

# L<sup>A</sup>T<sub>E</sub>X support for Fedra Serif Pro

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## Abstract

This document describes the fedraserif package, which provides L<sup>A</sup>T<sub>E</sub>X support for the commercial Fedra Serif Pro fonts in both text and math mode.

## Contents

### 1 Overview

The fedraserif package provides L<sup>A</sup>T<sub>E</sub>X support for the commercial Fedra<sup>®</sup> Serif Pro fonts<sup>1</sup> from Typotheque<sup>2</sup>. You can load this package by adding

```
\usepackage[options]{fedraserif}
```

to the preamble of your document. If no options are specified, this will change both the text font and the math font to Fedra Serif A; use the option `variant=B` to select Fedra Serif B. For the available options, see Section 3.

### Acknowledgements

This package is heavily influenced by the MinionPro package, developed by Achim Blumensath, Andreas Böhmann and Michael Zedler, as well as the lucimatx package by Walter Schmidt. Additionally, I am indebted to Eddie Kohler for creating the LCDF typetools.

### 2 Interferences with other packages

In order to use Fedra Serif as a math font, you need to have the fdsymbol package (version 0.7 or higher) installed. Apart from fdsymbol, the fedraserif package automatically loads the packages textcomp and amsmath. Additionally, the packages fontaxes and pifont are loaded if present in your L<sup>A</sup>T<sub>E</sub>X installation. If you want to pass options to these packages, you can either load these packages beforehand, or you can include the options in the `\documentclass` command. Unless the option

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<sup>1</sup>Fedra is a registered trademark of Typotheque VOF.

<sup>2</sup><http://www.typotheque.com/fonts/>

Table 1: Summary of options

Key	Values	Section
<code>boldweight</code>	Medium*, Bold, auto	4.3
<code>fedrabb</code>	true, false*	5.3
<code>footnotemarks</code>	true, false*	4.6
<code>figures</code>	lining*(lf), text (osf)	4.5
<code>math</code>	true*, false	5
<code>math-style</code>	tex*, iso, french	5.1
<code>normalweight</code>	Book*, Demi, auto	4.3
<code>stdmathdigits</code>	true, false*	5.2
<code>variant</code>	A*, B	4.1

`math=false` is used, the `fedraserif` package is *not* compatible with `amssymb` and `amsfonts` (since `fdsymbol` is not).

### 3 Options

All package options are set using a `<key>=<value>` syntax. Boolean options accept true and false as values, and setting a Boolean key without a value is equivalent to setting it to true. Table 1 lists all option keys of the `fedraserif` package with their possible values; values that are marked with an asterisk correspond to the default behaviour of the package.

## 4 Font selection

### 4.1 Variants

Fedra Serif Pro comes in two variants, licensed separately: *Fedra Serif A* has a lower contrast and shorter ascenders, which makes it a good choice for small sizes, whereas *Fedra Serif B* features an increased contrast and longer ascenders. To select one variant, use the `variant` key: setting `variant=A` will select Fedra Serif A (the default), while `variant=B` will select Fedra Serif B.

### 4.2 Encodings

The package currently supports the OT1, T1, LY1, QX and T5 encodings for typesetting text with Latin characters, the OT2, T2A, T2B, T2C and X2 encodings for typesetting text with Cyrillic characters, the LGR encoding for typesetting (monotonic and polytonic) Greek, as well as the TS1 encoding for typesetting text symbols. For typesetting text with accented characters, it is strongly recommended to change the default font encoding from OT1 to T1 or one of the other encodings. This

Table 2: Summary of font weights

Weight	Series	Example
Book	sl	A Quick Brown Fox Jumps Over The Lazy Dog.
Demi	md	A Quick Brown Fox Jumps Over The Lazy Dog.
Medium	sb	<b>A Quick Brown Fox Jumps Over The Lazy Dog.</b>
Bold	ub	<b>A Quick Brown Fox Jumps Over The Lazy Dog.</b>

can be achieved by putting `\usepackage[T1]{fontenc}` in the preamble of your document.

### 4.3 Weights

All fonts of the Fedra Serif Pro family come in four weights, which are (in increasing order) Book, Demi, Medium and Bold, shown in Table 2. Of these, Book and Demi can be used as the standard text font, while Medium and Bold can be used for bold text. The option keys `normalweight` and `boldweight` allow to control which weights are used for the standard L<sup>A</sup>T<sub>E</sub>X font series `m` and `b` (or `bx`), selected by `\mdseries` and `\bfseries`, respectively. For example, to use the Demi weight as the standard text font, use the option `normalweight=Demi`. By default, only the Book and the Medium weights are used. Additionally, both keys can be set to the value `auto`, which selects a weight depending on the font size (Book and Medium for normal and large sizes, Demi and Bold for small sizes). Independently of these options, all weights can be accessed using the `\fontseries` command. For instance, the Demi weight can be accessed using the command `\fontseries{md}`.<sup>3</sup>

### 4.4 Shapes

In addition to the normal small caps shapes `sc` and `scit`, there are letterspaced versions `ssc` and `ssci t`. Moreover, italic shapes with *swash capitals* are accessible via the `sw`, `scsw` and `sscs w` shapes (see Table 3).

If the `fontaxes` package is available, you can use the commands `\sscshape` and `\textssc{<text>}` to switch to letterspaced small caps and the commands `\swshape` and `\textsw{<text>}` to switch to swash capitals.

### 4.5 Figures

Fedra Serif Pro offers four main figure versions (see 4). On the one hand, one can choose between *lining figures* and *text figures*, also known as *old-style figures*. On the other hand, one can choose between *proportional figures* and *tabular figures*.

By default, proportional lining figures are used throughout the document. If you want to use text figures instead, use the option `figures=text` or `figures=osf`.

<sup>3</sup>Font selection commands like `\fontseries` only take effect after a subsequent call to `\selectfont`.

Table 3: Summary of font shapes

Shape	Example
n	A Quick Brown Fox Jumps Over The Lazy Dog.
it	<i>A Quick Brown Fox Jumps Over The Lazy Dog.</i>
sc	A QUICK BROWN FOX JUMPS OVER THE LAZY DOG.
ssc	A QUICK BROWN FOX JUMPS OVER THE LAZY DOG.
scit	<i>A QUICK BROWN FOX JUMPS OVER THE LAZY DOG.</i>
sscit	<i>A QUICK BROWN FOX JUMPS OVER THE LAZY DOG.</i>
sw	<i>A Quick Brown Fox Jumps Over The Lazy Dog.</i>
scsw	<i>A QUICK BROWN FOX JUMPS OVER THE LAZY DOG.</i>
sscsw	<i>A Quick Brown Fox Jumps Over The Lazy Dog.</i>

Table 4: Summary of figure versions

	Lining figures	Text figures
Proportional	0123456789	o123456789
Tabular	0123456789	o123456789

Assuming that the fontaxes package is installed on your system, you can use the command `\figureversion` to switch between different figure versions inside the document. Possible arguments are `text` or `osf` for text figures, `lining` or `lf` for lining figures, `tabular` or `tab` for tabular figures, and `proportional` or `prop` for proportional figures. Note that you can combine several arguments. For example, the command `\figureversion{osf,tabular}` selects tabular text figures.

Small and slanted fractions are fractions with a height matching the font's body size; they can be accessed via:

$$\begin{array}{ll} \backslash\text{smallfrac}\{\langle\text{numerator}\rangle\}\{\langle\text{denominator}\rangle\} & \frac{3}{17} \\ \backslash\text{slantfrac}\{\langle\text{numerator}\rangle\}\{\langle\text{denominator}\rangle\} & \frac{3}{17} \end{array}$$

Note that only figures can be used for  $\langle\text{numerator}\rangle$  and  $\langle\text{denominator}\rangle$ .

Finally, Fedra Serif Pro offers so-called bullet figures, which are enclosed by a circle; they can be accessed via:

$$\begin{array}{ll} \backslash\text{openbullet}\{\langle\text{number}\rangle\} & \textcircled{1} \textcircled{234} \\ \backslash\text{closedbullet}\{\langle\text{number}\rangle\} & \bullet \bullet \end{array}$$

As for small and slanted fractions, only figures can be used for  $\langle\text{number}\rangle$ .

## 4.6 Footnotes

By setting the option `footnotemarks`, footnote marks are set using special characters designed for this purpose, i.e. <sup>1,a</sup> instead of <sup>1,a</sup>. However, this only works for footnote marks that consist of figures and the lowercase letters a–z.

Table 5: Dingbats available with the fedraserif package

number	glyph	number	glyph	number	glyph	number	glyph
100	·	128	Ⓚ	156	☎	184	·
101	•	129	Ⓜ	157	📄	185	·
102	◦	130	ⓧ	158	🏠	186	*
103	▪	131	ⓧ	159	📁	187	*
104	◆	132	Ⓜ	160	🌐	188	*
105	■	133	☺	161	✍	189	*
106	□	134	★	162	🕒	190	⋯
107	■	135	⦿	163	📄	191	⋯
108	□	136	→	164	📄	192	—
109	▷	137	←	165	🛒	193	=
110	◁	138	↑	166	↓	194	—
111	▷	139	↓	167	🏠	195	—
112	◁	140	↗	168	♂	196	—
113	▷	141	↖	169	♂	197	—
114	◁	142	↙	170	♀	198	—
115	▷	143	↘	171	📄	199	—
116	◁	144	👉	172	📄	200	—
117	▶	145	👈	173	☀	201	—
118	◀	146	👉	174	☀	202	▲
119	▷	147	☹	175	☀	203	+
120	◁	148	☹	176	☹	204	★
121	●	149	☹	177	~	205	*
122	○	150	✓	178	~	206	▲
123	●	151	□	179	~	207	+
124	⊙	152	☑	180	~	208	★
125	⊙	153	☒	181	—	209	*
126	♥	154	☒	182	—	210	+
127	♡	155	📄	183	—		

## 4.7 Dingbats

Fedra Serif Pro provides a large set of ornamental characters, which can be typeset using the following command:

```
\ding{⟨number⟩}
```

More commands are made available by the pifont package, which is automatically loaded if present. The available glyphs are listed in Table 5.

## 4.8 Additional notes

Fedra Serif Pro implements a large subset of the glyphs made available by the TS1 encoding. However, the following glyphs are missing:

Table 6: The different styles for letters in math mode

math-style	example
tex	$a, b, \dots, A, B, \dots, \alpha, \beta, \dots, \Gamma, \Delta, \dots$
iso	$a, b, \dots, A, B, \dots, \alpha, \beta, \dots, \Gamma, \Delta, \dots$
french	$a, b, \dots, A, B, \dots, \alpha, \beta, \dots, \Gamma, \Delta, \dots$

<code>\textdblhyphen</code>	<code>\textdivorced</code>	<code>\textdied</code>
<code>\textleaf</code>	<code>\textmarried</code>	<code>\textmusicalnote</code>
<code>\textdblhyphenchar</code>	<code>\textdollaroldstyle</code>	<code>\textcentoldstyle</code>
<code>\textguarani</code>	<code>\textrecipe</code>	<code>\textpertenthousand</code>
<code>\textpilcrow</code>	<code>\textbaht</code>	<code>\textdiscount</code>
<code>\textlquill</code>	<code>\textrquill</code>	<code>\textcopyleft</code>
<code>\textreferencemark</code>		

In addition to the monetary symbols defined by the TS1 encoding, the following currency symbols are available:

₧	<code>\textcruzeiro</code>	₣	<code>\textfranc</code>	₭	<code>\textmill</code>
₨	<code>\textpeseta</code>	₵	<code>\textrupee</code>	₴	<code>\textsheqel</code>
₹	<code>\textkip</code>	₲	<code>\texttugrik</code>	₺	<code>\texthryvnia</code>
€	<code>\vartextlira</code>	₱	<code>\vartextrupee</code>		

## 5 Math support

By default, we change the math font to Fedra Serif Pro with mathematical symbols taken from FdSymbol. To disable this behaviour, use the option `math=false`. Note that all other options described in this section have no effect if math support is disabled.

### 5.1 Letters

In  $\text{T}_{\text{E}}\text{X}$  and  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ , uppercase Greek letters are traditionally set upright in math mode, even when they are used as variables. This differs from the ISO standards ISO31-0:1992 to ISO31-13:1992, which mandate italics in this case. While the package employs the  $\text{T}_{\text{E}}\text{X}$  tradition by default, you can select the ISO behaviour by setting the option `math-style=iso`. Independently of this option, you can always select upright and italic greek letters using the commands `\upalpha`, `\italpha`, `\upGamma`, `\itGamma`, etc. Additionally, the `math-style` key can take the value `french`, in which case all Greek and uppercase roman letters are typeset upright. For an illustration of the differences between the three values for `math-style`, see Table 6.

The `fedraserif` package provides all letters available in math mode with the Computer Modern fonts, with the exception of `\varpi` and `\varrho`, which have

the same shape as `\pi` and `\rho`, respectively. Additionally, the following letters and letter-like symbols are can be typeset:

$\beta$	<code>\varbeta</code> <sup>4</sup>	$\varkappa$	<code>\varkappa</code> <sup>4</sup>	$\digamma$	<code>\digamma</code> <sup>4</sup>
$\varepsilon$	<code>\backepsilon</code> <sup>4</sup>	$\varepsilon$	<code>\varbackepsilon</code> <sup>4</sup>	$\hslash$	<code>\hslash</code>
$\lambda$	<code>\lambdabar</code>	$\lambda$	<code>\lambdaslash</code>	$\eth$	<code>\eth</code> <sup>4</sup>
$0$	<code>\slashedzero</code>	$\mho$	<code>\mho</code>	$\ell$	<code>\upell</code>
$\hbar$	<code>\uphbar</code>	$\beth$	<code>\beth</code>	$\lambda$	<code>\gimel</code>
$\daleth$	<code>\daleth</code>				

## 5.2 Digits

By default, digits in math mode are typeset in the default figure version for text mode (as selected by the `figures` key). To use lining figures in math mode even if `figures=text` is active, set the option `stdmathdigits`.

Apart from the standard math versions `normal` and `bold`, the package introduces two new math versions `tabular` and `boldtabular`, in which digits are typeset as tabular figures.

## 5.3 Blackboard characters

Fedra Serif Pro has a limited set of blackboard characters, namely  $\mathbb{N}$ ,  $\mathbb{Z}$ ,  $\mathbb{Q}$ ,  $\mathbb{R}$ ,  $\mathbb{C}$ ,  $\mathbb{k}$  and  $\mathbb{l}$ . To use these characters for the math blackboard alphabet `\mathbb{b}`, set the option `fedrabb`. If this option is not selected, the AMS blackboard bold font is used instead, which has the advantage that all uppercase roman letters are available.

## 6 NFSS classification

Table 7 lists all fonts made available with this package. *(Fig)* stands for the figure version (see Section 4.5) and can be replaced by `LF`, `OsF`, `TLF` or `TOsF`. Parenthesised combinations are provided via substitutions.

## 7 Implementation

### 7.1 Options

We use `xkeyval`'s key mechanism to declare all options.

```

1 \*package
2 \RequirePackage{xkeyval}
3 \newcommand*\fdrsf@boolkey[2]{%
4   \define@boolkey{fedraserif.sty}{fdrsf@}[#1][true]{#2}%
5 }
6 \newcommand*\fdrsf@choicekey[3]{%
```

---

<sup>4</sup>The shape of the symbol is different if the option `math-style=french` is selected. Upright and italic shapes are also available directly via the commands `\up<cmd>` and `\it<cmd>`, respectively.

Table 7: NFSS classification

Encoding	Family	Series	Shape
OT1, T1, LY1, QX, T5, TS1	FedraSerifProA- $\langle Fig \rangle$ , FedraSerifProB- $\langle Fig \rangle$	sl, m, md, b (bx), sb, ub	n, it (sl), sw <sup>a</sup> , sc, scit (scsl), scsw <sup>a</sup> , ssc, sscit (sscsl), sscsw <sup>a</sup>
OT2, T2A, T2B, T2C, X2	FedraSerifProA- $\langle Fig \rangle$ , FedraSerifProB- $\langle Fig \rangle$	sl, m, md, b (bx), sb, ub	n, it (sl), sc, scit (scsl), ssc, sscit (sscsl)
LGR	FedraSerifProA- $\langle Fig \rangle$ , FedraSerifProB- $\langle Fig \rangle$	sl, m, md, b (bx), sb, ub	n, it (sl)
OML	FedraSerifProA- $\langle Fig \rangle^b$ , FedraSerifProB- $\langle Fig \rangle^b$	sl, m, md, b (bx), sb, ub	n, it
U	FedraSerifProA-Extra, FedraSerifProB-Extra	sl, m, md, b (bx), sb, ub	n, it (sl)
U	FedraSerifProA-Pi, FedraSerifProB-Pi	m, md, b (sb, bx), ub	n
U	FedraSerifProA-BB, FedraSerifProB-BB	m	n

<sup>a</sup> Provided via substitution in TS1 encoding<sup>b</sup> All figure versions except TOSF provided via substitution



```

7 \define@choicekey*{fedraserif.sty}{#1}[\@tempa\@tempb]{#2}{#3}%
8 }

```

## Font selection

The package `fedraserif-fd` adapts the font definitions to the requested font set (see Section 9). So we simply pass on the relevant options. Additional care has to be taken to pass the right options to `fdsymbol`.

```

9 \fdrsf@choicekey{normalweight}{book,demi,auto}{%
10 \PassOptionsToPackage{normalweight=#1}{fedraserif-fd}%
11 \ifcase\@tempb\relax
12 \PassOptionsToPackage{normalweight=book}{fdsymbol}%
13 \or
14 \PassOptionsToPackage{normalweight=regular}{fdsymbol}%
15 \or
16 \PassOptionsToPackage{normalweight=auto}{fdsymbol}%
17 \fi
18 }
19 \fdrsf@choicekey{boldweight}{medium,bold,auto}{%
20 \PassOptionsToPackage{boldweight=#1}{fedraserif-fd}%
21 \PassOptionsToPackage{boldweight=#1}{fdsymbol}%
22 }

```

The next option toggles the math font setup.

```

23 \fdrsf@boolkey{math}{}

```

For compatibility with older versions of this package, we also define a dual option to disable math support.

```

24 \fdrsf@boolkey{nomath}{}
25 \iffdrsf@nomath\fdrsf@mathfalse\else\fdrsf@mathtrue\fi%
26 }

```

## Variant and figure style

```

27 \newcommand\fdrsf@family{FedraSerifProA}
28 \newcommand\fdrsf@textfig{LF}
29 \newcommand\fdrsf@mathfig{\fdrsf@textfig}
30 \newcommand\fdrsf@textfamily{\fdrsf@family-\fdrsf@textfig}
31 \newcommand\fdrsf@mathfamily{\fdrsf@family-\fdrsf@mathfig}
32 \newcommand\fdrsf@mathtfamily{\fdrsf@family-T\fdrsf@mathfig}
33 \newcommand\fdrsf@pifamily{\fdrsf@family-Pi}
34 \newcommand\fdrsf@mathshape{it}

35 \fdrsf@choicekey{variant}{a,b,auto}{%
36 \ifcase\@tempb\relax
37 \renewcommand\fdrsf@family{FedraSerifProA}%
38 \or
39 \renewcommand\fdrsf@family{FedraSerifProB}%
40 \PassOptionsToPackage{largedelims}{fdsymbol}%
41 \or

```

```

42 \PackageWarning{fedraserif.sty}{Option ‘variant=auto’ is deprecated and has no effect.}%
43 \fi
44 }
45 \fdrsfs@choicekey{figures}{text,osf,lining,lf}{%
46 \ifcase\@tempb\relax
47 \renewcommand\fdrsfs@textfig{0sF}%
48 \or
49 \renewcommand\fdrsfs@textfig{0sF}%
50 \or
51 \renewcommand\fdrsfs@textfig{LF}%
52 \or
53 \renewcommand\fdrsfs@textfig{LF}%
54 \fi
55 }
56 \fdrsfs@boolkey{stdmathdigits}{%
57 \iffdrsfs@stdmathdigits
58 \renewcommand\fdrsfs@mathfig{LF}%
59 \fi
60 }

```

### Math styles

```

61 \newif\iffdrsfs@greek@upper@upright
62 \newif\iffdrsfs@greek@lower@upright
63 \fdrsfs@choicekey{math-style}{tex,iso,french}{%
64 \ifcase\@tempb\relax
65 \fdrsfs@greek@upper@uprighttrue
66 \fdrsfs@greek@lower@uprightfalse
67 \or
68 \fdrsfs@greek@upper@uprightfalse
69 \fdrsfs@greek@lower@uprightfalse
70 \or
71 \fdrsfs@greek@upper@uprighttrue
72 \fdrsfs@greek@lower@uprighttrue
73 \renewcommand\fdrsfs@mathshape{n}
74 \fi
75 }

```

### Other options

This options redefines the blackboard bold alphabet to use Fedra Serif’s blackboard letters.

```

76 \fdrsfs@boolkey{fedrabb}{%
77 \iffdrsfs@fedrabb
78 \renewcommand\fdrsfs@load@bb{%
79 \DeclareMathAlphabet\mathbb{U}{\fdrsfs@family-BB}{m}{n}%
80 \renewcommand\Bbbk{\mathbb{k}}%
81 }%
82 \fi
83 }
84 \newcommand\fdrsfs@load@bb{}

```

This option allows to use superior figures for footnote marks. If possible, we use the commands `\deffootnotemark` and `\deffootnote` provided by the KOMA-Script classes to change the formatting of footnote marks. Otherwise, we need to redefine `\@makefnmark`.

```

85 \fdrsf@boolkey{footnotemarks}{%
86   \iffdrsf@footnotemarks
87   \@ifundefined{deffootnotemark}{%
88     \def\@makefnmark{%
89       \begingroup
90       \usefont{U}{\fdrsf@family-Extra}{m}{n}%
91       \@thefnmark\kern0.1em%
92       \endgroup
93     }%
94   }{%
95     \deffootnotemark{%
96       \begingroup
97       \usefont{U}{\fdrsf@family-Extra}{m}{n}%
98       \thefootnotemark
99       \endgroup
100    }%
101  }%
102  \@ifundefined{deffootnote}{%
103    \deffootnote[1em]{1.5em}{1em}{%
104      \begingroup
105      \usefont{U}{\fdrsf@family-Extra}{m}{n}%
106      \thefootnotemark\kern0.1em%
107      \endgroup
108    }%
109  }%
110  \fi
111 }

```

## Defaults

```

112 \ExecuteOptionsX{math,math-style=tex}
113 \ProcessOptionsX\relax

```

## 7.2 Font selection

```

114 \RequirePackage[scale=0.9]{fedraserif-fd}
115 \@ifpackageloaded{textcomp}{\RequirePackage{textcomp}}
116 \renewcommand\rmdefault{\fdrsf@textfamily}
117 \@for\fdrsf@fam:=FedraSerifProA,FedraSerifProB\do{%
118   \@for\fdrsf@fig:=LF,TLF,OsF,TosF\do{%
119     \DeclareEncodingSubset{TS1}{\fdrsf@fam-\fdrsf@fig}{1}%
120   }%
121 }

```

In order to accomodate ligatures and glyph variants, we had to remove some glyphs from the standard encodings, but most of them can still be accessed through the

TS1 encoding.

```
122 \AtBeginDocument{
123   \UndeclareTextCommand{\textcompwordmark}{T1}
124   \UndeclareTextCommand{\textvisiblespace}{T1}
125   \UndeclareTextCommand{\textperthousand}{T1}
126   \UndeclareTextCommand{\textpertenthousand}{T1}
127   \UndeclareTextCommand{\textsterling}{T1}
128   \UndeclareTextCommand{\textsection}{T1}
129   \UndeclareTextCommand{\textperiodcentered}{LY1}
130   \UndeclareTextCommand{\textquotesingle}{LY1}
131   \UndeclareTextCommand{\textperthousand}{LY1}
132   \UndeclareTextCommand{\textmu}{LY1}
133   \UndeclareTextCommand{\texteuro}{LY1}
134   \UndeclareTextCommand{\textdagger}{LY1}
135   \UndeclareTextCommand{\textdaggerdbl}{LY1}
136   \UndeclareTextCommand{\textdegree}{LY1}
137   \UndeclareTextCommand{\textsection}{LY1}
138   \UndeclareTextCommand{\textregistered}{LY1}
139   \UndeclareTextCommand{\textcopyright}{LY1}
140   \UndeclareTextCommand{\copyright}{LY1}
141   \UndeclareTextCommand{\textdivide}{LY1}
142   \UndeclareTextCommand{\textminus}{LY1}
143   \UndeclareTextCommand{\texttimes}{LY1}
144   \UndeclareTextCommand{\textpm}{LY1}
145   \UndeclareTextCommand{\textbullet}{LY1}
146   \UndeclareTextCommand{\texttrademark}{LY1}
147   \UndeclareTextCommand{\textcent}{LY1}
148   \UndeclareTextCommand{\textsterling}{LY1}
149   \UndeclareTextCommand{\textcurrency}{LY1}
150   \UndeclareTextCommand{\textyen}{LY1}
151   \UndeclareTextCommand{\textbrokenbar}{LY1}
152   \UndeclareTextCommand{\textperiodcentered}{QX}
153   \UndeclareTextCommand{\textquotesingle}{QX}
154   \UndeclareTextCommand{\textmu}{QX}
155   \UndeclareTextCommand{\texteuro}{QX}
156   \UndeclareTextCommand{\textEuro}{QX}
157   \UndeclareTextCommand{\textdagger}{QX}
158   \UndeclareTextCommand{\textdaggerdbl}{QX}
159   \UndeclareTextCommand{\textdegree}{QX}
160   \UndeclareTextCommand{\textsection}{QX}
161   \UndeclareTextCommand{\textregistered}{QX}
162   \UndeclareTextCommand{\copyright}{QX}
163   \UndeclareTextCommand{\textdiv}{QX}
164   \UndeclareTextCommand{\textminus}{QX}
165   \UndeclareTextCommand{\texttimes}{QX}
166   \UndeclareTextCommand{\textpm}{QX}
167   \UndeclareTextCommand{\textbullet}{QX}
168   \UndeclareTextCommand{\textcurrency}{QX}
169   \UndeclareTextCommand{\textperthousand}{QX}
```

```

170 \UndeclareTextCommand{\textanglearc}{QX}
171 \UndeclareTextCommand{\textvisiblespace}{T5}
172 \UndeclareTextCommand{\textvarstigma}{LGR}
173 \UndeclareTextCommand{\textpentedecka}{LGR}
174 \UndeclareTextCommand{\textpentehekaton}{LGR}
175 \UndeclareTextCommand{\textpenteqilioi}{LGR}
176 \UndeclareTextCommand{\textpentemuria}{LGR}
177 \UndeclareTextCommand{\textdexiakeraia}{LGR}
178 \UndeclareTextCommand{\textaristerikeraia}{LGR}
179 \let\textEuro\texteuro
180 \let\copyright\textcopyright
181 \let\textdivide\textdiv

```

Additional currency symbols are stored in empty slots of the TS1 encoding.

```

182 \DeclareTextSymbol{\textcruzeiro}{TS1}{192}
183 \DeclareTextSymbol{\textfranc}{TS1}{193}
184 \DeclareTextSymbol{\textmill}{TS1}{194}
185 \DeclareTextSymbol{\textpeseta}{TS1}{195}
186 \DeclareTextSymbol{\textrupee}{TS1}{196}
187 \DeclareTextSymbol{\textsheqel}{TS1}{197}
188 \DeclareTextSymbol{\textkip}{TS1}{198}
189 \DeclareTextSymbol{\texttugrik}{TS1}{199}
190 \DeclareTextSymbol{\texthryvnia}{TS1}{200}
191 \DeclareTextSymbol{\vartextrupee}{TS1}{201}
192 \DeclareTextSymbol{\vartextlira}{TS1}{202}
193 \DeclareTextSymbolDefault{\textcruzeiro}{TS1}
194 \DeclareTextSymbolDefault{\textfranc}{TS1}
195 \DeclareTextSymbolDefault{\textmill}{TS1}
196 \DeclareTextSymbolDefault{\textpeseta}{TS1}
197 \DeclareTextSymbolDefault{\textrupee}{TS1}
198 \DeclareTextSymbolDefault{\textsheqel}{TS1}
199 \DeclareTextSymbolDefault{\textkip}{TS1}
200 \DeclareTextSymbolDefault{\texttugrik}{TS1}
201 \DeclareTextSymbolDefault{\texthryvnia}{TS1}
202 \DeclareTextSymbolDefault{\vartextrupee}{TS1}
203 \DeclareTextSymbolDefault{\vartextlira}{TS1}
204 }

```

The font selection commands such as `\figureversion`, `\textsw`, and `\textssc` are provided by the `fontaxes` package.

```

205 \IfFileExists{fontaxes.sty}{
206   \RequirePackage{fontaxes}[2007/03/31]
207   \let\oldstylenums\textfigures
208 }{}

```

### 7.3 Math font setup

We use `FdSymbol` for most mathematical symbols.

```

209 \iffdrsf@math
210 \RequirePackage[scale=0.9]{fdsymbol}[2011/11/01]

```

Some math symbols are taken from the text font by fdsymbol. Use the correct math figure version for these.

```

211 \renewcommand\fdsy@text[1]{%
212   \ifx\fdsy@bold\math@version
213     \text{\usefont{T1}{\fdrsf@mathfamily}{b}{n}#1}%
214   \else
215     \text{\usefont{T1}{\fdrsf@mathfamily}{m}{n}#1}%
216   \fi
217 }
```

Redefine the standard math versions normal and bold.

```

218 \DeclareSymbolFont{operators}{T1}{\fdrsf@mathfamily}{m}{n}
219 \SetSymbolFont{operators}{bold}{T1}{\fdrsf@mathfamily}{b}{n}
220 \DeclareSymbolFont{letters}{OML}{\fdrsf@family-T0sF}{m}{\fdrsf@mathshape}
221 \SetSymbolFont{letters}{bold}{OML}{\fdrsf@family-T0sF}{b}{\fdrsf@mathshape}
222 \DeclareMathAlphabet{\mathrm}{T1}{\fdrsf@mathfamily}{m}{n}
223 \SetMathAlphabet{\mathrm}{bold}{T1}{\fdrsf@mathfamily}{b}{n}
224 \DeclareMathAlphabet{\mathit}{T1}{\fdrsf@mathfamily}{m}{it}
225 \SetMathAlphabet{\mathit}{bold}{T1}{\fdrsf@mathfamily}{b}{it}
226 \DeclareMathAlphabet{\mathbf}{T1}{\fdrsf@mathfamily}{b}{n}
```

Extra math versions tabular and boldtabular, which use tabular figures instead of proportional ones. These math versions can be useful in tables.

```

227 \DeclareMathVersion{tabular}
228 \SetSymbolFont{operators}{tabular}{T1}{\fdrsf@mathtfamily}{m}{n}
229 \SetMathAlphabet{\mathrm}{tabular}{T1}{\fdrsf@mathtfamily}{m}{n}
230 \SetMathAlphabet{\mathit}{tabular}{T1}{\fdrsf@mathtfamily}{m}{it}
231 \SetMathAlphabet{\mathbf}{tabular}{T1}{\fdrsf@mathtfamily}{b}{n}
232 \DeclareMathVersion{boldtabular}
233 \SetSymbolFont{operators}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{n}
234 \SetSymbolFont{letters}{boldtabular}{OML}{\fdrsf@family-T0sF}{b}{\fdrsf@mathshape}
235 \SetMathAlphabet{\mathrm}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{n}
236 \SetMathAlphabet{\mathit}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{it}
237 \SetMathAlphabet{\mathbf}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{n}

238 \DeclareMathAccent{\grave}{\mathalpha}{operators}{"00}
239 \DeclareMathAccent{\acute}{\mathalpha}{operators}{"01}
240 \DeclareMathAccent{\hat}{\mathalpha}{operators}{"02}
241 \DeclareMathAccent{\tilde}{\mathalpha}{operators}{"03}
242 \DeclareMathAccent{\ddot}{\mathalpha}{operators}{"04}
243 \DeclareMathAccent{\mathring}{\mathalpha}{operators}{"06}
244 \DeclareMathAccent{\check}{\mathalpha}{operators}{"07}
245 \DeclareMathAccent{\breve}{\mathalpha}{operators}{"08}
246 \DeclareMathAccent{\bar}{\mathalpha}{operators}{"09}
247 \DeclareMathAccent{\dot}{\mathalpha}{operators}{"0A}
248 \let\hbar\undefined
249 \DeclareMathSymbol{\hbar}{\mathord}{letters}{"AE}
250 \DeclareMathSymbol{\uphbar}{\mathord}{letters}{"B6}
251 \DeclareMathSymbol{\partial}{\mathord}{letters}{"40}
252 \DeclareMathSymbol{\ell}{\mathord}{letters}{"60}
```

```

253 \DeclareMathSymbol{\upell}{\mathord}{letters}{B9}
254 \DeclareMathSymbol{\slashedzero}{\mathord}{letters}{B8}
255 \let\mho\undefined
256 \DeclareMathSymbol{\mho}{\mathord}{letters}{BA}
257 \DeclareMathSymbol{\nabla}{\mathord}{letters}{BB}
258 \DeclareRobustCommand{\lambdabar}{\middlebar\lambda}
259 \DeclareRobustCommand{\lambdaslash}{\middleslash\lambda}

```

Execute the hook set up above to redefine the mathbb alphabet.

```

260 \fdrsf@load@bb

```

## 7.4 Greek and Hebrew letters

We provide three math-mode commands for each Greek letter: for italic, upright and the default.

```

261 \newcommand*\fdrsf@greek@capital}[3]{
262   \expandafter\DeclareMathSymbol%
263     \expandafter{\csname it#1\endcsname}{\mathord}{letters}{#2}
264   \expandafter\DeclareMathSymbol%
265     \expandafter{\csname up#1\endcsname}{\mathord}{letters}{#3}
266   \iffdrsf@greek@upper@upright
267   \expandafter\let\csname #1\expandafter\endcsname\csname up#1\endcsname
268   \else
269   \expandafter\let\csname #1\expandafter\endcsname\csname it#1\endcsname
270   \fi
271 }
272 \newcommand*\fdrsf@greek@letter}[3]{
273   \expandafter\DeclareMathSymbol%
274     \expandafter{\csname it#1\endcsname}{\mathord}{letters}{#2}
275   \expandafter\DeclareMathSymbol%
276     \expandafter{\csname up#1\endcsname}{\mathord}{letters}{#3}
277   \iffdrsf@greek@lower@upright
278   \expandafter\let\csname #1\expandafter\endcsname\csname up#1\endcsname
279   \else
280   \expandafter\let\csname #1\expandafter\endcsname\csname it#1\endcsname
281   \fi
282 }
283 \fdrsf@greek@capital{Gamma}{00}{80}
284 \fdrsf@greek@capital{Delta}{01}{81}
285 \fdrsf@greek@capital{Theta}{02}{82}
286 \fdrsf@greek@capital{Lambda}{03}{83}
287 \fdrsf@greek@capital{Xi}{04}{84}
288 \fdrsf@greek@capital{Pi}{05}{85}
289 \fdrsf@greek@capital{Sigma}{06}{86}
290 \fdrsf@greek@capital{Upsilon}{07}{87}
291 \fdrsf@greek@capital{Phi}{08}{88}
292 \fdrsf@greek@capital{Psi}{09}{89}
293 \fdrsf@greek@capital{Omega}{0A}{8A}
294 \fdrsf@greek@letter{alpha}{0B}{8B}

```

```

295 \fdrsf@greek@letter{beta}{\0C}{\8C}
296 \fdrsf@greek@letter{gamma}{\0D}{\8D}
297 \fdrsf@greek@letter{delta}{\0E}{\8E}
298 \fdrsf@greek@letter{epsilon}{\0F}{\8F}
299 \fdrsf@greek@letter{zeta}{\10}{\90}
300 \fdrsf@greek@letter{eta}{\11}{\91}
301 \fdrsf@greek@letter{theta}{\12}{\92}
302 \fdrsf@greek@letter{iota}{\13}{\93}
303 \fdrsf@greek@letter{kappa}{\14}{\94}
304 \fdrsf@greek@letter{lambda}{\15}{\95}
305 \fdrsf@greek@letter{mu}{\16}{\96}
306 \fdrsf@greek@letter{nu}{\17}{\97}
307 \fdrsf@greek@letter{xi}{\18}{\98}
308 \fdrsf@greek@letter{pi}{\19}{\99}
309 \fdrsf@greek@letter{rho}{\1A}{\9A}
310 \fdrsf@greek@letter{sigma}{\1B}{\9B}
311 \fdrsf@greek@letter{tau}{\1C}{\9C}
312 \fdrsf@greek@letter{upsilon}{\1D}{\9D}
313 \fdrsf@greek@letter{phi}{\1E}{\9E}
314 \fdrsf@greek@letter{chi}{\1F}{\9F}
315 \fdrsf@greek@letter{psi}{\20}{\A0}
316 \fdrsf@greek@letter{omega}{\21}{\A1}
317 \fdrsf@greek@letter{varepsilon}{\22}{\A2}
318 \fdrsf@greek@letter{vartheta}{\23}{\A3}
319 \fdrsf@greek@letter{varpi}{\19}{\99}
320 \fdrsf@greek@letter{varrho}{\1A}{\9A}
321 \fdrsf@greek@letter{varsigma}{\26}{\A6}
322 \fdrsf@greek@letter{varphi}{\27}{\A7}

```

Some of the following symbols are not really Greek letters, but they are treated in the same way.

```

323 \fdrsf@greek@letter{varbeta}{\A8}{\B0}
324 \fdrsf@greek@letter{varkappa}{\A9}{\B1}
325 \fdrsf@greek@letter{digamma}{\AA}{\B2}
326 \fdrsf@greek@letter{backepsilon}{\AB}{\B3}
327 \fdrsf@greek@letter{varbackepsilon}{\AC}{\B4}
328 \fdrsf@greek@letter{eth}{\AD}{\B5}

```

Hebrew letters are provided by FdSymbol, but we replace them with their Fedra counterparts.

```

329 \DeclareMathSymbol{\aleph}{\mathord}{letters}{\BC}
330 \DeclareMathSymbol{\beth}{\mathord}{letters}{\BD}
331 \DeclareMathSymbol{\gimel}{\mathord}{letters}{\BE}
332 \DeclareMathSymbol{\daleth}{\mathord}{letters}{\BF}
333 \fi

```



## 7.5 Dingbats

We redefine some of the commands provided by the pifont package to replace Zapf Dingbats by Fedra Serif’s dingbats font.

```
334 \IfFileExists{pifont.sty}{
335   \RequirePackage{pifont}[2005/04/12]
336   \renewcommand{\ding}{\Pisymbol{\fdrsf@pifamily}}
337   \renewcommand{\dingfill}{\Pifill{\fdrsf@pifamily}}
338   \renewcommand{\dingline}{\Piline{\fdrsf@pifamily}}
339   \renewenvironment{dinglist}[1]{\begin{Pilist}{\fdrsf@pifamily}{##1}}%
340     {\end{Pilist}}
341   \renewenvironment{dingautolist}[1]{\begin{Piautolist}{\fdrsf@pifamily}{##1}}%
342     {\end{Piautolist}}
343 }{
344   \providecommand{\ding}[1]{}
345   \renewcommand{\ding}[1]{{\usefont{U}{\fdrsf@pifamily}{m}{n}\char##1}}
346 }
```

## 7.6 Bullet figures

We provide two commands to access Fedra’s bullet figures.

```
347 \newcommand*{\fdrsf@openbullet}[2]{%
348   \ifx#2\end
349     \char3#1%
350   \let\next@gobble
351   \else
352     \char2#1\kern-0.02em%
353     \let\next\fdrsf@openbullet
354   \fi
355   \next#2%
356 }
357 \newcommand*{\fdrsf@openbullet}[2]{%
358   \ifx#2\end
359     \char0#1%
360   \let\next@gobble
361   \else%
362     \char1#1\kern-0.02em%
363     \let\next\fdrsf@openbullet
364   \fi
365   \next#2%
366 }
367 \DeclareRobustCommand*\openbullet[1]{%
368   \begingroup
369   \usefont{U}{\fdrsf@family-Pi}{m}{n}%
370   \edef\@tempa{#1}\expandafter\fdrsf@openbullet\@tempa\end
371   \endgroup
372 }
373 \newcommand*{\fdrsf@closedbullet}[2]{%

```

```

374 \ifx#2\end
375   \char7#1%
376   \let\next@gobble
377 \else
378   \char6#1\kern-0.02em%
379   \let\next\fdrsfclosedbullet
380 \fi
381 \next#2%
382 }
383 \newcommand*\fdrsfclosedbullet}[2]{%
384   \ifx#2\end
385     \char4#1%
386     \let\next@gobble
387   \else
388     \char5#1\kern-0.02em%
389     \let\next\fdrsfclosedbullet
390   \fi
391   \next#2%
392 }
393 \DeclareRobustCommand*\closedbullet}[1]{%
394   \begingroup
395   \usefont{U}{\fdrsfcfamily-Pi}{m}{n}%
396   \edef\@tempa{#1}\expandafter\fdrsfclosedbullet\@tempa\end
397   \endgroup
398 }

```

## 7.7 Superior and inferior figures

The following command converts numbers to inferior figures.

```

399 \newcommand*\fdrsfc@inferior}[1]{%
400   \ifx#1\end
401     \let\next\relax
402   \else
403     \char"1#1%
404     \let\next\fdrsfc@inferior
405   \fi
406   \next
407 }
408 \newcommand*\fdrsfc@inferior}[1]{%
409   \begingroup
410   \edef\@tempa{#1}\expandafter\fdrsfc@inferior\@tempa\end
411   \endgroup
412 }

```

\fdrsfc@ensuretext switches to text mode, if necessary.

```

413 \newcommand*\fdrsfc@ensuretext}[1]{%
414   \ifmmode
415     \fdisy@text{#1}%
416   \else

```

```

417   #1%
418   \fi
419 }

We provide two commands for generating numerical fractions.

420 \newcommand*\fdrsf@smallfrac}[2]{%
421   \begingroup
422   \fontencoding{U}\fontfamily{\fdrsf@family-Extra}\fontshape{n}\selectfont
423   \leavevmode
424   \setbox\@tempboxa\vbox{%
425     \baselineskip\z@skip%
426     \lineskip.25ex%
427     \lineskiplimit-\maxdimen
428     \ialign{\hfil##\hfil\crcr
429       \vbox to 1.25ex{\vss\hbox{#1}\vskip.25ex}\crcr
430       \leavevmode\leaders\hrule height 0.91ex depth -0.87ex\hfill\crcr
431       \vtop to 1ex{\vbox{}}\hbox{\fdrsf@inferior{#2}}\vss}\crcr
432     \noalign{\vskip-1.2ex}}}%
433   \box\@tempboxa
434   \endgroup
435 }

436 \DeclareRobustCommand*\smallfrac}[2]{%
437   \fdrsf@ensuretext{\kern0.08em\fdrsf@smallfrac{#1}{#2}\kern0.1em}%
438 }

439 \newcommand*\fdrsf@slantfrac}[2]{%
440   \begingroup
441   \fontencoding{U}\fontfamily{\fdrsf@family-Extra}\fontshape{n}\selectfont
442   #1\kern-0.05em/\kern0em\fdrsf@inferior{#2}%
443   \endgroup
444 }

445 \DeclareRobustCommand*\slantfrac}[2]{%
446   \fdrsf@ensuretext{\kern0.08em\fdrsf@slantfrac{#1}{#2}\kern0.1em}%
447 }

```

## 7.8 Logos

```

448 \DeclareRobustCommand{\LaTeX}{L\kern-.26em%
449   {\sbox\z@ T%
450     \vbox to\ht\z@{\hbox{\check@mathfonts
451       \fontsize\sf@size\z@
452       \math@fontsfalse\selectfont
453       A}%
454     \vss}%
455   }%
456   \kern-.05em%
457   \TeX
458 }

```

Make the changes take effect. This concludes the main style file.

```

459 \normalfont

```

```
460 \end{package}
```

## 8 Microtype configuration file

The microtype configuration. All four families use the same file (cf. section 9).

```
461 \setmtcfg
462 \SetProtrusion
463 [ name = FedraSerifPro-default ]
464 { }
465 {
466   . = { ,700},
467   {,}= { ,500},
468   : = { ,500},
469   ; = { ,300},
470   ! = { ,100},
471   ? = { ,100},
472   ~ = {200,250},
473   \% = {50,50},
474   * = {200,200},
475   + = {250,250},
476   ( = {100, }, ) = { ,200},
477   / = {100,200},
478   - = {600,600},
479   \textendash = {450,450}, \textemdash = {260,260},
480   \textquoteleft = {300,400}, \textquoteright = {300,400},
481   \textquotedblleft = {300,300}, \textquotedblright = {300,300},
482 }
483 \SetProtrusion
484 [ name = FedraSerifPro-OT1,
485   load = FedraSerifPro-default ]
486 { encoding = {OT1,OT2,T2A,T2B,T2C,LGR,X2},
487   family = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-T0sF,FedraSerifProA-TLF,%
488     FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-T0sF,FedraSerifProB-TLF},
489   shape = {n,sc,ssc} }
490 { }
491 \SetProtrusion
492 [ name = FedraSerifPro-T1,
493   load = FedraSerifPro-default ]
494 { encoding = {T1},
495   family = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-T0sF,FedraSerifProA-TLF,%
496     FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-T0sF,FedraSerifProB-TLF},
497   shape = {n,sc,ssc} }
498 {
499   _ = {100,100},
500   \textbackslash = {100,200}, \quotesinglbase = {400,400},
501   \quotedblbase = {400,400}, \textquotedbl = {400,400},
502   \guilsinglleft = {400,300}, \guilsinglright = {300,400},
503   \guillemotleft = {200,200}, \guillemotright = {200,200},
```

```

504     \textexclamdown    = {100,   },    \textquestiondown = {100,   },
505     \textbraceleft     = {400,200},    \textbraceright    = {200,400},
506     \textless          = {200,100},    \textgreater       = {100,200},
507 }

508 \SetProtrusion
509 [ name      = FedraSerifPro-LY1,
510   load      = FedraSerifPro-T1 ]
511 { encoding = {LY1},
512   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
513             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
514   shape     = {n,sc,ssc} }
515 {
516   \textellipsis        = {100,200},
517 }

518 \SetProtrusion
519 [ name      = FedraSerifPro-TS1 ]
520 { encoding = {TS1},
521   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
522             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
523   shape     = {n,sc,ssc} }
524 {
525   \textperiodcentered = {500,700},
526   \textquotesingle    = {400,400},
527 }

528 \SetProtrusion
529 [ name      = FedraSerifPro-QX,
530   load      = FedraSerifPro-default ]
531 { encoding = {QX},
532   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
533             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
534   shape     = {n,sc,ssc} }
535 {
536   _ = {100,100},
537   \textbackslash      = {100,200},    \textellipsis        = {100,200},
538   \quotedblbase       = {400,400},    \textquotedbl       = {400,400},
539   \guillemotleft      = {200,200},    \guillemotright     = {200,200},
540   \textexclamdown     = {100,   },    \textquestiondown   = {100,   },
541   \textbraceleft      = {400,200},    \textbraceright     = {200,400},
542   \textless           = {200,100},    \textgreater        = {100,200},
543 }

544 \SetProtrusion
545 [ name      = FedraSerifPro-T5,
546   load      = FedraSerifPro-default ]
547 { encoding = {T5},
548   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
549             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
550   shape     = {n,sc,ssc} }
551 {

```

```

552 _ = {100,100},
553 \textbackslash = {100,200}, \quotesinglbase = {400,400},
554 \quotedblbase = {400,400}, \textquotedbl = {400,400},
555 \guilsinglleft = {400,300}, \guilsinglright = {300,400},
556 \guillemotleft = {200,200}, \guillemotright = {200,200},
557 \textbraceleft = {400,200}, \textbraceright = {200,400},
558 \textless = {200,100}, \textgreater = {100,200},
559 }

560 \SetProtrusion
561 [ name = FedraSerifPro-it ]
562 { }
563 {
564 . = { ,500},
565 {,}= { ,500},
566 : = { ,300},
567 ; = { ,300},
568 & = {50,50},
569 \% = {100, },
570 * = {200,200},
571 + = {150,200},
572 ~ = {150,150},
573 ( = {200, }, ) = { ,200},
574 / = {100,200},
575 - = {630,630},
576 \textendash = {200,200}, \textemdash = {150,150},
577 \textquoteleft = {400,200}, \textquoteright = {400,200},
578 \textquotedblleft = {400,200}, \textquotedblright = {400,200},
579 }

580 \SetProtrusion
581 [ name = FedraSerifPro-OT1-it,
582 load = FedraSerifPro-it ]
583 { encoding = {OT1,OT2,T2A,T2B,T2C,LGR,X2}
584 family = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-T0sF,FedraSerifProA-TLF,%
585 FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-T0sF,FedraSerifProB-TLF},
586 shape = {it,scit,sscit,sw,scsw,sscs} }
587 { }

588 \SetProtrusion
589 [ name = FedraSerifPro-T1-it,
590 load = FedraSerifPro-it ]
591 { encoding = {T1},
592 family = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-T0sF,FedraSerifProA-TLF,%
593 FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-T0sF,FedraSerifProB-TLF},
594 shape = {it,scit,sscit,sw,scsw,sscs} }
595 {
596 _ = { ,100},
597 \textbackslash = {100,200}, \quotesinglbase = {300,700},
598 \quotedblbase = {400,500}, \textquotedbl = {400,500},
599 \guilsinglleft = {400,400}, \guilsinglright = {300,500},

```

```

600     \guillemotleft    = {300,300},    \guillemotright   = {300,300},
601     \textexclamdown   = {100,  },    \textquestiondown = {200,  },
602     \textbraceleft    = {200,100},    \textbraceright   = {200,200},
603 }
604 \SetProtrusion
605 [ name      = FedraSerifPro-LY1-it,
606   load      = FedraSerifPro-T1-it ]
607 { encoding = {LY1},
608   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
609             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
610   shape     = {it,scit,sscit,sw,scsw,sscs} }
611 {
612   \textellipsis        = {100,200},
613 }
614 \SetProtrusion
615 [ name      = FedraSerifPro-TS1-it ]
616 { encoding = {TS1},
617   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
618             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
619   shape     = {it,scit,sscit,sw,scsw,sscs} }
620 {
621   \textperiodcentered = {500,700},
622   \textquotesingle    = {400,400},
623 }
624 \SetProtrusion
625 [ name      = FedraSerifPro-QX-it,
626   load      = FedraSerifPro-it ]
627 { encoding = {QX},
628   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
629             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
630   shape     = {it,scit,sscit,sw,scsw,sscs} }
631 {
632   _ = { ,100},
633   \textbackslash      = {100,200},    \textellipsis      = {100,200},
634   \quotedblbase       = {400,500},    \textquotedbl      = {400,400},
635   \guillemotleft      = {300,300},    \guillemotright    = {300,300},
636   \textexclamdown     = {100,  },    \textquestiondown  = {200,  },
637   \textbraceleft      = {200,100},    \textbraceright    = {200,200},
638 }
639 \SetProtrusion
640 [ name      = FedraSerifPro-T5-it,
641   load      = FedraSerifPro-it ]
642 { encoding = {T5},
643   family   = {FedraSerifProA-Of,FedraSerifProA-LF,FedraSerifProA-TOf,FedraSerifProA-TLF,%
644             FedraSerifProB-Of,FedraSerifProB-LF,FedraSerifProB-TOf,FedraSerifProB-TLF},
645   shape     = {it,scit,sscit,sw,scsw,sscs} }
646 {
647   _ = { ,100},

```

```

648 \textbackslash = {100,200}, \quotesinglbase = {300,700},
649 \quotedblbase = {400,500}, \textquotedbl = {400,500},
650 \guilsinglleft = {400,400}, \guilsinglright = {300,500},
651 \guillemotleft = {300,300}, \guillemotright = {300,300},
652 \textbraceleft = {200,100}, \textbraceright = {200,200},
653 }
654 \end{mtcfg}

```

## 9 Font definition support package

As all font definitions look the same, we introduce macros to ease the configuration. These macros are stored in the file `fedraserif-fd.sty`, which is included by every FD file. Since `fedraserif-fd.sty` will be included several times and we do not know in which context the code is executed, we have to define all non-private commands as globals and avoid all `\preambleonly` commands.

We add a guard so that this file is executed only once even if it is included multiple times.

```

655 \fontdef
656 \ifx\fdrsf@scale\undefined\else\endinput\fi

```

We distinguish between being loaded directly or via `\usepackage` in the preamble by checking `\@nodocument`.

```

657 \ifx\@nodocument\relax\else
658 \NeedsTeXFormat{LaTeX2e}
659 \RequirePackage{xkeyval}
660 \fi

```

Reset `\escapechar` (which is set to `-1` in FD files) to make `\newcommand` work. The additional group does not harm; we have to make the important commands global anyway.

```

661 \ifx\@nodocument\relax
662 \begingroup
663 \escapechar'\
664 \fi

```

The macro to make commands global is taken from the `otfontdef` package.

```

665 \newcommand*\fdrsf@makeglobal[1]{%
666 \global\expandafter\let\csname #1\expandafter\endcsname
667 \csname #1\endcsname
668 }

```

### 9.1 Options

These are the default values if it is impossible to process options.

```

669 \newcommand*\fdrsf@mweight@normal{Book}
670 \newcommand*\fdrsf@mweight@small{Book}
671 \newcommand*\fdrsf@bweight@normal{Medium}
672 \newcommand*\fdrsf@bweight@small{Medium}

```



```

673 \newcommand\fdrsf@scale{0.9}
674 \ifx\@nodocument\relax\else
675   \newcommand*\fdrsf@fd@choicekey[3]{%
676     \define@choicekey*{fedraserif-fd.sty}{#1}[\@tempa\@tempb]{#2}{#3}%
677   }
678   \fdrsf@fd@choicekey{normalweight}{book,demi,auto}{%
679     \ifcase\@tempb\relax
680       \renewcommand\fdrsf@mweight@normal{Book}
681       \renewcommand\fdrsf@mweight@small{Book}
682     \or
683       \renewcommand\fdrsf@mweight@normal{Demi}
684       \renewcommand\fdrsf@mweight@small{Demi}
685     \or
686       \renewcommand\fdrsf@mweight@normal{Book}
687       \renewcommand\fdrsf@mweight@small{Demi}
688     \fi
689   }
690   \fdrsf@fd@choicekey{boldweight}{medium,bold,auto}{%
691     \ifcase\@tempb\relax
692       \renewcommand\fdrsf@bweight@normal{Medium}
693       \renewcommand\fdrsf@bweight@small{Medium}
694     \or
695       \renewcommand\fdrsf@bweight@normal{Bold}
696       \renewcommand\fdrsf@bweight@small{Bold}
697     \or
698       \renewcommand\fdrsf@bweight@normal{Medium}
699       \renewcommand\fdrsf@bweight@small{Bold}
700     \fi
701   }
702   \define@key{fedraserif-fd.sty}{scale}[0.9]{\renewcommand*\fdrsf@scale{#1}}
703   \ProcessOptionsX\relax
704 \fi

705 \fdrsf@makeglobal{\fdrsf@mweight@normal}
706 \fdrsf@makeglobal{\fdrsf@mweight@small}
707 \fdrsf@makeglobal{\fdrsf@bweight@normal}
708 \fdrsf@makeglobal{\fdrsf@bweight@small}
709 \fdrsf@makeglobal{\fdrsf@scale}

```

## 9.2 Font configuration

We define commands to write to and read from the configuration database.

```

710 \newcommand*{\fdrsf@addconfig}[4][[]]{%
711   \@for\@tempa:=#3\do{%
712     \expandafter
713     \gdef\csname fdrsf@config@#2@#1@\@tempa\endcsname{#4}%
714   }%
715 }
716 \newcommand*{\fdrsf@useconfig}[3]{%

```

```

717 \ifundefined{fdrsf@config@#2@#1@#3}{%
718   \ifundefined{fdrsf@config@#2@#3}{}%
719   {\csname fdrsf@config@#2@#3\endcsname}%
720 }{\csname fdrsf@config@#2@#1@#3\endcsname}%
721 }
722 \fdrsf@makeglobal{fdrsf@useconfig}

```

Now we can build up the configuration database.

```

723 \fdrsf@addconfig{weight/normal}{sl}{Book}
724 \fdrsf@addconfig{weight/small}{sl}{Book}
725 \fdrsf@addconfig{weight/normal}{m}{\fdrsf@mweight@normal}
726 \fdrsf@addconfig{weight/small}{m}{\fdrsf@mweight@small}
727 \fdrsf@addconfig{weight/normal}{md}{Demi}
728 \fdrsf@addconfig{weight/small}{md}{Demi}
729 \fdrsf@addconfig{weight/normal}{sb}{Medium}
730 \fdrsf@addconfig{weight/small}{sb}{Medium}
731 \fdrsf@addconfig{weight/normal}{b}{\fdrsf@bweight@normal}
732 \fdrsf@addconfig{weight/small}{b}{\fdrsf@bweight@small}
733 \fdrsf@addconfig{weight/small}{ub}{Bold}
734 \fdrsf@addconfig{weight/normal}{ub}{Bold}
735 \fdrsf@addconfig{subs/series}{bx}{b}
736 \fdrsf@addconfig{italic}{it,scit,sscit,sw,scsw,sscs}{Italic}
737 \fdrsf@addconfig[OML]{italic}{n}{French}
738 \fdrsf@addconfig[OML]{italic}{it}{Mixed}
739 \fdrsf@addconfig{shape}{sc,scit}{-sc}
740 \fdrsf@addconfig{shape}{ssc,sscit}{-ssc}
741 \fdrsf@addconfig{shape}{sw}{-sw}
742 \fdrsf@addconfig{shape}{scsw}{-scsw}
743 \fdrsf@addconfig{shape}{sscs}{-sscs}
744 \fdrsf@addconfig{subs/shape}{sl}{it}
745 \fdrsf@addconfig{subs/shape}{scsl}{scit}
746 \fdrsf@addconfig{subs/shape}{sscs}{sscit}
747 \fdrsf@addconfig[TS1]{subs/shape}{sw}{it}
748 \fdrsf@addconfig[TS1]{subs/shape}{scsw}{scit}
749 \fdrsf@addconfig[TS1]{subs/shape}{sscs}{sscit}

```

This is the main macro to declare a single font shape.

```

750 \newcommand*\DeclareFedraSerifShape[5]{%
751   \edef\@tempa{\fdrsf@useconfig{#1}{subs/series}{#4}}%
752   \edef\@tempb{\fdrsf@useconfig{#1}{subs/shape}{#5}}%
753   \ifx\@tempa\empty\ifx\@tempb\empty
754     \DeclareFontShape{#1}{FedraSerifPro#2-#3}{#4}{#5}{%
755       <-7.1>s*[\fdrsf@scale]%
756       FSerPro#2-%
757       \fdrsf@useconfig{#1}{weight/small}{#4}%
758       \fdrsf@useconfig{#1}{italic}{#5}-#3%
759       \fdrsf@useconfig{#1}{shape}{#5}-#1%
760       <7.1->s*[\fdrsf@scale]%
761       FSerPro#2-%
762       \fdrsf@useconfig{#1}{weight/normal}{#4}%

```

```

763     \fdrsf@useconfig{#1}{italic}{#5}~#3%
764     \fdrsf@useconfig{#1}{shape}{#5}~#1%
765   }{}%
766 \else
767   \DeclareFontShape{#1}{FedraSerifPro#2-#3}{#4}{#5}{%
768     <->ssub* FedraSerifPro#2-#3/#4/\@tempb
769   }{}%
770 \fi\else
771   \DeclareFontShape{#1}{FedraSerifPro#2-#3}{#4}{#5}{%
772     <->ssub* FedraSerifPro#2-#3/\@tempa/#5%
773   }{}%
774 \fi
775 }
776 \fdrsf@makeglobal{DeclareFedraSerifShape}

Finally, we provide commands to declare a complete family.
777 \newcommand*\DeclareFedraSerifFamily[5]{%
778   \DeclareFontFamily{#1}{FedraSerifPro#2-#3}{%
779     \@for\fdrsf@series:=#4\do{%
780       \@for\fdrsf@shape:=#5\do{%
781         \DeclareFedraSerifShape{#1}{#2}{#3}{\fdrsf@series}{\fdrsf@shape}%
782       }%
783     }%
784   }
785 \fdrsf@makeglobal{DeclareFedraSerifFamily}
786 \newcommand*\DeclareFedraSerifLargeFamily[3]{%
787   \DeclareFedraSerifFamily{#1}{#2}{#3}{sl,m,md,sb,b,bx,ub}%
788   {n,it,sc,ssc,scit,sscit,sw,scsw,sscs,sl,scsl,sscs}%
789 }
790 \fdrsf@makeglobal{DeclareFedraSerifLargeFamily}
791 \newcommand*\DeclareFedraSerifMediumFamily[3]{%
792   \DeclareFedraSerifFamily{#1}{#2}{#3}{sl,m,md,sb,b,bx,ub}%
793   {n,it,sc,ssc,scit,sscit,sl,scsl,sscs}%
794 }
795 \fdrsf@makeglobal{DeclareFedraSerifMediumFamily}
796 \newcommand*\DeclareFedraSerifSmallFamily[3]{%
797   \DeclareFedraSerifFamily{#1}{#2}{#3}{sl,m,md,sb,b,bx,ub}{n,it,sl}%
798 }
799 \fdrsf@makeglobal{DeclareFedraSerifSmallFamily}
800 \newcommand*\DeclareFedraSerifTinyFamily[3]{%
801   \DeclareFedraSerifFamily{#1}{#2}{#3}{sl,m,md,sb,b,bx,ub}{n}%
802 }
803 \fdrsf@makeglobal{DeclareFedraSerifTinyFamily}
804 \newcommand*\DeclareFedraSerifMathFamily[2]{%
805   \def\@tempa{#2}%
806   \def\@tempb{TOsF}%
807   \DeclareFontFamily{OML}{FedraSerifPro#1-#2}{\skewchar\font=127}%
808   \@for\fdrsf@series:=m,md,sb,b,bx,ub\do{%
809     \@for\fdrsf@shape:=n,it\do{%
810       \ifx\@tempa\@tempb

```

```

811 \DeclareFedraSerifShape{OML}{#1}{T0sF}{\fdrsf@series}{\fdrsf@shape}%
812 \else
813 \DeclareFontShape{OML}{FedraSerifPro#1-#2}{\fdrsf@series}{\fdrsf@shape}{%
814 <->ssub* FedraSerifPro#1-T0sF/\fdrsf@series/\fdrsf@shape
815 }{}%
816 \fi
817 }%
818 }%
819 }
820 \fdrsf@makeglobal{DeclareFedraSerifMathFamily}

```

We define font family aliases so that we can place all configurations for the FedraSerifPro family variants into one microtype file: `mt-FedraSerifPro.cfg`. We use microtype's hook if microtype has not been loaded yet (which should be the case); otherwise we can execute the alias definitions directly.

```

821 \gdef\fdrsf@Microtype@Aliases{%
822 \DeclareMicrotypeAlias{FedraSerifProA-LF}{FedraSerifPro}%
823 \DeclareMicrotypeAlias{FedraSerifProA-OfF}{FedraSerifPro}%
824 \DeclareMicrotypeAlias{FedraSerifProA-TLF}{FedraSerifPro}%
825 \DeclareMicrotypeAlias{FedraSerifProA-T0sF}{FedraSerifPro}%
826 \DeclareMicrotypeAlias{FedraSerifProB-LF}{FedraSerifPro}%
827 \DeclareMicrotypeAlias{FedraSerifProB-OfF}{FedraSerifPro}%
828 \DeclareMicrotypeAlias{FedraSerifProB-TLF}{FedraSerifPro}%
829 \DeclareMicrotypeAlias{FedraSerifProB-T0sF}{FedraSerifPro}%
830 }
831 \@ifundefined{Microtype@Hook}{%
832 \global\let\Microtype@Hook\fdrsf@Microtype@Aliases
833 }{%
834 \g@addto@macro\Microtype@Hook{\fdrsf@Microtype@Aliases}%
835 }%
836 \@ifundefined{DeclareMicrotypeAlias}{\fdrsf@Microtype@Aliases}%
837 \ifx\@nodocument\relax
838 \endgroup
839 \fi
840 \fontdef

```

## 10 Font definition files

Using the above macros, the various FD files become simple two-liners.

```

841 (*fd)
842 \input{fedraserif-fd.sty}
843 {a & ot1 & lf}\DeclareFedraSerifLargeFamily{OT1}{A}{LF}
844 {a & ot1 & of}\DeclareFedraSerifLargeFamily{OT1}{A}{OfF}
845 {a & ot1 & tf}\DeclareFedraSerifLargeFamily{OT1}{A}{TLF}
846 {a & ot1 & tosf}\DeclareFedraSerifLargeFamily{OT1}{A}{T0sF}
847 {a & ot2 & lf}\DeclareFedraSerifMediumFamily{OT2}{A}{LF}
848 {a & ot2 & of}\DeclareFedraSerifMediumFamily{OT2}{A}{OfF}
849 {a & ot2 & tf}\DeclareFedraSerifMediumFamily{OT2}{A}{TLF}

```

850  $\langle a \text{ \& ot2 \& tosf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{OT2\}\{A\}\{TosF\}$   
851  $\langle a \text{ \& t1 \& lf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T1\}\{A\}\{LF\}$   
852  $\langle a \text{ \& t1 \& osf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T1\}\{A\}\{OsF\}$   
853  $\langle a \text{ \& t1 \& tlf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T1\}\{A\}\{TLF\}$   
854  $\langle a \text{ \& t1 \& tosf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T1\}\{A\}\{TosF\}$   
855  $\langle a \text{ \& t2a \& lf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2A\}\{A\}\{LF\}$   
856  $\langle a \text{ \& t2a \& osf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2A\}\{A\}\{OsF\}$   
857  $\langle a \text{ \& t2a \& tlf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2A\}\{A\}\{TLF\}$   
858  $\langle a \text{ \& t2a \& tosf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2A\}\{A\}\{TosF\}$   
859  $\langle a \text{ \& t2b \& lf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2B\}\{A\}\{LF\}$   
860  $\langle a \text{ \& t2b \& osf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2B\}\{A\}\{OsF\}$   
861  $\langle a \text{ \& t2b \& tlf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2B\}\{A\}\{TLF\}$   
862  $\langle a \text{ \& t2b \& tosf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2B\}\{A\}\{TosF\}$   
863  $\langle a \text{ \& t2c \& lf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2C\}\{A\}\{LF\}$   
864  $\langle a \text{ \& t2c \& osf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2C\}\{A\}\{OsF\}$   
865  $\langle a \text{ \& t2c \& tlf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2C\}\{A\}\{TLF\}$   
866  $\langle a \text{ \& t2c \& tosf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{T2C\}\{A\}\{TosF\}$   
867  $\langle a \text{ \& ts1 \& lf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{TS1\}\{A\}\{LF\}$   
868  $\langle a \text{ \& ts1 \& osf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{TS1\}\{A\}\{OsF\}$   
869  $\langle a \text{ \& ts1 \& tlf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{TS1\}\{A\}\{TLF\}$   
870  $\langle a \text{ \& ts1 \& tosf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{TS1\}\{A\}\{TosF\}$   
871  $\langle a \text{ \& ly1 \& lf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{LY1\}\{A\}\{LF\}$   
872  $\langle a \text{ \& ly1 \& osf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{LY1\}\{A\}\{OsF\}$   
873  $\langle a \text{ \& ly1 \& tlf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{LY1\}\{A\}\{TLF\}$   
874  $\langle a \text{ \& ly1 \& tosf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{LY1\}\{A\}\{TosF\}$   
875  $\langle a \text{ \& qx \& lf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{QX\}\{A\}\{LF\}$   
876  $\langle a \text{ \& qx \& osf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{QX\}\{A\}\{OsF\}$   
877  $\langle a \text{ \& qx \& tlf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{QX\}\{A\}\{TLF\}$   
878  $\langle a \text{ \& qx \& tosf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{QX\}\{A\}\{TosF\}$   
879  $\langle a \text{ \& t5 \& lf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T5\}\{A\}\{LF\}$   
880  $\langle a \text{ \& t5 \& osf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T5\}\{A\}\{OsF\}$   
881  $\langle a \text{ \& t5 \& tlf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T5\}\{A\}\{TLF\}$   
882  $\langle a \text{ \& t5 \& tosf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{T5\}\{A\}\{TosF\}$   
883  $\langle a \text{ \& lgr \& lf} \rangle \backslash \text{DeclareFedraSerifSmallFamily}\{LGR\}\{A\}\{LF\}$   
884  $\langle a \text{ \& lgr \& osf} \rangle \backslash \text{DeclareFedraSerifSmallFamily}\{LGR\}\{A\}\{OsF\}$   
885  $\langle a \text{ \& lgr \& tlf} \rangle \backslash \text{DeclareFedraSerifSmallFamily}\{LGR\}\{A\}\{TLF\}$   
886  $\langle a \text{ \& lgr \& tosf} \rangle \backslash \text{DeclareFedraSerifSmallFamily}\{LGR\}\{A\}\{TosF\}$   
887  $\langle a \text{ \& x2 \& lf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{X2\}\{A\}\{LF\}$   
888  $\langle a \text{ \& x2 \& osf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{X2\}\{A\}\{OsF\}$   
889  $\langle a \text{ \& x2 \& tlf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{X2\}\{A\}\{TLF\}$   
890  $\langle a \text{ \& x2 \& tosf} \rangle \backslash \text{DeclareFedraSerifMediumFamily}\{X2\}\{A\}\{TosF\}$   
891  $\langle a \text{ \& oml \& lf} \rangle \backslash \text{DeclareFedraSerifMathFamily}\{A\}\{LF\}$   
892  $\langle a \text{ \& oml \& osf} \rangle \backslash \text{DeclareFedraSerifMathFamily}\{A\}\{OsF\}$   
893  $\langle a \text{ \& oml \& tlf} \rangle \backslash \text{DeclareFedraSerifMathFamily}\{A\}\{TLF\}$   
894  $\langle a \text{ \& oml \& tosf} \rangle \backslash \text{DeclareFedraSerifMathFamily}\{A\}\{TosF\}$   
895  $\langle a \text{ \& u \& extra} \rangle \backslash \text{DeclareFedraSerifSmallFamily}\{U\}\{A\}\{Extra\}$   
896  $\langle a \text{ \& u \& orn} \rangle \backslash \text{DeclareFedraSerifTinyFamily}\{U\}\{A\}\{Pi\}$   
897  $\langle a \text{ \& u \& bb} \rangle \backslash \text{DeclareFedraSerifFamily}\{U\}\{A\}\{BB\}\{m\}\{n\}$   
898  $\langle b \text{ \& ot1 \& lf} \rangle \backslash \text{DeclareFedraSerifLargeFamily}\{OT1\}\{B\}\{LF\}$

899 <b & ot1 & osf>\DeclareFedraSerifLargeFamily{OT1}{B}{OsF}  
900 <b & ot1 & tlf>\DeclareFedraSerifLargeFamily{OT1}{B}{TLF}  
901 <b & ot1 & tosf>\DeclareFedraSerifLargeFamily{OT1}{B}{TosF}  
902 <b & ot2 & lf>\DeclareFedraSerifMediumFamily{OT2}{B}{LF}  
903 <b & ot2 & osf>\DeclareFedraSerifMediumFamily{OT2}{B}{OsF}  
904 <b & ot2 & tlf>\DeclareFedraSerifMediumFamily{OT2}{B}{TLF}  
905 <b & ot2 & tosf>\DeclareFedraSerifMediumFamily{OT2}{B}{TosF}  
906 <b & t1 & lf>\DeclareFedraSerifLargeFamily{T1}{B}{LF}  
907 <b & t1 & osf>\DeclareFedraSerifLargeFamily{T1}{B}{OsF}  
908 <b & t1 & tlf>\DeclareFedraSerifLargeFamily{T1}{B}{TLF}  
909 <b & t1 & tosf>\DeclareFedraSerifLargeFamily{T1}{B}{TosF}  
910 <b & t2a & lf>\DeclareFedraSerifMediumFamily{T2A}{B}{LF}  
911 <b & t2a & osf>\DeclareFedraSerifMediumFamily{T2A}{B}{OsF}  
912 <b & t2a & tlf>\DeclareFedraSerifMediumFamily{T2A}{B}{TLF}  
913 <b & t2a & tosf>\DeclareFedraSerifMediumFamily{T2A}{B}{TosF}  
914 <b & t2b & lf>\DeclareFedraSerifMediumFamily{T2B}{B}{LF}  
915 <b & t2b & osf>\DeclareFedraSerifMediumFamily{T2B}{B}{OsF}  
916 <b & t2b & tlf>\DeclareFedraSerifMediumFamily{T2B}{B}{TLF}  
917 <b & t2b & tosf>\DeclareFedraSerifMediumFamily{T2B}{B}{TosF}  
918 <b & t2c & lf>\DeclareFedraSerifMediumFamily{T2C}{B}{LF}  
919 <b & t2c & osf>\DeclareFedraSerifMediumFamily{T2C}{B}{OsF}  
920 <b & t2c & tlf>\DeclareFedraSerifMediumFamily{T2C}{B}{TLF}  
921 <b & t2c & tosf>\DeclareFedraSerifMediumFamily{T2C}{B}{TosF}  
922 <b & ts1 & lf>\DeclareFedraSerifLargeFamily{TS1}{B}{LF}  
923 <b & ts1 & osf>\DeclareFedraSerifLargeFamily{TS1}{B}{OsF}  
924 <b & ts1 & tlf>\DeclareFedraSerifLargeFamily{TS1}{B}{TLF}  
925 <b & ts1 & tosf>\DeclareFedraSerifLargeFamily{TS1}{B}{TosF}  
926 <b & ly1 & lf>\DeclareFedraSerifLargeFamily{LY1}{B}{LF}  
927 <b & ly1 & osf>\DeclareFedraSerifLargeFamily{LY1}{B}{OsF}  
928 <b & ly1 & tlf>\DeclareFedraSerifLargeFamily{LY1}{B}{TLF}  
929 <b & ly1 & tosf>\DeclareFedraSerifLargeFamily{LY1}{B}{TosF}  
930 <b & qx & lf>\DeclareFedraSerifLargeFamily{QX}{B}{LF}  
931 <b & qx & osf>\DeclareFedraSerifLargeFamily{QX}{B}{OsF}  
932 <b & qx & tlf>\DeclareFedraSerifLargeFamily{QX}{B}{TLF}  
933 <b & qx & tosf>\DeclareFedraSerifLargeFamily{QX}{B}{TosF}  
934 <b & t5 & lf>\DeclareFedraSerifLargeFamily{T5}{B}{LF}  
935 <b & t5 & osf>\DeclareFedraSerifLargeFamily{T5}{B}{OsF}  
936 <b & t5 & tlf>\DeclareFedraSerifLargeFamily{T5}{B}{TLF}  
937 <b & t5 & tosf>\DeclareFedraSerifLargeFamily{T5}{B}{TosF}  
938 <b & lgr & lf>\DeclareFedraSerifSmallFamily{LGR}{B}{LF}  
939 <b & lgr & osf>\DeclareFedraSerifSmallFamily{LGR}{B}{OsF}  
940 <b & lgr & tlf>\DeclareFedraSerifSmallFamily{LGR}{B}{TLF}  
941 <b & lgr & tosf>\DeclareFedraSerifSmallFamily{LGR}{B}{TosF}  
942 <b & x2 & lf>\DeclareFedraSerifMediumFamily{X2}{B}{LF}  
943 <b & x2 & osf>\DeclareFedraSerifMediumFamily{X2}{B}{OsF}  
944 <b & x2 & tlf>\DeclareFedraSerifMediumFamily{X2}{B}{TLF}  
945 <b & x2 & tosf>\DeclareFedraSerifMediumFamily{X2}{B}{TosF}  
946 <b & oml & lf>\DeclareFedraSerifMathFamily{B}{LF}  
947 <b & oml & osf>\DeclareFedraSerifMathFamily{B}{OsF}

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948 \b & oml & tlf\DeclareFedraSerifMathFamily{B}{TLF}
949 \b & oml & tosf\DeclareFedraSerifMathFamily{B}{T0sF}
950 \b & u & extra\DeclareFedraSerifSmallFamily{U}{B}{Extra}
951 \b & u & orn\DeclareFedraSerifTinyFamily{U}{B}{Pi}
952 \b & u & bb\DeclareFedraSerifFamily{U}{B}{BB}{m}{n}
953 \fd

```