

मराठी – LINGUISṬIX-MARATHI

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🏠 <https://ctan.org/pkg/linguistix>

📌 <https://puszcza.gnu.org.ua/projects/linguistix>

🔗 <https://matrix.to/#/#linguistix:matrix.org>

I initialise the package with basic information.

```
1 <*marathi>
2 \ProvidesExplPackage{linguistix-marathi}
3     {2026-04-27}
4     {v0.9b}
5     {मराठी (Marathi)}
```

Average height of Marathi conjuncts could be more than that of Latin letters with descenders. This requires minor adjustments in the baseline stretch. To do it uniformly for footnotes also, I use the `setspace` package (if not loaded already).

```
6
7 \IfPackageLoadedF { setspace } {
8   \RequirePackage { setspace }
9 }
```

We need to set the spacing between lines and words for which I use internal floating point numbers. They are declared here.

```
10
11 \fp_gzero_new:N \g_मराठी_शब्दांतील_अंतर_fp
12 \fp_gzero_new:N \g_मराठी_ओळींतील_अंतर_fp
```

This macro grabs an argument and passes it to the key `शब्दांतील अंतर` which is used to set the inter-word space for Marathi.

```
13
14 \cs_new_protected:Npn \मराठी_शब्दांतील_अंतर:n #1 {
15   \ltx_set_keys:n { शब्दांतील~ अंतर = { #1 } }
16 }
17
18 \cs_gset_eq:NN \शब्दांतीलअंतर \मराठी_शब्दांतील_अंतर:n
```

The LINGUISṬIX bundle

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This macro grabs an argument, (g-)sets it as the value of `\g_मराठी_ओळीतील_अंतर_fp` and resets the baseline stretch with `\setstretch` command. If the current class is `memoir`, then there is a method to do that without any package. I use that.

```

19
20 \cs_new_protected:Npn \मराठी_ओळीतील_अंतर:n #1 {
21   \fp_gset:Nn \g_मराठी_ओळीतील_अंतर_fp { #1 }
22   \IfClassLoadedTF { memoir } {
23     \setSingleSpace {
24       \fp_use:N \g_मराठी_ओळीतील_अंतर_fp
25     }
26     \SingleSpacing
27   } {
28     \setstretch {
29       \fp_use:N \g_मराठी_ओळीतील_अंतर_fp
30     }
31   }
32 }
33
34 \cs_gset_eq:NN \ओळीतीलअंतर \मराठी_ओळीतील_अंतर:n

```

Here I define two keys for adjusting the space between words and lines respectively. Their defaults are also set here.

```

35
36 \keys_define:nn { मराठी } {
37   शब्दांतील~ अंतर
38   .fp_gset:N           = \g_मराठी_शब्दांतील_अंतर_fp,
39   शब्दांतील~ अंतर
40   .initial:n          = { 1.25 },
41   ओळीतील~ अंतर
42   .code:n             = {
43     \मराठी_ओळीतील_अंतर:n { #1 }
44   }
45 }

```

The `babel` package defines `\extrasxxxx` commands for languages where the additional code that should go with a particular language (`xxxx` in this case) is set. The `\addto` command is used for appending to the same. I start with defining additional macros for Marathi.

```

46
47 \addto { \extrasmarathi } {

```

I have added the command for using the socket for native numbering. It will pickup its value from the current assignment of the plugs and produce the results accordingly.

```

48   \socket_use:n { lngx / native-numbering }

```

By default, \LaTeX prints roman numeral (in capital) as part numbers. They are not suitable for Marathi. Thus we change them to be printed with `\lngx_counter:n` instead.

```

49   \cs_set:Npn \thepart { \lngx_counter:n { part } }

```

The default \LaTeX produces Latin numerals, roman (small and capital both) alphabets and a-z alphabets with `enumerate` at different levels of nesting. In Marathi, both are irrelevant. Thus I renew all of the concerned commands and change them to print Marathi numbers. Since Marathi doesn't have much variety available for counters, I have chosen a simpler style, i.e. I, I.I, I.I.I and I.I.I.I.

```

50   \cs_set:Npn \thenumi { \lngx_counter:n { enumi } }

```

```

51 \cs_set:Npn \theenumii {
52   \lngx_counter:n { enumi } .
53   \lngx_counter:n { enumii }
54 }

```

A period is added after each ‘label’ in enumerate. In default L^AT_EX, the label for second level enumeration is printed inside brackets. We don’t need it in Marathi. So I change the `\labelenumii` command and add a period. It is not added for the first level because that’s L^AT_EX-default too. Similarly, this is extended to all the other levels.

```

55 \cs_set:Npn \labelenumii { \theenumii . }
56 \cs_set:Npn \theenumiii {
57   \lngx_counter:n { enumi } .
58   \lngx_counter:n { enumii } .
59   \lngx_counter:n { enumiii }
60 }
61 \cs_set:Npn \labelenumiii { \theenumiii . }
62 \cs_set:Npn \theenumiv {
63   \lngx_counter:n { enumi } .
64   \lngx_counter:n { enumii } .
65   \lngx_counter:n { enumiii } .
66   \lngx_counter:n { enumiv }
67 }
68 \cs_set:Npn \labelenumiv { \theenumiv . }

```

The `expex` package has an independent mechanism of defining and using counters. I define a set called देवनागरी here and make it the default when Marathi is used. Note that this change will go with the `\lngx_misc_reset:` command. Refer to `linguistix.pdf` for more information on this.

```

69 \IfPackageLoadedT { expex } {
70   \definelabeltype { देवनागरी } {
71     labelgen           = { list },
72     labellist          = {
73       अ, आ, इ, ई,
74       उ, ऊ, ए, ऐ,
75       ओ, औ, अं, अः,
76       ॐ, ऋ, ॠ, ॡ, ॢ, ॣ
77     },
78     labelformat        = {A.},
79     fullrefformat      = {XA},
80     labelalign         = {left},
81     labelwidth         = {1.5em}
82   }
83   \lingset {
84     labeltype          = { देवनागरी }
85   }
86 }

```

Marathi doesn’t distinguish between Italic and Upright. So I redefine `\emph` to produce the argument in bold instead. This also goes when `\lngx_misc_reset:` is used.

```

87 \cs_gset_eq:NN \emph \textbf
88 }

```

With the following code, I add the date conversion settings and the parameters to `onchar` command inside `\babelprovide`. This is done only if Marathi is the main language of

the document. I also set the numbering style to `strictly native` if Marathi is the main language.

```

89
90 \tl_if_eq:NnTF \g_lngx_main_language_tl { marathi } {
91   \lngx_set_keys:n { native~ numbering = { strict } }
92   \babelprovide [
93     onchar                = { ids~ fonts },
94     date.gregorian /
95     date.long             = {
96       [d|digits]~ [MMMM],~ [y|digits]
97     },

```

We need numbers in words when in frontmatter. They are added in a special counter `आकडे` and used with a hook for frontmatter. The settings are reset after mainmatter is started.

```

98 counters / आकडे =
99 एक~ दोन~ तीन~ चार~ पाच~
100 सहा~ सात~ आठ~ नऊ~ दहा~
101 अकरा~ बारा~ तेरा~ चौदा~ पंधरा~
102 सोळा~ सतरा~ अठरा~ एकोणीस~ वीस~
103 एकवीस~ बावीस~ तेवीस~ चोवीस~ पंचवीस~
104 सव्वीस~ सत्तावीस~ अठ्ठावीस~ एकोणतीस~ तीस~
105 एकतीस~ बत्तीस~ तेहतीस~ चौतीस~ पस्तीस~
106 छत्तीस~ सदतीस~ अडतीस~ एकोणचाळीस~ चाळीस~
107 एकेचाळीस~ बेचाळीस~ त्रेचाळीस~ चव्वेचाळीस~ पंचेचाळीस~
108 शेहेचाळीस~ सत्तेचाळीस~ अठ्ठेचाळीस~ एकोणपन्नास~ पन्नास~
109 एकावन्न~ बावन्न~ त्रेपन्न~ चौपन्न~ पंचावन्न~
110 छप्पन्न~ सत्तावन्न~ अठ्ठावन्न~ एकोणसाठ~ साठ~
111 एकसष्ट~ बासष्ट~ त्रेसष्ट~ चौसष्ट~ पासष्ट~
112 सहासष्ट~ सदुष्ट~ अडुसष्ट~ एकोणसत्तर~ सत्तर~
113 एकाहत्तर~ बाहत्तर~ त्र्याहत्तर~ चौत्र्याहत्तर~ पंचाहत्तर~
114 शाहत्तर~ सत्त्याहत्तर~ अठ्ठ्याहत्तर~ एकोणऐंशी~ ऐंशी~
115 एक्याऐंशी~ ब्याऐंशी~ त्र्याऐंशी~ चौत्र्याऐंशी~ पंच्याऐंशी~
116 श्याऐंशी~ सत्त्याऐंशी~ अठ्ठ्याऐंशी~ एकोणनव्वद~ नव्वद~
117 एक्याण्णव~ ब्याण्णव~ त्र्याण्णव~ चौत्र्याण्णव~ पंचाण्णव~
118 शहाण्णव~ सत्त्याण्णव~ अठ्ठाण्णव~ नव्याण्णव~ शंभर
119 ] { marathi }
120 \hook_gput_code:nnn { cmd / frontmatter / after } { . } {
121   \cs_set:Npn \thepage {
122     \localecounter { आकडे } { page }
123   }
124 }
125 \hook_gput_code:nnn { cmd / mainmatter / after } { . } {
126   \cs_set:Npn \thepage {
127     \marathicounter { page }
128   }
129 }

```

The `\arraystretch` command needs to be reset to a larger value so that it can incorporate Marathi's vertical conjuncts.

```

130 \cs_set:Npn \arraystretch { 1.2 }

```

I have used only the bold and light variant of Mukta for all the fonts. In sans and mono, the width of the New Computer Modern fonts is slightly more, so I use the 'regular'

variant of Mukta there. Otherwise, Mukta-Light is a better match for New Computer Modern Book.

```

131 \lngx_set_keys:n {
132   text~ main~ font           = { Mukta - Light . ttf },
133   text~ sans~ font          = { Mukta - Regular . ttf },
134   text~ mono~ font          = { Mukta - Regular . ttf }
135 }
136 \clist_map_inline:nn {
137   upright,
138   italic,
139   slanted,
140   swash
141 } {
142   \lngx_set_keys:n {
143     text~ #1                 = { Mukta - Light . ttf },
144     text~ bold~ #1           = { Mukta - Bold . ttf },
145     text~ sans~ #1           = { Mukta - Regular . ttf },
146     text~ sans~ bold~ #1     = { Mukta - Bold . ttf },
147     text~ mono~ #1           = { Mukta - Regular . ttf },
148     text~ mono~ bold~ #1     = { Mukta - Bold . ttf }
149   }
150 }

```

Using the `text extra features` key, I declare NFSS families called `देवनागरी_main`, `देवनागरी_sans`, `देवनागरी_mono` that will be used later. Also, I use the key for interword-spacing here.

```

151 \lngx_set_keys:n {
152   text~ main~ extra~
153   features                = {
154     NFSSFamily             = { देवनागरी_main },
155     WordSpace              = {
156       \fp_use:N \g_मराठी_शब्दांतील_अंतर_fp
157     }
158   },
159   text~ sans~ extra~
160   features                = {
161     NFSSFamily             = { देवनागरी_sans },
162     WordSpace              = {
163       \fp_use:N \g_मराठी_शब्दांतील_अंतर_fp
164     }
165   },
166   text~ mono~ extra~
167   features                = {
168     NFSSFamily             = { देवनागरी_mono },
169     WordSpace              = {
170       \fp_use:N \g_मराठी_शब्दांतील_अंतर_fp
171     }
172   }
173 }
174 } {

```

In the false branch (i.e., if Marathi is not the main language), I use the macros that set the ‘other’ (non-main) fonts for Marathi. The fonts are the same, but the key-value interface is not available, so the code is slightly verbose. Before that we load the `onchar`

option with ids and fonts options.

```

175 \babelprovide [ onchar = { ids~ fonts } ] { marathi }
176 \ltx_other_main_font:nne { marathi } {
177   WordSpace = {
178     \fp_use:N \g_मराठी_शब्दांतील_अंतर_fp
179   },
180   NFSSFamily = { देवनागरी_main },
181   UprightFont = { Mukta - Light . ttf },
182   ItalicFont = { Mukta - Light . ttf },
183   BoldFont = { Mukta - Bold . ttf },
184   BoldItalicFont = { Mukta - Bold . ttf },
185   SlantedFont = { Mukta - Light . ttf },
186   BoldSlantedFont = { Mukta - Bold . ttf },
187   SwashFont = { Mukta - Light . ttf },
188   BoldSwashFont = { Mukta - Bold . ttf },
189   SmallCapsFont = { Mukta - Light . ttf }
190 } { Mukta - Light . ttf }
191 \ltx_other_sans_font:nne { marathi } {
192   WordSpace = {
193     \fp_use:N \g_मराठी_शब्दांतील_अंतर_fp
194   },
195   NFSSFamily = { देवनागरी_sans },
196   UprightFont = { Mukta - Regular . ttf },
197   ItalicFont = { Mukta - Regular . ttf },
198   BoldFont = { Mukta - Bold . ttf },
199   BoldItalicFont = { Mukta - Bold . ttf },
200   SlantedFont = { Mukta - Regular . ttf },
201   BoldSlantedFont = { Mukta - Bold . ttf },
202   SwashFont = { Mukta - Regular . ttf },
203   BoldSwashFont = { Mukta - Bold . ttf },
204   SmallCapsFont = { Mukta - Regular . ttf }
205 } { Mukta - Regular . ttf }
206 \ltx_other_mono_font:nne { marathi } {
207   WordSpace = {
208     \fp_use:N \g_मराठी_शब्दांतील_अंतर_fp
209   },
210   NFSSFamily = { देवनागरी_mono },
211   UprightFont = { Mukta - Regular . ttf },
212   ItalicFont = { Mukta - Regular . ttf },
213   BoldFont = { Mukta - Bold . ttf },
214   BoldItalicFont = { Mukta - Bold . ttf },
215   SlantedFont = { Mukta - Regular . ttf },
216   BoldSlantedFont = { Mukta - Bold . ttf },
217   SwashFont = { Mukta - Regular . ttf },
218   BoldSwashFont = { Mukta - Bold . ttf },
219   SmallCapsFont = { Mukta - Regular . ttf }
220 } { Mukta - Regular . ttf }
221 }

```

In order to allow Devanagari in math mode, I use the following code. Since this setting has to be done after the initialisation, I use a hook for lazy loading.

```

222
223 \IfPackageLoadedT { lua-unicode-math } {
224   \DeclareSymbolFont { देवनागरी }

```

```

225         { TU }
226         { देवनागरी_main }
227         { m }
228         { n }
229     }
230
231 \hook_gput_code:nnn { begindocument / end } { . } {
232   \IfPackageLoadedF { lua-unicode-math } {
233     \DeclareSymbolFont { देवनागरी }
234       { TU }
235       { देवनागरी_main }
236       { m }
237       { n }
238   }
239   \int_step_inline:nnn { "0900 } { "097F } {
240     \Umathcode #1 = "0 ~ \use:c { symदेवनागरी } ~ #1
241   }
242 }
243 \end{marathi}

```