	7.33	7.67	8.00
<code>\scriptsize r</code>	5.67	6.02	6.38	6.73	7.08	7.44	7.79	8.15	8.50
<code>\scriptsize rr</code>	6.00	6.38	6.75	7.12	7.50	7.88	8.25	8.62	9.00
<code>\scriptsize rrr</code>	6.33	6.73	7.13	7.52	7.92	8.31	8.71	9.10	9.50
<code>\footnotesize</code>	6.67	7.08	7.50	7.92	8.33	8.75	9.17	9.58	10.00
<code>\footnotesize r</code>	6.83	7.25	7.68	8.10	8.53	8.96	9.38	9.81	10.24
<code>\footnotesize rr</code>	6.98	7.42	7.86	8.29	8.73	9.17	9.60	10.04	10.48
<code>\footnotesize rrr</code>	7.14	7.59	8.03	8.48	8.93	9.37	9.82	10.27	10.71
<code>\small</code>	7.30	7.76	8.21	8.67	9.13	9.58	10.04	10.49	10.95
<code>\small r</code>	7.47	7.94	8.41	8.88	9.34	9.81	10.28	10.75	11.21
<code>\small rr</code>	7.65	8.13	8.61	9.08	9.56	10.04	10.52	11.00	11.48
<code>\small rrr</code>	7.82	8.31	8.80	9.29	9.78	10.27	10.76	11.25	11.74
<code>\normalsize</code>	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00
<code>\normalsize r</code>	8.40	8.93	9.45	9.98	10.50	11.03	11.55	12.08	12.60
<code>\normalsize rr</code>	8.80	9.35	9.90	10.45	11.00	11.55	12.10	12.65	13.20
<code>\normalsize rrr</code>	9.20	9.77	10.35	10.92	11.50	12.07	12.65	13.22	13.80
<code>\large</code>	9.60	10.20	10.80	11.40	12.00	12.60	13.20	13.80	14.40
<code>\larger</code>	10.08	10.71	11.34	11.97	12.60	13.23	13.86	14.49	15.12
<code>\largerr</code>	10.56	11.22	11.88	12.54	13.20	13.86	14.52	15.18	15.84
<code>\largerrr</code>	11.04	11.73	12.42	13.11	13.80	14.49	15.18	15.87	16.56
<code>\Large</code>	11.52	12.24	12.96	13.68	14.40	15.12	15.84	16.56	17.28
<code>\Larger</code>	12.10	12.85	13.61	14.36	15.12	15.88	16.63	17.39	18.14
<code>\Largerr</code>	12.67	13.46	14.26	15.05	15.84	16.63	17.42	18.22	19.01
<code>\Largerrr</code>	13.25	14.08	14.90	15.73	16.56	17.39	18.22	19.04	19.87
<code>\LARGE</code>	13.82	14.69	15.55	16.42	17.28	18.14	19.01	19.87	20.74
<code>\LARGE r</code>	14.52	15.42	16.33	17.24	18.14	19.05	19.96	20.87	21.77
<code>\LARGE rr</code>	15.21	16.16	17.11	18.06	19.01	19.96	20.91	21.86	22.81
<code>\LARGE rrr</code>	15.90	16.89	17.89	18.88	19.88	20.87	21.86	22.86	23.85
<code>\huge</code>	16.59	17.63	18.67	19.70	20.74	21.78	22.81	23.85	24.89
<code>\huger</code>	17.42	18.51	19.6	20.69	21.78	22.86	23.95	25.04	26.13
<code>\hugerr</code>	18.25	19.39	20.53	21.67	22.81	23.95	25.09	26.23	27.37
<code>\hugerrr</code>	19.08	20.27	21.46	22.65	23.85	25.04	26.23	27.42	28.61
<code>\Huge</code>	19.90	21.15	22.39	23.64	24.88	26.12	27.37	28.61	29.86
<code>\Huger</code>	20.89	22.19	23.50	24.80	26.11	27.42	28.72	30.03	31.33
<code>\Hugerr</code>	21.87	23.24	24.61	25.97	27.34	28.71	30.07	31.44	32.81
<code>\Hugerrr</code>	22.86	24.28	25.71	27.14	28.57	30.00	31.43	32.86	34.28
<code>\HUGE</code>	24.05	25.55	27.05	28.56	30.06	31.56	33.07	34.57	36.07
<code>\HUGE r</code>	25.24	26.82	28.39	29.97	31.55	33.13	34.70	36.28	37.86
<code>\HUGE rr</code>	26.43	28.08	29.74	31.39	33.04	34.69	36.34	38.00	39.65
<code>\HUGE rrr</code>	27.62	29.35	31.08	32.80	34.53	36.26	37.98	39.71	41.44

Table 1: The value of all available sizes (rounded to the second decimal place) relative to `\normalsize` ranging from 8 pt to 12 pt with an increment of 0.5 pt

3 Some text samples

The following examples are obtained with the `\printsamples` command (see section 1.2).

Text samples for `\normalsize` 11.2pt on 13.2pt

`\normalsize`: 11.8pt on 13.9pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

`\normalsizerr`: 12.3pt on 14.5pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

`\normalsizerrr`: 12.9pt on 15.2pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

`\large`: 13.4pt on 15.9pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

`\larger`: 14.1pt on 16.7pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

Text samples for \normalsize 11.7pt on 13.4pt

\normalsize: 12.3pt on 14.1pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

\normalsizeerr: 12.9pt on 14.8pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

\normalsizeerrr: 13.5pt on 15.5pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

\large: 14pt on 16.1pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

\larger: 14.7pt on 17pt. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena.

4 The Code

The parts added to the basic code of `scrxextend` and `scrfontsizes` are highlighted in blue.

All the options of the package are defined via `xkeyval`.

```
1 \ifpackageloaded{xkeyval}{}{\RequirePackage{xkeyval}}
2 \DeclareOptionX{cloname}[fontsize]{\def\@fontsizefilebase{#1}}
```

Excerpt from `scrxextend.sty` Here the `scrxextend` code begins. Only a few names have been changed. The value of `\@fontsizefilebase` is set to `fontsize` instead of `scrszsize`.

```
3 \DeclareOptionX{fontsize}[10]{%
4   \expandafter\@defaultunits\expandafter\@tempdima#1 pt\relax\@nnil
5   \edef\@tempa{#1}%
6   \setlength{\@tempdimb}{\@tempdima}%
7   \edef\@tempb{\strip@pt\@tempdimb}%
8   \addtolength{\@tempdimb}{-10\p}%
9   \edef\@ptsize{\strip@pt\@tempdimb}%
10  \edef\@tempa{%
11    \noexpand\makeatletter
12    \noexpand\InputIfFileExists{\@fontsizefilebase\@tempa.clo}{%
13      \noexpand\PackageInfo{fontsize}{%
14        File ‘\@fontsizefilebase\@tempa.clo’ used to setup font sizes}%
15      }{%
16        \noexpand\InputIfFileExists{\@fontsizefilebase\@tempb pt.clo}{%
17          \noexpand\PackageInfo{fontsize}{%
18            File ‘\@fontsizefilebase\@tempb pt.clo’ used instead of%
19            \noexpand\MessageBreak
20            file ‘\@fontsizefilebase\@tempa.clo’ to setup font sizes}%
21          }{%
22            \noexpand\changefontsize{#1}%
23          }%
24        }%
25      \noexpand\catcode‘\noexpand\@=\the\catcode‘\@
26    }%
27    \expandafter\AtEndOfPackage\expandafter{\@tempa}%
28 }
```

Now we can execute and process the new options defined above. As `cloname` is responsible for defining `\@fontsizefilebase` it must precede `fontsize` which uses this command. The `\ctm@setlength` and `\changefontsize` commands are simply new names, respectively, for `\scr@setlength` and `\changefontsizes` used in `scrxextend.sty`.

```
29 \ExecuteOptionsX{cloname,fontsize}
30 \ProcessOptionsX*\relax

31 \newcommand*\ctm@setlength[4]{%
32   \ifdim #2<\ifdim #2=\z@ \z@ \else \p@\fi
33   \ifdim #3<\ifdim #3=\z@ \z@ \else \p@\fi
34   \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
```

```

35 \setlength{#1}{\p@ \@plus\p@ \@minus\p@}%
36 \else
37 \setlength{#1}{\p@ \@plus\p@ \@minus#4}%
38 \fi
39 \else
40 \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
41 \setlength{#1}{\p@ \@plus#3 \@minus\p@}%
42 \else
43 \setlength{#1}{\p@ \@plus#3 \@minus#4}%
44 \fi
45 \fi
46 \else
47 \ifdim #3<\ifdim #3=\z@ \z@ \else \p@\fi
48 \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
49 \setlength{#1}{#2 \@plus\p@ \@minus\p@}%
50 \else
51 \setlength{#1}{#2 \@plus\p@ \@minus#4}%
52 \fi
53 \else
54 \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
55 \setlength{#1}{#2 \@plus#3 \@minus\p@}%
56 \else
57 \setlength{#1}{#2 \@plus#3 \@minus#4}%
58 \fi
59 \fi
60 \fi
61 }
62 \providecommand*\changefontsize[2][1.2\@tempdima]{%
63 \@defaultunits\@tempdima#2pt\relax\@nnil
64 \setlength{\@tempdimc}{\@tempdima}%
65 \addtolength{\@tempdimc}{-10\p@}%
66 \edef\@ptsize{\strip@pt\@tempdimc}%
67 \@defaultunits\@tempdimb#1pt\relax\@nnil
68 \setlength{\@tempdimc}{\dimexpr (100\@tempdimb / \@tempdima * \p@)}%
69 \edef\@tempb{\the\@tempdimc}%
70 \setlength{\@tempdimc}{\@tempdima}%
71 \def\@tempa##1##2##3##4##5\@nnil{\def##1{##2.##3##4}}%
72 \expandafter\@tempa\expandafter\@tempb\@tempb\@nnil%
73 \ctm@setlength{\abovedisplayskip}%
74 {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
75 \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
76 \ctm@setlength{\belowdisplayshortskip}%
77 {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
78 \setlength{\belowdisplayskip}{\abovedisplayskip}%
79 \edef\normalsize{%
80 \noexpand\setfontsize\noexpand\normalsize
81 {\the\@tempdima}{\the\@tempdimb}%
82 \abovedisplayskip \the\abovedisplayskip
83 \abovedisplayshortskip \the\abovedisplayshortskip
84 \belowdisplayskip \the\belowdisplayskip
85 \belowdisplayshortskip \the\belowdisplayshortskip

```

```

86 \let\noexpand\@listi\noexpand\@listI
87 }%
88 \setlength{\@tempdima}{0.9125\@tempdimc}%
89 \setlength{\@tempdimb}{\@tempb\@tempdima}%
90 \ctm@setlength{\abovedisplayskip}%
91 {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
92 \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
93 \ctm@setlength{\belowdisplayshortskip}%
94 {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
95 \setlength{\belowdisplayskip}{\abovedisplayskip}%
96 \edef\small{%
97 \noexpand\@setfontsize\noexpand\small
98 {\the\@tempdima}{\the\@tempdimb}%
99 \abovedisplayskip \the\abovedisplayskip
100 \abovedisplayshortskip \the\abovedisplayshortskip
101 \belowdisplayskip \the\belowdisplayskip
102 \belowdisplayshortskip \the\belowdisplayshortskip
103 \let\noexpand\@listi\noexpand\@listi@small
104 }%
105 \setlength{\@tempdima}{.83334\@tempdimc}%
106 \setlength{\@tempdimb}{\@tempb\@tempdima}%
107 \ctm@setlength{\abovedisplayskip}%
108 {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
109 \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
110 \ctm@setlength{\belowdisplayshortskip}%
111 {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
112 \setlength{\belowdisplayskip}{\abovedisplayskip}%
113 \edef\footnotesize{%
114 \noexpand\@setfontsize\noexpand\footnotesize
115 {\the\@tempdima}{\the\@tempdimb}%
116 \abovedisplayskip \the\abovedisplayskip
117 \abovedisplayshortskip \the\abovedisplayshortskip
118 \belowdisplayskip \the\belowdisplayskip
119 \belowdisplayshortskip \the\belowdisplayshortskip
120 \let\noexpand\@listi\noexpand\@listi@footnotesize
121 }%
122 \setlength{\@tempdima}{.66667\@tempdimc}%
123 \setlength{\@tempdimb}{\@tempb\@tempdima}%
124 \edef\scriptsize{%
125 \noexpand\@setfontsize\noexpand\scriptsize
126 {\the\@tempdima}{\the\@tempdimb}%
127 }%
128 \setlength{\@tempdima}{.5\@tempdimc}%
129 \setlength{\@tempdimb}{\@tempb\@tempdima}%
130 \edef\tiny{%
131 \noexpand\@setfontsize\noexpand\tiny
132 {\the\@tempdima}{\the\@tempdimb}%
133 }%
134 \setlength{\@tempdima}{1.2\@tempdimc}%
135 \setlength{\@tempdimb}{\@tempb\@tempdima}%
136 \edef\large{%

```

```

137 \noexpand\@setfontsize\noexpand\large
138 {\the\@tempdima}{\the\@tempdimb}%
139 }%
140 \setlength{\@tempdima}{1.44\@tempdimc}%
141 \setlength{\@tempdimb}{\@tempb\@tempdima}%
142 \edef\Large{%
143 \noexpand\@setfontsize\noexpand\Large
144 {\the\@tempdima}{\the\@tempdimb}%
145 }%
146 \setlength{\@tempdima}{1.728\@tempdimc}%
147 \setlength{\@tempdimb}{\@tempb\@tempdima}%
148 \edef\LARGE{%
149 \noexpand\@setfontsize\noexpand\LARGE
150 {\the\@tempdima}{\the\@tempdimb}%
151 }%
152 \setlength{\@tempdima}{2.074\@tempdimc}%
153 \setlength{\@tempdimb}{\@tempb\@tempdima}%
154 \edef\huge{%
155 \noexpand\@setfontsize\noexpand\huge
156 {\the\@tempdima}{\the\@tempdimb}%
157 }%
158 \setlength{\@tempdima}{2.488\@tempdimc}%
159 \setlength{\@tempdimb}{\@tempb\@tempdima}%
160 \edef\Huge{%
161 \noexpand\@setfontsize\noexpand\Huge
162 {\the\@tempdima}{\the\@tempdimb}%
163 }%

```

We will now define some new font sizing commands. There are three variants for each standard command: $\langle cmd \rangle r > \langle cmd \rangle rr > \langle cmd \rangle rrr$. Every level is scaled proportionally in order to preserve the default value of the corresponding standard command.

```

164 \def\fontsize@pre{%
165 \ctm@setlength{\abovedisplayskip}%
166 {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
167 \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
168 \ctm@setlength{\belowdisplayshortskip}%
169 {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
170 \setlength{\belowdisplayskip}{\abovedisplayskip}%
171 }
172 \def\fontsize@app{%
173 \abovedisplayskip \the\abovedisplayskip%
174 \abovedisplayshortskip \the\abovedisplayshortskip%
175 \belowdisplayskip \the\belowdisplayskip%
176 \belowdisplayshortskip \the\belowdisplayshortskip%
177 }

```

Definition of \smallr , \smallrr , \smallrrr .

Scale factor: 0,021875.

```

178 \setlength{\@tempdima}{0.934375\@tempdimc}%

```

```

179 \setlength{\@tempdimb}{\@tempb\@tempdima}%
180 \fontsize@pre
181 \edef\smallr{%
182   \noexpand\@setfontsize\noexpand\smallr
183   {\the\@tempdima}{\the\@tempdimb}%
184   \fontsize@app
185   \let\noexpand\@listi\noexpand\@listi@small
186 }%
187 \setlength{\@tempdima}{0.95625\@tempdimc}%
188 \setlength{\@tempdimb}{\@tempb\@tempdima}%
189 \fontsize@pre
190 \edef\smallrr{%
191   \noexpand\@setfontsize\noexpand\smallrr
192   {\the\@tempdima}{\the\@tempdimb}%
193   \fontsize@app
194   \let\noexpand\@listi\noexpand\@listi@small
195 }%
196 \setlength{\@tempdima}{0.978125\@tempdimc}%
197 \setlength{\@tempdimb}{\@tempb\@tempdima}%
198 \fontsize@pre
199 \edef\smallrrr{%
200   \noexpand\@setfontsize\noexpand\smallrrr
201   {\the\@tempdima}{\the\@tempdimb}%
202   \fontsize@app
203   \let\noexpand\@listi\noexpand\@listi@small
204 }%

```

Definition of \footnotesizer, \footnotesizerr, \footnotesizerrr.
Scale factor: 0.01979.

```

205 \setlength{\@tempdima}{0.85313\@tempdimc}%
206 \setlength{\@tempdimb}{\@tempb\@tempdima}%
207 \fontsize@pre
208 \edef\footnotesizer{%
209   \noexpand\@setfontsize\noexpand\footnotesizer
210   {\the\@tempdima}{\the\@tempdimb}%
211   \fontsize@app
212   \let\noexpand\@listi\noexpand\@listi@footnotesize
213 }%
214 \setlength{\@tempdima}{0.87292\@tempdimc}%
215 \setlength{\@tempdimb}{\@tempb\@tempdima}%
216 \fontsize@pre
217 \edef\footnotesizerr{%
218   \noexpand\@setfontsize\noexpand\footnotesizerr
219   {\the\@tempdima}{\the\@tempdimb}%
220   \fontsize@app
221   \let\noexpand\@listi\noexpand\@listi@footnotesize
222 }%
223 \setlength{\@tempdima}{0.89271\@tempdimc}%
224 \setlength{\@tempdimb}{\@tempb\@tempdima}%
225 \fontsize@pre

```

```

226 \edef\footnotesizerrr{%
227   \noexpand\setfontsize\noexpand\footnotesizerrr
228   {\the\@tempdima}{\the\@tempdimb}%
229   \fontsize@app
230   \let\noexpand\@listi\noexpand\@listi@footnotesize
231 }%

```

Definition of \scriptsize, \scriptsizeerr, \scriptsizeerrr.

Scale factor: 0,0416675.

```

232 \setlength{\@tempdima}{0.7083375\@tempdimc}%
233 \setlength{\@tempdimb}{\@tempb\@tempdima}%
234 \edef\scriptsize{%
235   \noexpand\setfontsize\noexpand\scriptsize
236   {\the\@tempdima}{\the\@tempdimb}%
237 }%
238 \setlength{\@tempdima}{0.750005\@tempdimc}%
239 \setlength{\@tempdimb}{\@tempb\@tempdima}%
240 \edef\scriptsizeerr{%
241   \noexpand\setfontsize\noexpand\scriptsizeerr
242   {\the\@tempdima}{\the\@tempdimb}%
243 }%
244 \setlength{\@tempdima}{0.7916725\@tempdimc}%
245 \setlength{\@tempdimb}{\@tempb\@tempdima}%
246 \edef\scriptsizeerrr{%
247   \noexpand\setfontsize\noexpand\scriptsizeerrr
248   {\the\@tempdima}{\the\@tempdimb}%
249 }%

```

Definition of \tiny, \tinyrr, \tinyrrr.

Scale factor: 0.0416675.

```

250 \setlength{\@tempdima}{0.5416675\@tempdimc}%
251 \setlength{\@tempdimb}{\@tempb\@tempdima}%
252 \edef\tinyr{%
253   \noexpand\setfontsize\noexpand\tinyr
254   {\the\@tempdima}{\the\@tempdimb}%
255 }%
256 \setlength{\@tempdima}{0.583335\@tempdimc}%
257 \setlength{\@tempdimb}{\@tempb\@tempdima}%
258 \edef\tinyrr{%
259   \noexpand\setfontsize\noexpand\tinyrr
260   {\the\@tempdima}{\the\@tempdimb}%
261 }%
262 \setlength{\@tempdima}{0.6250025\@tempdimc}%
263 \setlength{\@tempdimb}{\@tempb\@tempdima}%
264 \edef\tinyrrr{%
265   \noexpand\setfontsize\noexpand\tinyrrr
266   {\the\@tempdima}{\the\@tempdimb}%
267 }%

```

Definition of \normalsize, \normalsizeerr, \normalsizeerrr.

Scale factor: 0.05.

```
268 \setlength{\@tempdima}{1.05\@tempdimc}%
269 \setlength{\@tempdimb}{\@tempb\@tempdima}%
270 \fontsize@pre
271 \edef\normalsizer{%
272   \noexpand\@setfontsize\noexpand\normalsizer
273   {\the\@tempdima}{\the\@tempdimb}%
274   \fontsize@app
275   \let\noexpand\@listi\noexpand\@listI
276 }%
277 \setlength{\@tempdima}{1.1\@tempdimc}%
278 \setlength{\@tempdimb}{\@tempb\@tempdima}%
279 \fontsize@pre
280 \edef\normalsizerr{%
281   \noexpand\@setfontsize\noexpand\normalsizerr
282   {\the\@tempdima}{\the\@tempdimb}%
283   \fontsize@app
284   \let\noexpand\@listi\noexpand\@listI
285 }%
286 \setlength{\@tempdima}{1.15\@tempdimc}%
287 \setlength{\@tempdimb}{\@tempb\@tempdima}%
288 \fontsize@pre
289 \edef\normalsizerrr{%
290   \noexpand\@setfontsize\noexpand\normalsizerrr
291   {\the\@tempdima}{\the\@tempdimb}%
292   \fontsize@app
293   \let\noexpand\@listi\noexpand\@listI
294 }%
```

Definition of \larger, \largerr, \largerrr.

Scale factor: 0,06.

```
295 \setlength{\@tempdima}{1.26\@tempdimc}%
296 \setlength{\@tempdimb}{\@tempb\@tempdima}%
297 \edef\larger{%
298   \noexpand\@setfontsize\noexpand\larger
299   {\the\@tempdima}{\the\@tempdimb}%
300 }%
301 \setlength{\@tempdima}{1.32\@tempdimc}%
302 \setlength{\@tempdimb}{\@tempb\@tempdima}%
303 \edef\largerr{%
304   \noexpand\@setfontsize\noexpand\largerr
305   {\the\@tempdima}{\the\@tempdimb}%
306 }%
307 \setlength{\@tempdima}{1.38\@tempdimc}%
308 \setlength{\@tempdimb}{\@tempb\@tempdima}%
309 \edef\largerrr{%
310   \noexpand\@setfontsize\noexpand\largerrr
311   {\the\@tempdima}{\the\@tempdimb}%
312 }%
```

Definition of \Larger, \Largerr, \Largerrr.

Scale factor: 0,072.

```
313 \setlength{\@tempdima}{1.512\@tempdimc}%
314 \setlength{\@tempdimb}{\@tempb\@tempdima}%
315 \edef\Larger{%
316   \noexpand\@setfontsize\noexpand\Larger
317   {\the\@tempdima}{\the\@tempdimb}%
318 }%
319 \setlength{\@tempdima}{1.584\@tempdimc}%
320 \setlength{\@tempdimb}{\@tempb\@tempdima}%
321 \edef\Largerr{%
322   \noexpand\@setfontsize\noexpand\Largerr
323   {\the\@tempdima}{\the\@tempdimb}%
324 }%
325 \setlength{\@tempdima}{1.656\@tempdimc}%
326 \setlength{\@tempdimb}{\@tempb\@tempdima}%
327 \edef\Largerrr{%
328   \noexpand\@setfontsize\noexpand\Largerrr
329   {\the\@tempdima}{\the\@tempdimb}%
330 }%
```

Definition of \LARGE r, \LARGE rr, \LARGE rrr.

Scale factor: 0,0865.

```
331 \setlength{\@tempdima}{1.8145\@tempdimc}%
332 \setlength{\@tempdimb}{\@tempb\@tempdima}%
333 \edef\LARGE r{%
334   \noexpand\@setfontsize\noexpand\LARGE r
335   {\the\@tempdima}{\the\@tempdimb}%
336 }%
337 \setlength{\@tempdima}{1.901\@tempdimc}%
338 \setlength{\@tempdimb}{\@tempb\@tempdima}%
339 \edef\LARGE rr{%
340   \noexpand\@setfontsize\noexpand\LARGE rr
341   {\the\@tempdima}{\the\@tempdimb}%
342 }%
343 \setlength{\@tempdima}{1.9875\@tempdimc}%
344 \setlength{\@tempdimb}{\@tempb\@tempdima}%
345 \edef\LARGE rrr{%
346   \noexpand\@setfontsize\noexpand\LARGE rrr
347   {\the\@tempdima}{\the\@tempdimb}%
348 }%
```

Definition of \huger, \hugerr, \hugerrr.

Scale factor: 0,1035.

```
349 \setlength{\@tempdima}{2.1775\@tempdimc}%
350 \setlength{\@tempdimb}{\@tempb\@tempdima}%
351 \edef\huger{%
352   \noexpand\@setfontsize\noexpand\huger
353   {\the\@tempdima}{\the\@tempdimb}%

```



```

354 }%
355 \setlength{\@tempdima}{2.281\@tempdimc}%
356 \setlength{\@tempdimb}{\@tempb\@tempdima}%
357 \edef\hugerr{%
358   \noexpand\@setfontsize\noexpand\hugerr
359   {\the\@tempdima}{\the\@tempdimb}%
360 }%
361 \setlength{\@tempdima}{2.3845\@tempdimc}%
362 \setlength{\@tempdimb}{\@tempb\@tempdima}%
363 \edef\hugerrr{%
364   \noexpand\@setfontsize\noexpand\hugerrr
365   {\the\@tempdima}{\the\@tempdimb}%
366 }%

```

Definition of \Huger, \Hugerr, \Hugerrr.

Scale factor: 0.123.

```

367 \setlength{\@tempdima}{2.611\@tempdimc}%
368 \setlength{\@tempdimb}{\@tempb\@tempdima}%
369 \edef\Huger{%
370   \noexpand\@setfontsize\noexpand\Huger
371   {\the\@tempdima}{\the\@tempdimb}%
372 }%
373 \setlength{\@tempdima}{2.734\@tempdimc}%
374 \setlength{\@tempdimb}{\@tempb\@tempdima}%
375 \edef\Hugerr{%
376   \noexpand\@setfontsize\noexpand\Hugerr
377   {\the\@tempdima}{\the\@tempdimb}%
378 }%
379 \setlength{\@tempdima}{2.857\@tempdimc}%
380 \setlength{\@tempdimb}{\@tempb\@tempdima}%
381 \edef\Hugerrr{%
382   \noexpand\@setfontsize\noexpand\Hugerrr
383   {\the\@tempdima}{\the\@tempdimb}%
384 }%

```

Definition of \HUGE, \HUGER, \HUGERR, \HUGERRR.

Scale factor: 0,149.

```

385 \setlength{\@tempdima}{3.006\@tempdimc}%
386 \setlength{\@tempdimb}{\@tempb\@tempdima}%
387 \edef\HUGE{%
388   \noexpand\@setfontsize\noexpand\HUGE
389   {\the\@tempdima}{\the\@tempdimb}%
390 }%
391 \setlength{\@tempdima}{3,155\@tempdimc}%
392 \setlength{\@tempdimb}{\@tempb\@tempdima}%
393 \edef\HUGEr{%
394   \noexpand\@setfontsize\noexpand\HUGEr
395   {\the\@tempdima}{\the\@tempdimb}%
396 }%
397 \setlength{\@tempdima}{3,304\@tempdimc}%

```

```

398 \setlength{\@tempdimb}{\@tempb\@tempdima}%
399 \edef\HUGErr{%
400 \noexpand\@setfontsize\noexpand\HUGErr
401 {\the\@tempdima}{\the\@tempdimb}%
402 }%
403 \setlength{\@tempdima}{3,453\@tempdimc}%
404 \setlength{\@tempdimb}{\@tempb\@tempdima}%
405 \edef\HUGErrr{%
406 \noexpand\@setfontsize\noexpand\HUGErrr
407 {\the\@tempdima}{\the\@tempdimb}%
408 }%

409 \normalsize%

```

The KOMA files do not define `\parindent` and other lengths related to the page dimensions (`\textheight`, `\headheight`, `\headsep`, etc.) Anyway, I think that some of these lengths are strictly linked to the font rather than to the dimensions of the page and the text, particularly `\headheight`, whose value may cause a well known warning if `fancyhdr` is loaded. So we define the following new lengths:

```

410 \setlength\parindent{\@tempdimb}%
411 \setlength\headheight{\dimexpr(\@tempdimb+2pt)}%

```

For the following lengths, all values are calculated proportionally to the main font. I took the `bk11.clo` file as a reference point. Note that the differences of these lengths in the files `bk10.clo` `bk11.clo` and `bk12.clo` only affect `\headsep`, `\topskip` and `\footskip`, which are not redefined here.

```

412 \setlength\smallskipamount{\dimexpr(1.1\@tempdimb/4) \@plus 1\p@ \@minus 1\p@}%
413 \setlength\medskipamount{\dimexpr(1.1\@tempdimb/2) \@plus 2\p@ \@minus 2\p@}%
414 \setlength\bigskipamount{\dimexpr(1.1\@tempdimb) \@plus 4\p@ \@minus 4\p@}%

```

The following table shows the values of some specific lengths defined by the package, in relation to some significant settings of the main font and line spacing. The values are expressed in pt and rounded to the second decimal place.

Normal size	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	11.00
Line spacing	12.00	12.12	12.24	12.36	12.48	12.60	12.72	12.84	12.96	13.08	13.20
<code>\headheight</code>	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	13.00
<code>\parindent</code>	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	11.00
<code>\smallskipamount</code> ±1pt	2.75	2.78	2.81	2.83	2.86	2.89	2.92	2.94	2.97	3.00	3.03
<code>\medskipamount</code> ±2pt	5.50	5.56	5.61	5.67	5.72	5.78	5.83	5.89	5.94	6.00	6.05
<code>\bigskipamount</code> ±4pt	11.00	11.11	11.22	11.33	11.44	11.55	11.66	11.77	11.88	11.99	12.10

```

415 \setlength{\@tempdimb}{\f@baselineskip}%
416 \ctm@setlength{\parsep}%
417 {.3333\@tempdimb}{.1667\@tempdimb}{.0833\@tempdimb}%
418 \ctm@setlength{\topsep}%
419 {.6667\@tempdimb}{.1667\@tempdimb}{.3333\@tempdimb}%
420 \@tempwafalse
421 \begingroup

```

```

422 \def\@list@extra{\aftergroup\@tempwattrue}%
423 \csname @listi\endcsname
424 \endgroup
425 \edef\@listi{\leftmargin\leftmargini
426   \topsep \the\topsep
427   \parsep \the\parsep
428   \itemsep \parsep
429   \if@tempswa\noexpand\@list@extra\fi
430 }%
431 \let\@listI\@listi
432 \ctm@setlength{\parsep}%
433 {.1667\@tempdimb}{.0833\@tempdimb}{.0833\@tempdimb}%
434 \ctm@setlength{\topsep}%
435 {.3333\@tempdimb}{.1667\@tempdimb}{.1667\@tempdimb}%
436 \@tempwafalse
437 \begingroup
438 \def\@list@extra{\aftergroup\@tempwattrue}%
439 \csname @listi\endcsname
440 \endgroup
441 \edef\@listi@small{\leftmargin\leftmargini
442   \topsep \the\topsep
443   \parsep \the\parsep
444   \itemsep \parsep
445   \if@tempswa\noexpand\@list@extra\fi
446 }%
447 \ctm@setlength{\parsep}%
448 {.125\@tempdimb}{.0625\@tempdimb}{.0625\@tempdimb}%
449 \ctm@setlength{\topsep}%
450 {.25\@tempdimb}{.125\@tempdimb}{.125\@tempdimb}%
451 \@tempwafalse
452 \begingroup
453 \def\@list@extra{\aftergroup\@tempwattrue}%
454 \csname @listi\endcsname
455 \endgroup
456 \edef\@listi@footnotesize{\leftmargin\leftmargini
457   \topsep \the\topsep
458   \parsep \the\parsep
459   \itemsep \parsep
460   \if@tempswa\noexpand\@list@extra\fi
461 }%
462 \ctm@setlength{\parsep}%
463 {.1667\@tempdimb}{.0833\@tempdimb}{.0833\@tempdimb}%
464 \ctm@setlength{\topsep}%
465 {.3333\@tempdimb}{.1667\@tempdimb}{.0833\@tempdimb}%
466 \@tempwafalse
467 \begingroup
468 \def\@list@extra{\aftergroup\@tempwattrue}%
469 \csname @listii\endcsname
470 \endgroup
471 \edef\@listii{\leftmargin\leftmarginii
472   \labelwidth=\dimexpr \leftmargin-\labelsep

```

```

473 \topsep \the\topsep
474 \parsep \the\parsep
475 \itemsep \parsep
476 \if@tempswa\noexpand\@list@extra\fi
477 }%
478 \ctm@setlength{\topsep}%
479 {.1667\@tempdimb}{.0833\@tempdimb}{.0833\@tempdimb}%
480 \setlength{\partopsep}{\z@ \@plus\z@ \@minus\p@}%
481 \@tempwafalse
482 \begingroup
483 \def\@list@extra{\aftergroup\@tempwattrue}%
484 \csname @listiii\endcsname
485 \endgroup
486 \edef\@listiii{\leftmargin\leftmarginiii
487 \labelwidth=\dimexpr \leftmargin-\labelsep
488 \topsep \the\topsep
489 \parsep \z@
490 \partopsep \the\partopsep
491 \itemsep \topsep
492 \if@tempswa\noexpand\@list@extra\fi
493 }%
494 \@tempwafalse
495 \begingroup
496 \def\@list@extra{\aftergroup\@tempwattrue}%
497 \csname @listiv\endcsname
498 \endgroup
499 \edef\@listiv{\leftmargin\leftmarginiv
500 \labelwidth=\dimexpr \leftmargin-\labelsep\relax
501 \if@tempswa\noexpand\@list@extra\fi
502 }%
503 \@tempwafalse
504 \begingroup
505 \def\@list@extra{\aftergroup\@tempwattrue}%
506 \csname @listv\endcsname
507 \endgroup
508 \edef\@listv{\leftmargin\leftmarginv
509 \labelwidth=\dimexpr \leftmargin-\labelsep\relax
510 \if@tempswa\noexpand\@list@extra\fi
511 }%
512 \@tempwafalse
513 \begingroup
514 \def\@list@extra{\aftergroup\@tempwattrue}%
515 \csname @listvi\endcsname
516 \endgroup
517 \edef\@listvi{\leftmargin\leftmarginvi
518 \labelwidth=\dimexpr \leftmargin-\labelsep\relax
519 \if@tempswa\noexpand\@list@extra\fi
520 }%
521 \@listi
522 \setlength{\@tempdimb}{\f@baselineskip}%
523 \setlength{\footnotesep}{.555\@tempdimb}%

```

```

524 \ctm@setlength{\skip\footins}%
525 {.75\@tempdimb}{.3333\@tempdimb}{.1667\@tempdimb}%
526 \ctm@setlength{\floatsep}%
527 {\@tempdimb}{.1667\@tempdimb}{.1667\@tempdimb}%
528 \ctm@setlength{\textfloatsep}%
529 {1.6667\@tempdimb}{.1667\@tempdimb}{.3333\@tempdimb}%
530 \setlength{\intextsep}{\floatsep}%
531 \setlength{\dblfloatsep}{\floatsep}%
532 \setlength{\dbltextfloatsep}{\textfloatsep}%
533 \setlength{\@fptop}{\z@ \@plus 1fil}%
534 \setlength{\@fpsep}{.6667\@tempdimb \@plus 2fil}%
535 \setlength{\@fpbot}{\@fptop}%
536 \setlength{\@dblfpot}{\@fptop}%
537 \setlength{\@dblfpsep}{\@fpsep}%
538 \setlength{\@dblfpbot}{\@fpot}%
539 \ctm@setlength{\partopsep}{.2\@tempdimb}{.1\@tempdimb}{.1\@tempdimb}%
540 }

```

Excerpt from scrfontsizes.sty Here is a portion of the scrfontsizes package. It simply provides the `\generateclofile` command, without the KOMA-related definitions. There are no reserved names for the `.clo` files. The command name is a new name for the KOMA `\generatefontfile`. In fact what the command generates is a `.clo` file.

```

541 \newcommand*\generateclofile[1]{%
542 \kernel@ifnextchar [{\@generatefontfile{#1}}{\@@generatefontfile{#1}}}%
543 }
544 \newcommand*\@generatefontfile{}
545 \def\@generatefontfile#1[#2]#3{%
546 \begingroup

```

At least starting from version 3.31 of scrfontsizes, the code of the `\@generatefontfile` and `\@@generatefontfile` commands sets the `\parskip` value to 0pt. We also use `[#2]` in place of `[{#2}]` for the optional argument of `\changefontsize` used immediately below.

```

547 \setlength{\parskip}{0pt}%
548 \changefontsize[#2]{#3}%
549 \generate@fontfile{#1}{#3}%
550 \endgroup
551 }
552 \newcommand\@@generatefontfile[2]{%
553 \begingroup
554 \setlength{\parskip}{0pt}%
555 \changefontsize{#2}%
556 \generate@fontfile{#1}{#2}%
557 \endgroup
558 }
559 \newcommand*\@@@generatefontfile[2][]{}
560 \newcommand*\@fontfile{}
561 \let\@fontfile\@mainaux
562 \newcommand*\generate@fontfile[2]{%
563 \def\@ind{\space\space}%

```

```

564 \immediate\openout\@fontfile #1#2.clo
565 \immediate\write\@fontfile{\@percentchar^^J%
566 \@percentchar\space This is file '#1#2.clo', generated with^^J%

```

In the next three lines we only replace 'scrfontsizes' with 'fontsize' and 'Markus Kohm' with 'Ivan Valbusa', in order to get the correct information in the .log file.

```

567 \@percentchar\space fontsize
568 \csname ver@fontsize.\@pkgextension\endcsname,^^J%
569 \@percentchar\space Copyright (c) Ivan Valbusa.^^J%
570 \@percentchar^^J%
571 \string\ProvidesFile{#1#2.clo}[%
572 \the\year/\ifnum\month<10 0\fi\the\month/\ifnum\day<10 0\fi\the\day%
573 \space generated font size class option (#2)]]%
574 \immediate\write\@fontfile{%
575 \string\def\string\normalsize{\@percentchar^^J%
576 \@ind\string\@setfontsize\string\normalsize{\f@size}{\f@baselineskip}%
577 \@percentchar^^J%
578 \@ind\string\abovedisplayskip\space \the\abovedisplayskip^^J%
579 \@ind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^^J%
580 \@ind\string\belowdisplayskip\space \the\belowdisplayskip^^J%
581 \@ind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^^J%
582 \@ind\string\let\string\@listi\string\@listI^^J%
583 }\@percentchar%
584 }%
585 \begingroup\small\@listi
586 \immediate\write\@fontfile{%
587 \string\def\string\small{\@percentchar^^J%
588 \@ind\string\@setfontsize\string\small{\f@size}{\f@baselineskip}%
589 \@percentchar^^J%
590 \@ind\string\abovedisplayskip\space \the\abovedisplayskip^^J%
591 \@ind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^^J%
592 \@ind\string\belowdisplayskip\space \the\belowdisplayskip^^J%
593 \@ind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^^J%
594 \@ind\string\def\string\@listi{\@percentchar^^J%
595 \@ind\@ind\string\leftmargin\string\leftmarginI^^J%
596 \@ind\@ind\string\topsep \the\topsep^^J%
597 \@ind\@ind\string\parsep \the\parsep^^J%
598 \@ind\@ind\string\itemsep \string\parsep^^J%
599 \@ind}\@percentchar^^J%
600 }\@percentchar%
601 }%
602 \endgroup
603 \begingroup\footnotesize\@listi
604 \immediate\write\@fontfile{%
605 \string\def\string\footnotesize{\@percentchar^^J%
606 \@ind\string\@setfontsize\string\footnotesize{\f@size}{\f@baselineskip}%
607 \@percentchar^^J%
608 \@ind\string\abovedisplayskip\space \the\abovedisplayskip^^J%
609 \@ind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^^J%
610 \@ind\string\belowdisplayskip\space \the\belowdisplayskip^^J%

```

```

611 \@ind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^^J%
612 \@ind\string\def\string\@listi{\@percentchar^^J%
613 \@ind\@ind\string\leftmargin\string\leftmargini^^J%
614 \@ind\@ind\string\topsep \the\topsep^^J%
615 \@ind\@ind\string\parsep \the\parsep^^J%
616 \@ind\@ind\string\itemsep \string\parsep^^J%
617 \@ind}\@percentchar^^J%
618 }\@percentchar%
619 }%
620 \endgroup
621 \begingroup\scriptsize
622 \immediate\write\@fontfile{%
623 \string\def\string\scriptsize{%
624 \string\@setfontsize\string\scriptsize{\f@size}{\f@baselineskip}%
625 }\@percentchar%
626 }%
627 \endgroup
628 \begingroup\tiny
629 \immediate\write\@fontfile{%
630 \string\def\string\tiny{%
631 \string\@setfontsize\string\tiny{\f@size}{\f@baselineskip}%
632 }\@percentchar%
633 }%
634 \endgroup
635 \begingroup\large
636 \immediate\write\@fontfile{%
637 \string\def\string\large{%
638 \string\@setfontsize\string\large{\f@size}{\f@baselineskip}%
639 }\@percentchar%
640 }%
641 \endgroup
642 \begingroup\Large
643 \immediate\write\@fontfile{%
644 \string\def\string\Large{%
645 \string\@setfontsize\string\Large{\f@size}{\f@baselineskip}%
646 }\@percentchar%
647 }%
648 \endgroup
649 \begingroup\LARGE
650 \immediate\write\@fontfile{%
651 \string\def\string\LARGE{%
652 \string\@setfontsize\string\LARGE{\f@size}{\f@baselineskip}%
653 }\@percentchar%
654 }%
655 \endgroup
656 \begingroup\huge
657 \immediate\write\@fontfile{%
658 \string\def\string\huge{%
659 \string\@setfontsize\string\huge{\f@size}{\f@baselineskip}%
660 }\@percentchar%
661 }%

```

```

662 \endgroup
663 \begingroup\Huge
664 \immediate\write\@fontfile{%
665   \string\def\string\Huge{%
666     \string\@setfontsize\string\Huge{\f@size}{\f@baselineskip}%
667   }\@percentchar%
668 }%
669 \endgroup

```

The new sizing commands previously defined are recalled here and written in the .clo file if the \generateclfile command is used.

```

670 \begingroup\tinyr
671 \immediate\write\@fontfile{%
672   \string\def\string\tinyr{%
673     \string\@setfontsize\string\tinyr{\f@size}{\f@baselineskip}%
674   }\@percentchar%
675 }%
676 \endgroup
677 \begingroup\tinyrr
678 \immediate\write\@fontfile{%
679   \string\def\string\tinyrr{%
680     \string\@setfontsize\string\tinyrr{\f@size}{\f@baselineskip}%
681   }\@percentchar%
682 }%
683 \endgroup
684 \begingroup\tinyrrr
685 \immediate\write\@fontfile{%
686   \string\def\string\tinyrrr{%
687     \string\@setfontsize\string\tinyrrr{\f@size}{\f@baselineskip}%
688   }\@percentchar%
689 }%
690 \endgroup
691 \begingroup\scriptsize
692 \immediate\write\@fontfile{%
693   \string\def\string\scriptsize{%
694     \string\@setfontsize\string\scriptsize{\f@size}{\f@baselineskip}%
695   }\@percentchar%
696 }%
697 \endgroup
698 \begingroup\scriptsizeerr
699 \immediate\write\@fontfile{%
700   \string\def\string\scriptsizeerr{%
701     \string\@setfontsize\string\scriptsizeerr{\f@size}{\f@baselineskip}%
702   }\@percentchar%
703 }%
704 \endgroup
705 \begingroup\scriptsizeerrr
706 \immediate\write\@fontfile{%
707   \string\def\string\scriptsizeerrr{%
708     \string\@setfontsize\string\scriptsizeerrr{\f@size}{\f@baselineskip}%

```



```

709 } \@percentchar%
710 }%
711 \endgroup
712 \def\fs@appnormal{
713   \@percentchar^^J%
714   \@ind\string\abovedisplayskip\space \the\abovedisplayskip^^J%
715   \@ind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^^J%
716   \@ind\string\belowdisplayskip\space \the\belowdisplayskip^^J%
717   \@ind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^^J%
718   \@ind\string\let\string\@listi\string\@listI^^J%
719 }
720 \def\fs@appsmall{%
721   \@percentchar^^J%
722   \@ind\string\abovedisplayskip\space \the\abovedisplayskip^^J%
723   \@ind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^^J%
724   \@ind\string\belowdisplayskip\space \the\belowdisplayskip^^J%
725   \@ind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^^J%
726   \@ind\string\def\string\@listi{\@percentchar^^J%
727     \@ind\@ind\string\leftmargin\string\leftmarginI^^J%
728     \@ind\@ind\string\topsep \the\topsep^^J%
729     \@ind\@ind\string\parsep \the\parsep^^J%
730     \@ind\@ind\string\itemsep \string\parsep^^J%
731     \@ind}\@percentchar^^J%
732 }
733 \begingroup\smallr\@listi
734 \immediate\write\@fontfile{%
735   \string\def\string\smallr{\@percentchar^^J%
736     \@ind\string\@setfontsize\string\smallr{\f@size}{\f@baselineskip}%
737     \fs@appsmall%
738   }\@percentchar%
739 }%
740 \endgroup
741 \begingroup\smallrr\@listi
742 \immediate\write\@fontfile{%
743   \string\def\string\smallrr{\@percentchar^^J%
744     \@ind\string\@setfontsize\string\smallrr{\f@size}{\f@baselineskip}%
745     \fs@appsmall%
746   }\@percentchar%
747 }%
748 \endgroup
749 \begingroup\smallrrr\@listi
750 \immediate\write\@fontfile{%
751   \string\def\string\smallrrr{\@percentchar^^J%
752     \@ind\string\@setfontsize\string\smallrrr{\f@size}{\f@baselineskip}%
753     \fs@appsmall%
754   }\@percentchar%
755 }%
756 \endgroup
757 \begingroup\footnotesizer\@listi
758 \immediate\write\@fontfile{%
759   \string\def\string\footnotesizer{\@percentchar^^J%

```

```

760 \@ind\string\@setfontsize\string\footnotesizer{\f@size}{\f@baselineskip}%
761 \fs@appsmall%
762 }\@percentchar%
763 }%
764 \endgroup
765 \begingroup\footnotesizerr\@listi
766 \immediate\write\@fontfile{%
767 \string\def\string\footnotesizerr{\@percentchar^^J%
768 \@ind\string\@setfontsize\string\footnotesizerr{\f@size}{\f@baselineskip}%
769 \fs@appsmall%
770 }\@percentchar%
771 }%
772 \endgroup
773 \begingroup\footnotesizerrr\@listi
774 \immediate\write\@fontfile{%
775 \string\def\string\footnotesizerrr{\@percentchar^^J%
776 \@ind\string\@setfontsize\string\footnotesizerrr{\f@size}{\f@baselineskip}%
777 \fs@appsmall%
778 }\@percentchar%
779 }%
780 \endgroup
781 \begingroup\normalsizer
782 \immediate\write\@fontfile{%
783 \string\def\string\normalsizer{\@percentchar^^J%
784 \@ind\string\@setfontsize\string\normalsizer{\f@size}{\f@baselineskip}%
785 \fs@appnormal%
786 }\@percentchar%
787 }%
788 \endgroup
789 \begingroup\normalsizerr
790 \immediate\write\@fontfile{%
791 \string\def\string\normalsizerr{\@percentchar^^J%
792 \@ind\string\@setfontsize\string\normalsizerr{\f@size}{\f@baselineskip}%
793 \fs@appnormal%
794 }\@percentchar%
795 }%
796 \endgroup
797 \begingroup\normalsizerrr
798 \immediate\write\@fontfile{%
799 \string\def\string\normalsizerrr{\@percentchar^^J%
800 \@ind\string\@setfontsize\string\normalsizerrr{\f@size}{\f@baselineskip}%
801 \fs@appnormal%
802 }\@percentchar%
803 }%
804 \endgroup
805 \begingroup\larger
806 \immediate\write\@fontfile{%
807 \string\def\string\larger{%
808 \string\@setfontsize\string\larger{\f@size}{\f@baselineskip}%
809 }\@percentchar%
810 }%

```

```

811 \endgroup
812 \begingroup\largerr
813 \immediate\write\@fontfile{%
814   \string\def\string\largerr{%
815     \string\@setfontsize\string\largerr{\f@size}{\f@baselineskip}%
816   }\@percentchar%
817 }%
818 \endgroup
819 \begingroup\largerrr
820 \immediate\write\@fontfile{%
821   \string\def\string\largerrr{%
822     \string\@setfontsize\string\largerrr{\f@size}{\f@baselineskip}%
823   }\@percentchar%
824 }%
825 \endgroup
826 \begingroup\Large
827 \immediate\write\@fontfile{%
828   \string\def\string\Large{%
829     \string\@setfontsize\string\Large{\f@size}{\f@baselineskip}%
830   }\@percentchar%
831 }%
832 \endgroup
833 \begingroup\Larger
834 \immediate\write\@fontfile{%
835   \string\def\string\Larger{%
836     \string\@setfontsize\string\Larger{\f@size}{\f@baselineskip}%
837   }\@percentchar%
838 }%
839 \endgroup
840 \begingroup\Largerr
841 \immediate\write\@fontfile{%
842   \string\def\string\Largerr{%
843     \string\@setfontsize\string\Largerr{\f@size}{\f@baselineskip}%
844   }\@percentchar%
845 }%
846 \endgroup
847 \begingroup\Largerrr
848 \immediate\write\@fontfile{%
849   \string\def\string\Largerrr{%
850     \string\@setfontsize\string\Largerrr{\f@size}{\f@baselineskip}%
851   }\@percentchar%
852 }%
853 \endgroup
854 \begingroup\LARGE
855 \immediate\write\@fontfile{%
856   \string\def\string\LARGE{%
857     \string\@setfontsize\string\LARGE{\f@size}{\f@baselineskip}%
858   }\@percentchar%
859 }%
860 \endgroup
861 \begingroup\LARGEerr

```

```

862 \immediate\write\@fontfile{%
863   \string\def\string\LARGEerr{%
864     \string\@setfontsize\string\LARGEerr{\f@size}{\f@baselineskip}%
865   }\@percentchar%
866 }%
867 \endgroup
868 \begingroup\LARGEerr
869 \immediate\write\@fontfile{%
870   \string\def\string\LARGEerrr{%
871     \string\@setfontsize\string\LARGEerrr{\f@size}{\f@baselineskip}%
872   }\@percentchar%
873 }%
874 \endgroup
875 \begingroup\huger
876 \immediate\write\@fontfile{%
877   \string\def\string\huger{%
878     \string\@setfontsize\string\huger{\f@size}{\f@baselineskip}%
879   }\@percentchar%
880 }%
881 \endgroup
882 \begingroup\hugerr
883 \immediate\write\@fontfile{%
884   \string\def\string\hugerr{%
885     \string\@setfontsize\string\hugerr{\f@size}{\f@baselineskip}%
886   }\@percentchar%
887 }%
888 \endgroup
889 \begingroup\hugerrr
890 \immediate\write\@fontfile{%
891   \string\def\string\hugerrr{%
892     \string\@setfontsize\string\hugerrr{\f@size}{\f@baselineskip}%
893   }\@percentchar%
894 }%
895 \endgroup
896 \begingroup\Huger
897 \immediate\write\@fontfile{%
898   \string\def\string\Huger{%
899     \string\@setfontsize\string\Huger{\f@size}{\f@baselineskip}%
900   }\@percentchar%
901 }%
902 \endgroup
903 \begingroup\Hugerr
904 \immediate\write\@fontfile{%
905   \string\def\string\Hugerr{%
906     \string\@setfontsize\string\Hugerr{\f@size}{\f@baselineskip}%
907   }\@percentchar%
908 }%
909 \endgroup
910 \begingroup\Hugerrr
911 \immediate\write\@fontfile{%
912   \string\def\string\Hugerrr{%

```

```

913     \string\@setfontsize\string\Hugerrr{\f@size}{\f@baselineskip}%
914   }\@percentchar%
915 }%
916 \endgroup
917 \begingroup\HUGE
918 \immediate\write\@fontfile{%
919   \string\def\string\HUGE{%
920     \string\@setfontsize\string\HUGE{\f@size}{\f@baselineskip}%
921   }\@percentchar%
922 }%
923 \endgroup
924 \begingroup\HUGEr
925 \immediate\write\@fontfile{%
926   \string\def\string\HUGEr{%
927     \string\@setfontsize\string\HUGEr{\f@size}{\f@baselineskip}%
928   }\@percentchar%
929 }%
930 \endgroup
931 \begingroup\HUGErr
932 \immediate\write\@fontfile{%
933   \string\def\string\HUGErr{%
934     \string\@setfontsize\string\HUGErr{\f@size}{\f@baselineskip}%
935   }\@percentchar%
936 }%
937 \endgroup
938 \begingroup\HUGErrr
939 \immediate\write\@fontfile{%
940   \string\def\string\HUGErrr{%
941     \string\@setfontsize\string\HUGErrr{\f@size}{\f@baselineskip}%
942   }\@percentchar%
943 }%
944 \endgroup

945 \immediate\write\@fontfile{\string\normalsize}%

```

The new lengths previously defined are recalled here and written in the .clo file if the \generateclofile command is used.

```

946 \begingroup
947 \immediate\write\@fontfile{%
948   \string\setlength{\string\parindent}{\the\parindent}^^J%
949   \string\setlength{\string\headheight}{\the\headheight}^^J%
950   \string\setlength{\string\smallskipamount}{\the\smallskipamount}^^J%
951   \string\setlength{\string\medskipamount}{\the\medskipamount}^^J%
952   \string\setlength{\string\bigskipamount}{\the\bigskipamount}^^J%
953 }%
954 \endgroup

955 \immediate\write\@fontfile{%
956   \string\setlength{\string\footnotesep}{\the\footnotesep}\@percentchar
957 }%

```

```

958 \immediate\write\@fontfile{%
959 \string\setlength{\string\skip\string\footins}{\the\skip\footins}\@percentchar
960 }%
961 \immediate\write\@fontfile{%
962 \string\setlength{\string\floatsep}{\the\floatsep}\@percentchar
963 }%
964 \immediate\write\@fontfile{%
965 \string\setlength{\string\textfloatsep}{\the\textfloatsep}\@percentchar
966 }%
967 \immediate\write\@fontfile{%
968 \string\setlength{\string\intextsep}{\the\intextsep}\@percentchar
969 }%
970 \immediate\write\@fontfile{%
971 \string\setlength{\string\dblfloatsep}{\the\dblfloatsep}\@percentchar
972 }%
973 \immediate\write\@fontfile{%
974 \string\setlength{\string\dbltextfloatsep}{\the\dbltextfloatsep}\@percentchar
975 }%
976 \immediate\write\@fontfile{%
977 \string\setlength{\string\@fptop}{\the\@fptop}\@percentchar
978 }%
979 \immediate\write\@fontfile{%
980 \string\setlength{\string\@fpsep}{\the\@fpsep}\@percentchar
981 }%
982 \immediate\write\@fontfile{%
983 \string\setlength{\string\@fpbot}{\the\@fpbot}\@percentchar
984 }%
985 \immediate\write\@fontfile{%
986 \string\setlength{\string\@dblfpbot}{\the\@dblfpbot}\@percentchar
987 }%
988 \immediate\write\@fontfile{%
989 \string\setlength{\string\@dblpsep}{\the\@dblpsep}\@percentchar
990 }%
991 \immediate\write\@fontfile{%
992 \string\setlength{\string\@dblpbot}{\the\@dblpbot}\@percentchar
993 }%
994 \immediate\write\@fontfile{%
995 \string\setlength{\string\parttopsep}{\the\parttopsep}\@percentchar
996 }%
997 \begingroup
998 \@listi
999 \immediate\write\@fontfile{%
1000 \string\def\string\@listi{\@percentchar^^J%
1001 \@ind\string\leftmargin\string\leftmarginii^^J%
1002 \@ind\string\topsep \the\topsep^^J%
1003 \@ind\string\parsep \the\parsep^^J%
1004 \@ind\string\itemsep \string\parsep^^J%
1005 }\@percentchar
1006 }%
1007 \endgroup
1008 \immediate\write\@fontfile{%

```

```

1009 \string\let\string\@listI\string\@listi
1010 }%
1011 \begingroup
1012 \@listii
1013 \immediate\write\@fontfile{%
1014 \string\def\string\@listii{\@percentchar^^J%
1015 \@ind\string\leftmargin\string\leftmarginii^^J%
1016 \@ind\string\labelwidth\string\leftmarginii^^J%
1017 \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
1018 \@ind\string\topsep \the\topsep^^J%
1019 \@ind\string\parsep \the\parsep^^J%
1020 \@ind\string\itemsep \string\parsep^^J%
1021 }\@percentchar
1022 }%
1023 \endgroup
1024 \begingroup
1025 \@listiii
1026 \immediate\write\@fontfile{%
1027 \string\def\string\@listiii{\@percentchar^^J%
1028 \@ind\string\leftmargin\string\leftmarginiii^^J%
1029 \@ind\string\labelwidth\string\leftmarginiii^^J%
1030 \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
1031 \@ind\string\topsep \the\topsep^^J%
1032 \@ind\string\parsep \the\parsep^^J%
1033 \@ind\string\partopsep \the\partopsep^^J%
1034 \@ind\string\itemsep \string\topsep^^J%
1035 }\@percentchar
1036 }%
1037 \endgroup
1038 \begingroup
1039 \@listiv
1040 \immediate\write\@fontfile{%
1041 \string\def\string\@listiv{\@percentchar^^J%
1042 \@ind\string\leftmargin\string\leftmarginiv^^J%
1043 \@ind\string\labelwidth\string\leftmarginiv^^J%
1044 \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
1045 }\@percentchar
1046 }%
1047 \endgroup
1048 \begingroup
1049 \@listv
1050 \immediate\write\@fontfile{%
1051 \string\def\string\@listv{\@percentchar^^J%
1052 \@ind\string\leftmargin\string\leftmarginv^^J%
1053 \@ind\string\labelwidth\string\leftmarginv^^J%
1054 \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
1055 }\@percentchar
1056 }%
1057 \endgroup
1058 \begingroup
1059 \@listvi

```

```

1060 \immediate\write\@fontfile{%
1061   \string\def\string\@listvi{\@percentchar^^J%
1062     \@ind\string\leftmargin\string\leftmarginvi^^J%
1063     \@ind\string\labelwidth\string\leftmarginvi^^J%
1064     \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
1065   }\@percentchar
1066 }%
1067 \endgroup
1068 \immediate\write\@fontfile{%
1069   \string\@ifundefined{\list@extra}{\@percentchar^^J%
1070     \string\expandafter\string\ifnum\string\scr@v@is@ge{3.17}%
1071     \string\par@updaterelative\string\fi^^J%
1072     \@ind\string\l@addto@macro{\string\@listi}{\string\@list@extra}%
1073     \@percentchar^^J%
1074     \@ind\string\let\string\@listI=\string\@listi^^J%
1075     \@ind\string\l@addto@macro{\string\@listii}{\string\@list@extra}%
1076     \@percentchar^^J%
1077     \@ind\string\l@addto@macro{\string\@listiii}{\string\@list@extra}%
1078     \@percentchar^^J%
1079     \@ind\string\l@addto@macro{\string\footnotesize}{\string\protect
1080       \string\add@extra@listi{ftns}}\@percentchar^^J%
1081     \@ind\string\l@addto@macro{\string\small}{\string\protect
1082       \string\add@extra@listi{sml}}\@percentchar^^J%
1083   }\@percentchar^^J%
1084   \string\@listi^^J%
1085   \string\endinput^^J%
1086   \@percentchar^^J%
1087   \@percentchar\space End of file ‘#1#2.clo’.
1088 }
1089 \immediate\closeout\@fontfile
1090 }
1091 \@onlypreamble\generateclfile

```

We will now define some internal commands to test the package functions. Since version 0.6 I have been using the \LaTeX 3 solution provided by Enrico Gregorio in place of the previous macros based on `etoolbox`.

```

1092 \def\fontsize\lipsum{%
1093   As any dedicated reader can clearly see, the Ideal of practical reason is a
1094   representation of, as far as I know, the things in themselves; as I have shown
1095   elsewhere, the phenomena should only be used as a canon for our understanding.
1096   The paralogisms of practical reason are what first give rise to the
1097   architectonic of practical reason. As will easily be shown in the
1098   next section, reason would thereby be made to contradict, in view of
1099   these considerations, the Ideal of practical reason, yet the manifold
1100   depends on the phenomena.}
1101
1102 \ExplSyntaxOn
1103
1104 \NewDocumentCommand{\printsamples}
1105 {

```



```

1106 m
1107 m
1108 O{tiny, tinyr, tinyrr, tinyrrr,
1109   scriptsize, scriptsize, scriptsizeerr, scriptsizeerr,
1110   footnotesize, footnotesize, footnotesizeerr, footnotesizeerr,
1111   small, smallr, smallrr, smallrrr,
1112   normalsize, normalsize, normalsizeerr, normalsizeerr,
1113   large, larger, largerr, largerrr,
1114   Large, Larger, Largerr, Largerrr,
1115   LARGE, LARGer, LARGerr, LARGerrr,
1116   huge, huger, hugerr, hugerrr,
1117   Huge, Huger, Hugerr, Hugerrr,
1118   HGE, HUGer, HUGerr, HUGerrr,
1119 }
1120 }
1121 {
1122 \fontsize_printsamples:nnn { #1 } { #2 } { #3 }
1123 }
1124
1125 % helper function to print the rounded sizes
1126 \cs_new:Nn \__fontsize_round_f:n
1127 {
1128 \fp_eval:n { round(\use:c{f@#1},1) } pt
1129 }
1130
1131 % the main function
1132 \cs_new_protected:Nn \fontsize_printsamples:nnn
1133 {
1134 % group to bound the font changes
1135 \group_begin:
1136 % set the size
1137 \changefontsize[#1]{#2}\selectfont
1138 % header
1139 \subsubsection*{Text~samples~for~\symbol{92}normalsize~#2~on~#1}
1140 % map through the desired sizes
1141 \clist_map_inline:nn { #3 }
1142 {
1143 \use:c{##1} % set the font size
1144 \noindent\texttt{\symbol{92}##1}:~ % print the font size command
1145 \__fontsize_round_f:n {size}~on~ % print the size in points
1146 \__fontsize_round_f:n {baselineskip}.~ % print the baseline skip in points
1147 \fontsize\lipsum % sample text
1148 \par\addvspace{\medskipamount} % finish up
1149 }
1150 % close the group
1151 \group_end:
1152 }
1153 \ExplSyntaxOff

```

References

- Adriaens, Hendri (2014), *The xkeyval package. Extension of the keyval package*, version 2.7a, <http://www.ctan.org/pkg/xkeyval> (visited on 07/05/2020).
- Lehman, Philipp and Joseph Wright (2019), *The etoolbox Package. An e-TeX Toolbox for Class and Package Authors*, version 2.5h, <http://www.ctan.org/pkg/etoolbox> (visited on 07/05/2020).
- Neukam, Frank, Markus Kohm, and Axel Kielhorn (2020), *KOMA – Script. A versatile L^AT_EX 2_ε bundle*, version 3.30, <http://www.ctan.org/pkg/koma-script> (visited on 07/05/2020).

Change History

v0.1	General: First public release 1	v0.5	General: New font sizing commands from \normalsize up. New command \printsamples. Updated documentation. 1
v0.2	General: Updated documentation and code comments. 1	v0.6	General: New font sizing commands from \small down. Updated documentation. 1
v0.3	General: Added definitions of some lengths omitted from KOMA-script files: \smallskiamount, \medskiamount, \bigskiamount. Redefined \parindent and \headheight. 1	v0.7	General: New font sizing commands \HUGE, \HUGE _r , \HUGE _{err} , \HUGE _{errr} . Changed default name for the .clo file to fontsize. Updated documentation. 1
v0.4	General: Maintenance release. Updated documentation. 1		

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