## The telprint package

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#### Abstract

Package telprint provides  $\telprint$  for formatting German phone numbers.

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<sup>\*</sup>Please report any issues at https://github.com/ho-tex/oberdiek/issues

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#### 1 Documentation

#### 1.1 Introduction

This is a very old package that I have written to format phone numbers. It follows German conventions and the documentation is mainly in German.

#### 1.2 Short overview in English

 $\LaTeX$ :

```
\usepackage{telprint}
\telprint{123/456-789}
```

plain T<sub>E</sub>X:

\input telprint.sty \telprint{123/456-789}

\telprint

**\telprint{...}** formats the explicitly given number. Digits, spaces and some special characters ('+', '/', '-', '(', ')', ' $\sim$ ', '') are supported. Numbers are divided into groups of two digits from the right. Examples:

```
\label{eq:continuous} $$ \left( \frac{0761/12345}{234/567-89} \right) ==> 0^{,61/1},34/5^{,67} \left( \frac{01234/567-89}{297} \right) ==> +49^{(62},21)^2,97 $$
```

#### 1.2.1 Configuration

The output of the symbols can be configured by \telhyphen, \telslash, \telleft-paren, \telrightparen, \telrigh

```
\telslash{\,/\,,}\ \telsprint{12/34} ==> 12\,/\,34
```

\telspace \telnumber \telspace configures the space between digit groups.

**\telnumber** only formats a number in digit groups; special characters are not recognized.

#### 1.3 Documentation in German

\telprint

#### telprint#1

Der eigentliche Anwenderbefehl zur formatierten Ausgabe von Telefonnummern. Diese dürfen dabei nur als Zahlen angegeben werden(, da sie tokenweise analysiert werden). Als Trenn- oder Sonderzeichen werden unterstützt: '+', '/', '-', '(', ')', '~', ' Einfache Leerzeichen werden erkannt und durch Tilden ersetzt, um Trennungen in der Telefonnummer zu verhindern. (Man beachte aus gleichem Grunde die \hbox bei '-'.) Beispiele:

```
\label{eq:continuous} $$ \left( \frac{0761/12345}{234/567-89} \right) ==> 0^{61/1}, 23^{55} $$ \left( \frac{01234/567-89}{297} \right) ==> +49^{62}, 2^{97} $$
```

Der Rest enthält eher Technisches:

\telspace

#### • \telspace#1

Mit diesem Befehl wird der Abstand zwischen den Zifferngruppen angegeben (Default: \,). (Durch \telspace{} kann dieser zusaetzliche Abstand abgestellt werden.)

\telhyphen

#### • \telhyphen#1

Dieser Befehl gibt die Art des Bindestriches, wie er ausgegeben werden soll. In der Eingabe darf jedoch nur der einfache Bindestrich stehen: \telprint{123-45}, jedoch NIE \telprint{123-45}! Kopka-Bindestrich-Fans geben an: \telhyphen{\leavevmode\hbox{--}}

\telslash
\telleftparen
\telrightparen
\telplus
\teltilde
\telnumber

• \telslash#1, \telleftparen#1, \telrightparen#1, \telplus#1, \teltilde Diese Befehle konfigurieren die Zeichen '/', '(', ')', '+' und '~'. Sie funktionieren analog zu \telhyphen.

#### \telnumber#1

Richtung interner Befehl: Er dient dazu, eine Zifferngruppe in Zweiergruppen auszugeben. Die einzelnen Zahlen werden im Tokenregister \TELtoks gespeichert. Abwechselnd werden dabei zwischen zwei Token (Zahlen) \TELx bzw. \TELy eingefuegt, abhängig von dem wechselnden Wert von \TELswitch. Zum Schluss kann dann einfach festgestellt werden ob die Nummer nun eine geradzahlige oder ungeradzahlige Zahl von Ziffern aufwies. Dem entsprechend wird \TELx mit dem Zusatzabstand belegt und \TELy leer definiert oder umgekehrt.)

- \TEL... interne Befehle, Technisches:
  - \TELsplit dient zur Aufteilung einer zusammengesetzten Telefonnummer (Vorwahl, Hauptnummer, Nebenstelle). In dieser Implementation werden als Trennzeichen nur '/' und '-' erkannt. Die einzelnen Bestandteile wie Vorwahl werden dann dem Befehl \telnumber zur Formatierung uebergeben.
- Die Erkennung von einfachen Leerzeichen ist um einiges schwieriger: Die Tokentrennung ueber Parameter #1#2 funktioniert nicht für einfache Leerzeichen, da TeX sie *niemals* als eigenständige Argumente behandelt! (The TeXbook, Chapter 20, p. 201)

(Anmerkung am Rande: Deshalb funktionieren die entsprechenden Tokenmakros auf S. 149 des Buches "Einführung in TeX" von N. Schwarz (3. Aufl.) nicht, wenn im Tokenregister als erstes ein einfaches Leerzeichen steht!)

### 2 Implementation

1  $\langle *package \rangle$ 

#### 2.1 Reload check and package identification

Reload check, especially if the package is not used with LATEX.

- 2 \begingroup\catcode61\catcode48\catcode32=10\relax%
- $_3$  \catcode13=5 \% ^^M
- 4 \endlinechar=13 %
- 5 \catcode35=6 % #
- 6 \catcode39=12 % '
- 7 \catcode44=12 %, 8 \catcode45=12 % -
- 8 \catcode45=12 % -9 \catcode46=12 % .
- 9 \catcode46=12 \% :
- 11 \catcode64=11 % @
- 12 \catcode123=1 % {
- 13 \catcode125=2 % }
- 14 \expandafter\let\expandafter\x\csname ver@telprint.sty\endcsname
- 15 \ifx\x\relax % plain-TeX, first loading
- 16 \else
- 17 \def\empty{}%
- 18 \ifx\x\empty % LaTeX, first loading,
- 19 % variable is initialized, but \ProvidesPackage not yet seen
- 20 \else

```
\expandafter\ifx\csname PackageInfo\endcsname\relax
21
        \def\x#1#2{\%}
22
          \immediate\write-1{Package #1 Info: #2.}%
23
^{24}
25
26
        27
       \fi
28
       \x{telprint}{The package is already loaded}%
29
       \aftergroup\endinput
      \fi
30
    \fi
31
32 \endgroup%
Package identification:
33 \begingroup\catcode61\catcode48\catcode32=10\relax%
    \catcode13=5 % ^^M
34
    \endlinechar=13 %
35
36 \catcode35=6 % #
37 \catcode39=12 %;
38 \catcode40=12 % (
39 \catcode41=12 %)
40 \catcode44=12 %,
41 \catcode45=12 % -
42 \catcode46=12 % .
43 \catcode47=12 % /
    \catcode58=12 %:
44
    \catcode64=11 % @
45
    \catcode91=12 % [
46
    \catcode93=12 % ]
47
48
    \catcode123=1 % {
49
    \catcode125=2 % }
50
    \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51
     \def \x#1#2#3[#4]{\endgroup}
       \immediate\write-1{Package: #3 #4}%
52
       \xdef#1{#4}%
53
     }%
54
    \else
55
      \def\x#1#2[#3]{\endgroup}
56
       #2[{#3}]%
57
       \ifx#1\@undefined
58
        \xdef#1{#3}%
59
60
       \fi
61
       \inf #1 \operatorname{lax}
62
        \xdef#1{#3}%
63
       ۱fi
     }%
64
    \fi
65
66 \expandafter\x\csname ver@telprint.sty\endcsname
67 \ProvidesPackage{telprint}%
    [2016/05/16 v1.11 Format German phone numbers (HO)]%
2.2
      Catcodes
69 \begingroup\catcode61\catcode48\catcode32=10\relax%
    \catcode13=5 % ^^M
70
```

```
\endlinechar=13 %
71
                                    \catcode123=1 % {
72
                                  \catcode125=2 % }
73
74
                                  \catcode64=11 % @
75
                                    \def\x{\endgroup
                                                 \expandafter\edef\csname TELAtEnd\endcsname{%
76
                                                                \endlinechar=\the\endlinechar\relax
77
                                                                \color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\t
78
```

```
\catcode32=\the\catcode32\relax
                                                                                                79
                                                                                                                                              \catcode35=\the\catcode35\relax
                                                                                                80
                                                                                                                                              \catcode61=\the\catcode61\relax
                                                                                                81
                                                                                                                                              \colored{catcode64} \to \colored{catcode64}
                                                                                                82
                                                                                                                                             \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
                                                                                                83
                                                                                                84
                                                                                                                                             \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
                                                                                                85
                                                                                                                                 }%
                                                                                                86 }%
                                                                                                87 \x\catcode61\catcode48\catcode32=10\relax%
                                                                                                88 \catcode13=5 % ^^M
                                                                                                89 \endlinechar=13 %
                                                                                               90 \catcode35=6 % #
                                                                                               91 \catcode64=11 % @
                                                                                                92 \catcode123=1 % {
                                                                                               93 \catcode125=2 % }
                                                                                                94 \def\TMP@EnsureCode#1#2{%
                                                                                                95 \edef\TELAtEnd{%
                                                                                                96
                                                                                                                                   \TELAtEnd
                                                                                                                                 \color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\t
                                                                                               97
                                                                                               98 }%
                                                                                               99 \catcode#1=#2\relax
                                                                                          100 }
                                                                                          101 \TMP@EnsureCode{33}{12}%!
                                                                                          102 \TMP@EnsureCode{36}{3}% $
                                                                                          103 \TMP@EnsureCode{40}{12}% (
                                                                                          104 \TMP@EnsureCode{41}{12}%)
                                                                                          105 \TMP@EnsureCode{42}{12}% *
                                                                                          106 \TMP@EnsureCode{43}{12}% +
                                                                                          107 \TMP@EnsureCode{44}{12}\% ,
                                                                                          108 \TMP@EnsureCode{45}{12}% -
                                                                                          109 \TMP@EnsureCode{46}{12}%.
                                                                                         110 \TMP@EnsureCode{47}{12}% /
                                                                                         111 \TMP@EnsureCode{91}{12}% [
                                                                                         112 \TMP@EnsureCode{93}{12}% ]
                                                                                          113 \TMP@EnsureCode{126}{13}% ~ (active)
                                                                                          114 \edef\TELAtEnd{\TELAtEnd\noexpand\endinput}
                                                                                         2.3
                                                                                                                                    Package macros
                                                                                         115 \ifx\DeclareRobustCommand\UnDeFiNeD
                                                                                         116 \def\DeclareRobustCommand*#1[1]{\def#1##1}%
                                                                                         117
                                                                                                                        \def\TELreset{\let\DeclareRobustCommand=\UnDeFiNeD}%
                                                                                         118 \input infwarerr.sty\relax
                                                                                         119 \@PackageInfo{telprint}{%
                                                                                         120
                                                                                                                            Macros are not robust!%
                                                                                         121 }%
                                                                                         122 \else
                                                                                         123 \let\TELreset=\relax
                                                                                         124 \fi
                    \telspace
                                                                                          125 \ensuremath{\lower.purple} \ensuremath{\lo
                                                                                          126 \telspace{{}$\,${}}
         \telhyphen
                                                                                          128 \telhyphen{\leavevmode\hbox{-}}% \hbox zur Verhinderung der Trennung
                        \telslash
                                                                                          129 \ensuremath{\mbox{\mbox{$1$}}} [1] \ensuremath{\mbox{\mbox{$1$}}} [2] \ensuremath{\mbox{$1$}} [2] \ensuremat
                                                                                          130 \text{lelslash}{/}\%
\telleftparen
```

```
131 \ensuremath{\verb|\defTELleftparen||} 131 \ensuremath{\defTELleftparen||} 131 \ensurem
                                                                              132 \telleftparen{(}%
\telrightparen
                                                                              133 \ensuremath{\mbox{\mbox{$1$}}} {133 \ensuremath{\mbox{\mbox{$1$}}}} {134 \ensuremath{\mbox{$1$}}} {136 \ensuremath{\mbox
                                                                             134 \telrightparen{)}%
                              \telplus
                                                                             135 \ensuremath{\lower.plus}[1]{\ensuremath{\lower.plus}} \ensuremath{\lower.plus}] \ensuremath{\lower.plus}[1]{\ensuremath{\lower.plus}} \ensuremath{\lower.plus}[1]{\ensuremath{\lower.plus}} \ensuremath{\lower.plus}] \ensuremath{\lower.plus}} \ensuremath{\lower.plus}} \ensuremath{\lower.plus}] \ensuremath{\lower.plus}} \ensuremath{\lower.plus}} \ensuremath{\lower.plus}} \ensuremath{\lower.plus}} \ensuremath{\lower.plus}] \ensuremath{\lower.plus}} \ensuremath{\l
                                                                             136 \neq 136
                            \teltilde
                                                                             137 \ensuremath{\label{locality}} 137 \ensuremath{\locality} [1]{\ensuremath{\locality}} [1]{\ensuremath{\locality}} (2)
                                                                             138 teltilde{~}\%
                    \TELtoks
                                                                             139 \newtoks\TELtoks
  \TELnumber
                                                                             140 \def\TELnumber#1#2\TELnumberEND{%
                                                                             141 \begingroup
                                                                             142 \def\0{#2}%
                                                                             143 \expandafter\endgroup
                                                                             144 \left( \frac{0}{\text{empty}} \right)
                                                                                                           \verb|\TELtoks=\expandafter{\the\TELtoks#1}| % \\
                                                                             145
                                                                                                            \ifnum\TELswitch=0 %
                                                                             146
                                                                             147
                                                                                                                    \def\TELx{\TELspace}\def\TELy{}%
                                                                             148
                                                                                                            \else
                                                                             149
                                                                                                                    \def\TELx{}\def\TELy{\TELspace}%
                                                                              150
                                                                                                            \fi
                                                                              151
                                                                                                             \the\TELtoks
                                                                             152
                                                                                                     \else
                                                                                                             \label{lem:telswitch=0} $$ \left( \frac{1}{2} \right) = 0. $$
                                                                             153
                                                                                                                     \TELtoks=\expandafter{\the\TELtoks#1\TELx}%
                                                                             154
                                                                                                                     \def\TELswitch{1}%
                                                                             155
                                                                                                             \else
                                                                             156
                                                                                                                     \TELtoks=\expandafter{\the\TELtoks#1\TELy}%
                                                                             157
                                                                                                                     \def\TELswitch{0}%
                                                                             158
                                                                             159
                                                                                                            \TELnumber#2\TELnumberEND
                                                                             160
                                                                             161 \fi
                                                                             162 }
             \telnumber
                                                                             163 \DeclareRobustCommand*{\telnumber}[1]{%
                                                                             164 \TELtoks={}%
                                                                             165 \left( \frac{0}{\%} \right)
                                                                             166 \TELnumber#1{}\TELnumberEND
                                                                             167 }
                   \TELsplit
                                                                              168 \def\TELsplit{\futurelet\TELfuture\TELdosplit}
        \TELdosplit
                                                                             169 \def\TELdosplit#1#2\TELsplitEND
                                                                             170 {%
                                                                             171 \def\TELsp{ }%
                                                                             172 \expandafter\ifx\TELsp\TELfuture
                                                                                                           \let\TELfuture=\relax
                                                                             173
                                                                                                            \verb|\expandafter\telnumber\expandafter{\the\TELtoks}^{\ensuremath{\color{Charge}}}|
                                                                             174
                                                                                                            \telprint{#1#2}% Das Leerzeichen kann nicht #1 sein!
                                                                             175
                                                                             176 \else
```

```
\def\TELfirst{#1}%
          177
          178
                \ifx\TELfirst\empty
                  \expandafter\telnumber\expandafter{\the\TELtoks}%
          179
                  \TELtoks={}%
          180
                \else\if-\TELfirst
          181
          182
                  \verb|\expandafter\telnumber\expandafter{\the\TELtoks}\TELhyphen|
          183
                  \telprint{#2}%
                \verb|\else| if/\TELfirst|
          184
                  \verb|\expandafter\telnumber\expandafter{\the\TELtoks}\TELs lash|
          185
                  \telprint{#2}%
          186
                \else\if(\TELfirst
          187
                  \verb|\expandafter\\telnumber\\expandafter{\the\\TELtoks}\\TELleftparen
          188
                  \telprint{#2}%
          189
                \else\if)\TELfirst
          190
                  \expandafter\telnumber\expandafter{\the\TELtoks}\TELrightparen
          191
          192
                  \telprint{#2}%
          193
                \else\if+\TELfirst
                  \verb|\expandafter\telnumber\expandafter{\the\TELtoks}\TELplus|
          194
                  \telprint{#2}%
          195
                \verb|\def|TELtemp{-}| ifx\TELtemp\TELfirst|
          196
                  \expandafter\telnumber\expandafter{\the\TELtoks}\TELtilde
          197
                  \left\{ \#2 \right\} 
          198
          199
                \else
                  \TELtoks=\expandafter{\the\TELtoks#1}%
          200
                  \TELsplit#2{}\TELsplitEND
          201
          202
                \inf\inf\inf\inf\inf
          203 \fi
          204 }
\telprint
          205 \DeclareRobustCommand*{\telprint}[1]{%
          206 \TELtoks={}%
          207
              \TELsplit#1{}\TELsplitEND
          208 }
          209 \TELreset\let\TELreset=\UnDeFiNeD
          210 \TELAtEnd%
         211 (/package)
```

#### 3 Test

#### 3.1 Catcode checks for loading

```
212 (*test1)
213 \catcode'\{=1 %
214 \catcode'\}=2 %
215 \catcode'\#=6 %
216 \catcode'\@=11 %
217 \expandafter\ifx\csname count@\endcsname\relax
218 \countdef\count@=255 \%
219 \fi
220 \expandafter\ifx\csname @gobble\endcsname\relax
221 \leq \log\left(\frac{9}{2}\right)
222 \fi
223 \expandafter\ifx\csname @firstofone\endcsname\relax
224 \log\left(\frac{41}{\%}\right)
225 \fi
226 \expandafter\ifx\csname loop\endcsname\relax
227 \expandafter\@firstofone
228 \else
229 \expandafter\@gobble
```

```
230 \fi
231 {%
     232
      \def\body{#1}%
233
234
      \iterate
235
    }%
^{236}
     \def\iterate{%
237
      \body
        \let\next\iterate
238
      \else
239
        \left\langle \cdot \right\rangle 
240
       \fi
241
      \next
242
243 }%
244 \left| \text{let}\right| 
245 }%
246 \def\RestoreCatcodes{}
247 \count@=0 %
248 \loop
     \edef\RestoreCatcodes{%
249
      \RestoreCatcodes
250
      \verb|\catcode| the \count@=\\ the \catcode \count@\\ relax
251
252
253 \ifnum\count@<255 %
254 \advance\count@ 1 %
255 \repeat
256
257 \def\RangeCatcodeInvalid#1#2{\%
258
     \count@=#1\relax
259
     \loop
      \catcode\count@=15 %
260
     261
262
      \advance\count@ 1 %
263
     \repeat
264 }
265 \def\RangeCatcodeCheck#1#2#3{\%
     \count@=#1\relax
267
     \loop
      \ifnum#3=\catcode\count@
268
269
      \else
        \ensuremath{\tt errmessage} \%
270
         Character \the\count@\space
271
          with wrong catcode \the\catcode\count@\space
272
273
         instead of \number#3%
274
        }%
275
276
     \index(0) = \frac{2}{2}
277
       \advance\count@ 1 %
278
     \repeat
279 }
280 \ensuremath{\mbox{def\space}}\
281 \end{formula} \end{formula} and \end{formula} and \end{formula} \end{formula}
     \label{loadCommand} $$ \end{\mathrm{lingut\ telprint.sty}relax} % $$ \end{\mathrm{lingut\ telprint.sty}relax} $$
283 \fi
284 \left\{ \text{Test} \right\}
285
     \RangeCatcodeInvalid{0}{47}%
    \RangeCatcodeInvalid{58}{64}%
287 \RangeCatcodeInvalid{91}{96}%
288 \RangeCatcodeInvalid{123}{255}\%
289 \catcode'\@=12 %
290 \catcode'\\=0 %
291 \catcode'\%=14 %
```

```
\LoadCommand
292
    \RangeCatcodeCheck{0}{36}{15}%
293
    \RangeCatcodeCheck{37}{37}{14}%
294
    \RangeCatcodeCheck{38}{47}{15}%
295
    \RangeCatcodeCheck{48}{57}{12}%
    \RangeCatcodeCheck{58}{63}{15}%
297
    \RangeCatcodeCheck{64}{64}{12}%
298
299
    \RangeCatcodeCheck{65}{90}{11}%
300
    \RangeCatcodeCheck{91}{91}{15}%
    \RangeCatcodeCheck{92}{92}{0}%
301
    \RangeCatcodeCheck{93}{96}{15}%
302
    \RangeCatcodeCheck{97}{122}{11}%
303
    \RangeCatcodeCheck{123}{255}{15}%
304
    \RestoreCatcodes
305
306 }
307 \Test
308 \csname @@end\endcsname
309 \end
310 (/test1)
```

#### 4 Installation

#### 4.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

CTAN:macros/latex/contrib/oberdiek/telprint.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/telprint.pdf Documentation.

**Bundle.** All the packages of the bundle 'oberdiek' are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

#### CTAN:install/macros/latex/contrib/oberdiek.tds.zip

TDS refers to the standard "A Directory Structure for TEX Files" (CTAN:tds/tds.pdf). Directories with texmf in their name are usually organized this way.

#### 4.2 Bundle installation

**Unpacking.** Unpack the oberdiek.tds.zip in the TDS tree (also known as texmf tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory TDS:scripts/oberdiek/ for scripts that need further installation steps. Package attachfile2 comes with the Perl script pdfatfi.pl that should be installed in such a way that it can be called as pdfatfi. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

#### 4.3 Package installation

Unpacking. The .dtx file is a self-extracting docstrip archive. The files are extracted by running the .dtx through plain TeX:

tex telprint.dtx

<sup>1</sup>http://ctan.org/pkg/telprint

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as texmf tree):

```
\begin{tabular}{lll} telprint.sty & $\to$ tex/generic/oberdiek/telprint.sty \\ telprint.pdf & $\to$ doc/latex/oberdiek/telprint.pdf \\ test/telprint-test1.tex & $\to$ doc/latex/oberdiek/test/telprint-test1.tex \\ telprint.dtx & $\to$ source/latex/oberdiek/telprint.dtx \\ \end{tabular}
```

If you have a docstrip.cfg that configures and enables docstrip's TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

#### 4.4 Refresh file name databases

If your  $T_EX$  distribution (te $T_EX$ , mik $T_EX$ , ...) relies on file name databases, you must refresh these. For example, te $T_EX$  users run texhash or mktexlsr.

#### 4.5 Some details for the interested

Unpacking with LATEX. The .dtx chooses its action depending on the format:

plain TEX: Run docstrip and extract the files.

LATEX: Generate the documentation.

If you insist on using LATEX for docstrip (really, docstrip does not need LATEX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{telprint.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the .dtx or the .drv to generate the documentation. The process can be configured by the configuration file ltxdoc.cfg. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfIATEX:

```
pdflatex telprint.dtx
makeindex -s gind.ist telprint.idx
pdflatex telprint.dtx
makeindex -s gind.ist telprint.idx
pdflatex telprint.dtx
```

### 5 Catalogue

The following XML file can be used as source for the TEX Catalogue. The elements caption and description are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is telprint.xml.

```
311 (*catalogue)
312 <?xml version='1.0' encoding='us-ascii'?>
313 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
314 <entry datestamp='$Date$' modifier='$Author$' id='telprint'>
315 <name>telprint</name>
316 <caption>Format German phone numbers.</caption>
317 <authorref id='auth:oberdiek'/>
318 <copyright owner='Heiko Oberdiek' year='1996,1997,2004-2008'/>
319 310 <version number='1.11'/>
```

```
321 <description>
322
      The package provides a command <tt>\telprint</tt> for formatting
323
      German telephone numbers.
324
325
      The package is part of the <xref refid='oberdiek'>oberdiek</xref>
326
      bundle.
327
     </description>
328
     <documentation details='Package documentation'</pre>
329
       href='ctan:/macros/latex/contrib/oberdiek/telprint.pdf'/>
330 <ctan file='true' path='/macros/latex/contrib/oberdiek/telprint.dtx'/>
    <miktex location='oberdiek'/>
331
332 <texlive location='oberdiek'/>
333 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
335 (/catalogue)
```

### 6 History

#### [1996/11/28 v1.0]

- Erste lauffähige Version.
- Nur '-' und '/' als zulässige Sonderzeichen.

#### [1997/09/16 v1.1]

- Dokumentation und Kommentare (Posting in de.comp.text.tex).
- Erweiterung um Sonderzeichen '(', ')', '+', '~' und ' '.
- Trennungsverhinderung am 'hyphen'.

### [1997/10/16 v1.2]

- Schutz vor wiederholtem Einlesen.
- Unter LATEX  $2_{\varepsilon}$  Nutzung des \DeclareRobustCommand-Features.

### [1997/12/09 v1.3]

- Temporäre Variable eingespart.
- Posted in newsgroup de.comp.text.tex:
   "Re: Generisches Markup für Telefonnummern?"<sup>2</sup>

### [2004/11/02 v1.4]

• Fehler in der Dokumentation korrigiert.

#### [2005/09/30 v1.5]

• Konfigurierbare Symbole: '/', '(', ')', '+' und '~'.

### [2006/02/12 v1.6]

- LPPL 1.3.
- Kurze Übersicht in Englisch.
- CTAN.

<sup>&</sup>lt;sup>2</sup>Url: http://groups.google.com/group/de.comp.text.tex/msg/86b3a86140007309

### [2006/08/26 v1.7]

• New DTX framework.

### [2007/04/11 v1.8]

 $\bullet~$  Line ends sanitized.

### [2007/09/09 v1.9]

- Catcode section added.
- Missing docstrip tag added.

### [2008/08/11 v1.10]

- Code is not changed.
- URLs updated.

### $[2016/05/16\ v1.11]$

• Documentation updates.

### 7 Index

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$ \begin{array}{c} \textbf{C} \\ \texttt{(catcode} \ \ldots \ 2,  3,  5,  6,  7,  8,  9,  10, \\ 11,  12,  13,  33,  34,  36,  37,  38,  39, \\ 40,  41,  42,  43,  44,  45,  46,  47,  48, \\ 49,  69,  70,  72,  73,  74,  78,  79,  80, \\ 81,  82,  83,  84,  87,  88,  90,  91,  92, \end{array} $	\futurelet
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