Arno Trautmann
arno.trautmann@gmx.de

`neoshorthands`

Abstract

This is the documentation of the package `neoshorthands`. It is a tool to use the powerfull Neo-layout with X∃LATEX. It does not do very much, but mapping many of the usefull symbols to TEX commands. [1] will be converted to \tau. This package does *not* define fancy commands and is therefore very robust. Just say \usepackage{neoshorthands}. If you find any incompatiblities with any package, pleas drop me a mail and maybe I can take care of it.

The single command of this package is \neoshorthand{ }\tau wich maps the command onto the given symbol. You can add your own definitions, but please consider to send me the code so I could add it to the package. Only with the help of many people, this package can be usefull for many people!

\sh{ }\tau is a shorthand for \neoshorthand. It could have been \ns for \neoshorthand, but I found \ns not to be an appropriate macro name considering the german history.

Special thanks to the guys on german TEX mailinglist `tex-d-l` who gave me the code (I copied it from the alttex package).

Special features

Normally, the greek capital Sigma will be converted to \sum which is regarded as a feature. If you really want it to be a Sigma, use the package option `sigma`. Of course, you still can write both \sum and \Sigma in your document.

Contents

---

[1] There should be a greek letter tau shown here. If not, this document was not compiled with a font containing the regarding glyph. Most likely, many glyphs will be missing in this pdf, so have a look at the dtx to see what's really going on.

Implementation

First, the helper macros. Thanks to the german mailinglist participants!

```
1 \RequirePackage{xkeyval}
```

`\add@special`
```
2 \def\add@special#1{%
3   \rem@special{#1}%
4   \expandafter\gdef\expandafter\dospecials\expandafter
5 {\dospecials␣\do␣#1}%
6   \expandafter\gdef\expandafter\@sanitize\expandafter
7 {\@sanitize␣\@makeother␣#1}}
```

`\rem@special`
```
8 \def\rem@special#1{%
9   \def\do##1{%
10     \ifnum`#1=`##1␣\else␣\noexpand\do\noexpand##1\fi}%
11   \xdef\dospecials{\dospecials}%
12   \begingroup
13     \def\@makeother##1{%
14       \ifnum`#1=`##1␣\else␣\noexpand\@makeother\noexpand##1\fi}%
15     \xdef\@sanitize{\@sanitize}%
16   \endgroup}
```

`\neoshorthand`
```
17 \def\neoshorthand#1#2{%
18   \expandafter\ifx\csname␣cc\string#1\endcsname\relax
19     \add@special{#1}%
20     \expandafter
21     \xdef\csname␣cc\string#1\endcsname{\the\catcode`#1}%
22     \begingroup
23       \catcode`\~\active␣␣\lccode`\~`#1%
24       \lowercase{%
25       \global\expandafter\let
26           \csname␣ac\string#1\endcsname~%
27       \expandafter\gdef\expandafter~\expandafter{#2}}%
28     \endgroup
29     \global\catcode`#1\active
30   \else
31   \fi
32 }
```

`\makeneosection`
```
33 \def\makeneosection#1{
34   \count@\escapechar\escapechar\m@ne\expandafter\let\csname␣if#1%
35         \endcsname\iffalse\expandafter\@if\csname␣if#1\endcsname%
36         \iftrue\expandafter\@if\csname␣if#1\endcsname\iffalse%
37         \escapechar\count@%
35   \csname#1true\endcsname
```

`no#1`
```
36   \DeclareOptionX{no#1}{\expandafter\csname#1false\endcsname}
37 }
```

`\neosection`
```
38 \def\neosection#1{
39   \expandafter\csname␣if#1\endcsname␣\let\sh\neoshorthand␣\else␣\let%
          \sh\@gobbletwo␣\fi
40 }
```

```
41 \makeneosection{greek}
42 \makeneosection{math}
```

```
43 \makeneosection{sets}
44 \makeneosection{arrows}
45 \makeneosection{bbm}
46 \makeneosection{fractions}
47 \makeneosection{subscripts}
```
`\ifneoshorthands@sigma`
```
48 \newif\ifneoshorthands@sigma
49 \neoshorthands@sigmafalse
```
`exclude`
`\excludeoptions`
`sigma`
```
50 \DeclareOptionX{exclude}{\def\excludeoptions{#1}}
51 \DeclareOptionX{sigma}{\neoshorthands@sigmatrue}
52 \ProcessOptionsX
```
`\ifpackage@option@math`
```
53 \newif\ifpackage@option@math
54 \package@option@mathtrue
```
`\package@test@exclude`
```
55 \def\package@test@exclude{%
56   \@for\@tempa:=\excludeoptions\do{%
57     \ifcsname␣ifpackage@option@\@tempa\endcsname
58       \package@option@mathfalse
59       \@nameuse{package@option@\@tempa␣false}%
60     \fi
61   }%
62 }
63 \package@test@exclude
64 \ifx\excludeoptions\@emtpy\else
65   \package@test@exclude
66 \fi
```

And from here on, the great list of symbols is defined.

greek

```
67 \neosection{greek}
68 \sh{ }\alpha
69 \sh{ }\beta
70 \sh{ }\gamma
71 \sh{ }\delta
72 \sh{ }\epsilon
73 \sh{ }\eta
74 \sh{ }\theta
75 \sh{ }\mu
76 \sh{ }\nu
77 \sh{ }\lambda
78 \sh{ }\pi
79 \sh{ }\sigma
80 \sh{ }\xi
81 \sh{ }\chi
82 \sh{ }\psi
83 \sh{ }\phi
84 \sh{ }\zeta
85 \sh{ }\tau
86 \sh{ }\rho
```

```
87 \sh{ }\upsilon
88 \sh{ }\omega

89 \sh{Γ}\Gamma
90 \sh{Δ}\Delta
91 \sh{Π}\Pi
92 \sh{Ψ}\Psi
93 \sh{Φ}\Phi
94 \sh{Λ}\Lambda
95 \sh{Ξ}\Xi
```

careful! Σ will give a sum-sign, not a Sigma!!

```
96 \ifneoshorthands@sigma
97 \sh{Σ}\Sigma␣\else␣\sh{Σ}\sum␣\fi
98 \sh{Ω}\Omega
```

arrows

```
 99 \neosection{arrows}
```
\ensRightarrow
```
100 \def\ensRightarrow{\ensuremath{\Rightarrow}}
101 \sh{ }\Leftarrow
102 \sh{ }\ensRightarrow
103 \sh{ }\Leftrightarrow
104 \sh{→}\rightarrow
```

mathematical symbols

```
105 \neosection{math}
106 \sh{√}\sqrt
107 \sh{ }\int
108 \sh{ }\partial
109 \sh{ }\exists
110 \sh{∞}\infty
111 \sh{ }\aleph
112 \sh{ }\geq
113 \sh{ }\leq
114 \sh{·}\cdot
```

sets and logic

```
115 \neosection{sets}
116 \sh{ }\emptyset
117 \sh{ }\subset
118 \sh{ }\cup
119 \sh{ }\cap
120 \sh{ }\in
121 \sh{ }\notin
122 \sh{ }\forall
```

sub/superscript

```
                        123 \neosection{subscripts}
\subo                   124 \def\subo{_0}
\subi                   125 \def\subi{_1}
\subii                  126 \def\subii{_2}
                        127 \sh{ }\subo
                        128 \sh{ }\subi
                        129 \sh{ }\subii
\supii                  130 \def\supii{^2}
\supiii                 131 \def\supiii{^3}
\supiv                  132 \def\supiv{^4}
\supv                   133 \def\supv{^5}
\supvi                  134 \def\supvi{^6}
\supvii                 135 \def\supvii{^7}
\supviii                136 \def\supviii{^8}
                        137 \sh{²}\supii
                        138 \sh{³}\supiii
                        139 \sh{ }\supiv
                        140 \sh{ }\supv
                        141 \sh{ }\supvi
                        142 \sh{ }\supvii
                        143 \sh{ }\supviii

\supplus                144 \def\supplus{^+}
\supminus               145 \def\supminus{^-}
                        146 \sh{ }\supplus
                        147 \sh{ }\supminus

                        148 \neosection{fractions}
\sh@half                149 \def\sh@half{\bgroup\textstyle\frac␣12\egroup}
\sh@quarter             150 \def\sh@quarter{\bgroup\textstyle\frac␣12\egroup}
\sh@sixth               151 \def\sh@sixth{\bgroup\textstyle\frac␣16\egroup}
\sh@twothirds           152 \def\sh@twothirds{\bgroup\textstyle\frac␣23\egroup}
                        153 \sh{½}\sh@half
                        154 \sh{¼}\sh@quarter
                        155 \sh{ }\sh@sixth
                        156 \sh{ }\sh@twothirds
```

blackboard bold math

bbm needs some special treatment, as \mathbb is not known without the package. So we hide it and wrap it etc. Most of the glyphs are not available in this document's font, but you can guess which glyphs should be there. If not so, look into the .dtx or .sty file using an editor with a good (complete) font.

```
                        157 \neosection{bbm}
\makemathbb             158 \def\makemathbb#1{
                        159     \expandafter\def␣\csname␣mathbb#1\endcsname{\mathbb{#1}}
                        160 }
                        161 \makemathbb␣C
                        162 \makemathbb␣N
```

```
163 \makemathbb␣R
164 \makemathbb␣Q
165 \makemathbb␣Z
166 \sh{ }\mathbbC
167 \sh{ }\mathbbN
168 \sh{ }\mathbbR
169 \sh{ }\mathbbQ
170 \sh{ }\mathbbZ

171 ⟨/package⟩
```

contribution

If you want to change a certain symbol in your document, you have to use the command \neoshorthand, as \sh will no longer be defined after this package is loaded. I think, the name is too good to be blocked by such a function. Thanks to Dennis „ſ" Heidsiek and Sebastian Werk for submitting some \sh-lines!

<div style="text-align: right;">□</div>