CJKpunct 使用说明

张林波 孙文昌 2010 年 2 月 21 日

CJKpunct 是一个 LATEX 宏包,用于排版中文标点,提供多种标点样式,以实现行末对齐、标点挤压等效果。其基本方法来自 CCT。

1 调用方式

\usepackage{CJKpunct}

2 常用宏命令

$\langle punctstyle \{ \langle punct \ style \rangle \}$

设置标点格式,有效值分别为

punct style

banjiao 半角式
quanjiao 全角式
kaiming 开明式
hangmobanjiao 行末半角式
CCT CCT 格式
plain CJK 缺省格式

注意:为了得到最好的排版效果,需要制作字体相关的 CJKpunct.spa 文件。请参考 source/README.txt

\CJKpunctallowbreakbetweenpuncts \CJKpunctnobreakbetweenpuncts

缺省状态下,CJKpunct 禁止在相邻的标点间换行(行末半角和 CJK 缺省格式除外)。使用

\CJKpunctallowbreakbetweenpuncts

改变这一设置。注意: 行末半角和 CJK 缺省格式总是允许相邻标点间换行。

\CJK punctsetkern $\{\langle \overline{\kappa}\underline{n}1\rangle\}\{\langle \overline{\kappa}\underline{n}2\rangle\}\{\langle \overline{\mu}\rangle\}$

设置标点 1 与标点 2 之间的距离。例如,\CJKpunctsetkern $\{:\}$ ("} $\{0.4em\}$

 $\CJKpunctmapfamily{\langle font\ encoding\rangle}{\langle font\ family\rangle}{\langle font\ series\rangle}{\langle font\ shape\rangle}{\langle font\ family\rangle}$

缺省状态下, CJKpunct 根据 CJKfamily 确定当前标点符号的实际字体。 但这对C19com等组合字体不适用。此命令提供一个解决方案: 用户可以指定 $\{\langle font\ encoding \rangle\}/\{\langle font\ family \rangle\}/\{\langle font\ series \rangle\}/\{\langle font\ shape \rangle\}$ 所对应的标点符号字体。例如,对于C19rm,可以做如下设置:

\CJKpunctmapfamily{C19}{rm}{m}{n}{song} \CJKpunctmapfamily{C19}{rm}{bx}{n}{hei} \CJKpunctmapfamily{C19}{rm}{m}{sl}{song} \CJKpunctmapfamily{C19}{rm}{bx}{sl}{hei} \CJKpunctmapfamily{C19}{rm}{m}{it}{kai} \CJKpunctmapfamily{C19}{rm}{bx}{it}{kai}

3 制作 CJKpunct.spa 文件

文件 CJKpunct.spa 保存了字体相关的标点符号宽度。制作方法请参考source/REAME.txt

File I

\else

CJKpunct.sty

```
CJKpunct
1 \endlinechar \m@ne
3 \newif\if@CJKpunct
4 \newif\if@CJKpunct@dokerning
5 \newcount\CJKpunct@cnta
6 \newcount\CJKpunct@cntb
7 \newcount\CJKpunct@cntc
8 \newcount\CJKpunct@cntd
9 \newcount\CJKpunct@cnte
    为使 CJKpunct 起作用,重定义一些 CJK 宏。
10 \let\CJKo@testLastCJK\CJK@testLastCJK
11 \def\CJKpunct@testLastCJK{
    \global\CJK@false
    \global\edef\CJKpunct@lastkern{\number\lastkern}}
15 \let\CJKo@testLastKern\CJK@testLastKern
16 \def\CJKpunct@testLastKern{
    \global\CJK@false}
17
19 \let\CJKo@testPrePunct\CJK@testPrePunct
20 \let\CJKo@testPostPunct\CJK@testPostPunct
21 \def\CJKpunct@testPrePunct#1#2#3{}
22 \def\CJKpunct@testPostPunct#1#2#3{}
23
25 \let\CJKo@nobreakglue\CJK@nobreakglue
    \CJKsymbol 的定义中需要三重括号以保证兼容 CJKfntef 宏包。
27 \let\CJKosymbol\CJKsymbol
28 \def\CJKpunct@CJKsymbol#1{
    \ifnum\CJKpunct@lastkern>0\relax
30
      \ifnum\CJKpunct@lastcharclass=0\relax
31
        \CJKglue
```

```
\CJKpunct@ULspecials
34
      \fi
35
    \fi
36
    \CJKosymbol{#1}
37
    \gdef\CJKpunct@lastcharclass{0}}}}
38
39
40 \def\CJKpunct@lastcharclass{0}
41 \def\CJKpunct@lastkern{0}
    标点符号的排版规则:
42 \let\CJKopunctsymbol\CJKpunctsymbol
43 \def\CJKpunct@CJKpunctsymbol#1{
    \CJKpunct@setfamily
44
45
    \CJKpunct@setmarginkerning
    \edef\CJKpunct@currentpunct{\CJK@plane/\the#1}
46
    \ifcsname CJKpunct@\CJK@enc @\CJKpunct@currentpunct\endcsname
47
      \edef\CJKpunct@currentcharclass{
48
        \csname CJKpunct@\CJK@enc @\CJKpunct@currentpunct\endcsname}
49
      {{{\mathcal{K}} We need three braces for CJKulem to work
50
      \@CJKpunctfalse
51
      \ifnum\CJKpunct@lastkern>0\relax
52
        \ifnum\CJKpunct@lastcharclass>0\relax
53
          \unkern
54
          \unkern
55
          \ifnum\CJKpunct@punctstyle>0\relax
56
            \@CJKpuncttrue
57
          \else
58
            \ifcsname CJKpunct@specialpunct\CJK@enc \CJKpunct@currentpunct\endcsname
59
              \@CJKpuncttrue
60
            \fi
61
          \fi
62
        \fi
63
      \fi
64
      \if@CJKpunct
65
        \CJKpunct@unskip
66
        \CJKpunct@setkern{\CJKpunct@lastpunct}{\CJKpunct@currentpunct}
67
        \kern \csname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
68
69
          @kern\CJKpunct@lastpunct @\CJKpunct@currentpunct\endcsname
        \CJKpunct@nobreak
70
      \else
71
        \CJKpunct@ULspecials
72
        \ifnum\CJKpunct@currentcharclass=1\relax
73
          \hskip \csname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
74
            75
```

```
76
         \else
           \ifcsname CJKpunct@specialpunct\CJK@enc \CJKpunct@currentpunct\endcsname
77
             \CJKglue % breakable
78
           \else
79
             \nobreak
80
           \fi
81
         \fi
82
      \fi
83
       \global\edef\CJKpunct@lastpunct{\CJKpunct@currentpunct}
84
85
      \vrule width \csname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
86
         @lrule@\CJKpunct@currentpunct\endcsname depth \z@ height \z@
87
88
      \CJKopunctsymbol{#1}
89
      \vrule width \csname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
90
         @rrule@\CJKpunct@currentpunct\endcsname depth \z@ height \z@
91
92
      \ifnum\CJKpunct@currentcharclass=2\relax
93
         \hskip \csname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
94
           @rglue@\CJKpunct@currentpunct\endcsname plus 0.1em minus 0.1 em
95
      \fi
96
      \global\let\CJKpunct@lastcharclass\CJKpunct@currentcharclass}}}
97
98
    \else
      \CJKsymbol{#1}
99
      \global\def\CJKpunct@lastcharclass{0}
100
    \fi}
101
     设置当前 font family.
102 \def\CJKpunct@setfamily{
    \ifcsname \CJK@enc @\CJK@family @\f@series @\f@shape\endcsname
103
      \global\edef\CJKpunct@family{\csname \CJK@enc @\CJK@family @\f@series @\f@shape\endcsname
104
105
    \else
      \global\edef\CJKpunct@family{\CJK@family}
106
107
108
109 \def\CJKpunctmapfamily#1#2#3#4#5{
    \expandafter\edef\csname #10#20#30#4\endcsname{#5}}
110
111
     CJK 缺省标点符号格式
112 \def\CJKpunct@plainpunctsymbol#1#2{
    \CJKpunctsymbol{#2}}
     设置标点符号边界宽度。
```

```
114 \def\CJKpunct@setmarginkerning{
    \ifcsname CJKpunct @\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family\endcsname
115
    \else
116
       \expandafter\gdef\csname CJKpunct @\CJKpunct@punctstyle @\CJK@enc
117
         @\CJKpunct@family\endcsname{}
118
       \ifcsname CJKpunct@\CJKpunct@family @spaces\endcsname
119
         \PackageInfo{CJKpunct}{use punctuation spaces for family '\CJKpunct@family'
120
           \space with punctstyle (\CJKpunct@currentpunctstyle)}\relax
121
         \edef\CJKpunct@spaces{\csname CJKpunct@\CJKpunct@family @spaces\endcsname}
122
       \else
123
         \ifcsname CJKpunct@spaces@\CJKpunct@family\endcsname
124
         \else
125
           \PackageInfo{CJKpunct}{punctuation spaces for family '\CJKpunct@family' do not exist
126
             \space Use family 'def' instead.}\relax
127
            \global\expandafter\def\csname CJKpunct@spaces@\CJKpunct@family\endcsname{}
128
         \fi
129
         \edef\CJKpunct@spaces{\csname CJKpunct@def@spaces\endcsname}
130
       \fi
131
       \CJKpunct@cnta=0\relax
132
       \expandafter\CJKpunct@@setmarginkerning\CJKpunct@spaces
133
134
    fi
135
136 \def\CJKpunct@@setmarginkerning#1,#2,{
    \edef\CJKpunct@temp{#1}
137
    \ifx\CJKpunct@temp\@empty
138
       \def\CJKpunct@temp{}
139
    \else
140
       \def\CJKpunct@temp{\CJKpunct@@setmarginkerning}
141
       \ifnum\CJKpunct@cnta<12
142
         \def\CJKpunct@lr{1}
143
       \else
144
145
         \def\CJKpunct@lr{r}
146
       \edef\CJKpunct@encpn{\csname CJKpunct@pn@\CJK@enc @\the\CJKpunct@cnta\endcsname}
147
       \if l\CJKpunct@lr
148
         \expandafter\gdef\csname CJKpunct@\CJK@enc @\CJKpunct@encpn\endcsname{1}
149
       \else
150
         \expandafter\gdef\csname CJKpunct@\CJK@enc @\CJKpunct@encpn\endcsname{2}
151
       \fi
152
153
       \@CJKpunct@dokerningtrue
154
       \ifnum\CJKpunct@punctstyle=\CJKpunct@ps@plain\relax
155
         \@CJKpunct@dokerningfalse
156
       \else
157
```

```
\ifcsname CJKpunct@specialpunct\CJK@enc\CJKpunct@encpn\endcsname
158
           \@CJKpunct@dokerningfalse
159
         \fi
160
       \fi
161
162
       \ifnum\CJKpunct@punctstyle=\CJKpunct@ps@banjiao
163
         \def\CJKpunct@sidespaces{12}
164
165
       \else
         \def\CJKpunct@sidespaces{15}
166
167
       \fi
168
       \ifnum\CJKpunct@cnta=12\relax
169
         {\CJKpunct@cntb=#1\relax
170
         \advance\CJKpunct@cntb #2\relax
171
         \advance\CJKpunct@cntb 2\relax
172
         \CJKpunct@numtostring{\CJKpunct@cntb}
173
         \edef\CJKpunct@temp{\csname CJKpunct@pn@\CJK@enc @12\endcsname}
174
         \CJKpunct@cntc=0\relax
175
         \loop
176
           \global\expandafter\edef\csname CJKpunct\the\CJKpunct@cntc
177
             @\CJKQenc @\CJKpunct@family @kern\CJKpunct@temp @\CJKpunct@temp\endcsname{
178
               -0.\CJKpunct@decimal em}
179
           \advance \CJKpunct@cntc 1\relax
180
         \ifnum\CJKpunct@cntc<6\repeat}
181
       \fi
182
       \if@CJKpunct@dokerning
183
         \CJKpunct@cntb=#1\relax
184
         \advance\CJKpunct@cntb -\CJKpunct@sidespaces\relax
185
         \ifnum\CJKpunct@cntb<0\relax
186
           \CJKpunct@cntb=0\relax
187
188
189
         \CJKpunct@cntc=#2\relax
         \advance\CJKpunct@cntc -\CJKpunct@sidespaces\relax
190
         \ifnum\CJKpunct@cntc<0\relax
191
           \CJKpunct@cntc=0\relax
192
         \fi
193
194
         \CJKpunct@cntd=\CJKpunct@cntb
195
         \advance\CJKpunct@cntd\CJKpunct@cntc\relax
196
197
         \ifcase\CJKpunct@punctstyle
198
             % hangmobanjiao
199
         \or % quanjiao
200
         \or % banjiao
201
```

```
202
           \advance\CJKpunct@cntd -50\relax
         \or % kaiming
203
           \ifcsname CJKpunct@kaiming\CJK@enc\CJKpunct@encpn\endcsname
204
           \else
205
             \advance\CJKpunct@cntd -50\relax
206
           \fi
207
         \or %CCT
208
           \advance\CJKpunct@cntd -20\relax
209
         \CJKpunct@cnte=\CJKpunct@cntd
211
         \ifnum\CJKpunct@cntd<0\relax
212
           \CJKpunct@cntd=0\relax
213
         \fi
214
       \else
215
         \CJKpunct@cntb=0\relax
216
         \CJKpunct@cntc=0\relax
217
         \CJKpunct@cntd=0\relax
218
         \CJKpunct@cnte=0\relax
219
220
       \CJKpunct@numtostring{\CJKpunct@cntb}
221
       \global\expandafter\edef\csname CJKpunct\CJKpunct@punctstyle
222
         @\CJK@enc @\CJKpunct@family @lrule@\CJKpunct@encpn\endcsname{
223
           -0.\CJKpunct@decimal em}
224
       \CJKpunct@numtostring{\CJKpunct@cntc}
225
       \global\expandafter\edef\csname CJKpunct\CJKpunct@punctstyle
226
         @\CJK@enc @\CJKpunct@family @rrule@\CJKpunct@encpn\endcsname{
227
           -0.\CJKpunct@decimal em}
228
       \CJKpunct@numtostring{\CJKpunct@cntd}
229
       \global\expandafter\edef\csname CJKpunct\CJKpunct@punctstyle
230
         @\CJKQenc @\CJKpunct@family @\CJKpunct@lr glue@\CJKpunct@encpn\endcsname{
231
           0.\CJKpunct@decimal em}
232
233
       \global\expandafter\edef\csname CJKpunct\CJKpunct@punctstyle
         @\CJK@enc @\CJKpunct@family @\CJKpunct@lr oglue@\CJKpunct@encpn\endcsname{
234
           \the\CJKpunct@cnte}
235
    \fi
236
     \advance \CJKpunct@cnta 1\relax
237
     \CJKpunct@temp}
238
239
240 \def\CJKpunct@numtostring#1{
     \edef\CJKpunct@decimal{\the#1}
241
     \ifnum\CJKpunct@decimal<10\relax
242
       \edef\CJKpunct@decimal{0\CJKpunct@decimal}
243
    \fi}
244
```

设置相邻标点之间的距离

```
245 \def\CJKpunct@setkern#1#2{
    \ifcsname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family @kern#1@#2\endcsname
246
247
    \else
       \CJKpunct@cnta=0\relax
248
       \ifcsname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family @roglue@#1\endcsname
249
         \advance\CJKpunct@cnta\csname
250
           CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family @roglue@#1\endcsname
251
252
       \ifcsname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family @loglue@#2\endcsname
253
         \advance\CJKpunct@cnta\csname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
254
           @loglue@#2\endcsname
255
       \fi
256
       \relax
257
       \ifcase\CJKpunct@punctstyle
258
           % hangmobanjiao
259
       \or % quanjiao
260
         \advance\CJKpunct@cnta -50\relax
261
       \or % banjiao
262
       \or % kaiming
263
         \ifcsname CJKpunct@kaiming\CJK@enc#1\endcsname
264
           \advance\CJKpunct@cnta -\csname CJKpunct\CJKpunct@punctstyle @\CJK@enc
265
             @\CJKpunct@family @roglue@#1\endcsname
266
           \ifcsname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family @loglue@#2\endcsn
267
             \advance\CJKpunct@cnta -50\relax
268
           \fi
269
         \fi
270
       \fi
271
       \ifnum\CJKpunct@cnta<0\relax
272
         \CJKpunct@cnta=0\relax
273
274
       \fi
       \CJKpunct@numtostring{\CJKpunct@cnta}
275
       \global\expandafter\edef\csname
276
277
         CJKpunct\CJKpunct@punctstyle @\CJKQenc @\CJKpunct@family @kern#1@#2\endcsname{
           0.\CJKpunct@decimal em}
278
    \fi}
279
     CJKfntef 宏包兼容命令:
280
281 \let\CJKpunct@unskip\unskip
282 \def\CJKpunct@UL@unskip{
    \ifcsname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
       @rglue@\CJKpunct@lastpunct\endcsname
284
```

```
\hskip -\csname CJKpunct\CJKpunct@punctstyle @\CJK@enc @\CJKpunct@family
285
         @rglue@\CJKpunct@lastpunct\endcsname \relax
286
    \fi}
287
288
  \@ifundefined{UL@hskip}{\let\UL@hskip\relax}{}
289
290
  \def\CJKpunct@punctUL@group{
291
    \ifx\hskip\UL@hskip
292
         \egroup
293
         \UL@stop
294
         \UL@start
295
296
         \bgroup
    fi
297
298
299 \def\CJKpunct@ULspecials{}
300
301 \AtBeginDocument{
    \ifcsname UL@hook\endcsname
302
       \addto@hook\UL@hook{\let\CJK@ignorespaces\ignorespaces
303
          \let\CJKpunct@unskip\CJKpunct@UL@unskip
304
          \let\CJKpunct@ULspecials\CJKpunct@punctUL@group}
305
    \fi}
306
     设置相邻标点间是否允许换行(缺省不允许)。
307 \def\CJKpunctallowbreakbetweenpuncts{
    \def\CJKpunct@nobreak{
308
       \ifnum\CJKpunct@lastcharclass=2
309
         \hskip Opt
310
       \fi}}
311
312
313 \def\CJKpunctnobreakbetweenpuncts{
    \let\CJKpunct@nobreak\nobreak}
315 \CJKpunctnobreakbetweenpuncts
     标点符号样式:
316 \def\CJKpunctstyle#1{
    \ifcsname CJKpunct@ps@#1\endcsname
317
       \edef\CJKpunct@currentpunctstyle{#1}
318
       \edef\CJKpunct@punctstyle{\csname CJKpunct@ps@#1\endcsname}
319
       \ifnum\CJKpunct@punctstyle=\CJKpunct@ps@plain\relax
320
         \CJKpunctallowbreakbetweenpuncts
321
         \let\CJK@testLastCJK\CJKo@testLastCJK
322
         \let\CJK@testLastKern\CJKo@testLastKern
323
```

```
324
         \let\CJK@testPrePunct\CJKo@testPrePunct
         \let\CJK@testPostPunct\CJKo@testPostPunct
325
         \let\CJKpunct@punctsymbol\CJKpunct@plainpunctsymbol
326
         \let\CJKsymbol\CJKosymbol
327
         \let\CJKpunctsymbol\CJKopunctsymbol
328
         \let\CJK@nobreakglue\CJKo@nobreakglue
329
         \let\CJKpunct@utfsymbol\CJKpunct@utfbsymbol
330
331
       \else
         \let\CJK@testLastCJK\CJKpunct@testLastCJK
332
         \let\CJK@testLastKern\CJKpunct@testLastKern
333
         \let\CJK@testPrePunct\CJKpunct@testPrePunct
334
         \let\CJK@testPostPunct\CJKpunct@testPostPunct
335
         \let\CJKpunct@punctsymbol\CJKpunct@@punctsymbol
336
         \let\CJKsymbol\CJKpunct@CJKsymbol
337
         \let\CJKpunctsymbol\CJKpunct@CJKpunctsymbol
338
         \let\CJK@nobreakglue\relax
339
         \let\CJKpunct@utfsymbol\CJKpunct@utfasymbol
340
       \fi
341
     \else
342
       \PackageWarning{CJKpunct}{Punctstyle #1\space is not defined.}\relax
343
     \fi}
344
345
346 \let\punctstyle\CJKpunctstyle
347 \def\CJKpunct@ps@hangmobanjiao{0}
348 \def\CJKpunct@ps@marginkerning{0}
349 \def\CJKpunct@ps@quanjiao{1}
350 \def\CJKpunct@ps@fullwidth{1}
351 \def\CJKpunct@ps@banjiao{2}
352 \def\CJKpunct@ps@halfwidth{2}
353 \def\CJKpunct@ps@kaiming{3}
354 \def\CJKpunct@ps@mixedwidth{3}
355 \def\CJKpunct@ps@CCT{4}
356 \def\CJKpunct@ps@plain{5}
357 \AtBeginDocument{\punctstyle{quanjiao}}
358
359 \def\CJKplainout{\punctstyle{plain}}
360 \let\CJKnormalout\relax
     允许用户使用 \CJKpunctsetkern 调整相邻标点之间的距离
361 \def\CJKpunctsetkern#1#2#3{
     \CJKpunct@setplanenumber{#1}
362
     \edef\CJKpunct@pna{\CJKpunct@char@pn}
363
    \CJKpunct@setplanenumber{#2}
364
     \edef\CJKpunct@pnb{\CJKpunct@char@pn}
```

```
\global\expandafter\edef\csname CJKpunct\CJKpunct@punctstyle
366
        @\CJK@enc @\CJKpunct@family @kern\CJKpunct@pna @\CJKpunct@pnb\endcsname{
367
          #3}}
368
369
370 \def\CJKpunct@setplanenumber#1{{
     \def\CJK@testPrePunct##1##2##3{
371
       \global\edef\CJKpunct@charplane{\CJK@plane}
372
       \global\edef\CJKpunct@charnumber{\the\@tempcnta}}
373
     \savebox\voidb@x{#1}
374
     \global\edef\CJKpunct@char@pn{\CJKpunct@charplane/\CJKpunct@charnumber}}}
375
376
377 %
378 % 标点符号表,不能改变顺序!!
379 % pre '"[[([ {⟨《[[
380 % post —…, ., .; ! ? % ) ) } \ \ ] ] ' " ] ]
     设置标点符号所对应 CJKplane 和字符序号,与编码有关。
381 \def\CJKpunct@punctlist#1{
    \CJKpunct@cnta=0\relax
382
     \def\CJKpunct@enc{#1}
383
    \CJKpunct@setpunctfamilynumber}
384
385
386 \def\CJKpunct@setpunctfamilynumber#1,{
     \edef\CJKpunct@temp{#1}
387
     \ifx\CJKpunct@temp\@empty
388
       \def\CJKpunct@temp{}
389
390
    \else
       \expandafter\def\csname CJKpunct@pn@\CJKpunct@enc @\the\CJKpunct@cnta\endcsname{#1}
391
       \advance \CJKpunct@cnta 1\relax
392
       \def\CJKpunct@temp{\CJKpunct@setpunctfamilynumber}
393
394
     \fi
    \CJKpunct@temp}
395
397 \CJKpunct@punctlist{C70}20/24,20/28,30/12,30/14,30/20,ff/8,ff/59,ff/91,%
398 30/8,30/10,30/22,30/16,%
399 20/20,20/38,30/1,30/2,ff/12,ff/14,ff/26,ff/27,ff/1,ff/31,ff/5,30/21,ff/9,%
400 ff/61, ff/93, 30/9, 30/11, 30/23, 30/17, 20/25, 20/29, 30/13, 30/15, ,
401
402 %gb
403 \CJKpunct@punctlist{C10}01/13,01/15,01/23,01/25,01/17,01/195,01/246,02/22,01/19,%
404 01/21,01/27,01/29,%
405\ 01/9, 01/12, 01/1, 01/2, 01/199, 01/201, 01/213, 01/214, 01/188, 01/218, 01/192, 01/18, \%
406 01/196,01/248,02/24,01/20,01/22,01/28,01/30,01/14,01/16,01/24,01/26,,
407
```

```
408 %gbk
409 \texttt{CJKpunct@punctlist{C19}25/45,25/47,25/55,25/57,25/49,26/163,26/214,26/246,25/51,\%} \\
410 25/53, 25/59, 25/61, %
411 25/41, 25/44, 25/33, 25/34, 26/167, 26/169, 26/181, 26/182, 26/156, 26/186, 26/160, %
412 25/50, 26/164, 26/216, 26/248, 25/52, 25/54, 25/60, 25/62, 25/46, 25/48, 25/56, 25/58, ,
414 \def\CJKpunct@totalpuncts{35}
     恢复 CJKutf8 重定义的引号
415 \ifcsname DeclareUnicodeCharacter\endcsname
     \DeclareUnicodeCharacter{2018}{\CJKpunct@utfsymbol{"80}{"98}}
416
     \DeclareUnicodeCharacter{2019}{\CJKpunct@utfsymbol{"80}{"99}}
417
     \DeclareUnicodeCharacter{201C}{\CJKpunct@utfsymbol{"80}{"9C}}
418
     \DeclareUnicodeCharacter{201D}{\CJKpunct@utfsymbol{"80}{"9D}}
419
     \DeclareUnicodeCharacter{2014}{\CJKpunct@utfsymbol{"80}{"94}}
420
     \DeclareUnicodeCharacter{2026}{\CJKpunct@utfsymbol{"80}{"A6}}
421
422 \fi
423 \def\CJKpunct@utfasymbol#1#2{
     \CJK@punctchar{\CJK@uniPunct}{0}{#1}{#2}}
425 \def\CJKpunct@utfbsymbol#1#2{
     \ifnum #2=148
426
       \textemdash
427
     \else
428
       \ifnum #2=166
429
430
         \textellipsis
       \else
431
         \ifnum #2=152
432
           \textquoteleft
433
434
            \ifnum #2=153
435
              \textquoteright
436
437
              \ifnum #2=156
438
                \textquotedblleft
439
              \else
440
                \ifnum #2=157
441
                  \textquotedblright
442
                \fi
443
              \fi
444
           \fi
445
         \fi
446
       \fi
447
     \fi}
```

448

省略号和破折号:

```
449 \def\CJKpunct@setspecialpunct#1#2{
    \expandafter\def\csname CJKpunct@specialpunct#1#2\endcsname{}}
451 \CJKpunct@setspecialpunct{C70}{20/20}
452 \CJKpunct@setspecialpunct{C70}{20/38}
453 \CJKpunct@setspecialpunct{C19}{25/41}
454 \CJKpunct@setspecialpunct{C19}{25/44}
455 \CJKpunct@setspecialpunct{C10}{01/9}
456 \CJKpunct@setspecialpunct{C10}{01/12}
    开明式中的全角标点。
457 \def\CJKpunct@setkaimingpunct#1#2{
    \expandafter\def\csname CJKpunct@kaiming#1#2\endcsname{}}
459 \CJKpunct@setkaimingpunct{C70}{30/02}
460 \CJKpunct@setkaimingpunct{C70}{ff/1}
461 \CJKpunct@setkaimingpunct{C70}{ff/31}
462 \CJKpunct@setkaimingpunct{C19}{25/34}
463 \CJKpunct@setkaimingpunct{C19}{26/156}
464 \CJKpunct@setkaimingpunct{C19}{26/186}
465 \CJKpunct@setkaimingpunct{C10}{01/2}
466 \CJKpunct@setkaimingpunct{C10}{01/188}
467 \CJKpunct@setkaimingpunct{C10}{01/218}
    缺省标点符号宽度
468 \def\CJKpunct@def@spaces{69,18,60,6,63,2,63,3,69,8,69,6,69,1,39,%
469 37,63,4,56,2,63,5,63,6,6,6,12,11,23,50,24,54,16,71,20,69,12,76,13,%
470 74,26,61,3,50,3,4,8,69,6,69,2,69,38,39,4,62,2,55,5,62,7,62,16,71,9,%
471 58,3,62,3,62,,,}
     调入字体相关的设置
472 \IfFileExists{CJKpunct.spa}{\input{CJKpunct.spa}}{}
474 \endlinechar '\^^M
```

Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

```
{\bf Symbols} \\ \verb|\CJKpunct@dokerningtrue| ..... 154 \\ \verb|\CJKpunct@dokerningfalse| ... 156, 159 \\ | \\
```

$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\CJKo@testLastCJK
\CJKsymbol 3	\CJKpunct@char@pn 363, 365, 375
\punctstyle 1 \usepackage 1	\CJKpunct@charnumber 373, 375 \CJKpunct@charplane 372, 375
\^	\CJKpunct@CJKpunctsymbol 43, 338
	CJKpunct@CJKsymbol 28, 337
A	\CJKpunct@cnta 5, 132, 142,
\addto@hook 303	$147,\ 169,\ 237,\ 248,\ 250,\ 254,\ 261,$
\advance	265, 268, 272, 273, 275, 382, 391, 392
209, 237, 250, 254, 261, 265, 268, 392	\CJKpunct@cntb
\AtBeginDocument 301, 357	. 6, 170–173, 184–187, 195, 216, 221
·	\CJKpunct@cntc 7, 175, 177, 180, 181, 189-192, 196, 217, 225
В	\CJKpunct@cntd
\bgroup 296	196, 202, 206, 209, 211–213, 218, 229
${f C}$	\CJKpunct@cnte 9, 211, 219, 235
\CJK@enc $47, 49, 59, 68, 74, 77,$	\CJKpunct@currentcharclass
86, 90, 94, 103, 104, 115, 117, 147,	
149, 151, 158, 174, 178, 204, 223,	\CJKpunct@currentpunct 46, 47,
227, 231, 234, 246, 249, 251, 253, 254, 264, 265, 267, 277, 283, 285, 367	49, 59, 67, 69, 75, 77, 84, 87, 91, 95 \CJKpunct@currentpunctstyle 121, 318
\CJK@false 12, 17	\CJKpunct@decimal
\CJK@family 103, 104, 106	179, 224, 228, 232, 241–243, 278
\CJK@ignorespaces 303	\CJKpunct@def@spaces 468
\CJK@nobreakglue 25, 329, 339	\CJKpunct@enc 383, 391
$\verb \CJKQplane 46, 372 $	$\verb \CJKpunct@encpn 147,$
\CJK@punctchar 424	$149,\ 151,\ 158,\ 204,\ 223,\ 227,\ 231,\ 234$
\CJK@testLastCJK 10, 322, 332	\CJKpunct@family
\CJK@testLastKern 15, 323, 333	68, 74, 86, 90, 94, 104, 106, 115,
\CJK@testPostPunct 20, 325, 335	118–120, 122, 124, 126, 128, 178, 223, 227, 231, 234, 246, 249, 251,
\CJK@testPrePunct 19, 324, 334, 371 \CJK@uniPunct 424	253, 254, 266, 267, 277, 283, 285, 367
\CJKglue 32, 78	CJKpunct@lastcharclass
\CJKnormalout 360	31, 38, 40, 53, 97, 100, 309
$\verb \CJKo@nobreakglue 25, 329 $	$\verb \CJKpunct@lastkern 13, 30, 41, 52 $

\077	\0.77
\CJKpunct@lastpunct 67, 69, 84, 284, 286	\CJKpunct@totalpuncts 414
\CJKpunct@lr 143, 145, 148, 231, 234	\CJKpunct@UL@unskip 282, 304
\CJKpunct@nobreak 70, 308, 314	\CJKpunct@ULspecials 34, 72, 299, 305
\CJKpunct@numtostring	\CJKpunct@unskip 66, 281, 304
$\dots 173, 221, 225, 229, 240, 275$	\CJKpunct@utfasymbol 340, 423
$\verb \CJKpunct@plainpunctsymbol . 112, 326 $	\CJKpunct@utfbsymbol 330, 425
\CJKpunct@pna 363, 367	\CJKpunct@utfsymbol 330, 340, 416-421
\CJKpunct@pnb 365, 367	\CJKpunctallowbreakbetweenpuncts
\CJKpunct@ps@banjiao 163, 351	
\CJKpunct@ps@CCT 355	\CJKpunctmapfamily 109
\CJKpunct@ps@fullwidth 350	\CJKpunctnobreakbetweenpuncts
\CJKpunct@ps@halfwidth 352	
\CJKpunct@ps@hangmobanjiao 347	\CJKpunctsetkern 361
\CJKpunct@ps@kaiming 353	\CJKpunctstyle 316, 346
\CJKpunct@ps@marginkerning 348	\CJKpunctsymbol 42, 113, 328, 338
\CJKpunct@ps@mixedwidth 354	\CJKsymbol 27, 99, 327, 337
\CJKpunct@ps@plain 155, 320, 356	\csname 49,
\CJKpunct@ps@quanjiao 349	68, 74, 86, 90, 94, 104, 110, 117,
\CJKpunct@punctlist 381, 397, 403, 409	122, 128, 130, 147, 149, 151, 174,
\CJKpunct@punctstyle	177, 222, 226, 230, 233, 250, 254,
\dots 56, 68, 74, 86, 90, 94, 115,	265, 276, 285, 319, 366, 391, 450, 458
117, 155, 163, 198, 222, 226, 230,	200, 210, 200, 010, 000, 001, 100, 100
233, 246, 249, 251, 253, 254, 258,	D
233, 246, 249, 251, 253, 254, 258, 265, 267, 277, 283, 285, 319, 320, 366	$\label{eq:DeclareUnicodeCharacter} \textbf{D} $$ \ \ \ $416-421$ $
	$\verb \DeclareUnicodeCharacter 416-421$
265,267,277,283,285,319,320,366	
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336	\DeclareUnicodeCharacter 416-421 \def 11, 16, 21, 22, 28, 40, 41, 43, 100, 102, 109, 112, 114, 128,
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305	\DeclareUnicodeCharacter 416-421 \def 11, 16, 21, 22, 28, 40, 41, 43, 100, 102, 109, 112, 114, 128, 136, 139, 141, 143, 145, 164, 166,
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102	\DeclareUnicodeCharacter 416-421 \def 11, 16, 21, 22, 28, 40, 41, 43, 100, 102, 109, 112, 114, 128, 136, 139, 141, 143, 145, 164, 166, 240, 245, 282, 291, 299, 307, 308,
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct	$\label{eq:local_problem} $$ \ \ $$ \ \ $ \ \ $ 11, 16, 21, 22, 28, 40, 41, $$ 43, 100, 102, 109, 112, 114, 128, $$ 136, 139, 141, 143, 145, 164, 166, $$ 240, 245, 282, 291, 299, 307, 308, $$ 313, 316, 347-356, 359, 361, 370, $$ $$$
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct	$\label{eq:local_problem} $$ \ \ \ $$ \ \ \ \ \ \ \ \ \ \ \ \ \ $
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct	$\label{eq:local_problem} $$ \ \ $$ \ \ $ \ \ $ 11, 16, 21, 22, 28, 40, 41, $$ 43, 100, 102, 109, 112, 114, 128, $$ 136, 139, 141, 143, 145, 164, 166, $$ 240, 245, 282, 291, 299, 307, 308, $$ 313, 316, 347-356, 359, 361, 370, $$ $$$
$265, 267, 277, 283, 285, 319, 320, 366 \\ \cdots{CJKpunct@punctsymbol} 326, 336 \\ \cdots{CJKpunct@punctUL@group} 291, 305 \\ \cdots{CJKpunct@setfamily} 44, 102 \\ \cdots{CJKpunct@setkaimingpunct} 457, 459-467 \\ \cdots{CJKpunct@setkern} 67, 245 \\ \cdots{CJKpunct@setmarginkerning} 45, 114 \\ \end{tabular}$	$\label{eq:local_problem} $$ \ \ \ $$ \ \ \ \ \ \ \ \ \ \ \ \ \ $
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct	\DeclareUnicodeCharacter 416-421 \def 11, 16, 21, 22, 28, 40, 41, 43, 100, 102, 109, 112, 114, 128, 136, 139, 141, 143, 145, 164, 166, 240, 245, 282, 291, 299, 307, 308, 313, 316, 347-356, 359, 361, 370, 371, 381, 383, 386, 389, 391, 393, 414, 423, 425, 449, 450, 457, 458, 468
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct 457, 459-467 \CJKpunct@setkern 67, 245 \CJKpunct@setmarginkerning 45, 114 \CJKpunct@setplanenumber 364, 370 \CJKpunct@setpunctfamilynumber 384, 386, 393	$eq:local_$
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct	\DeclareUnicodeCharacter 416-421 \\def 11, 16, 21, 22, 28, 40, 41, 43, 100, 102, 109, 112, 114, 128, 136, 139, 141, 143, 145, 164, 166, 240, 245, 282, 291, 299, 307, 308, 313, 316, 347-356, 359, 361, 370, 371, 381, 383, 386, 389, 391, 393, 414, 423, 425, 449, 450, 457, 458, 468 \\end{E} \\edg{E} \\edg{edef} 13, 46, 48, 84, 104, 106, 110,
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct	\DeclareUnicodeCharacter 416 - 421 \def 11 , 16 , 21 , 22 , 28 , 40 , 41 , 43 , 100 , 102 , 109 , 112 , 114 , 128 , 136 , 139 , 141 , 143 , 145 , 164 , 166 , 240 , 245 , 282 , 291 , 299 , 307 , 308 , 313 , 316 , 347 - 356 , 359 , 361 , 370 , 371 , 381 , 383 , 386 , 389 , 391 , 393 , 414 , 423 , 425 , 449 , 450 , 457 , 458 , 468 E \Ledef 13 , 46 , 48 , 84 , 104 , 106 , 110 , 122 , 130 , 137 , 147 , 174 , 177 , 222 ,
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct 457, 459-467 \CJKpunct@setkern 67, 245 \CJKpunct@setmarginkerning 45, 114 \CJKpunct@setplanenumber 362, 364, 370 \CJKpunct@setplanenumber 384, 386, 393 \CJKpunct@setspecialpunct 449, 451-456 \CJKpunct@sidespaces 164, 166, 185, 190	$\label{eq:localized-character} \begin{tabular}{lllllllllllllllllllllllllllllllllll$
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct 457, 459-467 \CJKpunct@setkern 67, 245 \CJKpunct@setmarginkerning 45, 114 \CJKpunct@setplanenumber 362, 364, 370 \CJKpunct@setplanenumber 384, 386, 393 \CJKpunct@setspecialpunct 449, 451-456	\DeclareUnicodeCharacter 416 - 421 \def 11 , 16 , 21 , 22 , 28 , 40 , 41 , 43 , 100 , 102 , 109 , 112 , 114 , 128 , 136 , 139 , 141 , 143 , 145 , 164 , 166 , 240 , 245 , 282 , 291 , 299 , 307 , 308 , 313 , 316 , 347 - 356 , 359 , 361 , 370 , 371 , 381 , 383 , 386 , 389 , 391 , 393 , 414 , 423 , 425 , 449 , 450 , 457 , 458 , 468 E \del{edef} 13 , 46 , 48 , 84 , 104 , 106 , 110 , 122 , 130 , 137 , 147 , 174 , 177 , 222 , 226 , 230 , 233 , 241 , 243 , 276 , 318 , 319 , 363 , 365 , 366 , 372 , 373 , 375 , 387
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol	\DeclareUnicodeCharacter 416 - 421 \def 11 , 16 , 21 , 22 , 28 , 40 , 41 , 43 , 100 , 102 , 109 , 112 , 114 , 128 , 136 , 139 , 141 , 143 , 145 , 164 , 166 , 240 , 245 , 282 , 291 , 299 , 307 , 308 , 313 , 316 , 347 - 356 , 359 , 361 , 370 , 371 , 381 , 383 , 386 , 389 , 391 , 393 , 414 , 423 , 425 , 449 , 450 , 457 , 458 , 468 E \text{\text{edef} 13 , 46 , 48 , 84 , 104 , 106 , 110 , 122 , 130 , 137 , 147 , 174 , 177 , 222 , 226 , 230 , 233 , 241 , 243 , 276 , 318 , 319 , 363 , 365 , 366 , 372 , 373 , 375 , 387 \egroup
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol	lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol 326, 336 \CJKpunct@punctUL@group 291, 305 \CJKpunct@setfamily 44, 102 \CJKpunct@setkaimingpunct 457, 459-467 \CJKpunct@setkern 67, 245 \CJKpunct@setmarginkerning 45, 114 \CJKpunct@setplanenumber 384, 386, 393 \CJKpunct@setpunctfamilynumber 384, 386, 393 \CJKpunct@setspecialpunct 449, 451-456 \CJKpunct@sidespaces 166, 185, 190 \CJKpunct@spaces 122, 130, 133 \CJKpunct@temp 137-139, 141, 174, 178, 238, 387-389, 393, 395	$\label{eq:localized-constraints} $$ \ \ \ \ \ \ \ \ \ \ \ \ $
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol	lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:
265, 267, 277, 283, 285, 319, 320, 366 \CJKpunct@punctsymbol	lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:

$118,\ 119,\ 122,\ 124,\ 128,\ 130,\ 147,$	K
$149,\ 151,\ 158,\ 174,\ 178,\ 204,\ 223,$	\kern 68
$227,\ 231,\ 234,\ 246,\ 249,\ 251,\ 253,$	T
$255,\ 264,\ 266,\ 267,\ 277,\ 284,\ 286,$	L
302, 317, 319, 367, 391, 415, 450, 458	\lastkern 13
\endlinechar 1, 474	\let
\expandafter 110,	305, 314, 322–330, 332–340, 346, 360
117, 128, 133, 149, 151, 177, 222,	\loop
226, 230, 233, 276, 366, 391, 450, 458	(100p 110
${f F}$	\mathbf{M}
\f@series 103, 104	\m@ne 1
\f@shape 103, 104	N
\fi 35, 36, 61-64, 81-83,	\newcount 5-9
96, 101, 107, 129, 131, 134, 146,	\newif
152, 160, 161, 167, 182, 188, 193,	\nobreak 80, 314
207, 210, 214, 220, 236, 244, 252,	\number 13
256, 269–271, 274, 279, 287, 297,	
306, 311, 341, 344, 394, 422, 443–448	O
${f G}$	\or 200, 201, 203, 208, 260, 262, 263
\gdef 38, 117, 149, 151	P
\global 12, 13, 17, 84,	\PackageInfo
$97, \ 100, \ 104, \ 106, \ 128, \ 177, \ 222,$	\PackageWarning 343
226, 230, 233, 276, 366, 372, 373, 375	\punctstyle 346, 357, 359
Н	D
\hskip 74, 94, 285, 292, 310	R
, , , ,	\relax 30, 31, 52, 53, 56, 73, 93, 121, 127, 132, 155, 169-172, 175,
I	180, 184–187, 189–192, 196, 202,
\if	206, 209, 212, 213, 216–219, 237,
\if@CJKpunct	242, 248, 257, 261, 268, 272, 273,
\if@CJKpunct@dokerning 4, 183	286, 289, 320, 339, 343, 360, 382, 392
\ifcase	\repeat 181
\ifcsname 47, 59, 77, 103, 115, 119, 124, 158, 204, 246,	Q
249, 253, 264, 267, 283, 302, 317, 415	S 274
\IfFileExists 472	\savebox 374 \space 121, 127, 343
\ifnum 30, 31,	\space 121, 121, 343
52, 53, 56, 73, 93, 142, 155, 163,	${f T}$
$169,\ 181,\ 186,\ 191,\ 212,\ 242,\ 272,$	\textellipsis 430
309, 320, 426, 429, 432, 435, 438, 441	\textemdash 427
\ifx 138, 292, 388	\textquotedblleft 439
\ignorespaces 303	\textquotedblright 442
\input 472	\textquoteleft 433

\textquoteright 436	\unkern 54, 55
\the 46, 147, 177, 235, 241, 373, 391	\unskip 281
Ū	${f V}$
\UL@hook 303	\voidb@x 374
\UL@hskip	\vrule 86, 90
\UL@start 295	${f z}$
\UL@stop 294	\z@ 87, 91