

The Serbian Latin Language in the babel system

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The Serbian Latin Language

The file `serbian.dtx` defines all the language definition macros for the Serbian language, typeset in a Latin script.

For this language the character " is made active. In table 1 an overview is given of its purpose. One of the reasons for this is that in the Serbian language some special characters are used.

- "c \v c, also implemented for the lowercase and uppercase s and z.
- "d \dj, also implemented for "D.
- "- An explicit hyphen sign, allowing hyphenation in the rest of the word; inserts a hyphen which is repeated at the beginning of the next line (recommended to use for compound words with hyphen).
- "| Disables ligature at this position.
- " " Similar to "- but prints no hyphen sign.
- "~ Compound word mark without a breakpoint, prints hyphen prohibiting hyphenation at the point.
- "= A compound word mark with a breakpoint, prints hyphen allowing hyphenation in the composing words.
- "“ German opening double quote (looks like „).
- "” German closing double quote (looks like “).
- "„ (if the quotes attribute is used) Closing double quote (looks like ”).
- "< French opening double quote (looks like <<).
- "> French closing double quote (looks like >>).

Table 1: The extra definitions made by `serbian.ldf`

Macro `\today` prints the date in Serbian. Alternatively, if attribute `datei` is used, `\today` prints the current date, but prints ‘juni’ and ‘juli’ for ‘June’ and ‘July’. If you prefer to use ‘juni’ and ‘juli’ instead of default ‘jun’ and ‘jul’, use the `datei` attribute. Also, the `\today*` macro prints the date without dot after the year (used when after the date is the punctuation mark, such as comma). Alternatively, the commands `\todayRoman` and `\todayRoman*` prints the current date using Roman numerals for months.

Apart from defining shorthands we need to make sure that the first paragraph of each section is indented. Furthermore the following new math operators are defined: `\sh`, `\ch`, `\tg`, `\ctg`, `\arctg`, `\arcctg`, `\th`, `\cth`, `\arsh`, `\arch`, `\arth`, `\arcth`, `\cosec`, `\Prob`, `\Expect`, `\Variance`, `\arcsec`, `\arccosec`, `\sech`, `\cosech`, `\arsech`, `\arcosech`, `\NZD`, `\nzd`, `\NZS`, `\nzs`.

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By default, a ekavian spelling is enabled. For ijkavian spelling can be enabled by setting the attribute to `ijekav`. To set an attribute, put the `\languageattribute` macro within a document preamble after `babel`, for example,

```
\usepackage[english,serbian]{babel}
\languageattribute{serbian}{ijekav}
```

Setting the `ijekav` attribute changes the built-in strings (caption names). For example, the part will be entitled as ‘Deo’ by default and as ‘Dio’ if the Serbian language attribute is set to `ijekav`. Same result can be achieved using a modifier as follows:

```
\usepackage[english,serbian.ijekav]{babel}
```

Using a modifier in a package option is often better. A modifier is set after the language name, and is prefixed with a dot (only when the language is set as package option — neither global options nor the main key accept them). Also, it’s possible to use more than one attribute:

```
\usepackage[english,serbian.ijekav.datei.quotes]{babel}
```

The file `serbian.ldf` is designed to work both with legacy non-unicode (8-bit) and new Unicode encodings of the source document files (input encodings) and of the font files (font encodings).

The code

The macro `\LdfInit` takes care of preventing that this file is loaded more than once, checking the category code of the `@` sign, etc.

```
1 {*code}
2 \LdfInit{serbian}{captionsserbian}
```

First, we check if `LuaLaTeX` or `XeLaTeX` is running. If so, we set boolean key `\if@srb@uni@ode` to true.

```
3 \ifdef{\if@srb@uni@ode}
4   \PackageError{babel}{if@srb@uni@ode already defined.}
5   \relax
6 \fi
7 \newif\if@srb@uni@ode
8 \ifdef{\luatexversion}{\if@srb@uni@ode true}{\else}
9 \ifdef{\XeTeXrevision}{\if@srb@uni@ode true}{\fi}\fi
```

Check if hyphenation patterns for the Serbian language have been loaded in `language.dat`. Namely, we check for the existence of `\l@serbian`. If it is not defined, we declare Serbian as dialect for the default language number 0 which almost for sure is English.

```
10 \ifx{\l@serbian}{undefined}
11   \nopatterns{Serbian}
12   \adddialect{\l@serbian}{0}
13 \fi
```

For Serbian the `"` character is made active. This is done once, later on its definition may vary. Other languages in the same document may also use the `"` character for shorthands; we specify that the Serbian group of shorthands should be used. We save the original double quote character in the `\dq` macro to keep it available. The shorthand `"-` should be used in places where a word contains an explicit hyphenation character. According to the rules of the Serbian language, when a word break occurs at an explicit hyphen it must appear both at the end of the first line and at the beginning of the second line.

```
14 \initiate@active@char{"}
15 \begingroup \catcode`\"12
16 \def\reserved@a{\endgroup
17   \def\@SS{\mathchar"7019 }
18   \def\dq{"}}
```

```

19 \reserved@a
20 \declare@shorthand{serbian}{"c}{\textormath{\v c}{\check c}}
21 \declare@shorthand{serbian}{"d}{\textormath{\dj}{\textnormal{\dj}}}
22 \declare@shorthand{serbian}{"s}{\textormath{\v s}{\check s}}
23 \declare@shorthand{serbian}{"z}{\textormath{\v z}{\check z}}
24 \declare@shorthand{serbian}{"C}{\textormath{\v C}{\check C}}
25 \declare@shorthand{serbian}{"D}{\textormath{\DJ}{\textnormal{\DJ}}}
26 \declare@shorthand{serbian}{"S}{\textormath{\v S}{\check S}}
27 \declare@shorthand{serbian}{"Z}{\textormath{\v Z}{\check Z}}
28 \declare@shorthand{serbian}{'}{\quotedblbase}
29 \declare@shorthand{serbian}{"}{\textquotedblleft}
30 \declare@shorthand{serbian}{"<}{\guillemotleft}
31 \declare@shorthand{serbian}{">}{\guillemotright}
32 \declare@shorthand{serbian}{""}{\hskip\z@skip}
33 \declare@shorthand{serbian}{"`}{\textormath{\leavevmode\hbox{-}}{-}}
34 \declare@shorthand{serbian}{"=}{\nobreak-\hskip\z@skip}
35 \declare@shorthand{serbian}{"|}{\textormath{\nobreak\discretionary{-}{}{\kern.03em}\allowhyphens}{-}}
36 \declare@shorthand{serbian}{"-}{\nobreak\discretionary{-}{-}{-}\bb@allowhyphens}

```

The macro `\captionsserbian` defines all strings used in the four standard documentclasses provided with L^AT_EX.

```

37 \addto\captionsserbian{%
38   \def\prefacename{Predgovor}%
39   \def\refname{Literatura}%
40   \def\abstractname{Sa\v zetak}%
41   \def\bibname{Bibliografija}%
42   \def\chaptername{Glava}%
43   \def\appendixname{Dodatak}%
44   \def\contentsname{Sadr\v zaj}%
45   \def\listfigurename{Spisak slika}%
46   \def\listtablename{Spisak tabela}%
47   \def\indexname{Indeks}%
48   \def\figurename{Slika}%
49   \def\tablename{Tabela}%
50   \def\partname{Deo}%
51   \def\enclname{Prilozi}%
52   \def\ccname{Kopije}%
53   \def\headtoname{Prima}%
54   \def\pagename{strana}%
55   \def\seename{vidi}%
56   \def\alsoename{vidi tako\dj e}%
57   \def\proofname{Dokaz}%
58   \def\glossaryname{Re\v cnik}%
59 }%
60 \if@srbouni@ode
61   \addto\captionsserbian{%
62     \def\abstractname{Sažetak}%
63     \def\contentsname{Sadržaj}%
64     \def\alsoename{vidi takođe}%
65     \def\glossaryname{Rečnik}%
66   }%
67 \fi
68 \let\captionsserbian@ijekav=\captionsserbian
69 \addto\captionsserbian@ijekav{%
70   \def\partname{Dio}%
71   \def\glossaryname{Rje\v cnik}%
72 }
73 \if@srbouni@ode
74   \addto\captionsserbian@ijekav{%
75     \def\glossaryname{Rječnik}%

```

```

76  }
77 \fi

```

The macro `\dateserbian` redefines the commands `\today`, `\today*`, `\todayRoman` and `\todayRoman*` to produce Serbian dates.

```

78  \def\dateserbian{%
79    \def\month@serbian{\ifcase\month\or
80      januar\or
81      februar\or
82      mart\or
83      april\or
84      maj\or
85      jun\or
86      jul\or
87      avgust\or
88      septembar\or
89      oktobar\or
90      novembar\or
91      decembar\fi}%
92  \def\today{\number\day.\,\~\month@serbian\,\number\year\@ifstar{}{.}}%
93  \def\todayRoman{\number\day.\,\~\@Roman\month\,\number\year\@ifstar{}{.}}%
94  \let\dateserbian@datei=\dateserbian
95  \addto\dateserbian@datei{
96    \def\month@serbian@datei{\ifnum\month=6 juni%
97    \else\ifnum\month=7 juli\else\month@serbian\fi\fi}%
98    \def\today{\number\day.\,\~\month@serbian@datei\,\number\year\@ifstar{}{.}}%
99 }

```

The Serbian hyphenation patterns can be used with `\lefthyphenmin` and `\righthyphenmin` set to 2. (Actually, the “official” definition allows even one character for `lefthyphen`, but it is recommended to use value two for better results.)

```

100 \providehyphenmins{\CurrentOption}{\tw@ \tw@}
101 \providehyphenmins{serbian}{\tw@ \tw@}

```

We specify that the Serbian group of shorthands should be used.

```

102 \addto\extrasserbian{\languageshorthands{serbian}}
103 \addto\extrasserbian{\bb@activate{"}}
104 \addto\noextrasserbian{\bb@deactivate{"}}

```

Serbian typesetting requires `frenchspacing`. So, we add commands to `\extrasserbian` and `\noextrasserbian` to turn it on and off, respectively.

```

105 \addto\extrasserbian{\bb@frenchspacing}
106 \addto\noextrasserbian{\bb@nonfrenchspacing}

```

In Serbian the first paragraph of each section should be indented.

```

107 \let\@ifORI\@afterindentfalse
108 \def\bb@serbianindent{\let\@afterindentfalse\@afterindenttrue\@afterindenttrue}
109 \def\bb@nonserbianindent{\let\@afterindentfalse\@ifORI\@afterindentfalse}
110 \addto\extrasserbian{\bb@serbianindent}
111 \addto\noextrasserbian{\bb@nonserbianindent}

```

An `ijekav` attribute changes default behavior and activates an alternative set of captions suitable for typesetting in ijekavian dialect. The `quotes` attribute changes the “’ shorthand to produce ” as closing quote, instead the traditional “ quote of Serbian language. Also, the `datei` attribute will produce ‘juni’ and ‘juli’ instead ‘jun’ and ‘jul’ for date.

```

112 \bb@declare@ttribute{serbian}{ijekav}{%
113  \PackageInfo{babel}{Serbian attribute set to ijekav}%
114  \let\captionsserbian=\captionsserbian@ijekav }
115 \onlypreamble\captionsserbian@ijekav
116 \bb@declare@ttribute{serbian}{quotes}{%

```

```

117 \PackageInfo{babel}{Serbian attribute set to quotes}%
118 \declare@shorthand{serbian}{"'}{\textquotedblright} %
119 \bbl@declare@ttritute{serbian}{datei}{%
120 \PackageInfo{babel}{Serbian attribute set to datei}%
121 \let\dateserbian=\dateserbian@datei %
122 @onlypreamble\dateserbian@datei

```

Some math functions in Serbian math books have other names: e.g. `sinh` in Serbian is written as `sh` etc. So we define a number of new math operators.

```

123 \def\sh{\mathop{\operator@font sh}\nolimits}%
124 \def\ch{\mathop{\operator@font ch}\nolimits}%
125 \def\tg{\mathop{\operator@font tg}\nolimits}%
126 \def\ctg{\mathop{\operator@font ctg}\nolimits}%
127 \def\arctg{\mathop{\operator@font arctg}\nolimits}%
128 \def\arcctg{\mathop{\operator@font arcctg}\nolimits}%
129 \addto\extrasserbian{%
130   \babel@save{\th}%
131   \let\ltx@th\th%
132   \def\th{\textormath{\ltx@th}%
133     {\mathop{\operator@font th}\nolimits}}%
134 }%
135 \def\cth{\mathop{\operator@font cth}\nolimits}%
136 \def\arsh{\mathop{\operator@font arsh}\nolimits}%
137 \def\arch{\mathop{\operator@font arch}\nolimits}%
138 \def\arth{\mathop{\operator@font arth}\nolimits}%
139 \def\arcth{\mathop{\operator@font arcth}\nolimits}%
140 \def\cosec{\mathop{\operator@font cosec}\nolimits}%
141 \def\arcsec{\mathop{\operator@font arcsec}\nolimits}%
142 \def\arccosec{\mathop{\operator@font arccosec}\nolimits}%
143 \def\sech{\mathop{\operator@font sech}\nolimits}%
144 \def\cosech{\mathop{\operator@font cosech}\nolimits}%
145 \def\arsech{\mathop{\operator@font arsech}\nolimits}%
146 \def\arcosech{\mathop{\operator@font arcosech}\nolimits}%
147 \def\Prob{\mathop{\kern\z@\mathsf{P}}\nolimits}%
148 \def\Expect{\mathop{\kern\z@\mathsf{E}}\nolimits}%
149 \def\Variance{\mathop{\kern\z@\mathsf{D}}\nolimits}%
150 \def\nzs{\mathop{\operator@font nzs}\nolimits}%
151 \def\ndz{\mathop{\operator@font ndz}\nolimits}%
152 \def\NZS{\mathop{\operator@font NZS}\nolimits}%
153 \def\NZD{\mathop{\operator@font NZD}\nolimits}%

```

The macro `\ldf@finish` takes care of looking for a configuration file, setting the main language to be switched on at `\begin{document}` and resetting the category code of `@` to its original value.

```

154 \ldf@finish{serbian}%
155 </code>

```