



Ivan Valbusa

The
fontsize
package

v0.8.1 – 2021/03/14

The serif typeface is Cochineal, created by Michael Sharpe on the basis of Sebastian Kosch's Crimson. The typewriter font is Inconsolata, designed by Raph Levien and the sans serif text is typeset in Linux Biolinum, created by Philipp H. Pol.

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

v0.8.1 – 2021/03/14

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`, 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).

As `fontsize` takes effect after the class is loaded, you should set a font size class option that comes close to the font size passed to `fontsize`. For example, if you set `fontsize=12.2pt` you should load the class option `12pt`.

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 `\generatecfile` 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`, 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).

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

\generatecfile{ $\langle\text{name}\rangle$ }[$\langle\text{baselineskip}\rangle$]{ $\langle\text{fontsize}\rangle$ } 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
\generatecfile{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 8.

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

\sampletext{ $\langle\text{text}\rangle$ }

Defines the $\langle\text{text}\rangle$ to be used by `\printsamples`.

1.3 New font sizing commands

The package provides three additional font sizing commands for each standard size (plus the new `\HUGE` command). See table 1 for details.

<code>\tiny</code>	Lipsum	<code>\LARGE</code>	Lipsum
<code>\tinyr</code>	Lipsum	<code>\LARGEr</code>	Lipsum
<code>\tinyrr</code>	Lipsum	<code>\LARGErr</code>	Lipsum
<code>\tinyrrr</code>	Lipsum	<code>\LARGErrr</code>	Lipsum
<code>\scriptsize</code>	Lipsum	<code>\huge</code>	Lipsum
<code>\scriptsize r</code>	Lipsum	<code>\huger</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>\Huge</code>	Lipsum
<code>\footnotesize r</code>	Lipsum	<code>\Huger</code>	Lipsum
<code>\footnotesize rr</code>	Lipsum	<code>\Hugerr</code>	Lipsum
<code>\footnotesize rrr</code>	Lipsum	<code>\Hugerr</code>	Lipsum
<code>\small</code>	Lipsum	<code>\HUGE</code>	Lipsum
<code>\smallr</code>	Lipsum	<code>\HUGEr</code>	Lipsum
<code>\smallrr</code>	Lipsum	<code>\HUGErr</code>	Lipsum
<code>\smallrrr</code>	Lipsum	<code>\HUGErrr</code>	Lipsum
<code>\normalsize</code>	Lipsum		
<code>\normalsize r</code>	Lipsum		
<code>\normalsize rr</code>	Lipsum		
<code>\normalsize rrr</code>	Lipsum		
<code>\large</code>	Lipsum		
<code>\larger</code>	Lipsum		
<code>\largerr</code>	Lipsum		
<code>\largerrr</code>	Lipsum		
<code>\Large</code>	Lipsum		
<code>\Larger</code>	Lipsum		
<code>\Largerr</code>	Lipsum		
<code>\Largerrr</code>	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 such as Cochineal used in this document (Sharpe 2020), but if the font has optical sizes, unusual things can happen: some larger sizes may appear smaller. For example, with the Latin Modern typeface (Jackowski and Nowacki 2009) a similar situation can be encountered when normal size is set to 12 pt:

<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).

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 increments of 0.5 pt. The first row of each size shows the font size; the second row (colored in gray) shows the default line spacing

<code>\tiny</code>	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00
	4.80	5.06	5.40	5.65	6.00	6.30	6.55	6.90	7.14
<code>\tinyr</code>	4.33	4.60	4.88	5.15	5.42	5.69	5.96	6.23	6.50
	5.20	5.48	5.85	6.12	6.50	6.83	7.09	7.48	7.74
<code>\tinyrr</code>	4.67	4.96	5.25	5.54	5.83	6.12	6.42	6.71	7.00
	5.60	5.90	6.30	6.59	7.00	7.35	7.64	8.05	8.33
<code>\tinyrrr</code>	5.00	5.31	5.62	5.94	6.25	6.56	6.88	7.19	7.50
	6.00	6.32	6.75	7.07	7.50	7.87	8.18	8.62	8.93
<code>\scriptsize</code>	5.33	5.67	6.00	6.33	6.67	7.00	7.33	7.67	8.00
	6.40	6.74	7.20	7.54	8.00	8.40	8.73	9.20	9.52
<code>\scriptsize r</code>	5.67	6.02	6.38	6.73	7.08	7.44	7.79	8.15	8.50
	6.80	7.16	7.65	8.01	8.50	8.93	9.27	9.78	10.12
<code>\scriptsize rr</code>	6.00	6.38	6.75	7.12	7.50	7.88	8.25	8.62	9.00
	7.20	7.59	8.10	8.48	9.00	9.45	9.82	10.35	10.71
<code>\scriptsize rrr</code>	6.33	6.73	7.13	7.52	7.92	8.31	8.71	9.10	9.50
	7.60	8.01	8.55	8.95	9.50	9.98	10.36	10.93	11.31
<code>\footnotesize</code>	6.67	7.08	7.50	7.92	8.33	8.75	9.17	9.58	10.00
	8.00	8.43	9.00	9.42	10.00	10.50	10.91	11.50	11.90
<code>\footnotesize r</code>	6.83	7.25	7.68	8.10	8.53	8.96	9.38	9.81	10.24
	8.19	8.63	9.21	9.64	10.24	10.75	11.17	11.77	12.18
<code>\footnotesize rr</code>	6.98	7.42	7.86	8.29	8.73	9.17	9.60	10.04	10.48
	8.38	8.83	9.43	9.87	10.48	11.00	11.43	12.05	12.47
<code>\footnotesize rrr</code>	7.14	7.59	8.03	8.48	8.93	9.37	9.82	10.27	10.71
	8.57	9.03	9.64	10.09	10.71	11.25	11.69	12.32	12.75
<code>\small</code>	7.30	7.76	8.21	8.67	9.13	9.58	10.04	10.49	10.95
	8.76	9.23	9.86	10.32	10.95	11.50	11.94	12.59	13.03
<code>\small r</code>	7.47	7.94	8.41	8.88	9.34	9.81	10.28	10.75	11.21
	8.97	9.45	10.09	10.56	11.21	11.77	12.23	12.89	13.34
<code>\small rr</code>	7.65	8.13	8.61	9.08	9.56	10.04	10.52	11.00	11.48
	9.18	9.67	10.33	10.81	11.48	12.05	12.52	13.20	13.66
<code>\small rrr</code>	7.82	8.31	8.80	9.29	9.78	10.27	10.76	11.25	11.74
	9.39	9.89	10.56	11.06	11.74	12.32	12.80	13.50	13.97
<code>\normalsize</code>	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00
	9.60	10.20	10.80	11.40	12.00	12.60	13.20	13.80	14.40
<code>\normalsize r</code>	8.40	8.93	9.45	9.98	10.50	11.03	11.55	12.08	12.60
	10.08	10.62	11.34	11.87	12.60	13.23	13.74	14.49	14.99
<code>\normalsize rr</code>	8.80	9.35	9.90	10.45	11.00	11.55	12.10	12.65	13.20
	10.56	11.13	11.88	12.44	13.20	13.86	14.40	15.18	15.71
<code>\normalsize rrr</code>	9.20	9.77	10.35	10.92	11.50	12.07	12.65	13.22	13.80
	11.04	11.63	12.42	13.00	13.80	14.49	15.05	15.87	16.42
<code>\large</code>	9.60	10.20	10.80	11.40	12.00	12.60	13.20	13.80	14.40
	11.52	12.14	12.96	13.57	14.40	15.12	15.71	16.56	17.14
<code>\larger</code>	10.08	10.71	11.34	11.97	12.60	13.23	13.86	14.49	15.12
	12.10	12.74	13.61	14.24	15.12	15.88	16.49	17.39	17.99

continues on next page...

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\largerr	10.56	11.22	11.88	12.54	13.20	13.86	14.52	15.18	15.84
	12.67	13.35	14.26	14.92	15.84	16.63	17.28	18.22	18.85
\largerrr	11.04	11.73	12.42	13.11	13.80	14.49	15.18	15.87	16.56
	13.25	13.96	14.90	15.60	16.56	17.39	18.06	19.04	19.71
\Large	11.52	12.24	12.96	13.68	14.40	15.12	15.84	16.56	17.28
	13.82	14.57	15.55	16.28	17.28	18.14	18.85	19.87	20.56
\Larger	12.10	12.85	13.61	14.36	15.12	15.88	16.63	17.39	18.14
	14.52	15.29	16.33	17.09	18.14	19.05	19.79	20.87	21.59
\Largerr	12.67	13.46	14.26	15.05	15.84	16.63	17.42	18.22	19.01
	15.21	16.02	17.11	17.91	19.01	19.96	20.73	21.86	22.62
\Largerrr	13.25	14.08	14.90	15.73	16.56	17.39	18.22	19.04	19.87
	15.90	16.75	17.88	18.72	19.87	20.87	21.68	22.85	23.65
\LARGE	13.82	14.69	15.55	16.42	17.28	18.14	19.01	19.87	20.74
	16.59	17.48	18.66	19.54	20.74	21.77	22.62	23.85	24.68
\LARGEr	14.52	15.42	16.33	17.24	18.14	19.05	19.96	20.87	21.77
	17.42	18.35	19.60	20.51	21.77	22.86	23.75	25.04	25.91
\LARGErr	15.21	16.16	17.11	18.06	19.01	19.96	20.91	21.86	22.81
	18.25	19.23	20.53	21.49	22.81	23.95	24.88	26.23	27.15
\LARGErrr	15.90	16.89	17.89	18.88	19.88	20.87	21.86	22.86	23.85
	19.08	20.10	21.46	22.47	23.85	25.04	26.02	27.43	28.38
\huge	16.59	17.63	18.67	19.70	20.74	21.78	22.81	23.85	24.89
	19.91	20.98	22.40	23.45	24.89	26.13	27.15	28.62	29.62
\huger	17.42	18.51	19.60	20.69	21.78	22.86	23.95	25.04	26.13
	20.90	22.03	23.52	24.62	26.13	27.44	28.50	30.05	31.09
\hugerr	18.25	19.39	20.53	21.67	22.81	23.95	25.09	26.23	27.37
	21.90	23.07	24.63	25.79	27.37	28.74	29.86	31.48	32.57
\hugerrr	19.08	20.27	21.46	22.65	23.85	25.04	26.23	27.42	28.61
	22.89	24.12	25.75	26.96	28.61	30.04	31.21	32.91	34.05
\Huge	19.90	21.15	22.39	23.64	24.88	26.12	27.37	28.61	29.86
	23.88	25.17	26.87	28.13	29.86	31.35	32.57	34.33	35.53
\Huger	20.89	22.19	23.50	24.80	26.11	27.42	28.72	30.03	31.33
	25.07	26.41	28.20	29.52	31.33	32.90	34.18	36.03	37.29
\Hugerr	21.87	23.24	24.61	25.97	27.34	28.71	30.07	31.44	32.81
	26.25	27.65	29.53	30.91	32.81	34.45	35.79	37.73	39.04
\Hugerrr	22.86	24.28	25.71	27.14	28.57	30.00	31.43	32.86	34.28
	27.43	28.90	30.86	32.30	34.28	36.00	37.40	39.43	40.80
\HUGE	24.05	25.55	27.05	28.56	30.06	31.56	33.07	34.57	36.07
	28.86	30.41	32.46	33.98	36.07	37.88	39.35	41.48	42.93
\HUGEr	25.24	26.82	28.39	29.97	31.55	33.13	34.70	36.28	37.86
	30.29	31.91	34.07	35.67	37.86	39.75	41.30	43.54	45.05
\HUGErr	26.43	28.08	29.74	31.39	33.04	34.69	36.34	38.00	39.65
	31.72	33.42	35.68	37.35	39.65	41.63	43.25	45.60	47.18
\HUGErrr	27.62	29.35	31.08	32.80	34.53	36.26	37.98	39.71	41.44
	33.15	34.93	37.29	39.04	41.44	43.51	45.20	47.65	49.31

2 Some text samples

The following samples are obtained with the `\printsamples` command (see section 1.2):

`\printsamples{12.6pt}{10.6pt}[normalsizerr,normalsizerrr,large,larger,largerr]`

Text samples for `\normalsize 10.6pt on 12.6pt`

`\normalsizerr`: 11.7pt on 13.8pt. 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.

`\normalsizerrr`: 12.2pt on 14.4pt. 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`: 12.7pt on 15pt. 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`: 13.4pt on 15.8pt. 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.

`\largerr`: 14pt on 16.5pt. 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.

3 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` (Adriaens 2014), while the `xfp` package (The L^AT_EX Project 2021) provides the `\fpeval` command to use instead of `\dimexpr` for some size calculations. Only a new package option called `cloname` is defined.

```
1 \ifpackage{loaded}{xkeyval}{\RequirePackage{xkeyval}}
2 \ifpackage{loaded}{xfp}{\RequirePackage{xfp}}
3 \DeclareOptionX{cloname}[fontsize]{\def\@fontsizefilebase{#1}}
```

Excerpt from `scrxextend.sty` Here the `scrxextend` code begins. All the KOMA related codes have been removed and only a few names have been changed. The value of `\@fontsizefilebase` is set to `fontsize` instead of `scrsz`.

```
4 \DeclareOptionX{fontsize}[10]{%
5   \expandafter\@defaultunits\expandafter\@tempdima#1 pt\relax\@nnil
6   \edef\@tempa{#1}%
7   \setlength{\@tempdimb}{\@tempdima}%
8   \edef\@tempb{\strip@pt\@tempdimb}%
9   \addtolength{\@tempdimb}{-10\p}%
10  \edef\@ptsize{\strip@pt\@tempdimb}%
11  \edef\@tempa{%
12    \noexpand\makeatletter
13    \noexpand\inputifexists{\@fontsizefilebase\@tempa.clo}{%
14      \noexpand\PackageInfo{fontsize}{%
15        File ‘\@fontsizefilebase\@tempa.clo’ used to setup font sizes}%
16      }{%
17        \noexpand\inputifexists{\@fontsizefilebase\@tempb pt.clo}{%
18          \noexpand\PackageInfo{fontsize}{%
19            File ‘\@fontsizefilebase\@tempb pt.clo’ used instead of%
20            \noexpand\MessageBreak
21            file ‘\@fontsizefilebase\@tempa.clo’ to setup font sizes}%
22          }{%
23            \noexpand\changeontsize{#1}%
24          }%
25        }%
26        \noexpand\catcode‘\noexpand\@=\the\catcode‘\@
27      }%
28      \expandafter\AtEndOfPackage\expandafter{\@tempa}%
29  }
```

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 `\changeontsize` commands are simply new names, respectively, for `\scr@setlength` and `\changeontsizes` used in `scrxextend.sty`.

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

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

```

34 \ifdim #3<\ifdim #3=\z@ \z@ \else \p@\fi
35 \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
36 \setlength{#1}{\p@ \@plus\p@ \@minus\p@}%
37 \else
38 \setlength{#1}{\p@ \@plus\p@ \@minus#4}%
39 \fi
40 \else
41 \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
42 \setlength{#1}{\p@ \@plus#3 \@minus\p@}%
43 \else
44 \setlength{#1}{\p@ \@plus#3 \@minus#4}%
45 \fi
46 \fi
47 \else
48 \ifdim #3<\ifdim #3=\z@ \z@ \else \p@\fi
49 \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
50 \setlength{#1}{#2 \@plus\p@ \@minus\p@}%
51 \else
52 \setlength{#1}{#2 \@plus\p@ \@minus#4}%
53 \fi
54 \else
55 \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
56 \setlength{#1}{#2 \@plus#3 \@minus\p@}%
57 \else
58 \setlength{#1}{#2 \@plus#3 \@minus#4}%
59 \fi
60 \fi
61 \fi
62 }
63 \providecommand*\changefontsize[2][1.2\@tempdima]{%
64 \@defaultunits\@tempdima#2pt\relax\@nnil
65 \setlength{\@tempdimc}{\@tempdima}%
66 \addtolength{\@tempdimc}{-10\p@}%
67 \edef\@ptsize{\strip@pt\@tempdimc}%
68 \@defaultunits\@tempdimb#1pt\relax\@nnil

```

The value of `\@tempdimc` set in `scrextend.sty`

```
\setlength{\@tempdimc}{\dimexpr (100\@tempdimb / \@tempdima * \p@)}
```

returns an error when the the line spacing is greater than 163.84 pt or the value passed to the fontsize option is grater than 136.53 pt. This is due to the intermediate calculation: $100\@tempdimb = 16\,384\text{pt}$, which is the maximum dimension that may be stored in plain \TeX and \LaTeX . The problem, which is probably more theoretical than practical, can be solved (thanks to Claudio Beccari) simply by changing it to this:

```

69 \setlength{\@tempdimc}{\fpeval{100*\@tempdimb/\@tempdima}pt}%

70 \edef\@tempb{\the\@tempdimc}%
71 \setlength{\@tempdimc}{\@tempdima}%
72 \def\@tempa##1##2##3##4##5\@nnil{\def##1{##2.##3##4}}%
73 \expandafter\@tempa\expandafter\@tempb\@tempb\@nnil%
74 \ctm@setlength{\abovedisplayskip}%
75 {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%

```

```

76 \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
77 \ctm@setlength{\belowdisplayshortskip}%
78 {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
79 \setlength{\belowdisplayskip}{\abovedisplayskip}%
80 \edef\normalsize{%
81   \noexpand\@setfontsize\noexpand\normalsize
82   {\the\@tempdima}{\the\@tempdimb}%
83   \abovedisplayskip \the\abovedisplayskip
84   \abovedisplayshortskip \the\abovedisplayshortskip
85   \belowdisplayskip \the\belowdisplayskip
86   \belowdisplayshortskip \the\belowdisplayshortskip
87   \let\noexpand\@listi\noexpand\@listI
88 }%
89 \setlength{\@tempdima}{0.9125\@tempdimc}%
90 \setlength{\@tempdimb}{\@tempb\@tempdima}%
91 \ctm@setlength{\abovedisplayskip}%
92 {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
93 \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
94 \ctm@setlength{\belowdisplayshortskip}%
95 {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
96 \setlength{\belowdisplayskip}{\abovedisplayskip}%
97 \edef\small{%
98   \noexpand\@setfontsize\noexpand\small
99   {\the\@tempdima}{\the\@tempdimb}%
100   \abovedisplayskip \the\abovedisplayskip
101   \abovedisplayshortskip \the\abovedisplayshortskip
102   \belowdisplayskip \the\belowdisplayskip
103   \belowdisplayshortskip \the\belowdisplayshortskip
104   \let\noexpand\@listi\noexpand\@listi@small
105 }%
106 \setlength{\@tempdima}{.83334\@tempdimc}%
107 \setlength{\@tempdimb}{\@tempb\@tempdima}%
108 \ctm@setlength{\abovedisplayskip}%
109 {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
110 \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
111 \ctm@setlength{\belowdisplayshortskip}%
112 {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
113 \setlength{\belowdisplayskip}{\abovedisplayskip}%
114 \edef\footnotesize{%
115   \noexpand\@setfontsize\noexpand\footnotesize
116   {\the\@tempdima}{\the\@tempdimb}%
117   \abovedisplayskip \the\abovedisplayskip
118   \abovedisplayshortskip \the\abovedisplayshortskip
119   \belowdisplayskip \the\belowdisplayskip
120   \belowdisplayshortskip \the\belowdisplayshortskip
121   \let\noexpand\@listi\noexpand\@listi@footnotesize
122 }%
123 \setlength{\@tempdima}{.66667\@tempdimc}%
124 \setlength{\@tempdimb}{\@tempb\@tempdima}%
125 \edef\scriptsize{%
126   \noexpand\@setfontsize\noexpand\scriptsize
127   {\the\@tempdima}{\the\@tempdimb}%
128 }%

```

```

129 \setlength{\@tempdima}{.5\@tempdimc}%
130 \setlength{\@tempdimb}{\@tempb\@tempdima}%
131 \edef\tiny{%
132   \noexpand\setfontsize\noexpand\tiny
133   {\the\@tempdima}{\the\@tempdimb}%
134 }%
135 \setlength{\@tempdima}{1.2\@tempdimc}%
136 \setlength{\@tempdimb}{\@tempb\@tempdima}%
137 \edef\large{%
138   \noexpand\setfontsize\noexpand\large
139   {\the\@tempdima}{\the\@tempdimb}%
140 }%
141 \setlength{\@tempdima}{1.44\@tempdimc}%
142 \setlength{\@tempdimb}{\@tempb\@tempdima}%
143 \edef\Large{%
144   \noexpand\setfontsize\noexpand\Large
145   {\the\@tempdima}{\the\@tempdimb}%
146 }%
147 \setlength{\@tempdima}{1.728\@tempdimc}%
148 \setlength{\@tempdimb}{\@tempb\@tempdima}%
149 \edef\LARGE{%
150   \noexpand\setfontsize\noexpand\LARGE
151   {\the\@tempdima}{\the\@tempdimb}%
152 }%
153 \setlength{\@tempdima}{2.074\@tempdimc}%
154 \setlength{\@tempdimb}{\@tempb\@tempdima}%
155 \edef\huge{%
156   \noexpand\setfontsize\noexpand\huge
157   {\the\@tempdima}{\the\@tempdimb}%
158 }%
159 \setlength{\@tempdima}{2.488\@tempdimc}%
160 \setlength{\@tempdimb}{\@tempb\@tempdima}%
161 \edef\Huge{%
162   \noexpand\setfontsize\noexpand\Huge
163   {\the\@tempdima}{\the\@tempdimb}%
164 }%

```

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.

```

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

```

```

177 \belowdisplaysshortskip \the\belowdisplaysshortskip%
178 }

```

Definition of \smallr, \smallrr, \smallrrr.

Scale factor: 0,021875.

```

179 \setlength{\@tempdima}{0.934375\@tempdimc}%
180 \setlength{\@tempdimb}{\@tempb\@tempdima}%
181 \fontsize@pre
182 \edef\smallr{%
183   \noexpand\@setfontsize\noexpand\smallr
184   {\the\@tempdima}{\the\@tempdimb}%
185   \fontsize@app
186   \let\noexpand\@listi\noexpand\@listi@small
187 }%
188 \setlength{\@tempdima}{0.95625\@tempdimc}%
189 \setlength{\@tempdimb}{\@tempb\@tempdima}%
190 \fontsize@pre
191 \edef\smallrr{%
192   \noexpand\@setfontsize\noexpand\smallrr
193   {\the\@tempdima}{\the\@tempdimb}%
194   \fontsize@app
195   \let\noexpand\@listi\noexpand\@listi@small
196 }%
197 \setlength{\@tempdima}{0.978125\@tempdimc}%
198 \setlength{\@tempdimb}{\@tempb\@tempdima}%
199 \fontsize@pre
200 \edef\smallrrr{%
201   \noexpand\@setfontsize\noexpand\smallrrr
202   {\the\@tempdima}{\the\@tempdimb}%
203   \fontsize@app
204   \let\noexpand\@listi\noexpand\@listi@small
205 }%

```

Definition of \footnotesizer, \footnotesizerr, \footnotesizerrr.

Scale factor: 0.01979.

```

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

```

```

223 }%
224 \setlength{\@tempdima}{0.89271\@tempdimc}%
225 \setlength{\@tempdimb}{\@tempb\@tempdima}%
226 \fontsize@pre
227 \edef\footnotesizerrr{%
228   \noexpand\@setfontsize\noexpand\footnotesizerrr
229   {\the\@tempdima}{\the\@tempdimb}%
230   \fontsize@app
231   \let\noexpand\@listi\noexpand\@listi@footnotesize
232 }%

```

Definition of \scriptsize, \scriptsizeerr, \scriptsizeerrr.
Scale factor: 0,0416675.

```

233 \setlength{\@tempdima}{0.7083375\@tempdimc}%
234 \setlength{\@tempdimb}{\@tempb\@tempdima}%
235 \edef\scriptsize{%
236   \noexpand\@setfontsize\noexpand\scriptsize
237   {\the\@tempdima}{\the\@tempdimb}%
238 }%
239 \setlength{\@tempdima}{0.750005\@tempdimc}%
240 \setlength{\@tempdimb}{\@tempb\@tempdima}%
241 \edef\scriptsizeerr{%
242   \noexpand\@setfontsize\noexpand\scriptsizeerr
243   {\the\@tempdima}{\the\@tempdimb}%
244 }%
245 \setlength{\@tempdima}{0.7916725\@tempdimc}%
246 \setlength{\@tempdimb}{\@tempb\@tempdima}%
247 \edef\scriptsizeerrr{%
248   \noexpand\@setfontsize\noexpand\scriptsizeerrr
249   {\the\@tempdima}{\the\@tempdimb}%
250 }%

```

Definition of \tiny, \tinyrr, \tinyrrr.
Scale factor: 0.0416675.

```

251 \setlength{\@tempdima}{0.5416675\@tempdimc}%
252 \setlength{\@tempdimb}{\@tempb\@tempdima}%
253 \edef\tiny{%
254   \noexpand\@setfontsize\noexpand\tiny
255   {\the\@tempdima}{\the\@tempdimb}%
256 }%
257 \setlength{\@tempdima}{0.583335\@tempdimc}%
258 \setlength{\@tempdimb}{\@tempb\@tempdima}%
259 \edef\tinyrr{%
260   \noexpand\@setfontsize\noexpand\tinyrr
261   {\the\@tempdima}{\the\@tempdimb}%
262 }%
263 \setlength{\@tempdima}{0.6250025\@tempdimc}%
264 \setlength{\@tempdimb}{\@tempb\@tempdima}%
265 \edef\tinyrrr{%
266   \noexpand\@setfontsize\noexpand\tinyrrr
267   {\the\@tempdima}{\the\@tempdimb}%
268 }%

```

Definition of \normalsizer, \normalsizerr, \normalsizerrr.
Scale factor: 0.05.

```

269 \setlength{\@tempdima}{1.05\@tempdimc}%
270 \setlength{\@tempdimb}{\@tempb\@tempdima}%
271 \fontsize@pre
272 \edef\normalsizer{%
273   \noexpand\@setfontsize\noexpand\normalsizer
274   {\the\@tempdima}{\the\@tempdimb}%
275   \fontsize@app
276   \let\noexpand\@listi\noexpand\@listI
277 }%
278 \setlength{\@tempdima}{1.1\@tempdimc}%
279 \setlength{\@tempdimb}{\@tempb\@tempdima}%
280 \fontsize@pre
281 \edef\normalsizerr{%
282   \noexpand\@setfontsize\noexpand\normalsizerr
283   {\the\@tempdima}{\the\@tempdimb}%
284   \fontsize@app
285   \let\noexpand\@listi\noexpand\@listI
286 }%
287 \setlength{\@tempdima}{1.15\@tempdimc}%
288 \setlength{\@tempdimb}{\@tempb\@tempdima}%
289 \fontsize@pre
290 \edef\normalsizerrr{%
291   \noexpand\@setfontsize\noexpand\normalsizerrr
292   {\the\@tempdima}{\the\@tempdimb}%
293   \fontsize@app
294   \let\noexpand\@listi\noexpand\@listI
295 }%

```

Definition of \larger, \largerr, \largerrr.
Scale factor: 0.06.

```

296 \setlength{\@tempdima}{1.26\@tempdimc}%
297 \setlength{\@tempdimb}{\@tempb\@tempdima}%
298 \edef\larger{%
299   \noexpand\@setfontsize\noexpand\larger
300   {\the\@tempdima}{\the\@tempdimb}%
301 }%
302 \setlength{\@tempdima}{1.32\@tempdimc}%
303 \setlength{\@tempdimb}{\@tempb\@tempdima}%
304 \edef\largerr{%
305   \noexpand\@setfontsize\noexpand\largerr
306   {\the\@tempdima}{\the\@tempdimb}%
307 }%
308 \setlength{\@tempdima}{1.38\@tempdimc}%
309 \setlength{\@tempdimb}{\@tempb\@tempdima}%
310 \edef\largerrr{%
311   \noexpand\@setfontsize\noexpand\largerrr
312   {\the\@tempdima}{\the\@tempdimb}%
313 }%

```

Definition of \Larger, \Largerr, \Largerrr.

Scale factor: 0,072.

```
314 \setlength{\@tempdima}{1.512\@tempdimc}%
315 \setlength{\@tempdimb}{\@tempb\@tempdima}%
316 \edef\Larger{%
317   \noexpand\@setfontsize\noexpand\Larger
318   {\the\@tempdima}{\the\@tempdimb}%
319 }%
320 \setlength{\@tempdima}{1.584\@tempdimc}%
321 \setlength{\@tempdimb}{\@tempb\@tempdima}%
322 \edef\Largerr{%
323   \noexpand\@setfontsize\noexpand\Largerr
324   {\the\@tempdima}{\the\@tempdimb}%
325 }%
326 \setlength{\@tempdima}{1.656\@tempdimc}%
327 \setlength{\@tempdimb}{\@tempb\@tempdima}%
328 \edef\Largerrr{%
329   \noexpand\@setfontsize\noexpand\Largerrr
330   {\the\@tempdima}{\the\@tempdimb}%
331 }%
```

Definition of \LARGE, \LARGEerr, \LARGEerrr.

Scale factor: 0,0865.

```
332 \setlength{\@tempdima}{1.8145\@tempdimc}%
333 \setlength{\@tempdimb}{\@tempb\@tempdima}%
334 \edef\LARGE{%
335   \noexpand\@setfontsize\noexpand\LARGE
336   {\the\@tempdima}{\the\@tempdimb}%
337 }%
338 \setlength{\@tempdima}{1.901\@tempdimc}%
339 \setlength{\@tempdimb}{\@tempb\@tempdima}%
340 \edef\LARGEerr{%
341   \noexpand\@setfontsize\noexpand\LARGEerr
342   {\the\@tempdima}{\the\@tempdimb}%
343 }%
344 \setlength{\@tempdima}{1.9875\@tempdimc}%
345 \setlength{\@tempdimb}{\@tempb\@tempdima}%
346 \edef\LARGEerrr{%
347   \noexpand\@setfontsize\noexpand\LARGEerrr
348   {\the\@tempdima}{\the\@tempdimb}%
349 }%
```

Definition of \huger, \hugerr, \hugerrr.

Scale factor: 0,1035.

```
350 \setlength{\@tempdima}{2.1775\@tempdimc}%
351 \setlength{\@tempdimb}{\@tempb\@tempdima}%
352 \edef\huger{%
353   \noexpand\@setfontsize\noexpand\huger
354   {\the\@tempdima}{\the\@tempdimb}%
355 }%
356 \setlength{\@tempdima}{2.281\@tempdimc}%
357 \setlength{\@tempdimb}{\@tempb\@tempdima}%

```



```

358 \edef\hugerr{%
359   \noexpand\@setfontsize\noexpand\hugerr
360   {\the\@tempdima}{\the\@tempdimb}%
361 }%
362 \setlength{\@tempdima}{2.3845\@tempdimc}%
363 \setlength{\@tempdimb}{\@tempb\@tempdima}%
364 \edef\hugerrr{%
365   \noexpand\@setfontsize\noexpand\hugerrr
366   {\the\@tempdima}{\the\@tempdimb}%
367 }%

```

Definition of \Huger, \Hugerr, \Hugerrr.

Scale factor: 0.123.

```

368 \setlength{\@tempdima}{2.611\@tempdimc}%
369 \setlength{\@tempdimb}{\@tempb\@tempdima}%
370 \edef\Huger{%
371   \noexpand\@setfontsize\noexpand\Huger
372   {\the\@tempdima}{\the\@tempdimb}%
373 }%
374 \setlength{\@tempdima}{2.734\@tempdimc}%
375 \setlength{\@tempdimb}{\@tempb\@tempdima}%
376 \edef\Hugerr{%
377   \noexpand\@setfontsize\noexpand\Hugerr
378   {\the\@tempdima}{\the\@tempdimb}%
379 }%
380 \setlength{\@tempdima}{2.857\@tempdimc}%
381 \setlength{\@tempdimb}{\@tempb\@tempdima}%
382 \edef\Hugerrr{%
383   \noexpand\@setfontsize\noexpand\Hugerrr
384   {\the\@tempdima}{\the\@tempdimb}%
385 }%

```

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

Scale factor: 0,149.

```

386 \setlength{\@tempdima}{3.006\@tempdimc}%
387 \setlength{\@tempdimb}{\@tempb\@tempdima}%
388 \edef\HUGE{%
389   \noexpand\@setfontsize\noexpand\HUGE
390   {\the\@tempdima}{\the\@tempdimb}%
391 }%
392 \setlength{\@tempdima}{3.155\@tempdimc}%
393 \setlength{\@tempdimb}{\@tempb\@tempdima}%
394 \edef\HUGER{%
395   \noexpand\@setfontsize\noexpand\HUGER
396   {\the\@tempdima}{\the\@tempdimb}%
397 }%
398 \setlength{\@tempdima}{3.304\@tempdimc}%
399 \setlength{\@tempdimb}{\@tempb\@tempdima}%
400 \edef\HUGERR{%
401   \noexpand\@setfontsize\noexpand\HUGERR
402   {\the\@tempdima}{\the\@tempdimb}%
403 }%

```

Table 2: The values of some specific lengths set by the package, in relation to some significant settings of the normal size. 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
\parindent		10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	11.00
\smallskipamount	(^{plus} _{minus} 1 pt)	2.73	2.75	2.78	2.81	2.84	2.86	2.89	2.92	2.95	2.97	3.00
\medskipamount	(^{plus} _{minus} 2 pt)	5.45	5.51	5.56	5.62	5.67	5.73	5.78	5.84	5.89	5.95	6.00
\bigskipamount	(^{plus} _{minus} 4 pt)	10.91	11.02	11.13	11.24	11.35	11.45	11.56	11.67	11.78	11.89	12.00

```

404 \setlength{\@tempdima}{3.453\@tempdimc}%
405 \setlength{\@tempdimb}{\@tempb\@tempdima}%
406 \edef\HUGErrr{%
407   \noexpand\setfontsize\noexpand\HUGErrr
408   {\the\@tempdima}{\the\@tempdimb}%
409 }%
```

```

410 \normalsize%
```

The KOMA files do not define \parindent and other lengths that are strictly linked to the font rather than to the dimensions of the page and the text. So first we set \parindent to \normalsize:

```

411 \setlength\parindent{\@tempdimb}%
```

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 the lengths in the files bk*.clo not affected by fontsize only concern \headheight, \headsep, \topskip and \footskip.

```

412 \setlength\smallskipamount{\fpeval{1.090909091\@tempdimb/4}pt \@plus 1\p@ \@minus 1\p@}%
413 \setlength\medskipamount{\fpeval{1.090909091\@tempdimb/2}pt \@plus 2\p@ \@minus 2\p@}%
414 \setlength\bigskipamount{\fpeval{1.090909091\@tempdimb}pt \@plus 4\p@ \@minus 4\p@}%

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 \@tempswafalse
421 \begingroup
422 \def\@listextra{\aftergroup\@tempswatrue}%
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\@listextra\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 \@tempswafalse
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 \@tempswafalse
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 \@tempswafalse
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 \@tempswafalse
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\@listextra\fi
493 }%
494 \@tempswafalse
495 \begingroup
496 \def\@listextra{\aftergroup\@tempwattrue}%
497 \csname @listiv\endcsname
498 \endgroup
499 \edef\@listiv{\leftmargin\leftmarginiv
500 \labelwidth=\dimexpr \leftmargin-\labelsep\relax
501 \if@tempswa\noexpand\@listextra\fi
502 }%
503 \@tempswafalse
504 \begingroup
505 \def\@listextra{\aftergroup\@tempwattrue}%
506 \csname @listv\endcsname
507 \endgroup
508 \edef\@listv{\leftmargin\leftmarginv
509 \labelwidth=\dimexpr \leftmargin-\labelsep\relax
510 \if@tempswa\noexpand\@listextra\fi
511 }%
512 \@tempswafalse
513 \begingroup
514 \def\@listextra{\aftergroup\@tempwattrue}%
515 \csname @listvi\endcsname
516 \endgroup
517 \edef\@listvi{\leftmargin\leftmarginvi
518 \labelwidth=\dimexpr \leftmargin-\labelsep\relax
519 \if@tempswa\noexpand\@listextra\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{\@dblfpsep}{\@fptop}%
537 \setlength{\@dblfpbot}{\@fpsep}%
538 \setlength{\@dblfpbot}{\@fptop}%
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 \generatecfile 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*{\generatecfile}[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\LARGE
862 \immediate\write\@fontfile{%
863   \string\def\string\LARGE{\f@size}{\f@baselineskip}%
864   }\@percentchar%
865 }%
866 \endgroup
867 \begingroup\LARGEerr
868 \immediate\write\@fontfile{%
869   \string\def\string\LARGEerr{%
870     \string\@setfontsize\string\LARGEerr{\f@size}{\f@baselineskip}%
871   }\@percentchar%
872 }%
873 \endgroup
874 \begingroup\huger
875 \immediate\write\@fontfile{%
876   \string\def\string\huger{%
877     \string\@setfontsize\string\huger{\f@size}{\f@baselineskip}%
878   }\@percentchar%
879 }%
880 \endgroup
881 \begingroup\hugerr
882 \immediate\write\@fontfile{%
883   \string\def\string\hugerr{%
884     \string\@setfontsize\string\hugerr{\f@size}{\f@baselineskip}%
885   }\@percentchar%
886 }%
887 \endgroup
888 \begingroup\hugerrr
889 \immediate\write\@fontfile{%
890   \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 \generateclfile 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\@dblftop}{\the\@dblftop}\@percentchar
987 }%
988 \immediate\write\@fontfile{%
989   \string\setlength{\string\@dblfpsep}{\the\@dblfpsep}\@percentchar
990 }%
991 \immediate\write\@fontfile{%
992   \string\setlength{\string\@dblfpbot}{\the\@dblfpbot}\@percentchar
993 }%
```

```

994 \immediate\write\@fontfile{%
995   \string\setlength{\string\partopsep}{\the\partopsep}\@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\@listi^^J%
1070   \string\endinput^^J%
1071   \@percentchar^^J%
1072   \@percentchar\space End of file '#1#2.clo'.
1073 }
1074 \immediate\closeout\@fontfile
1075 }
1076 \@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 (Lehman and Wright 2019).

```

1077 \newcommand{\sampletext}[1]{\def\fs@sampletext{#1}}
1078 \def\fs@sampletext{%
1079   As any dedicated reader can clearly see, the Ideal of practical reason
1080   is a representation of, as far as I know, the things in themselves; as
1081   I have shown elsewhere, the phenomena should only be used as a canon for
1082   our understanding. The paralogisms of practical reason are what first give
1083   rise to the architectonic of practical reason. As will easily be shown in
1084   the next section, reason would thereby be made to contradict, in view of
1085   these considerations, the Ideal of practical reason, yet the manifold
1086   depends on the phenomena.}
1087
1088 \ExplSyntaxOn
1089
1090 \NewDocumentCommand{\printsamples}
1091 {
1092   m
1093   m
1094   O{tiny,tinyr,tinyrr,tinyrrr,

```

```

1095  scriptsize,scriptsize,scriptsizeerr,scriptsizeerr,
1096  footnotesize,footnotesize,footnotesizeerr,footnotesizeerr,
1097  small,smallr,smallrr,smallrrr,
1098  normalsize,normalsize,normalsizeerr,normalsizeerr,
1099  large,larger,largerr,largerrr,
1100  Large,Larger,Largerr,Largerrr,
1101  LARGE,LARGE,LARGEerr,LARGEerrr,
1102  huge,huger,hugerr,hugerrr,
1103  Huge,Huger,Hugerr,Hugerrr,
1104  HGE,HGEm,HGEmerr,HGEmerrr,
1105 }
1106 }
1107 {
1108 \fontsize_printsamples:nnn { #1 } { #2 } { #3 }
1109 }
1110
1111 % helper function to print the rounded sizes
1112 \cs_new:Nn \__fontsize_round_f:n
1113 {
1114 \fp_eval:n { round(\use:c{f@#1},1) } pt
1115 }
1116
1117 % the main function
1118 \cs_new_protected:Nn \fontsize_printsamples:nnn
1119 {
1120 % group to bound the font changes
1121 \group_begin:
1122 % set the size
1123 \changeontsize[#1]{#2}\selectfont
1124 % header
1125 \subsubsection*{Text~samples~for~\symbol{92}normalsize~#2~on~#1}
1126 % map through the desired sizes
1127 \clist_map_inline:nn { #3 }
1128 {
1129 \use:c{##1} % set the font size
1130 \noindent\texttt{\symbol{92}##1}:~ % print the font size command
1131 \__fontsize_round_f:n {size}~on~ % print the size in points
1132 \__fontsize_round_f:n {baselineskip}.~ % print the baseline skip in points
1133 \fs@sampletext % sample text
1134 \par\addvspace{\medskipamount} % finish up
1135 }
1136 % close the group
1137 \group_end:
1138 }
1139 \ExplSyntaxOff

```

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Change History

v0.1	documentation.	1
General: First public release	v0.6	
v0.2	General: New font sizing commands from \small down. Updated documentation.	1
General: Updated documentation and code comments.		1
v0.3	v0.7	
General: Added definitions of some lengths omitted from KOMA-script files: \smallskiamount, \medskiamount, \bigskiamount. Redefined \parindent and \headheight.	General: New font sizing commands \HUGE, \HUGEr, \HUGErr, \HUGErrr. Changed default name for the .clo file to fontsize. Updated documentation.	1
v0.4	v0.8	
General: Maintenance release. Updated documentation.	General: Corrected a bug occuring when the line spacing is grater than 163.84 pt.	1
v0.5	v0.8.1	
General: New font sizing commands from \normalsize up. New command \printsamples. Updated	General: New \sampletext command. Some lengths are now defined via xfp package. Removed \headheight definition. Updated documentation.	1

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