L^AT_EX support for Fedra Serif Pro

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Abstract

This document describes the fedraserif package, which provides L^AT_EX support for the commercial Fedra Serif Pro fonts in both text and math mode.

Contents

1   Overview

The fedraserif package provides LaTeX support for the commercial Fedra® Serif Pro fonts[1] from Typotheque[2]. 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 Bühmann 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 fontaxes

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[1] Fedra is a registered trademark of Typotheque VOF.

[2] `http://www.typotheque.com/fonts/`

Table 1: Summary of options

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

package is loaded if it is present in your LaTeX 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 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.

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	**A Quick Brown Fox Jumps Over The Lazy Dog.**
Bold	ub	**A Quick Brown Fox Jumps Over The Lazy Dog.**

4.2 Encodings

The package currently supports the OT1, T1, LY1, QX and T5 encodings for type-setting text with Latin characters, 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 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 LaTeX 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 accessed using `\fontseries`. For instance, the Demi weight can be accessed using the command `\fontseries{md}`.

4.4 Shapes

In addition to the normal small caps shapes sc and scit, there are letterspaced versions ssc and sscit. Moreover, italic shapes with *swash capitals* are accessible via the sw, scsw and sscsw 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.

Table 3: Summary of font shapes

Shape	Example
n	A Quick Brown Fox Jumps Over The Lazy Dog.
it	*A Quick Brown Fox Jumps Over The Lazy Dog.*
sc	A Quick Brown Fox Jumps Over The Lazy Dog.
ssc	A Quick Brown Fox Jumps Over The Lazy Dog.
scit	*A Quick Brown Fox Jumps Over The Lazy Dog.*
sscit	*A Quick Brown Fox Jumps Over The Lazy Dog.*
sw	*A Quick Brown Fox Jumps Over The Lazy Dog.*
scsw	*A Quick Brown Fox Jumps Over The Lazy Dog.*
sscsw	*A Quick Brown Fox Jumps Over The Lazy Dog.*

Table 4: Summary of figure versions

	Lining figures	Text figures
Proportional	0123456789	0123456789
Tabular	0123456789	0123456789

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`.

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:

`\smallfrac{`*⟨numerator⟩*`}{`*⟨denominator⟩*`}` $\frac{3}{17}$
`\slantfrac{`*⟨numerator⟩*`}{`*⟨denominator⟩*`}`   ³⁄₁₇

Note that only figures can be used for *⟨numerator⟩* and *⟨denominator⟩*.

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

\openbullet{⟨*number*⟩} ① ⓶⓷⓸

\closedbullet{⟨*number*⟩} ❺ ❻❼❽

As for small and slanted fractions, only figures can be used for ⟨*number*⟩.

4.6 Footnotes

By setting the option `footnotemarks`, footnote marks are set using special characters designed for this purpose, i.e. ¹'ᵃ instead of [1,a]. However, this only works for footnote marks that consist of figures and the lowercase letters `a-z`.

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:

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

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

₢	\textcruzeiro	₣	\textfranc	₥	\textmill
Pts	\textpeseta	Rs	\textrupee	₪	\textsheqel
₭	\textkip	₮	\texttugrik	₴	\texthryvnia

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

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	①	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	—		

Table 6: The different styles for letters in math mode

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

that all other options described in this section have no effect if math support is disabled.

5.1 Letters

In TeX and LaTeX, 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 TeX tradition by default, you can select the ISO behaviour by setting the option `math-style=iso`. Independently of this option, you can alyways 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:

ϐ	\varbeta[3]	ϰ	\varkappa[3]	ϝ	\digamma[3]
϶	\backepsilon[3]	ɜ	\varbackepsilon[3]	ℏ	\hslash
λ̄	\lambdabar	ƛ	\lambdaslash	ð	\eth[3]
∅	\slashedzero	℧	\mho	ℓ	\upell
ℏ	\uphbar	ℶ	\beth	λ	\gimel
ℸ	\daleth				

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`.

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[3]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.

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 ℕ, ℤ, ℚ, ℝ, ℂ, 𝕜 and 𝕝. To use these characters for the math blackboard alphabet \mathbb, 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. 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]{%
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
```

Table 7: NFSS classification

Encoding	Family	Series	Shape
OT1, T1, TS1, LY1, QX, T5	FedraSerifProA-LF, FedraSerifProA-OsF, FedraSerifProA-TLF, FedraSerifProA-TOsF, FedraSerifProB-LF, FedraSerifProB-OsF, FedraSerifProB-TLF, FedraSerifProB-TOsF	sl, m, md, b (bx), sb, ub	n, it (sl), sw, sc, scit (scsl), scsw, ssc, sscit (sscsl), sscsw
OML	FedraSerifProA-TOsF (FedraSerifProA-LF, FedraSerifProA-OsF, FedraSerifProA-TLF), FedraSerifProB-TOsF (FedraSerifProB-LF, FedraSerifProB-OsF, FedraSerifProB-TLF)	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

```
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{FedraSerifPro}
28 \newcommand\fdrsf@variant{A}
29 \newcommand\fdrsf@textfig{LF}
30 \newcommand\fdrsf@mathfig{\fdrsf@textfig}
31 \newcommand\fdrsf@textfamily{\fdrsf@family\fdrsf@variant-\fdrsf@textfig}
32 \newcommand\fdrsf@mathfamily{\fdrsf@family\fdrsf@variant-\fdrsf@mathfig}
33 \newcommand\fdrsf@mathtfamily{\fdrsf@family\fdrsf@variant-T\fdrsf@mathfig}
34 \newcommand\fdrsf@pifamily{\fdrsf@family\fdrsf@variant-Pi}
35 \newcommand\fdrsf@mathshape{it}

36 \fdrsf@choicekey{variant}{a,b,auto}{%
37  \ifcase\@tempb\relax
38    \renewcommand\fdrsf@variant{A}%
39  \or
40    \renewcommand\fdrsf@variant{B}%
41    \PassOptionsToPackage{largedelims}{fdsymbol}%
42  \or
43    \PackageWarning{fedraserif.sty}{Option 'variant=auto' is deprecated and has no effect.}%
44  \fi
45 }
46 \fdrsf@choicekey{figures}{text,osf,lining,lf}{%
47  \ifcase\@tempb\relax
48    \renewcommand\fdrsf@textfig{OsF}%
49  \or
50    \renewcommand\fdrsf@textfig{OsF}%
51  \or
52    \renewcommand\fdrsf@textfig{LF}%
53  \or
```

```
54      \renewcommand\fdrsf@textfig{LF}%
55    \fi
56 }
57 \fdrsf@boolkey{stdmathdigits}{%
58    \iffdrsf@stdmathdigits
59      \renewcommand\fdrsf@mathfig{LF}%
60    \fi
61 }
```

Math styles

```
62 \newif\iffdrsf@greek@upper@upright
63 \newif\iffdrsf@greek@lower@upright
64 \fdrsf@choicekey{math-style}{tex,iso,french}{%
65    \ifcase\@tempb\relax
66      \fdrsf@greek@upper@uprighttrue
67      \fdrsf@greek@lower@uprightfalse
68    \or
69      \fdrsf@greek@upper@uprightfalse
70      \fdrsf@greek@lower@uprightfalse
71    \or
72      \fdrsf@greek@upper@uprighttrue
73      \fdrsf@greek@lower@uprighttrue
74      \renewcommand\fdrsf@mathshape{n}
75    \fi
76 }
```

Other options

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

```
77 %
78 \fdrsf@boolkey{fedrabb}{%
79    \iffdrsf@fedrabb
80      \renewcommand\fdrsf@load@bb{%
81       \DeclareMathAlphabet\mathbb{U}{\fdrsf@family\fdrsf@variant-BB}{m}{n}%
82         \renewcommand\Bbbk{\mathbb{k}}%
83      }%
84    \fi
85 }
86 \newcommand\fdrsf@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.

```
87 \fdrsf@boolkey{footnotemarks}{%
```

```
88  \iffdrsf@footnotemarks
89    \@ifundefined{deffootnotemark}{%
90      \def\@makefnmark{%
91        \begingroup
92        \usefont{U}{\fdrsf@family\fdrsf@variant-Extra}{m}{n}%
93        \@thefnmark\kern0.1em%
94        \endgroup
95      }%
96    }{%
97      \deffootnotemark{%
98        \begingroup
99        \usefont{U}{\fdrsf@family\fdrsf@variant-Extra}{m}{n}%
100       \thefootnotemark
101       \endgroup
102     }%
103   }%
104   \@ifundefined{deffootnote}{}{%
105     \deffootnote[1em]{1.5em}{1em}{%
106       \begingroup
107       \usefont{U}{\fdrsf@family\fdrsf@variant-Extra}{m}{n}%
108       \thefootnotemark\kern0.1em%
109       \endgroup
110     }%
111   }%
112 \fi
113 }
```

Defaults

```
114 \ExecuteOptionsX{math,math-style=tex}
115 \ProcessOptionsX\relax
```

7.2 Font selection

```
116 \RequirePackage[scale=0.9]{fedraserif-fd}
117 \@ifpackageloaded{textcomp}{}{\RequirePackage{textcomp}}
118 \renewcommand\rmdefault{\fdrsf@textfamily}
119 \@for\fdrsf@@variant:=A,B\do{%
120   \@for\fdrsf@fig:=LF,TLF,OsF,TOsF\do{%
121     \DeclareEncodingSubset{TS1}{\fdrsf@family\fdrsf@@variant-\fdrsf@fig}{1}%
122   }%
123 }
```

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.

```
124 \AtBeginDocument{
125   \UndeclareTextCommand{\textcompwordmark}{T1}
126   \UndeclareTextCommand{\textvisiblespace}{T1}
127   \UndeclareTextCommand{\textperthousand}{T1}
128   \UndeclareTextCommand{\textpertenthousand}{T1}
129   \UndeclareTextCommand{\textsterling}{T1}
130   \UndeclareTextCommand{\textsection}{T1}
131   \UndeclareTextCommand{\textmu}{QX}
132   \UndeclareTextCommand{\texteuro}{QX}
133   \UndeclareTextCommand{\textEuro}{QX}
134   \let\textEuro\texteuro
135   \UndeclareTextCommand{\textdagger}{QX}
136   \UndeclareTextCommand{\textdaggerdbl}{QX}
137   \UndeclareTextCommand{\textdegree}{QX}
138   \UndeclareTextCommand{\textsection}{QX}
139   \UndeclareTextCommand{\textregistered}{QX}
140   \UndeclareTextCommand{\copyright}{QX}
141   \let\copyright\textcopyright
142   \UndeclareTextCommand{\textdiv}{QX}
143   \UndeclareTextCommand{\textminus}{QX}
144   \UndeclareTextCommand{\texttimes}{QX}
145   \UndeclareTextCommand{\textpm}{QX}
146   \UndeclareTextCommand{\textbullet}{QX}
147   \UndeclareTextCommand{\textcurrency}{QX}
148   \UndeclareTextCommand{\textperthousand}{QX}
149   \UndeclareTextCommand{\textanglearc}{QX}
150   \UndeclareTextCommand{\textvisiblespace}{T5}
```

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

```
151   \DeclareTextSymbol{\textcruzeiro}{TS1}{192}
152   \DeclareTextSymbol{\textfranc}{TS1}{193}
153   \DeclareTextSymbol{\textmill}{TS1}{194}
154   \DeclareTextSymbol{\textpeseta}{TS1}{195}
155   \DeclareTextSymbol{\textrupee}{TS1}{196}
156   \DeclareTextSymbol{\textsheqel}{TS1}{197}
157   \DeclareTextSymbol{\textkip}{TS1}{198}
158   \DeclareTextSymbol{\texttugrik}{TS1}{199}
159   \DeclareTextSymbol{\texthryvnia}{TS1}{200}
160   \DeclareTextSymbolDefault{\textcruzeiro}{TS1}
161   \DeclareTextSymbolDefault{\textfranc}{TS1}
162   \DeclareTextSymbolDefault{\textmill}{TS1}
163   \DeclareTextSymbolDefault{\textpeseta}{TS1}
164   \DeclareTextSymbolDefault{\textrupee}{TS1}
165   \DeclareTextSymbolDefault{\textsheqel}{TS1}
166   \DeclareTextSymbolDefault{\textkip}{TS1}
167   \DeclareTextSymbolDefault{\texttugrik}{TS1}
```

```
168    \DeclareTextSymbolDefault{\texthryvnia}{TS1}
169 }
```

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

```
170 \IfFileExists{fontaxes.sty}{
171    \RequirePackage{fontaxes}[2007/03/31]
172    \let\oldstylenums\textfigures
173 }{}
```

7.3 Math font setup

We use FdSymbol for most mathematical symbols.

```
174 \iffdrsf@math
175    \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.

```
176    \renewcommand\fdsy@text[1]{%
177      \ifx\fdsy@bold\math@version
178        \text{\usefont{T1}{\fdrsf@mathfamily}{b}{n}#1}%
179      \else
180        \text{\usefont{T1}{\fdrsf@mathfamily}{m}{n}#1}%
181      \fi
182    }
```

Redefine the standard math versions normal and bold.

```
183    \DeclareSymbolFont{operators}{T1}{\fdrsf@mathfamily}{m}{n}
184    \SetSymbolFont{operators}{bold}{T1}{\fdrsf@mathfamily}{b}{n}
185    \DeclareSymbolFont{letters}{OML}{\fdrsf@family\fdrsf@variant-TOsF}{m}{\fdrsf@mathshape}
186    \SetSymbolFont{letters}{bold}{OML}{\fdrsf@family\fdrsf@variant-TOsF}{b}{\fdrsf@mathshape}
187    \DeclareMathAlphabet{\mathrm}{T1}{\fdrsf@mathfamily}{m}{n}
188    \SetMathAlphabet{\mathrm}{bold}{T1}{\fdrsf@mathfamily}{b}{n}
189    \DeclareMathAlphabet{\mathit}{T1}{\fdrsf@mathfamily}{m}{it}
190    \SetMathAlphabet{\mathit}{bold}{T1}{\fdrsf@mathfamily}{b}{it}
191    \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.

```
192    \DeclareMathVersion{tabular}
193    \SetSymbolFont{operators}{tabular}{T1}{\fdrsf@mathtfamily}{m}{n}
194    \SetMathAlphabet{\mathrm}{tabular}{T1}{\fdrsf@mathtfamily}{m}{n}
195    \SetMathAlphabet{\mathit}{tabular}{T1}{\fdrsf@mathtfamily}{m}{it}
196    \SetMathAlphabet{\mathbf}{tabular}{T1}{\fdrsf@mathtfamily}{b}{n}
197    \DeclareMathVersion{boldtabular}
198    \SetSymbolFont{operators}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{n}
199    \SetSymbolFont{letters}{boldtabular}{OML}{\fdrsf@family\fdrsf@variant-TOsF}{b}{\fdrsf@mathshap
```

```
200   \SetMathAlphabet{\mathrm}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{n}
201   \SetMathAlphabet{\mathit}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{it}
202   \SetMathAlphabet{\mathbf}{boldtabular}{T1}{\fdrsf@mathtfamily}{b}{n}

203   \DeclareMathAccent{\grave}{\mathalpha}{operators}{"00}
204   \DeclareMathAccent{\acute}{\mathalpha}{operators}{"01}
205   \DeclareMathAccent{\hat}{\mathalpha}{operators}{"02}
206   \DeclareMathAccent{\tilde}{\mathalpha}{operators}{"03}
207   \DeclareMathAccent{\ddot}{\mathalpha}{operators}{"04}
208   \DeclareMathAccent{\mathring}{\mathalpha}{operators}{"06}
209   \DeclareMathAccent{\check}{\mathalpha}{operators}{"07}
210   \DeclareMathAccent{\breve}{\mathalpha}{operators}{"08}
211   \DeclareMathAccent{\bar}{\mathalpha}{operators}{"09}
212   \DeclareMathAccent{\dot}{\mathalpha}{operators}{"0A}
213   \let\hbar\undefined
214   \DeclareMathSymbol{\hbar}{\mathord}{letters}{"AE}
215   \DeclareMathSymbol{\uphbar}{\mathord}{letters}{"B6}
216   \DeclareMathSymbol{\partial}{\mathord}{letters}{"40}
217   \DeclareMathSymbol{\ell}{\mathord}{letters}{"60}
218   \DeclareMathSymbol{\upell}{\mathord}{letters}{"B9}
219   \DeclareMathSymbol{\slashedzero}{\mathord}{letters}{"B8}
220   \let\mho\undefined
221   \DeclareMathSymbol{\mho}{\mathord}{letters}{"BA}
222   \DeclareMathSymbol{\nabla}{\mathord}{letters}{"BB}
223   \DeclareRobustCommand{\lambdabar}{\middlebar\lambda}
224   \DeclareRobustCommand{\lambdaslash}{\middleslash\lambda}
```

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

```
225   \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.

```
226   \newcommand*{\fdrsf@greek@capital}[3]{
227     \expandafter\DeclareMathSymbol%
228       \expandafter{\csname it#1\endcsname}{\mathord}{letters}{#2}
229     \expandafter\DeclareMathSymbol%
230       \expandafter{\csname up#1\endcsname}{\mathord}{letters}{#3}
231     \iffdrsf@greek@upper@upright
232      \expandafter\let\csname #1\expandafter\endcsname\csname up#1\endcsname
233     \else
234      \expandafter\let\csname #1\expandafter\endcsname\csname it#1\endcsname
235     \fi
236   }
237   \newcommand*{\fdrsf@greek@letter}[3]{
```

```
238     \expandafter\DeclareMathSymbol%
239       \expandafter{\csname it#1\endcsname}{\mathord}{letters}{#2}
240     \expandafter\DeclareMathSymbol%
241       \expandafter{\csname up#1\endcsname}{\mathord}{letters}{#3}
242     \iffdrsf@greek@lower@upright
243      \expandafter\let\csname #1\expandafter\endcsname\csname up#1\endcsname
244     \else
245      \expandafter\let\csname #1\expandafter\endcsname\csname it#1\endcsname
246     \fi
247   }
248   \fdrsf@greek@capital{Gamma}{"00}{"80}
249   \fdrsf@greek@capital{Delta}{"01}{"81}
250   \fdrsf@greek@capital{Theta}{"02}{"82}
251   \fdrsf@greek@capital{Lambda}{"03}{"83}
252   \fdrsf@greek@capital{Xi}{"04}{"84}
253   \fdrsf@greek@capital{Pi}{"05}{"85}
254   \fdrsf@greek@capital{Sigma}{"06}{"86}
255   \fdrsf@greek@capital{Upsilon}{"07}{"87}
256   \fdrsf@greek@capital{Phi}{"08}{"88}
257   \fdrsf@greek@capital{Psi}{"09}{"89}
258   \fdrsf@greek@capital{Omega}{"0A}{"8A}
259   \fdrsf@greek@letter{alpha}{"0B}{"8B}
260   \fdrsf@greek@letter{beta}{"0C}{"8C}
261   \fdrsf@greek@letter{gamma}{"0D}{"8D}
262   \fdrsf@greek@letter{delta}{"0E}{"8E}
263   \fdrsf@greek@letter{epsilon}{"0F}{"8F}
264   \fdrsf@greek@letter{zeta}{"10}{"90}
265   \fdrsf@greek@letter{eta}{"11}{"91}
266   \fdrsf@greek@letter{theta}{"12}{"92}
267   \fdrsf@greek@letter{iota}{"13}{"93}
268   \fdrsf@greek@letter{kappa}{"14}{"94}
269   \fdrsf@greek@letter{lambda}{"15}{"95}
270   \fdrsf@greek@letter{mu}{"16}{"96}
271   \fdrsf@greek@letter{nu}{"17}{"97}
272   \fdrsf@greek@letter{xi}{"18}{"98}
273   \fdrsf@greek@letter{pi}{"19}{"99}
274   \fdrsf@greek@letter{rho}{"1A}{"9A}
275   \fdrsf@greek@letter{sigma}{"1B}{"9B}
276   \fdrsf@greek@letter{tau}{"1C}{"9C}
277   \fdrsf@greek@letter{upsilon}{"1D}{"9D}
278   \fdrsf@greek@letter{phi}{"1E}{"9E}
279   \fdrsf@greek@letter{chi}{"1F}{"9F}
280   \fdrsf@greek@letter{psi}{"20}{"A0}
281   \fdrsf@greek@letter{omega}{"21}{"A1}
282   \fdrsf@greek@letter{varepsilon}{"22}{"A2}
```

```
283    \fdrsf@greek@letter{vartheta}{"23}{"A3}
284    \fdrsf@greek@letter{varpi}{"19}{"99}
285    \fdrsf@greek@letter{varrho}{"1A}{"9A}
286    \fdrsf@greek@letter{varsigma}{"26}{"A6}
287    \fdrsf@greek@letter{varphi}{"27}{"A7}
```

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

```
288    \fdrsf@greek@letter{varbeta}{"A8}{"B0}
289    \fdrsf@greek@letter{varkappa}{"A9}{"B1}
290    \fdrsf@greek@letter{digamma}{"AA}{"B2}
291    \fdrsf@greek@letter{backepsilon}{"AB}{"B3}
292    \fdrsf@greek@letter{varbackepsilon}{"AC}{"B4}
293    \fdrsf@greek@letter{eth}{"AD}{"B5}
```

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

```
294    \DeclareMathSymbol{\aleph}{\mathord}{letters}{"BC}
295    \DeclareMathSymbol{\beth}{\mathord}{letters}{"BD}
296    \DeclareMathSymbol{\gimel}{\mathord}{letters}{"BE}
297    \DeclareMathSymbol{\daleth}{\mathord}{letters}{"BF}
298 \fi
```

7.5   Dingbats

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

```
299 \IfFileExists{pifont.sty}{
300    \RequirePackage{pifont}[2005/04/12]
301    \renewcommand{\ding}{\Pisymbol{\fdrsf@pifamily}}
302    \renewcommand{\dingfill}{\Pifill{\fdrsf@pifamily}}
303    \renewcommand{\dingline}{\Piline{\fdrsf@pifamily}}
304    \renewenvironment{dinglist}[1]{\begin{Pilist}{\fdrsf@pifamily}{##1}}%
305       {\end{Pilist}}
306    \renewenvironment{dingautolist}[1]{\begin{Piautolist}{\fdrsf@pifamily}{##1}}%
307       {\end{Piautolist}}
308 }{
309    \newcommand{\ding}[1]{{\usefont{U}{\fdrsf@pifamily}{m}{n}\char##1}}
310 }
```

7.6   Bullet figures

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

```
311 \newcommand*{\fdrsf@@openbullet}[2]{%
312    \ifx#2\end
```

```latex
313      \char3#1%
314      \let\next\@gobble
315    \else
316      \char2#1\kern-0.02em%
317      \let\next\fdrsf@@openbullet
318    \fi
319    \next#2%
320 }
321 \newcommand*{\fdrsf@openbullet}[2]{%
322    \ifx#2\end
323      \char0#1%
324      \let\next\@gobble
325    \else%
326      \char1#1\kern-0.02em%
327      \let\next\fdrsf@@openbullet
328    \fi
329    \next#2%
330 }
331 \DeclareRobustCommand*{\openbullet}[1]{%
332    \begingroup
333    \usefont{U}{\fdrsf@family\fdrsf@variant-Pi}{m}{n}%
334    \edef\@tempa{#1}\expandafter\fdrsf@openbullet\@tempa\end
335    \endgroup
336 }
337 \newcommand*{\fdrsf@@closedbullet}[2]{%
338    \ifx#2\end
339      \char7#1%
340      \let\next\@gobble
341    \else
342      \char6#1\kern-0.02em%
343      \let\next\fdrsf@@closedbullet
344    \fi
345    \next#2%
346 }
347 \newcommand*{\fdrsf@closedbullet}[2]{%
348    \ifx#2\end
349      \char4#1%
350      \let\next\@gobble
351    \else
352      \char5#1\kern-0.02em%
353      \let\next\fdrsf@@closedbullet
354    \fi
355    \next#2%
356 }
357 \DeclareRobustCommand*{\closedbullet}[1]{%
```

```
358    \begingroup
359    \usefont{U}{\fdrsf@family\fdrsf@variant-Pi}{m}{n}%
360    \edef\@tempa{#1}\expandafter\fdrsf@closedbullet\@tempa\end
361    \endgroup
362 }
```

7.7 Superior and inferior figures

The following command converts numbers to inferior figures.

```
363 \newcommand*{\fdrsf@@inferior}[1]{%
364    \ifx#1\end
365      \let\next\relax
366    \else
367      \char"1#1%
368      \let\next\fdrsf@@inferior
369    \fi
370    \next
371 }
372 \newcommand*{\fdrsf@inferior}[1]{%
373    \begingroup
374    \edef\@tempa{#1}\expandafter\fdrsf@@inferior\@tempa\end
375    \endgroup
376 }
```

`\fdrsf@ensuretext` switches to text mode, if necessary.

```
377 \newcommand*{\fdrsf@ensuretext}[1]{%
378    \ifmmode
379      \fdsy@text{#1}%
380    \else
381      #1%
382    \fi
383 }
```

We provide two commands for generating numerical fractions.

```
384 \newcommand*{\fdrsf@smallfrac}[2]{%
385    \begingroup
386    \fontencoding{U}\fontfamily{\fdrsf@family\fdrsf@variant-Extra}\fontshape{n}\selectfont
387    \leavevmode
388    \setbox\@tempboxa\vbox{%
389      \baselineskip\z@skip%
390      \lineskip.25ex%
391      \lineskiplimit-\maxdimen
392      \ialign{\hfil##\hfil\crcr
393        \vbox to 1.25ex{\vss\hbox{#1}\vskip.25ex}\crcr
394        \leavevmode\leaders\hrule height 0.91ex depth -0.87ex\hfill\crcr
395        \vtop to 1ex{\vbox{}\hbox{\fdrsf@inferior{#2}}\vss}\crcr
```

```
396       \noalign{\vskip-1.2ex}}}%
397   \box\@tempboxa
398   \endgroup
399 }
400 \DeclareRobustCommand*{\smallfrac}[2]{%
401   \fdrsf@ensuretext{\kern0.08em\fdrsf@smallfrac{#1}{#2}\kern0.1em}%
402 }
403 \newcommand*{\fdrsf@slantfrac}[2]{%
404   \begingroup
405   \fontencoding{U}\fontfamily{\fdrsf@family\fdrsf@variant-Extra}\fontshape{n}\selectfont
406   #1\kern-0.05em/\kern0em\fdrsf@inferior{#2}%
407   \endgroup
408 }
409 \DeclareRobustCommand*{\slantfrac}[2]{%
410   \fdrsf@ensuretext{\kern0.08em\fdrsf@slantfrac{#1}{#2}\kern0.1em}%
411 }
```

7.8   Logos

```
412 \DeclareRobustCommand{\LaTeX}{L\kern-.26em%
413   {\sbox\z@ T%
414     \vbox to\ht\z@{\hbox{\check@mathfonts
415       \fontsize\sf@size\z@
416       \math@fontsfalse\selectfont
417       A}%
418     \vss}%
419   }%
420   \kern-.05em%
421   \TeX
422 }
```

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

```
423 \normalfont
424 ⟨/package⟩
```

8   Microtype configuration file

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

```
425 ⟨*mtcfg⟩
426 \SetProtrusion
427   [ name = FedraSerifPro-n ]
428   {  }
429   {
430     . = { ,700},
431     {,}= { ,500},
```

21

```
432       : = { ,500},
433       ; = { ,300},
434       ! = { ,100},
435       ? = { ,100},
436       @ = {50,50},
437       ~ = {200,250},
438      \% = {50,50},
439       * = {200,200},
440       + = {250,250},
441       ( = {100,   },     ) = {    ,200},
442       / = {100,200},
443       - = {600,600},
444      \textendash       = {450,450},    \textemdash        = {260,260},
445      \textquoteleft    = {300,400},    \textquoteright    = {300,400},
446      \textquotedblleft = {300,300},    \textquotedblright = {300,300}
447    }
448 \SetProtrusion
449    [ name     = FedraSerifPro-OT1,
450      load     = FedraSerifPro-n    ]
451    { encoding = {OT1},
452     family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
453              FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
454     shape    = {n,sc,ssc} }
455    {  }
456 \SetProtrusion
457    [ name     = FedraSerifPro-T1,
458      load     = FedraSerifPro-n    ]
459    { encoding = {T1,LY1},
460     family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
461              FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
462     shape    = {n,sc,ssc} }
463    {
464     _ = {100,100},
465     \textbackslash    = {100,200},
466     \quotesinglbase   = {400,400},    \quotedblbase      = {400,400},
467     \guilsinglleft    = {400,300},    \guilsinglright    = {300,400},
468     \guillemotleft    = {200,200},    \guillemotright    = {200,200},
469     \textexclamdown   = {100,   },    \textquestiondown  = {100,   },
470     \textbraceleft    = {400,200},    \textbraceright    = {200,400},
471     \textless         = {200,100},    \textgreater       = {100,200}
472    }
473 \SetProtrusion
474    [ name     = FedraSerifPro-QX,
475      load     = FedraSerifPro-n    ]
```

```
476    { encoding = {QX},
477      family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
478                 FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
479      shape    = {n,sc,ssc} }
480    {
481      _ = {100,100},
482      \textbackslash     = {100,200},   \textellipsis      = {100,200},
483      \textperiodcentered = {500,700},   \quotedblbase      = {400,400},
484      \textquotedbl      = {400,400},   \textquotesingle   = {400,400},
485      \guillemotleft     = {200,200},   \guillemotright    = {200,200},
486      \textexclamdown    = {100,  },   \textquestiondown  = {100,  },
487      \textbraceleft     = {400,200},   \textbraceright    = {200,400},
488      \textless          = {200,100},   \textgreater       = {100,200}
489    }
490 \SetProtrusion
491    [ name      = FedraSerifPro-T5,
492      load      = FedraSerifPro-n   ]
493    { encoding = {T5},
494      family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
495                 FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
496      shape    = {n,sc,ssc} }
497    {
498      _ = {100,100},
499      \textbackslash     = {100,200},
500      \quotesinglbase    = {400,400},   \quotedblbase      = {400,400},
501      \guilsinglleft     = {400,300},   \guilsinglright    = {300,400},
502      \guillemotleft     = {200,200},   \guillemotright    = {200,200},
503      \textbraceleft     = {400,200},   \textbraceright    = {200,400},
504      \textless          = {200,100},   \textgreater       = {100,200}
505    }
506 \SetProtrusion
507    [ name      = FedraSerifPro-it ]
508    {   }
509    {
510      . = { ,500},
511      {,}= { ,500},
512      : = { ,300},
513      ; = { ,300},
514      & = {50,50},
515      \% = {100, },
516      * = {200,200},
517      + = {150,200},
518      @ = {50,50},
519      ~ = {150,150},
520      ( = {200, },    ) = {  ,200},
```

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```
521      / = {100,200},
522      - = {630,630},
523      \textendash       = {200,200},   \textemdash       = {150,150},
524      \textquoteleft    = {400,200},   \textquoteright   = {400,200},
525      \textquotedblleft = {400,200},   \textquotedblright = {400,200}
526    }
527 \SetProtrusion
528    [ name      = FedraSerifPro-OT1-it,
529      load      = FedraSerifPro-it       ]
530    { encoding = OT1,
531      family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
532               FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
533      shape    = {it,scit,sscit,sw,scsw,sscsw} }
534    {  }
535 \SetProtrusion
536    [ name      = FedraSerifPro-T1-it,
537      load      = FedraSerifPro-it       ]
538    { encoding = {T1,LY1},
539      family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
540               FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
541      shape    = {it,sl,sw,scit,scsl,scsw} }
542    {
543      _ = {  ,100},
544      \textbackslash    = {100,200},
545      \quotesinglbase   = {300,700},   \quotedblbase     = {400,500},
546      \guilsinglleft    = {400,400},   \guilsinglright   = {300,500},
547      \guillemotleft    = {300,300},   \guillemotright   = {300,300},
548      \textexclamdown   = {100,  },    \textquestiondown = {200,  },
549      \textbraceleft    = {200,100},   \textbraceright   = {200,200},
550    }
551 \SetProtrusion
552    [ name      = FedraSerifPro-QX-it,
553      load      = FedraSerifPro-it       ]
554    { encoding = {QX},
555      family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
556               FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
557      shape    = {it,sl,sw,scit,scsl,scsw} }
558    {
559      _ = {  ,100},
560      \textbackslash    = {100,200},   \textellipsis     = {100,200},
561      \textperiodcentered = {500,700}, \quotedblbase     = {400,500},
562      \textquotedbl     = {400,400},   \textquotesingle  = {400,400},
563      \guillemotleft    = {300,300},   \guillemotright   = {300,300},
564      \textexclamdown   = {100,  },    \textquestiondown = {200,  },
```

```
565    \textbraceleft    = {200,100},   \textbraceright    = {200,200},
566    }
567 \SetProtrusion
568    [ name      = FedraSerifPro-T5-it,
569      load      = FedraSerifPro-it     ]
570    { encoding = {T5},
571     family   = {FedraSerifProA-OsF,FedraSerifProA-LF,FedraSerifProA-TOsF,FedraSerifProA-TLF,%
572              FedraSerifProB-OsF,FedraSerifProB-LF,FedraSerifProB-TOsF,FedraSerifProB-TLF},
573      shape    = {it,sl,sw,scit,scsl,scsw} }
574    {
575      _ = {   ,100},
576      \textbackslash    = {100,200},
577      \quotesinglbase   = {300,700},   \quotedblbase      = {400,500},
578      \guilsinglleft    = {400,400},   \guilsinglright    = {300,500},
579      \guillemotleft    = {300,300},   \guillemotright    = {300,300},
580      \textbraceleft    = {200,100},   \textbraceright    = {200,200},
581    }
582 ⟨/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.

```
583 ⟨*fontdef⟩
584 \ifx\fdrsf@scale\@undefined\else\endinput\fi
```

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

```
585 \ifx\@nodocument\relax\else
586   \NeedsTeXFormat{LaTeX2e}
587   \RequirePackage{xkeyval}
588 \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.

```
589 \ifx\@nodocument\relax
590   \begingroup
591   \escapechar'\\
```

```
592 \fi
```

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

```
593 \newcommand*\fdrsf@makeglobal[1]{%
594   \global\expandafter\let\csname #1\expandafter\endcsname
595   \csname #1\endcsname
596 }
```

9.1 Options

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

```
597 \newcommand\fdrsf@mweight@normal{Book}
598 \newcommand\fdrsf@mweight@small{Book}
599 \newcommand\fdrsf@bweight@normal{Medium}
600 \newcommand\fdrsf@bweight@small{Medium}
601 \newcommand\fdrsf@scale{0.9}

602 \ifx\@nodocument\relax\else
603   \newcommand*\fdrsf@fd@choicekey[3]{%
604     \define@choicekey*{fedraserif-fd.sty}{#1}[\@tempa\@tempb]{#2}{#3}%
605   }
606   \fdrsf@fd@choicekey{normalweight}{book,demi,auto}{%
607     \ifcase\@tempb\relax
608       \renewcommand\fdrsf@mweight@normal{Book}
609       \renewcommand\fdrsf@mweight@small{Book}
610     \or
611       \renewcommand\fdrsf@mweight@normal{Demi}
612       \renewcommand\fdrsf@mweight@small{Demi}
613     \or
614       \renewcommand\fdrsf@mweight@normal{Book}
615       \renewcommand\fdrsf@mweight@small{Demi}
616     \fi
617   }
618   \fdrsf@fd@choicekey{boldweight}{medium,bold,auto}{%
619     \ifcase\@tempb\relax
620       \renewcommand\fdrsf@bweight@normal{Medium}
621       \renewcommand\fdrsf@bweight@small{Medium}
622     \or
623       \renewcommand\fdrsf@bweight@normal{Bold}
624       \renewcommand\fdrsf@bweight@small{Bold}
625     \or
626       \renewcommand\fdrsf@bweight@normal{Medium}
627       \renewcommand\fdrsf@bweight@small{Bold}
628     \fi
629   }
630   \define@key{fedraserif-fd.sty}{scale}[0.9]{\renewcommand*\fdrsf@scale{#1}}
```

```
631   \ProcessOptionsX\relax
632 \fi

633 \fdrsf@makeglobal{fdrsf@mweight@normal}
634 \fdrsf@makeglobal{fdrsf@mweight@small}
635 \fdrsf@makeglobal{fdrsf@bweight@normal}
636 \fdrsf@makeglobal{fdrsf@bweight@small}
637 \fdrsf@makeglobal{fdrsf@scale}
```

9.2   Font configuration

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

```
638 \newcommand*{\fdrsf@addconfig}[4][]{%
639   \@for\@tempa:=#3\do{%
640     \expandafter
641     \gdef\csname fdrsf@config@#2@#1@\@tempa\endcsname{#4}%
642   }%
643 }
644 \newcommand*{\fdrsf@useconfig}[3]{%
645   \@ifundefined{fdrsf@config@#2@#1@#3}{%
646     \@ifundefined{fdrsf@config@#2@@#3}{}%
647       {\csname fdrsf@config@#2@@#3\endcsname}%
648   }{\csname fdrsf@config@#2@#1@#3\endcsname}%
649 }
650 \fdrsf@makeglobal{fdrsf@useconfig}
```

Now we can build up the configuration database.

```
651 \fdrsf@addconfig{weight/normal}{sl}{Book}
652 \fdrsf@addconfig{weight/small}{sl}{Book}
653 \fdrsf@addconfig{weight/normal}{m}{\fdrsf@mweight@normal}
654 \fdrsf@addconfig{weight/small}{m}{\fdrsf@mweight@small}
655 \fdrsf@addconfig{weight/normal}{md}{Demi}
656 \fdrsf@addconfig{weight/small}{md}{Demi}
657 \fdrsf@addconfig{weight/normal}{sb}{Medium}
658 \fdrsf@addconfig{weight/small}{sb}{Medium}
659 \fdrsf@addconfig{weight/normal}{b}{\fdrsf@bweight@normal}
660 \fdrsf@addconfig{weight/small}{b}{\fdrsf@bweight@small}
661 \fdrsf@addconfig{weight/small}{ub}{Bold}
662 \fdrsf@addconfig{weight/normal}{ub}{Bold}
663 \fdrsf@addconfig{subs/series}{bx}{b}
664 \fdrsf@addconfig{italic}{it,scit,sscit,sw,scsw,sscsw}{Italic}
665 \fdrsf@addconfig[OML]{italic}{n}{French}
666 \fdrsf@addconfig[OML]{italic}{it}{Mixed}
667 \fdrsf@addconfig{shape}{sc,scit}{-sc}
668 \fdrsf@addconfig{shape}{ssc,sscit}{-ssc}
669 \fdrsf@addconfig{shape}{sw}{-sw}
```

```
670 \fdrsf@addconfig{shape}{scsw}{-scsw}
671 \fdrsf@addconfig{shape}{sscsw}{-sscsw}
672 \fdrsf@addconfig{subs/shape}{sl}{it}
673 \fdrsf@addconfig{subs/shape}{scsl}{scit}
674 \fdrsf@addconfig{subs/shape}{sscsl}{sscit}
```

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

```
675 \newcommand*\DeclareFedraSerifShape[5]{%
676   \edef\@@tempa{\fdrsf@useconfig{#1}{subs/series}{#4}}%
677   \edef\@@tempb{\fdrsf@useconfig{#1}{subs/shape}{#5}}%
678   \ifx\@@tempa\empty\ifx\@@tempb\empty
679     \DeclareFontShape{#1}{FedraSerifPro#2-#3}{#4}{#5}{%
680       <-7.1>s*[\fdrsf@scale]%
681         FSerPro#2-%
682         \fdrsf@useconfig{#1}{weight/small}{#4}%
683         \fdrsf@useconfig{#1}{italic}{#5}-#3%
684         \fdrsf@useconfig{#1}{shape}{#5}-#1%
685       <7.1->s*[\fdrsf@scale]%
686         FSerPro#2-%
687         \fdrsf@useconfig{#1}{weight/normal}{#4}%
688         \fdrsf@useconfig{#1}{italic}{#5}-#3%
689         \fdrsf@useconfig{#1}{shape}{#5}-#1%
690     }{}%
691   \else
692     \DeclareFontShape{#1}{FedraSerifPro#2-#3}{#4}{#5}{%
693       <->ssub* FedraSerifPro#2-#3/#4/\@@tempb
694     }{}%
695   \fi\else
696     \DeclareFontShape{#1}{FedraSerifPro#2-#3}{#4}{#5}{%
697       <->ssub* FedraSerifPro#2-#3/\@@tempa/#5
698     }{}%
699   \fi
700 }
701 \fdrsf@makeglobal{DeclareFedraSerifShape}
```

Finally, we provide commands to declare a complete family.

```
702 \newcommand*\DeclareFedraSerifFamily[5]{%
703   \DeclareFontFamily{#1}{FedraSerifPro#2-#3}{}%
704   \@for\fdrsf@series:=#4\do{%
705     \@for\fdrsf@shape:=#5\do{%
706       \DeclareFedraSerifShape{#1}{#2}{#3}{\fdrsf@series}{\fdrsf@shape}%
707     }%
708   }%
709 }
710 \fdrsf@makeglobal{DeclareFedraSerifFamily}
711 \newcommand*\DeclareFedraSerifLargeFamily[3]{%
```

```
712   \DeclareFedraSerifFamily{#1}{#2}{#3}{sl,m,md,sb,b,bx,ub}%
713     {n,it,sc,ssc,scit,sscit,sw,scsw,sscsw,sl,scsl,sscsl}%
714 }
715 \fdrsf@makeglobal{DeclareFedraSerifLargeFamily}
716 \newcommand*\DeclareFedraSerifSmallFamily[3]{%
717   \DeclareFedraSerifFamily{#1}{#2}{#3}{sl,m,md,sb,b,bx,ub}{n,it,sl}%
718 }
719 \fdrsf@makeglobal{DeclareFedraSerifSmallFamily}
720 \newcommand*\DeclareFedraSerifTinyFamily[3]{%
721   \DeclareFedraSerifFamily{#1}{#2}{#3}{sl,m,md,sb,b,bx,ub}{n}%
722 }
723 \fdrsf@makeglobal{DeclareFedraSerifTinyFamily}
724 \newcommand*\DeclareFedraSerifMathFamily[2]{%
725   \def\@tempa{#2}%
726   \def\@tempb{TOsF}%
727   \DeclareFontFamily{OML}{FedraSerifPro#1-#2}{\skewchar\font=127}%
728   \@for\fdrsf@series:=m,md,sb,b,bx,ub\do{%
729     \@for\fdrsf@shape:=n,it\do{%
730       \ifx\@tempa\@tempb
731       \DeclareFedraSerifShape{OML}{#1}{TOsF}{\fdrsf@series}{\fdrsf@shape}%
732       \else
733       \DeclareFontShape{OML}{FedraSerifPro#1-#2}{\fdrsf@series}{\fdrsf@shape}{%
734         <->ssub* FedraSerifPro#1-TOsF/\fdrsf@series/\fdrsf@shape
735       }{}%
736       \fi
737     }%
738   }%
739 }
740 \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.

```
741 \gdef\fdrsf@Microtype@Aliases{%
742   \DeclareMicrotypeAlias{FedraSerifProA-LF}{FedraSerifPro}%
743   \DeclareMicrotypeAlias{FedraSerifProA-OsF}{FedraSerifPro}%
744   \DeclareMicrotypeAlias{FedraSerifProA-TLF}{FedraSerifPro}%
745   \DeclareMicrotypeAlias{FedraSerifProA-TOsF}{FedraSerifPro}%
746   \DeclareMicrotypeAlias{FedraSerifProB-LF}{FedraSerifPro}%
747   \DeclareMicrotypeAlias{FedraSerifProB-OsF}{FedraSerifPro}%
748   \DeclareMicrotypeAlias{FedraSerifProB-TLF}{FedraSerifPro}%
749   \DeclareMicrotypeAlias{FedraSerifProB-TOsF}{FedraSerifPro}%
750 }
751 \@ifundefined{Microtype@Hook}{%
```

```
752    \global\let\Microtype@Hook\fdrsf@Microtype@Aliases
753 }{%
754    \g@addto@macro\Microtype@Hook{\fdrsf@Microtype@Aliases}%
755 }%
756 \@ifundefined{DeclareMicrotypeAlias}{}{\fdrsf@Microtype@Aliases}%

757 \ifx\@nodocument\relax
758   \endgroup
759 \fi
760 ⟨/fontdef⟩
```

10   Font definition files

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

```
761 ⟨*fd⟩
762 \input{fedraserif-fd.sty}
763 ⟨a & ot1 & lf⟩\DeclareFedraSerifLargeFamily{OT1}{A}{LF}
764 ⟨a & ot1 & osf⟩\DeclareFedraSerifLargeFamily{OT1}{A}{OsF}
765 ⟨a & ot1 & tlf⟩\DeclareFedraSerifLargeFamily{OT1}{A}{TLF}
766 ⟨a & ot1 & tosf⟩\DeclareFedraSerifLargeFamily{OT1}{A}{TOsF}
767 ⟨a & t1 & lf⟩\DeclareFedraSerifLargeFamily{T1}{A}{LF}
768 ⟨a & t1 & osf⟩\DeclareFedraSerifLargeFamily{T1}{A}{OsF}
769 ⟨a & t1 & tlf⟩\DeclareFedraSerifLargeFamily{T1}{A}{TLF}
770 ⟨a & t1 & tosf⟩\DeclareFedraSerifLargeFamily{T1}{A}{TOsF}
771 ⟨a & ts1 & lf⟩\DeclareFedraSerifLargeFamily{TS1}{A}{LF}
772 ⟨a & ts1 & osf⟩\DeclareFedraSerifLargeFamily{TS1}{A}{OsF}
773 ⟨a & ts1 & tlf⟩\DeclareFedraSerifLargeFamily{TS1}{A}{TLF}
774 ⟨a & ts1 & tosf⟩\DeclareFedraSerifLargeFamily{TS1}{A}{TOsF}
775 ⟨a & ly1 & lf⟩\DeclareFedraSerifLargeFamily{LY1}{A}{LF}
776 ⟨a & ly1 & osf⟩\DeclareFedraSerifLargeFamily{LY1}{A}{OsF}
777 ⟨a & ly1 & tlf⟩\DeclareFedraSerifLargeFamily{LY1}{A}{TLF}
778 ⟨a & ly1 & tosf⟩\DeclareFedraSerifLargeFamily{LY1}{A}{TOsF}
779 ⟨a & qx & lf⟩\DeclareFedraSerifLargeFamily{QX}{A}{LF}
780 ⟨a & qx & osf⟩\DeclareFedraSerifLargeFamily{QX}{A}{OsF}
781 ⟨a & qx & tlf⟩\DeclareFedraSerifLargeFamily{QX}{A}{TLF}
782 ⟨a & qx & tosf⟩\DeclareFedraSerifLargeFamily{QX}{A}{TOsF}
783 ⟨a & t5 & lf⟩\DeclareFedraSerifLargeFamily{T5}{A}{LF}
784 ⟨a & t5 & osf⟩\DeclareFedraSerifLargeFamily{T5}{A}{OsF}
785 ⟨a & t5 & tlf⟩\DeclareFedraSerifLargeFamily{T5}{A}{TLF}
786 ⟨a & t5 & tosf⟩\DeclareFedraSerifLargeFamily{T5}{A}{TOsF}
787 ⟨a & oml & lf⟩\DeclareFedraSerifMathFamily{A}{LF}
788 ⟨a & oml & osf⟩\DeclareFedraSerifMathFamily{A}{OsF}
789 ⟨a & oml & tlf⟩\DeclareFedraSerifMathFamily{A}{TLF}
790 ⟨a & oml & tosf⟩\DeclareFedraSerifMathFamily{A}{TOsF}
791 ⟨a & u & extra⟩\DeclareFedraSerifSmallFamily{U}{A}{Extra}
```

792 ⟨a & u & orn⟩\DeclareFedraSerifTinyFamily{U}{A}{Pi}
793 ⟨a & u & bb⟩\DeclareFedraSerifFamily{U}{A}{BB}{m}{n}
794 ⟨b & ot1 & lf⟩\DeclareFedraSerifLargeFamily{OT1}{B}{LF}
795 ⟨b & ot1 & osf⟩\DeclareFedraSerifLargeFamily{OT1}{B}{OsF}
796 ⟨b & ot1 & tlf⟩\DeclareFedraSerifLargeFamily{OT1}{B}{TLF}
797 ⟨b & ot1 & tosf⟩\DeclareFedraSerifLargeFamily{OT1}{B}{TOsF}
798 ⟨b & t1 & lf⟩\DeclareFedraSerifLargeFamily{T1}{B}{LF}
799 ⟨b & t1 & osf⟩\DeclareFedraSerifLargeFamily{T1}{B}{OsF}
800 ⟨b & t1 & tlf⟩\DeclareFedraSerifLargeFamily{T1}{B}{TLF}
801 ⟨b & t1 & tosf⟩\DeclareFedraSerifLargeFamily{T1}{B}{TOsF}
802 ⟨b & ts1 & lf⟩\DeclareFedraSerifLargeFamily{TS1}{B}{LF}
803 ⟨b & ts1 & osf⟩\DeclareFedraSerifLargeFamily{TS1}{B}{OsF}
804 ⟨b & ts1 & tlf⟩\DeclareFedraSerifLargeFamily{TS1}{B}{TLF}
805 ⟨b & ts1 & tosf⟩\DeclareFedraSerifLargeFamily{TS1}{B}{TOsF}
806 ⟨b & ly1 & lf⟩\DeclareFedraSerifLargeFamily{LY1}{B}{LF}
807 ⟨b & ly1 & osf⟩\DeclareFedraSerifLargeFamily{LY1}{B}{OsF}
808 ⟨b & ly1 & tlf⟩\DeclareFedraSerifLargeFamily{LY1}{B}{TLF}
809 ⟨b & ly1 & tosf⟩\DeclareFedraSerifLargeFamily{LY1}{B}{TOsF}
810 ⟨b & qx & lf⟩\DeclareFedraSerifLargeFamily{QX}{B}{LF}
811 ⟨b & qx & osf⟩\DeclareFedraSerifLargeFamily{QX}{B}{OsF}
812 ⟨b & qx & tlf⟩\DeclareFedraSerifLargeFamily{QX}{B}{TLF}
813 ⟨b & qx & tosf⟩\DeclareFedraSerifLargeFamily{QX}{B}{TOsF}
814 ⟨b & t5 & lf⟩\DeclareFedraSerifLargeFamily{T5}{B}{LF}
815 ⟨b & t5 & osf⟩\DeclareFedraSerifLargeFamily{T5}{B}{OsF}
816 ⟨b & t5 & tlf⟩\DeclareFedraSerifLargeFamily{T5}{B}{TLF}
817 ⟨b & t5 & tosf⟩\DeclareFedraSerifLargeFamily{T5}{B}{TOsF}
818 ⟨b & oml & lf⟩\DeclareFedraSerifMathFamily{B}{LF}
819 ⟨b & oml & osf⟩\DeclareFedraSerifMathFamily{B}{OsF}
820 ⟨b & oml & tlf⟩\DeclareFedraSerifMathFamily{B}{TLF}
821 ⟨b & oml & tosf⟩\DeclareFedraSerifMathFamily{B}{TOsF}
822 ⟨b & u & extra⟩\DeclareFedraSerifSmallFamily{U}{B}{Extra}
823 ⟨b & u & orn⟩\DeclareFedraSerifTinyFamily{U}{B}{Pi}
824 ⟨b & u & bb⟩\DeclareFedraSerifFamily{U}{B}{BB}{m}{n}
825 ⟨/fd⟩