

fmocdmac — FM's OCD L^AT_EX Macro*

Fabio Mogavero
fm@fabiomogavero.com

Released 2023/01/23

Abstract

This package contains almost all the latex macros I heavily use in my tcs research activity and, in particular, in the writing of conference and journal articles. As few of my co-authors have kindly pointed out, and probably many have thought, they are somehow a clear expression of an underlying ocd-like behavior... hence the name!

1 Implementation & Usage

```
1 <*package>
  Required external packages:
2
3 \RequirePackage{etoolbox}
4
5 \RequirePackage{xargs}
6 \RequirePackage{xspace}
7 \RequirePackage{stringstrings}
8
  Package options:
9
10 %% Auxiliary packages
11 \newif\ifaux@ \aux@false
12 \DeclareOption{aux}{\aux@true}
13 \DeclareOption{noaux}{\aux@false}
14
15 %% AMS defaults
16 \newif\ifamsdef@ \amsdef@true
17 \DeclareOption{noamsdef}{\amsdef@false}
18
19 %% AMS theorem tools
20 \newif\ifamsthm@ \amsthm@true
21 \DeclareOption{noamsthm}{\amsthm@false}
22
23 %% Extended Theorem tools
24 \newif\ifthmtls@ \thmtls@true
25 \DeclareOption{nothmtls}{\thmtls@false}
26
27 %% Enumeration tools
28 \newif\ifenmtls@ \enmtls@true
29 \DeclareOption{noenmtls}{\enmtls@false}
30
31 %% Hyper reference
32 \newif\ifhympref@ \hympref@true
33 \DeclareOption{nohympref}{\hympref@false}
34
35 %% Font tools
36 \newif\iffnttls@ \fnttls@true
```

*This document describes version v0.12 of the fmocdmac package, last revised 2023/01/23.

```

37 \DeclareOption{nofnttts}{\fnttts@false}
38
39 %% Camera-ready version
40 \newif\ifcrv@ \crv@false
41 \DeclareOption{crv}{\crv@true}
42
43 %% Change bars
44 \newif\ifchgbar@ \chgbar@false
45 \DeclareOption{chgbar}{\chgbar@true}
46
47 %% Line numbers
48 \newif\iflinnum@ \linnum@false
49 \DeclareOption{linnum}{\linnum@true}
50
51
52 %% Text macro generation
53 \newif\iftxtgen@ \txtgen@false
54 \DeclareOption{txtgen}{\txtgen@true}
55 \DeclareOption{notxtgen}
56   {\txtgen@false\text@false\com@false\gam@false\log@false\aut@false}
57
58 %% Math macro generation
59 \newif\ifmthgen@ \mthgen@false
60 \DeclareOption{mthgen}{\mthgen@true}
61 \DeclareOption{nomthgen}
62   {\mthgen@false\math@false\gam@false\log@false\aut@false}
63
64
65 %% Elementary macros for text
66 \newif\iftext@ \text@false
67 \DeclareOption{text}{\text@true\txtgen@true}
68 \DeclareOption{notext}{\text@false}
69
70 %% Elementary macros for math
71 \newif\ifmath@ \math@false
72 \DeclareOption{math}{\math@true\mthgen@true}
73 \DeclareOption{nomath}{\math@false}
74
75
76 %% Macros for computational-complexity classes
77 \newif\ifcom@ \com@false
78 \DeclareOption{com}{\com@true\txtgen@true}
79 \DeclareOption{nocom}{\com@false}
80
81
82 %% Macros for games
83 \newif\ifgam@ \gam@false
84 \DeclareOption{gam}{\gam@true\txtgen@true\mthgen@true}
85 \DeclareOption{nogam}{\gam@false}
86
87 %% Macros for logics
88 \newif\iflog@ \log@false
89 \DeclareOption{log}{\log@true\txtgen@true\mthgen@true}
90 \DeclareOption{nolog}{\log@false}
91
92 %% Macros for automata
93 \newif\ifaut@ \aut@false
94 \DeclareOption{aut}{\aut@true\txtgen@true\mthgen@true}
95 \DeclareOption{noaut}{\aut@false}
96
97
98 %% Format-related tricks
99 \newif\iffm@ \frm@false

```

```

100 \DeclareOption{frm}{\frm@true}
101 \DeclareOption{nofrm}{\frm@false}
102
103
104 %% Figure-related tricks
105 \newif\iffig@ \fig@false
106 \DeclareOption{fig}{\fig@true}
107 \DeclareOption{nofig}{\fig@false}
108
109 %% Wrapfig package
110 \newif\ifwrpfig@ \wrpfig@true
111 \DeclareOption{nowrpfig}{\wrpfig@false}
112
113
114 %% Table-related tricks
115 \newif\iftab@ \tab@false
116 \DeclareOption{tab}{\tab@true}
117 \DeclareOption{notab}{\tab@false}
118
119
120 %% Algorithm-related tricks
121 \newif\ifalg@ \alg@false
122 \DeclareOption{alg}{\alg@true}
123 \DeclareOption{noalg}{\alg@false}
124

```

Option-processing code:

```

125
126 \DeclareOption*{\PackageWarning{fmodmac}{Unknown~'\CurrentOption'}}%
127
128 \ExecuteOptions{aux,txtgen,mthgen,text,math,com,gam,log,aut}%
129
130 \ProcessOptions\relax%
131
132 \ifcsdef{if@twocolumn}{\newif\if@twocolumn}
133
134 %*****%
135 %** Auxiliary Tricks *****%
136 %*****%
137 \ifaux@
138
139 \ifamsdef@
140   % AMS Packages
141   \RequirePackage{amsmath}
142   \RequirePackage{amssymb}
143   \RequirePackage{stmaryrd}
144   \interdisplaylinepenalty=2500
145 \fi
146
147 \ifamsth@
148   % AMS Theorem Tools
149   \RequirePackage{amsthm}
150 \fi
151
152 \ifthmtls@
153   % Extended Theorem Tools
154   \RequirePackage{thmtools, thm-restate}
155 \fi
156
157 \ifenmtls@
158   % Enumeration Tools
159   \RequirePackage{paralist}
160 \fi
161

```

```

162 \ifhyref@
163   % Hyper References
164   \RequirePackage{hyperref}
165   \hypersetup {
166     pdfsubject      = {},
167     pdfkeywords     = {},
168     pdfproducer     = {},
169     pdfcreator      = {},
170     pdfpagemode     = {UseNone},
171     pdfstartview    = {FitH},
172     urlcolor        = {blue},
173     colorlinks
174   }
175 \fi
176
177 \iffnttts@
178   % Font Tools
179   \RequirePackage[final]{microtype}
180 \fi
181
182 \ifcrv@
183   % Camera-Ready Version
184
185   %%...
186
187 \else
188   % Draft Version
189
190   %%...
191
192   \ifchgbar@
193     % Change Bars
194     \RequirePackage{changebar}
195   \fi
196
197   \iflinnum@
198     % Line Numbers
199     \if@twocolumn
200       \RequirePackage[switch, columnwise, mathlines]{lineno}\linenumbers
201     \else
202       \RequirePackage[columnwise, mathlines]{lineno}\linenumbers
203     \fi
204   \fi
205
206   %%...
207
208 \fi
209
210 \fi
211 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
212 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
213 %** Auxiliary Font Declarations %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
214 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\mathbbo Bbo Math Font: ... to do!
215 \ifdef{\mathbbo}{\DeclareMathAlphabet{\mathbbo}{U}{bbold}{m}{n}}
\matheus Eus Math Font: ... to do!
216 \ifdef{\matheus}{\DeclareMathAlphabet{\matheus}{U}{eus}{m}{n}}
\mathpzc Pzc Math Font: ... to do!
217 \ifdef{\mathpzc}{\DeclareMathAlphabet{\mathpzc}{T1}{pzc}{m}{it}}

```

```

\mathscr Scr Math Font: ... to do!
218 \ifdef{\mathscr}{\DeclareMathAlphabet{\mathscr}{U}{rsfs}{m}{n}}

219 %*****%
220 %*****%
221 %** Auxiliary Alphabet Letters *****%
222 %*****%

\omicron Auxiliary Greek lowercase letter: ... to do!
223 \csdef{omicron}{o}

\Alpha, ... Auxiliary Greek uppercase letters: ... to do!
224 \csdef{Alpha}{A} \csdef{Beta}{B} \csdef{Epsilon}{E} \csdef{varEpsilon}{E}
225 \csdef{Zeta}{Z} \csdef{Eta}{H} \csdef{Iota}{I} \csdef{Kappa}{K}
226 \csdef{varKappa}{K} \csdef{Mu}{M} \csdef{Nu}{N} \csdef{Omicron}{O}
227 \csdef{Rho}{P} \csdef{varRho}{P} \csdef{Tau}{T} \csdef{Chi}{X}

228 %*****%
229 %*****%
230 %** Tools *****%
231 %*****%

\empchk Emptiness check: \empchk{<A>}{<B>} evaluates to the empty string, if Argument <A> is empty,
and to Argument <B>, otherwise.


- \empchk{}{B} = “”
- \empchk{A}{B} = “B”


232 \newcommand{\empchk}[2]
233 {\if#1&\else#2\fi}

\defval Default value: \defval{<A>}{<B>} evaluates to Argument <B>, if Argument <A> is empty, and to
Argument <A> itself, otherwise.


- \defval{}{B} = “B”
- \defval{A}{B} = “A”


234 \newcommand{\defval}[2]
235 {\if#1&#2\else#1\fi}

236 %*****%

\arglef Left extension: \arglef{<A>}{<B>} evaluates to the concatenation <AB> of the two arguments, if
Argument <B> is non-empty, and to the empty string, otherwise.


- \arglef{A}{} = “”
- \arglef{A}{B} = “AB”


237 \newcommand{\arglef}[2]
238 {\empchk{#2}{#1\allowbreak#2}}

\argrig Right extension: \argrig{<A>}{<B>} evaluates to the concatenation <AB> of the two arguments,
if Argument <A> is non-empty, and to the empty string, otherwise.


- \argrig{}{B} = “”
- \argrig{A}{B} = “AB”


239 \newcommand{\argrig}[2]
240 {\empchk{#1}{#1\allowbreak#2}}

\argmid Middle extension: \argmid{<A>}{<B>}{<C>} evaluates to the concatenation <ABC> of the three
arguments, if Argument <B> is non-empty, and to the empty string, otherwise.


- \argmid{A}{}{C} = “”
- \argmid{A}{B}{C} = “ABC”


241 \newcommand{\argmid}[3]
242 {\empchk{#2}{#1\allowbreak#2\allowbreak#3}}

```

\argsep **Separators:** `\argsep{⟨A⟩}{⟨B⟩}{⟨C⟩}` evaluates to Argument $\langle A \rangle$, if Argument $\langle A \rangle$ is empty, to Argument $\langle A \rangle$, if Argument $\langle C \rangle$ is empty, and to the concatenation $\langle ABC \rangle$, otherwise.

- `\argsep{}{B}{C}` = “C”
- `\argsep{A}{B}{}` = “A”
- `\argsep{A}{}{C}` = “AC”
- `\argsep{A}{B}{C}` = “ABC”

```

243 \newcommand{\argsep}[3]
244   {\if&#1&#3\else#1\arglef{\allowbreak#2}{#3}\fi}

245 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

\varcmd **Variadic commands:** `\varcmd{⟨A⟩}{⟨B⟩}{⟨C⟩}{⟨D⟩}{⟨E⟩}{⟨F⟩} ... to do!`

```

246 \newcommand{\varcmd}[6]
247   {\expandafter\newcommand\csname gobble#1arg\endcsname[2]
248     {\csname check#1arg\endcsname{\argsep{##1}{#4}{##2}}}%
249     \expandafter\newcommand\csname check#1arg\endcsname[1]
250       {\csname @ifnextchar\endcsname%
251         \bgroup{\csname gobble#1arg\endcsname{##1}{#2{##1#5}#6}}}%
252     \expandafter\newcommand\csname#1\endcsname[1]
253       {\csname check#1arg\endcsname{#3##1}}}%

254 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

\seqoftag **Sequence of tags:** `\seqoftag{⟨A⟩}{⟨B⟩}{⟨C⟩} ... to do!`

```

255 \newcommand{\seqoftag}[3]
256   {\@for\itr:={#1}\do%
257     {\expandafter\csedef{\itr#2}%
258       {\noexpand\csname #3\endcsname{\itr}}}}%
```

\seqofcmd **Sequence of commands:** `\seqofcmd{⟨A⟩}{⟨B⟩}{⟨C⟩} ... to do!`

```

259 \newcommand{\seqofcmd}[3]
260   {\@for\itr:={#1}\do%
261     {\expandafter\csedef{\itr#2}%
262       {\noexpand\csname #3\endcsname{\csname \itr\endcsname}}}}%

263 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

\seqoflatlow **Sequence of Latin lowercase letters:** `\seqoflatlow{⟨A⟩}{⟨B⟩} ... to do!`

```

264 \newcommand{\seqoflatlow}
265   {\seqoftag{a,b,c,d,e,f,g,h,i,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z}}
```

\seqoflatupp **Sequence of Latin uppercase letters:** `\seqoflatupp{⟨A⟩}{⟨B⟩} ... to do!`

```

266 \newcommand{\seqoflatupp}
267   {\seqoftag{A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z}}
```

\seqoflatlet **Sequence of Latin letters:** `\seqoflatlet{⟨A⟩}{⟨B⟩} ... to do!`

```

268 \newcommand{\seqoflatlet}[2]
269   {\seqoflatlow{#1}{#2}\seqoflatupp{#1}{#2}}

270 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

\seqofgrklow **Sequence of Greek lowercase letters:** `\seqofgrklow{⟨A⟩}{⟨B⟩} ... to do!`

```

271 \newcommand{\seqofgrklow}
272   {\seqofcmd{alpha,beta,gamma,delta,epsilon,varepsilon,zeta,eta,theta,vartheta,%
273     iota,kappa,varkappa,lambda,mu,nu,xi,omicron,pi,varpi,rho,varrho,sigma,%
274     varsigma,tau,upsilon,phi,varphi,chi,psi,omega}}
```

\seqofgrkupp **Sequence of Greek uppercase letters:** `\seqofgrkupp{⟨A⟩}{⟨B⟩} ... to do!`

```

275 \newcommand{\seqofgrkupp}
276   {\seqofcmd{Alpha,Beta,Gamma,Delta,Epsilon,varEpsilon,Zeta,Eta,Theta,varTheta,%
277     Iota,Kappa,varKappa,Lambda,Mu,Nu,Xi,Omicron,Pi,varPi,Rho,varRho,Sigma,%
278     varSigma,Tau,Upsilon,Phi,varPhi,Chi,Psi,Omega}}
```

```

\seqofgrklet Sequence of Greek letters: \seqofgrklet{⟨A⟩}{⟨B⟩} ... to do!
279 \newcommand{\seqofgrklet}[2]
280   {\seqofgrklow{#1}{#2}\seqofgrkupp{#1}{#2}}

281 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\seqoflow Sequence of lowercase letters: \seqoflow{⟨A⟩}{⟨B⟩} ... to do!
282 \newcommand{\seqoflow}[2]
283   {\seqoflatlow{#1}{#2}\seqofgrklow{#1}{#2}}

\seqofupp Sequence of uppercase letters: \seqofupp{⟨A⟩}{⟨B⟩} ... to do!
284 \newcommand{\seqofupp}[2]
285   {\seqoflatupp{#1}{#2}\seqofgrkupp{#1}{#2}}

\seqoflet Sequence of all letters: \seqoflet{⟨A⟩}{⟨B⟩} ... to do!
286 \newcommand{\seqoflet}[2]
287   {\seqoflow{#1}{#2}\seqofupp{#1}{#2}}

288 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
289 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
290 %** Text Meta Commands %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
291 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\newtxt ... to do!
  • \newtxt[\rmfamily]{Name}[sub][sup][Ext] = “NamesubExt”
  • \newtxt[\sffamily]{Name}[sub][sup][Ext] = “NamesubExt”
  • \newtxt[\ttfamily]{Name}[sub][sup][Ext] = “NamesubExt”
292 \newcommandx{\newtxt}[5][1=, 3=, 4=, 5=]
293   {\text{#1#2\txsubsup{#1}{#3}{#4}{#5}\xspace}}

\newtxtsty ... to do!
  • \newtxtsty[\rmfamily]{Name}[sub][sup][Ext] = “NamesubExt”
  • \newtxtsty[\rmfamily][\sffamily]{Name}[sub][sup][Ext] = “NamesubExt”
  • \newtxtsty[\rmfamily][\ttfamily]{Name}[sub][sup][Ext] = “NamesubExt”
294 \newcommandx{\newtxtsty}[2][2=]
295   {\newtxt[\defval{#2}{#1}]}

\newxtarg ... to do!
  • \newxtarg[\rmfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NamesubExt1(Arg)Ext2”
  • \newxtarg[\sffamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NamesubExt1(Arg)Ext2”
  • \newxtarg[\ttfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NamesubExt1(Arg)Ext2”
296 \newcommandx{\newxtarg}[7][1=, 3=, 4=, 5=, 7=]
297   {\newtxt{#1}{#2}{#3}{#4}{#5\argmid{#6}{#7}}}

\newxtargsty ... to do!
  • \newxtargsty[\rmfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NamesubExt1(Arg)Ext2”
  • \newxtargsty[\rmfamily][\sffamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NamesubExt1(Arg)Ext2”
  • \newxtargsty[\rmfamily][\ttfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NamesubExt1(Arg)Ext2”
298 \newcommandx{\newxtargsty}[2][2=]
299   {\newxtarg[\defval{#2}{#1}]}

\newtxtoarg ... to do!
  • \newtxtoarg[\rmfamily]{Name}[sub][sup][Arg] = “Namesub(Arg)”
  • \newtxtoarg[\sffamily]{Name}[sub][sup][Arg] = “Namesub(Arg)”
  • \newtxtoarg[\ttfamily]{Name}[sub][sup][Arg] = “Namesub(Arg)”
300 \newcommandx{\newtxtoarg}[5][1=, 3=, 4=, 5=]
301   {\newxtarg{#1}{#2}{#3}{#4}[]{}{#5}[]}}

```

```

\newtxtoargsty ... to do!
    • \newtxtoargsty{\rmfamily}{Name}[sub][sup][Arg] = “Namesub(Arg)”
    • \newtxtoargsty{\rmfamily}{\sffamily}{Name}[sub][sup][Arg] = “Namesub(Arg)”
    • \newtxtoargsty{\rmfamily}{\ttfamily}{Name}[sub][sup][Arg] = “Namesub(Arg)”
302 \newcommandx{\newtxtoargsty}[2][2=]
303   {\newtxtoarg[\defval{#2}{#1}]}

\newtxtpar ... to do!
    • \newtxtpar[\rmfamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesubExt1[Par]Ext2”
    • \newtxtpar[\sffamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesubExt1[Par]Ext2”
    • \newtxtpar[\ttfamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesubExt1[Par]Ext2”
304 \newcommandx{\newtxtpar}[7][1=, 3=, 4=, 5=, 7=]
305   {\newtxt{#1}{#2}{#3}{#4}{#5}\argmid{#6}{#7}}

\newtxtparsty ... to do!
    • \newtxtparsty{\rmfamily}{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesubExt1[Par]Ext2”
    • \newtxtparsty{\rmfamily}{\sffamily}{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesubExt1[Par]Ext2”
    • \newtxtparsty{\rmfamily}{\ttfamily}{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesubExt1[Par]Ext2”
306 \newcommandx{\newtxtparsty}[2][2=]
307   {\newtxtpar[\defval{#2}{#1}]}

\newtxtopar ... to do!
    • \newtxtopar[\rmfamily]{Name}[sub][sup][Par] = “Namesub[Par]”
    • \newtxtopar[\sffamily]{Name}[sub][sup][Par] = “Namesub[Par]”
    • \newtxtopar[\ttfamily]{Name}[sub][sup][Par] = “Namesub[Par]”
308 \newcommandx{\newtxtopar}[5][1=, 3=, 4=, 5=]
309   {\newtxtpar{#1}{#2}{#3}{#4}{#5}}

\newtxtoparsty ... to do!
    • \newtxtoparsty{\rmfamily}{Name}[sub][sup][Par] = “Namesub[Par]”
    • \newtxtoparsty{\rmfamily}{\sffamily}{Name}[sub][sup][Par] = “Namesub[Par]”
    • \newtxtoparsty{\rmfamily}{\ttfamily}{Name}[sub][sup][Par] = “Namesub[Par]”
310 \newcommandx{\newtxtoparsty}[2][2=]
311   {\newtxtopar[\defval{#2}{#1}]}

\txtsubsup ... to do!
    • \txtsubsup{sub}{} = “sub”; \txtsubsup{}{sup} = “sup”; \txtsubsup{sub}{sup} = “sub”
    • \txtsubsup[\sffamily]{Aa}{Bb} = “AaBb”
    • \txtsubsup[\ttfamily]{Aa}{Bb} = “AaBb”
312 \newcommand{\txtsubsup}[3]{}
313   {\ensuremath{\empchk{#2}{\text{#1#2}}}\empchk{#3}{\text{#1#3}}}}

314 %%*****%

\txt ... to do!
    • \txt{Name}[sub][sup][Ext] = “NamesubExt”
    • \txt[\scshape]{Name}[sub][sup][Ext] = “NAMESUBEXT”
    • \txt[\bfseries]{Name}[sub][sup][Ext] = “NamesubExt”
315 \newcommand{\txt}
316   {\newtxtsty{\txtsty}}

\txtarget ... to do!
    • \txtarget{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NamesubExt1(Arg)Ext2”
    • \txtarget[\scshape]{Name}[sub][sup][Ext1]{Arg}[Ext2] = “NAMESUBEXT1(ARG)EXT2”

```



```

    • \txtarg[\bfseries]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NamesubExt1(Arg)Ext2"
317 \newcommand{\txtarg}
318 {\newtxtargsty{\txtsty}}

\txtoarg ... to do!
    • \txtoarg{Name}[sub][sup][Arg] = "Namesub(Arg)"
    • \txtoarg[\scshape]{Name}[sub][sup][Arg] = "NAMESUB(ARG)"
    • \txtoarg[\bfseries]{Name}[sub][sup][Arg] = "Namesub(Arg)"
319 \newcommand{\txtoarg}
320 {\newtxtoargsty{\txtsty}}

\txtpar ... to do!
    • \txtpar{Name}[sub][sup][Ext1]{Par}[Ext2] = "NamesubExt1[Par]Ext2"
    • \txtpar[\scshape]{Name}[sub][sup][Ext1]{Par}[Ext2] = "NAMESUBEXT1[PAR]EXT2"
    • \txtpar[\bfseries]{Name}[sub][sup][Ext1]{Par}[Ext2] = "NamesubExt1[Par]Ext2"
321 \newcommand{\txtpar}
322 {\newtxtparsty{\txtsty}}

\txtopar ... to do!
    • \txtopar{Name}[sub][sup][Par] = "Namesub[Par]"
    • \txtopar[\scshape]{Name}[sub][sup][Par] = "NAMESUB[PAR]"
    • \txtopar[\bfseries]{Name}[sub][sup][Par] = "Namesub[Par]"
323 \newcommand{\txtopar}
324 {\newtxtoparsty{\txtsty}}

\txtsty ... to do!
325 \newcommand{\txtsty}
326 {\mdseries\upshape\rmfamily}

327 %*****%

\cmdtxt ... to do!
    • \cmdtxt{NewCmd}; \newcommand{\txtstyNewCmd}{\scshape\ttfamily};
    \txtNewCmd{Name}[sub][sup][Ext] = NAMESUBEXT
328 \newcommand{\cmdtxt}[1]
329 {\csdef{txt#1}{\newtxtsty{\csname txtsty#1\endcsname}}}

\cmdtxtarg ... to do!
    • \cmdtxtarg{NewCmd}; \newcommand{\txtstyNewCmd}{\scshape\ttfamily};
    \txtargNewCmd{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAMESUBEXT1(ARG)EXT2
330 \newcommand{\cmdtxtarg}[1]
331 {\csdef{txtarg#1}{\newtxtargsty{\csname txtsty#1\endcsname}}}

\cmdtxtoarg ... to do!
    • \cmdtxtoarg{NewCmd}; \newcommand{\txtstyNewCmd}{\scshape\ttfamily};
    \txtoargNewCmd{Name}[sub][sup][Arg] = NAMESUB(ARG)
332 \newcommand{\cmdtxtoarg}[1]
333 {\csdef{txtoarg#1}{\newtxtoargsty{\csname txtsty#1\endcsname}}}

\cmdtxtpar ... to do!
    • \cmdtxtpar{NewCmd}; \newcommand{\txtstyNewCmd}{\scshape\ttfamily};
    \txtparNewCmd{Name}[sub][sup][Ext1]{Par}[Ext2] = NAMESUBEXT1[PAR]EXT2
334 \newcommand{\cmdtxtpar}[1]
335 {\csdef{txtpar#1}{\newtxtparsty{\csname txtsty#1\endcsname}}}

\cmdtxtopar ... to do!

```

```

    • \cmdttxtopar{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
      \txtoparNewCmd{Name}[sub][sup][Par] = NAMESUB[PAR]
336 \newcommand{\cmdttxtopar}[1]
337   {\csdef{txtopar#1}{\newttxtoparsty{\csname txtsty#1\endcsname}}}

\cmdttxall ... to do!
    • \cmdttxall{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
      \txtNewCmd{Name}[sub][sup][Ext] = NAMESUBEXT
      \txtargNewCmd{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAMESUBEXT1(ARG)EXT2
      \txtoargNewCmd{Name}[sub][sup][Arg] = NAMESUB(ARG)
      \txtparNewCmd{Name}[sub][sup][Ext1]{Par}[Ext2] = NAMESUBEXT1[PAR]EXT2
      \txtoparNewCmd{Name}[sub][sup][Par] = NAMESUB[PAR]
338 \newcommand{\cmdttxall}[1]
339   {\cmdttx{#1}\cmdttxarg{#1}\cmdttxoarg{#1}\cmdttxpar{#1}\cmdttxtopar{#1}}

340 %%*****%

\usrtxt ... to do!
    • \usrtxt{cmdName}{Suf}{}; \cmdNameSuf = cmdName
      \usrtxt{cmdName}{Suf}{arg}; \cmdNameSuf{Arg} = cmdName(Arg)
      \usrtxt{cmdName}{Suf}{par}; \cmdNameSuf{Par} = cmdName[Par]
    • \usrtxt{cmdName}{Suf}{newName}; \cmdNameSuf = newName
      \usrtxt{cmdName}{Suf}{arg}[newName]; \cmdNameSuf{Arg} = newName(Arg)
      \usrtxt{cmdName}{Suf}{par}[newName]; \cmdNameSuf{Par} = newName[Par]
341 \newcommandx{\usrtxt}[4][4=]
342   {\csdef{#1#2}{\csname txt#3\endcsname{\defval{#4}{#1}}}}

343 %%*****%
344 %%*****%
345 %** Math Meta Commands *****%
346 %%*****%

\newmth ... to do!
    • \newmth[mathrm]{Name}[sub][sup][Ext] = "NamesupsubExt"
    • \newmth[mathsf]{Name}[sub][sup][Ext] = "NamesupsubExt"
    • \newmth[mathtt]{Name}[sub][sup][Ext] = "NamesupsubExt"
347 \newcommandx{\newmth}[5][1=, 3=, 4=, 5=]
348   {\ensuremath{\csname#1\endcsname{#2}\mthsubsup{#3}{#4}{#5}}}

\newmthsty ... to do!
    • \newmthsty[mathrm]{Name}[sub][sup][Ext] = "NamesupsubExt"
    • \newmthsty[mathsf]{Name}[sub][sup][Ext] = "NamesupsubExt"
    • \newmthsty[mathtt]{Name}[sub][sup][Ext] = "NamesupsubExt"
349 \newcommandx{\newmthsty}[2][2=]
350   {\newmth[\defval{#2}{#1}]}

\newmtharg ... to do!
    • \newmtharg[mathrm]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NamesupsubExt1(Arg)Ext2"
    • \newmtharg[mathsf]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NamesupsubExt1(Arg)Ext2"
    • \newmtharg[mathtt]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NamesupsubExt1(Arg)Ext2"
351 \newcommandx{\newmtharg}[7][1=, 3=, 4=, 5=, 7=]
352   {\newmth{#1}{#2}{#3}{#4}{#5}\argmid{\!\left(\!{#6}{\right)}\arglef{\!}{#7}}}]

\newmthargsty ... to do!
    • \newmthargsty[mathrm]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NamesupsubExt1(Arg)Ext2"
    • \newmthargsty[mathsf]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NamesupsubExt1(Arg)Ext2"
    • \newmthargsty[mathtt]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NamesupsubExt1(Arg)Ext2"

```

```

353 \newcommandx{\newmthargsty}[2][2=]
354   {\newmtharg[\defval{#2}{#1}]}

\newmthoarg ... to do!


- \newmthoarg[\mathrm]{Name}[sub][sup][Arg] = “Namesupsub(Arg)”
- \newmthoarg[\mathsf]{Name}[sub][sup][Arg] = “Namesupsub(Arg)”
- \newmthoarg[\mathtt]{Name}[sub][sup][Arg] = “Namesupsub(Arg)”


355 \newcommandx{\newmthoarg}[5][1=, 3=, 4=, 5=]
356   {\newmtharg[#1]{#2}{#3}{#4}[] {#5}[] }

\newmthoargsty ... to do!


- \newmthoargsty[\mathrm]{Name}[sub][sup][Arg] = “Namesupsub(Arg)”
- \newmthoargsty[\mathsf]{Name}[sub][sup][Arg] = “Namesupsub(Arg)”
- \newmthoargsty[\mathtt]{Name}[sub][sup][Arg] = “Namesupsub(Arg)”


357 \newcommandx{\newmthoargsty}[2][2=]
358   {\newmtharg[\defval{#2}{#1}]}

\newmthpar ... to do!


- \newmthpar[\mathrm]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesupsubExt1[Par]Ext2”
- \newmthpar[\mathsf]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesupsubExt1[Par]Ext2”
- \newmthpar[\mathtt]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesupsubExt1[Par]Ext2”


359 \newcommandx{\newmthpar}[7][1=, 3=, 4=, 5=, 7=]
360   {\newmth[#1]{#2}{#3}{#4}{#5\argmid{!}\left[] {#6}{\right]}\arglef{!}{#7}}}]

\newmthparsty ... to do!


- \newmthparsty[\mathrm]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesupsubExt1[Par]Ext2”
- \newmthparsty[\mathsf]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesupsubExt1[Par]Ext2”
- \newmthparsty[\mathtt]{Name}[sub][sup][Ext1]{Par}[Ext2] = “NamesupsubExt1[Par]Ext2”


361 \newcommandx{\newmthparsty}[2][2=]
362   {\newmthpar[\defval{#2}{#1}]}

\newmthopar ... to do!


- \newmthopar[\mathrm]{Name}[sub][sup][Par] = “Namesupsub[Par]”
- \newmthopar[\mathsf]{Name}[sub][sup][Par] = “Namesupsub[Par]”
- \newmthopar[\mathtt]{Name}[sub][sup][Par] = “Namesupsub[Par]”


363 \newcommandx{\newmthopar}[5][1=, 3=, 4=, 5=]
364   {\newmthpar[#1]{#2}{#3}{#4}[] {#5}[] }

\newmthoparsty ... to do!


- \newmthoparsty[\mathrm]{Name}[sub][sup][Par] = “Namesupsub[Par]”
- \newmthoparsty[\mathsf]{Name}[sub][sup][Par] = “Namesupsub[Par]”
- \newmthoparsty[\mathtt]{Name}[sub][sup][Par] = “Namesupsub[Par]”


365 \newcommandx{\newmthoparsty}[2][2=]
366   {\newmthopar[\defval{#2}{#1}]}

\mthsubsup ... to do!
367 \newcommand{\mthsubsup}[2]
368   {\empchk{#1}{_ {#1}}\empchk{#2}{^ {#2}}}

369 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\mth ... to do!


- \mth{Name}[sub][sup][Ext] = “NamesupsubExt”
- \mth[\mathbf]{Name}[sub][sup][Ext] = “NamesupsubExt”
- \mth[\mathtt]{Name}[sub][sup][Ext] = “NamesupsubExt”

```

```

370 \newcommand{\mth}
371   {\newmthsty{\mthsty}}

\mtharg ... to do!


- $\mtharg\{Name\}_{sub}^{sup}[Ext1]\{Arg\}[Ext2] = Name_{sub}^{sup}Ext1(Arg)Ext2$
- $\mtharg[\mathbf{f}]\{Name\}_{sub}^{sup}[Ext1]\{Arg\}[Ext2] = \mathbf{Name}_{sub}^{sup}Ext1(Arg)Ext2$
- $\mtharg[\mathtt{f}]\{Name\}_{sub}^{sup}[Ext1]\{Arg\}[Ext2] = \mathbf{Name}_{sub}^{sup}Ext1(Arg)Ext2$


372 \newcommand{\mtharg}
373   {\newmthargsty{\mthsty}}

\mthoarg ... to do!


- $\mthoarg\{Name\}_{sub}^{sup}[Arg] = Name_{sub}^{sup}(Arg)$
- $\mthoarg[\mathbf{f}]\{Name\}_{sub}^{sup}[Arg] = \mathbf{Name}_{sub}^{sup}(Arg)$
- $\mthoarg[\mathtt{f}]\{Name\}_{sub}^{sup}[Arg] = \mathbf{Name}_{sub}^{sup}(Arg)$


374 \newcommand{\mthoarg}
375   {\newmthoargsty{\mthsty}}

\mthpar ... to do!


- $\mthpar\{Name\}_{sub}^{sup}[Ext1]\{Par\}[Ext2] = Name_{sub}^{sup}Ext1[Par]Ext2$
- $\mthpar[\mathbf{f}]\{Name\}_{sub}^{sup}[Ext1]\{Par\}[Ext2] = \mathbf{Name}_{sub}^{sup}Ext1[Par]Ext2$
- $\mthpar[\mathtt{f}]\{Name\}_{sub}^{sup}[Ext1]\{Par\}[Ext2] = \mathbf{Name}_{sub}^{sup}Ext1[Par]Ext2$


376 \newcommand{\mthpar}
377   {\newmthparsty{\mthsty}}

\mthopar ... to do!


- $\mthopar\{Name\}_{sub}^{sup}[Par] = Name_{sub}^{sup}[Par]$
- $\mthopar[\mathbf{f}]\{Name\}_{sub}^{sup}[Par] = \mathbf{Name}_{sub}^{sup}[Par]$
- $\mthopar[\mathtt{f}]\{Name\}_{sub}^{sup}[Par] = \mathbf{Name}_{sub}^{sup}[Par]$


378 \newcommand{\mthopar}
379   {\newmthoparsty{\mthsty}}

\mthsty ... to do!
380 \newcommand{\mthsty}
381   {}

382 %%*****%

\cmdmth ... to do!


- $\cmdmth\{NewCmd\}; \newcommand\{mthstyNewCmd\}\{\mathtt{f}\};$   

 $\mthNewCmd\{Name\}_{sub}^{sup}[Ext] = Name_{sub}^{sup}Ext$


383 \newcommand{\cmdmth}[1]
384   {\csdef{mth#1}\{\newmthsty{mthsty#1}\}}

\cmdmtharg ... to do!


- $\cmdmtharg\{NewCmd\}; \newcommand\{mthstyNewCmd\}\{\mathtt{f}\};$   

 $\mthargNewCmd\{Name\}_{sub}^{sup}[Ext1]\{Arg\}[Ext2] = Name_{sub}^{sup}Ext1(Arg)Ext2$


385 \newcommand{\cmdmtharg}[1]
386   {\csdef{mtharg#1}\{\newmthargsty{mthsty#1}\}}

\cmdmthoarg ... to do!


- $\cmdmthoarg\{NewCmd\}; \newcommand\{mthstyNewCmd\}\{\mathtt{f}\};$   

 $\mthoargNewCmd\{Name\}_{sub}^{sup}[Arg] = Name_{sub}^{sup}(Arg)$


387 \newcommand{\cmdmthoarg}[1]
388   {\csdef{mthoarg#1}\{\newmthoargsty{mthsty#1}\}}

\cmdmthpar ... to do!

```

```

    • \cmdmthpar{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthparNewCmd{Name}[sub][sup][Ext1]{Par}[Ext2] = NamesubExt1[Par]Ext2
389 \newcommand{\cmdmthpar}[1]
390   {\csdef{mthpar#1}{\newmthparsty{mthsty#1}}}

\cmdmthopar ... to do!
    • \cmdmthopar{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthoparNewCmd{Name}[sub][sup][Par] = Namesub[Par]
391 \newcommand{\cmdmthopar}[1]
392   {\csdef{mthopar#1}{\newmthoparsty{mthsty#1}}}

\cmdmthall ... to do!
    • \cmdmthall{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthNewCmd{Name}[sub][sup][Ext] = NamesubExt
      \mthargNewCmd{Name}[sub][sup][Ext1]{Arg}[Ext2] = NamesubExt1(Arg)Ext2
      \mthoargNewCmd{Name}[sub][sup][Arg] = Namesub(Arg)
      \mthparNewCmd{Name}[sub][sup][Ext1]{Par}[Ext2] = NamesubExt1[Par]Ext2
      \mthoparNewCmd{Name}[sub][sup][Par] = Namesub[Par]
393 \newcommand{\cmdmthall}[1]
394   {\cmdmth{#1}\cmdmtharg{#1}\cmdmthoarg{#1}\cmdmthpar{#1}\cmdmthopar{#1}}

395 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\usrmth ... to do!
    • \usrmth{cmdName}{Suf}{}; \cmdNameSuf = cmdName
      \usrmth{cmdName}{Suf}{arg}; \cmdNameSuf{Arg} = cmdName(Arg)
      \usrmth{cmdName}{Suf}{par}; \cmdNameSuf{Par} = cmdName[Par]
    • \usrmth{cmdName}{Suf}{}[newName]; \cmdNameSuf = newName
      \usrmth{cmdName}{Suf}{arg}[newName]; \cmdNameSuf{Arg} = newName(Arg)
      \usrmth{cmdName}{Suf}{par}[newName]; \cmdNameSuf{Par} = newName[Par]
396 \newcommandx{\usrmth}[4][4=]
397   {\csdef{#1#2}{\csname mth#3\endcsname{\defval{#4}{#1}}}}

398 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\usrmthlatlow ... to do!
399 \newcommandx{\usrmthlatlow}[4][4=]
400   {\usrmth{#1}{#2}{#3}[#4]\seqoflatlow{#1#2}{mth#3}}

\usrmthlatupp ... to do!
401 \newcommandx{\usrmthlatupp}[4][4=]
402   {\usrmth{#1}{#2}{#3}[#4]\seqoflatupp{#1#2}{mth#3}}

\usrmthlatlet ... to do!
403 \newcommandx{\usrmthlatlet}[4][4=]
404   {\usrmth{#1}{#2}{#3}[#4]\seqoflatlet{#1#2}{mth#3}}

\usrmthgrklow ... to do!
405 \newcommandx{\usrmthgrklow}[4][4=]
406   {\usrmth{#1}{#2}{#3}[#4]\seqofgrklow{#1#2}{mth#3}}

\usrmthgrkupp ... to do!
407 \newcommandx{\usrmthgrkupp}[4][4=]
408   {\usrmth{#1}{#2}{#3}[#4]\seqofgrkupp{#1#2}{mth#3}}

\usrmthgrklet ... to do!
409 \newcommandx{\usrmthgrklet}[4][4=]
410   {\usrmth{#1}{#2}{#3}[#4]\seqofgrklet{#1#2}{mth#3}}

\usrmthlow ... to do!
411 \newcommandx{\usrmthlow}[4][4=]
412   {\usrmth{#1}{#2}{#3}[#4]\seqoflow{#1#2}{mth#3}}

```

```

\usrmthupp ... to do!
413 \newcommandx{\usrmthupp}[4][4=]
414   {\usrmth{#1}{#2}{#3}[#4]\seqofupp{#1#2}{mth#3}}

\usrmthlet ... to do!
415 \newcommandx{\usrmthlet}[4][4=]
416   {\usrmth{#1}{#2}{#3}[#4]\seqoflet{#1#2}{mth#3}}

417 %%*****%
418 %%*****%
419 %%** Text Macro Generators *****%
420 %%*****%
421 \iftxtgen@

\txtdef, ... ... to do!
    • \txtdef{Name}[sub][sup][Ext] =  $Name_{sub}^{sup}Ext$ 
    • \txtargdef{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $Name_{sub}^{sup}Ext1(Arg)Ext2$ 
    • \txtpardef{Name}[sub][sup][Ext1]{Par}[Ext2] =  $Name_{sub}^{sup}Ext1[Par]Ext2$ 
422 %% Style for Definitions
423 \cmdtxtall{def}\newcommand{\txtstydef}{\normalfont\bfseries\em}

\cmdtxtdef ... to do!
    • \cmdtxtdef{cmdName};
      \cmdName[sub][sub][ext] =  $cmdName_{sub}^{sub}ext$ 
    • \cmdtxtdef{cmdName}[newName];
      \cmdName[sub][sub][ext] =  $newName_{sub}^{sub}ext$ 
424 \newcommandx{\cmdtxtdef}[2][2=]
425   {\usrtxt{#1}{\def}[#2]}

\cmdtxtargdef ... to do!
    • \cmdtxtargdef{cmdName};
      \cmdName[sub][sub][ext1]{arg}[ext2] =  $cmdName_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdtxtargdef{cmdName}[newName];
      \cmdName[sub][sub][ext1]{arg}[ext2] =  $newName_{sub}^{sub}ext1(arg)ext2$ 
426 \newcommandx{\cmdtxtargdef}[2][2=]
427   {\usrtxt{#1}{\argdef}[#2]}

\cmdtxtoargdef ... to do!
    • \cmdtxtoargdef{cmdName};
      \cmdName[sub][sub][arg] =  $cmdName_{sub}^{sub}(arg)$ 
    • \cmdtxtoargdef{cmdName}[newName];
      \cmdName[sub][sub][arg] =  $newName_{sub}^{sub}(arg)$ 
428 \newcommandx{\cmdtxtoargdef}[2][2=]
429   {\usrtxt{#1}{\oargdef}[#2]}

\cmdtxtpardef ... to do!
    • \cmdtxtpardef{cmdName};
      \cmdName[sub][sub][ext1]{par}[ext2] =  $cmdName_{sub}^{sub}ext1[par]ext2$ 
    • \cmdtxtpardef{cmdName}[newName];
      \cmdName[sub][sub][ext1]{par}[ext2] =  $newName_{sub}^{sub}ext1[par]ext2$ 
430 \newcommandx{\cmdtxtpardef}[2][2=]
431   {\usrtxt{#1}{\pardef}[#2]}

\cmdtxtopardef ... to do!
    • \cmdtxtopardef{cmdName};
      \cmdName[sub][sub][par] =  $cmdName_{sub}^{sub}[par]$ 
    • \cmdtxtopardef{cmdName}[newName];
      \cmdName[sub][sub][par] =  $newName_{sub}^{sub}[par]$ 

```

```

432 \newcommandx{\cmdtxtopardef}[2][2=]
433   {\usrtxt{#1}{\opardef}[#2]}

\txtabr, ... ... to do!
  • \txtabr{Name}[sub][sup][Ext] =  $Name_{\text{sub}}^{\text{sup}} \text{Ext}$ 
  • \txtargabr{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $Name_{\text{sub}}^{\text{sup}} \text{Ext1}(\text{Arg})\text{Ext2}$ 
  • \txtparabr{Name}[sub][sup][Ext1]{Par}[Ext2] =  $Name_{\text{sub}}^{\text{sup}} \text{Ext1}[\text{Par}]\text{Ext2}$ 

434 %% Style for Abbreviations
435 \cmdtxtall{abr}\newcommand{\txtstyabr}{\em}

\cmdtxtabr ... to do!
  • \cmdtxtabr{cmdName};
    \cmdName[sub][sub][ext] =  $cmdName_{\text{sub}}^{\text{sub}} \text{ext}$ 
  • \cmdtxtabr{cmdName}[newName];
    \cmdName[sub][sub][ext] =  $newName_{\text{sub}}^{\text{sub}} \text{ext}$ 

436 \newcommandx{\cmdtxtabr}[2][2=]
437   {\usrtxt{#1}{\abr}[#2]}

\cmdtxtargabr ... to do!
  • \cmdtxtargabr{cmdName};
    \cmdName[sub][sub][ext1]{arg}[ext2] =  $cmdName_{\text{sub}}^{\text{sub}} \text{ext1}(\text{arg})\text{ext2}$ 
  • \cmdtxtargabr{cmdName}[newName];
    \cmdName[sub][sub][ext1]{arg}[ext2] =  $newName_{\text{sub}}^{\text{sub}} \text{ext1}(\text{arg})\text{ext2}$ 

438 \newcommandx{\cmdtxtargabr}[2][2=]
439   {\usrtxt{#1}{\argabr}[#2]}

\cmdtxtoargabr ... to do!
  • \cmdtxtoargabr{cmdName};
    \cmdName[sub][sub][arg] =  $cmdName_{\text{sub}}^{\text{sub}}(\text{arg})$ 
  • \cmdtxtoargabr{cmdName}[newName];
    \cmdName[sub][sub][arg] =  $newName_{\text{sub}}^{\text{sub}}(\text{arg})$ 

440 \newcommandx{\cmdtxtoargabr}[2][2=]
441   {\usrtxt{#1}{\oargabr}[#2]}

\cmdtxtparabr ... to do!
  • \cmdtxtparabr{cmdName};
    \cmdName[sub][sub][ext1]{par}[ext2] =  $cmdName_{\text{sub}}^{\text{sub}} \text{ext1}[\text{par}]\text{ext2}$ 
  • \cmdtxtparabr{cmdName}[newName];
    \cmdName[sub][sub][ext1]{par}[ext2] =  $newName_{\text{sub}}^{\text{sub}} \text{ext1}[\text{par}]\text{ext2}$ 

442 \newcommandx{\cmdtxtparabr}[2][2=]
443   {\usrtxt{#1}{\parabr}[#2]}

\cmdtxtoparabr ... to do!
  • \cmdtxtoparabr{cmdName};
    \cmdName[sub][sub][par] =  $cmdName_{\text{sub}}^{\text{sub}}[\text{par}]$ 
  • \cmdtxtoparabr{cmdName}[newName];
    \cmdName[sub][sub][par] =  $newName_{\text{sub}}^{\text{sub}}[\text{par}]$ 

444 \newcommandx{\cmdtxtoparabr}[2][2=]
445   {\usrtxt{#1}{\oparabr}[#2]}

446 %%*****

\txtname, ... ... to do!
  • \txtname{Name}[sub][sup][Ext] =  $NAME_{\text{SUB}}^{\text{SUP}} \text{EXT}$ 
  • \txtargname{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $NAME_{\text{SUB}}^{\text{SUP}} \text{EXT1}(\text{ARG})\text{EXT2}$ 
  • \txtparname{Name}[sub][sup][Ext1]{Par}[Ext2] =  $NAME_{\text{SUB}}^{\text{SUP}} \text{EXT1}[\text{PAR}]\text{EXT2}$ 

```

```

447 %% Style for Names
448 \cmdtxtall{name}\newcommand{\txtstytname}{\normalfont\mdseries\scshape\sffamily}

```

```
\cmdtxtname ... to do!
```

- \cmdtxtname{cmdName};
 \cmdName[sub][sub][ext] = CMDNAME^{SUB}EXT
- \cmdtxtname{cmdName}[newName];
 \cmdName[sub][sub][ext] = NEWNAME^{SUB}EXT

```

449 \newcommandx{\cmdtxtname}[2][2=]
450 {\usrtxt{#1}{-}{name}[#2]}

```

```
\cmdtxtargname ... to do!
```

- \cmdtxtargname{cmdName};
 \cmdName[sub][sub][ext1]{arg}[ext2] = CMDNAME^{SUB}EXT1(ARG)EXT2
- \cmdtxtargname{cmdName}[newName];
 \cmdName[sub][sub][ext1]{arg}[ext2] = NEWNAME^{SUB}EXT1(ARG)EXT2

```

451 \newcommandx{\cmdtxtargname}[2][2=]
452 {\usrtxt{#1}{-}{argname}[#2]}

```

```
\cmdtxtoargname ... to do!
```

- \cmdtxtoargname{cmdName};
 \cmdName[sub][sub][arg] = CMDNAME^{SUB}(ARG)
- \cmdtxtoargname{cmdName}[newName];
 \cmdName[sub][sub][arg] = NEWNAME^{SUB}(ARG)

```

453 \newcommandx{\cmdtxtoargname}[2][2=]
454 {\usrtxt{#1}{-}{oargname}[#2]}

```

```
\cmdtxtparname ... to do!
```

- \cmdtxtparname{cmdName};
 \cmdName[sub][sub][ext1]{par}[ext2] = CMDNAME^{SUB}EXT1[PAR]EXT2
- \cmdtxtparname{cmdName}[newName];
 \cmdName[sub][sub][ext1]{par}[ext2] = NEWNAME^{SUB}EXT1[PAR]EXT2

```

455 \newcommandx{\cmdtxtparname}[2][2=]
456 {\usrtxt{#1}{-}{parname}[#2]}

```

```
\cmdtxtoparname ... to do!
```

- \cmdtxtoparname{cmdName};
 \cmdName[sub][sub][par] = CMDNAME^{SUB}[PAR]
- \cmdtxtoparname{cmdName}[newName];
 \cmdName[sub][sub][par] = NEWNAME^{SUB}[PAR]

```

457 \newcommandx{\cmdtxtoparname}[2][2=]
458 {\usrtxt{#1}{-}{oparname}[#2]}

```

```
\txtcom, ... ... to do!
```

- \txtcom{Name}[sub][sup][Ext] = NAME^{SUP}EXT
- \txtargcom{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAME^{SUP}EXT1(ARG)EXT2
- \txtparcom{Name}[sub][sup][Ext1]{Par}[Ext2] = NAME^{SUP}EXT1[PAR]EXT2

```

459 %% Style for Complexities
460 \cmdtxtall{com}\newcommand{\txtstytcom}{\normalfont\mdseries\scshape\rmfamily}

```

```
\cmdtxtcom ... to do!
```

- \cmdtxtcom{cmdName};
 \cmdName[sub][sub][ext] = CMDNAME^{SUB}EXT
- \cmdtxtcom{cmdName}[newName];
 \cmdName[sub][sub][ext] = NEWNAME^{SUB}EXT

```

461 \newcommandx{\cmdtxtcom}[2][2=]
462 {\usrtxt{#1}{-}{com}[#2]}

```



```

\cmdtxtargcom ... to do!
    • \cmdtxtargcom{cmdName};
      \cmdName[sub][sub][ext1]{arg}[ext2] = CMDNAMESUBSUBEXT1(ARG)EXT2
    • \cmdtxtargcom{cmdName}[newName];
      \cmdName[sub][sub][ext1]{arg}[ext2] = NEWNAMESUBSUBEXT1(ARG)EXT2
463 \newcommandx{\cmdtxtargcom}[2][2=]
464   {\usrtxt{#1}{-}{argcom}[#2]}

\cmdtxtoargcom ... to do!
    • \cmdtxtoargcom{cmdName};
      \cmdName[sub][sub][arg] = CMDNAMESUBSUB(ARG)
    • \cmdtxtoargcom{cmdName}[newName];
      \cmdName[sub][sub][arg] = NEWNAMESUBSUB(ARG)
465 \newcommandx{\cmdtxtoargcom}[2][2=]
466   {\usrtxt{#1}{-}{oargcom}[#2]}

\cmdtxtparcom ... to do!
    • \cmdtxtparcom{cmdName};
      \cmdName[sub][sub][ext1]{par}[ext2] = CMDNAMESUBSUBEXT1[PAR]EXT2
    • \cmdtxtparcom{cmdName}[newName];
      \cmdName[sub][sub][ext1]{par}[ext2] = NEWNAMESUBSUBEXT1[PAR]EXT2
467 \newcommandx{\cmdtxtparcom}[2][2=]
468   {\usrtxt{#1}{-}{parcom}[#2]}

\cmdtxtoparcom ... to do!
    • \cmdtxtoparcom{cmdName};
      \cmdName[sub][sub][par] = CMDNAMESUBSUB[PAR]
    • \cmdtxtoparcom{cmdName}[newName];
      \cmdName[sub][sub][par] = NEWNAMESUBSUB[PAR]
469 \newcommandx{\cmdtxtoparcom}[2][2=]
470   {\usrtxt{#1}{-}{oparcom}[#2]}

471 \fi
472 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
473 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
474 %** Math Macro Generators %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
475 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
476 \ifmthgen@

\mthname, ... ... to do!
    • \mthname{NAME}[sub][sup][Ext] =  $\mathcal{NAME}_{sub}^{sup}Ext$ 
    • \mthargname{NAME}[sub][sup][Ext1]{Arg}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1(Arg)Ext2$ 
    • \mthparname{NAME}[sub][sup][Ext1]{Par}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1(Par)Ext2$ 
477 % Style for Names
478 \cmdmthall{name}\newcommand{\mthstname}{\mathcal}

\AName, ... ... to do!
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
479 \seqoflatupp{Name}{mthname}

\cmdmthname ... to do!
    • \cmdmthname{CMDNAME};
      \CMDNAMEName[sub][sub][ext] =  $CMDNAME_{sub}^{sub}ext$ 
    • \cmdmthname{cmdName}[NEWNAME];
      \cmdNameName[sub][sub][ext] =  $NEWNAME_{sub}^{sub}ext$ 
480 \newcommandx{\cmdmthname}[2][2=]
481   {\usrmth{#1}{Name}{name}[#2]}

```

```

\cmdmthargname ... to do!
    • \cmdmthargname{CMDNAME};
      \CMDNAMEName[sub][sub][ext1]{arg}[ext2] =  $\mathcal{CMDNAME}_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargname{cmdName}{NEWNAME};
      \cmdNameName[sub][sub][ext1]{arg}[ext2] =  $\mathcal{NEWNAME}_{sub}^{sub}ext1(arg)ext2$ 
482 \newcommandx{\cmdmthargname}[2][2=]
483   {\usrmth{#1}{Name}{argname}[#2]}

\cmdmthoargname ... to do!
    • \cmdmthoargname{CMDNAME};
      \CMDNAMEName[sub][sub][arg] =  $\mathcal{CMDNAME}_{sub}^{sub}(arg)$ 
    • \cmdmthoargname{cmdName}{NEWNAME};
      \cmdNameName[sub][sub][arg] =  $\mathcal{NEWNAME}_{sub}^{sub}(arg)$ 
484 \newcommandx{\cmdmthoargname}[2][2=]
485   {\usrmth{#1}{Name}{oargname}[#2]}

\cmdmthparname ... to do!
    • \cmdmthparname{CMDNAME};
      \CMDNAMEName[sub][sub][ext1]{par}[ext2] =  $\mathcal{CMDNAME}_{sub}^{sub}ext1[par]ext2$ 
    • \cmdmthparname{cmdName}{NEWNAME};
      \cmdNameName[sub][sub][ext1]{par}[ext2] =  $\mathcal{NEWNAME}_{sub}^{sub}ext1[par]ext2$ 
486 \newcommandx{\cmdmthparname}[2][2=]
487   {\usrmth{#1}{Name}{parname}[#2]}

\cmdmthoparname ... to do!
    • \cmdmthoparname{CMDNAME};
      \CMDNAMEName[sub][sub][par] =  $\mathcal{CMDNAME}_{sub}^{sub}[par]$ 
    • \cmdmthoparname{cmdName}{NEWNAME};
      \cmdNameName[sub][sub][par] =  $\mathcal{NEWNAME}_{sub}^{sub}[par]$ 
488 \newcommandx{\cmdmthoparname}[2][2=]
489   {\usrmth{#1}{Name}{oparname}[#2]}

\mthfam, ... ... to do!
    • \mthfam{NAME}[sub][sup][Ext] =  $\mathcal{NAME}_{sub}^{sup}Ext$ 
    • \mthargfam{NAME}[sub][sup][Ext1]{Arg}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1(Arg)Ext2$ 
    • \mthparfam{NAME}[sub][sup][Ext1]{Par}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1[Par]Ext2$ 
490 %% Style for Families
491 \cmdmthall{fam}\newcommand{\mthstyfam}{\mathscr}

\AFam, ... ... to do!
 $\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}, \mathcal{E}, \mathcal{F}, \mathcal{G}, \mathcal{H}, \mathcal{I}, \mathcal{J}, \mathcal{K}, \mathcal{L}, \mathcal{M}, \mathcal{N}, \mathcal{O}, \mathcal{P}, \mathcal{Q}, \mathcal{R}, \mathcal{S}, \mathcal{T}, \mathcal{U}, \mathcal{V}, \mathcal{W}, \mathcal{X}, \mathcal{Y}, \mathcal{Z}$ 
492 \seqoflatupp{Fam}{mthfam}

\cmdmthfam ... to do!
    • \cmdmthfam{CMDNAME};
      \CMDNAMEFam[sub][sub][ext] =  $\mathcal{CMDNAME}_{sub}^{sub}ext$ 
    • \cmdmthfam{cmdName}{NEWNAME};
      \cmdNameFam[sub][sub][ext] =  $\mathcal{NEWNAME}_{sub}^{sub}ext$ 
493 \newcommandx{\cmdmthfam}[2][2=]
494   {\usrmth{#1}{Fam}{fam}[#2]}

\cmdmthargfam ... to do!
    • \cmdmthargfam{CMDNAME};
      \CMDNAMEFam[sub][sub][ext1]{arg}[ext2] =  $\mathcal{CMDNAME}_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargfam{cmdName}{NEWNAME};
      \cmdNameFam[sub][sub][ext1]{arg}[ext2] =  $\mathcal{NEWNAME}_{sub}^{sub}ext1(arg)ext2$ 

```

```

495 \newcommandx{\cmdmthargfam}[2][2=]
496   {\usrmth{#1}{Fam}{argfam}{#2}}

\cmdmthoargfam ... to do!
  • \cmdmthoargfam{CMDNAME};
    \CMDNAMEFam[sub][sub][arg] =  $\mathcal{CMDNAME}^{\text{sub}}(arg)$ 
  • \cmdmthoargfam{cmdFam}{NEWNAME};
    \cmdFamFam[sub][sub][arg] =  $\mathcal{NEWNAME}^{\text{sub}}(arg)$ 
497 \newcommandx{\cmdmthoargfam}[2][2=]
498   {\usrmth{#1}{Fam}{oargfam}{#2}}

\cmdmthparfam ... to do!
  • \cmdmthparfam{CMDNAME};
    \CMDNAMEFam[sub][sub][ext1]{par}[ext2] =  $\mathcal{CMDNAME}^{\text{sub}}_{\text{ext1}}[par]_{\text{ext2}}$ 
  • \cmdmthparfam{cmdName}{NEWNAME};
    \cmdNameFam[sub][sub][ext1]{par}[ext2] =  $\mathcal{NEWNAME}^{\text{sub}}_{\text{ext1}}[par]_{\text{ext2}}$ 
499 \newcommandx{\cmdmthparfam}[2][2=]
500   {\usrmth{#1}{Fam}{parfam}{#2}}

\cmdmthoparfam ... to do!
  • \cmdmthoparfam{CMDNAME};
    \CMDNAMEFam[sub][sub][par] =  $\mathcal{CMDNAME}^{\text{sub}}[par]$ 
  • \cmdmthoparfam{cmdFam}{NEWNAME};
    \cmdFamFam[sub][sub][par] =  $\mathcal{NEWNAME}^{\text{sub}}[par]$ 
501 \newcommandx{\cmdmthoparfam}[2][2=]
502   {\usrmth{#1}{Fam}{oparfam}{#2}}

\mthcls, ... ... to do!
  • \mthcls{NAME}[sub][sup][Ext] =  $\mathcal{NAME}^{\text{sup}}_{\text{sub}}Ext$ 
  • \mthargcls{NAME}[sub][sup][Ext1]{Arg}[Ext2] =  $\mathcal{NAME}^{\text{sup}}_{\text{sub}}Ext1(Arg)Ext2$ 
  • \mthparcls{NAME}[sub][sup][Ext1]{Par}[Ext2] =  $\mathcal{NAME}^{\text{sup}}_{\text{sub}}Ext1[Par]Ext2$ 
503 %% Style for Classes
504 \cmdmthall{cls}\newcommand{\mthstcls}{\matheus}

\ACls, ... ... to do!
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
505 \seqoflatupp{Cls}{mthcls}

\cmdmthcls ... to do!
  • \cmdmthcls{CMDNAME};
    \CMDNAMECls[sub][sub][ext] =  $\mathcal{CMDNAME}^{\text{sub}}_{\text{ext}}$ 
  • \cmdmthcls{cmdName}{NEWNAME};
    \cmdNameCls[sub][sub][ext] =  $\mathcal{NEWNAME}^{\text{sub}}_{\text{ext}}$ 
506 \newcommandx{\cmdmthcls}[2][2=]
507   {\usrmth{#1}{Cls}{cls}{#2}}

\cmdmthargcls ... to do!
  • \cmdmthargcls{CMDNAME};
    \CMDNAMECls[sub][sub][ext1]{arg}[ext2] =  $\mathcal{CMDNAME}^{\text{sub}}_{\text{ext1}}(arg)_{\text{ext2}}$ 
  • \cmdmthargcls{cmdName}{NEWNAME};
    \cmdNameCls[sub][sub][ext1]{arg}[ext2] =  $\mathcal{NEWNAME}^{\text{sub}}_{\text{ext1}}(arg)_{\text{ext2}}$ 
508 \newcommandx{\cmdmthargcls}[2][2=]
509   {\usrmth{#1}{Cls}{argcls}{#2}}

\cmdmthoargcls ... to do!
  • \cmdmthoargcls{CMDNAME};
    \CMDNAMECls[sub][sub][arg] =  $\mathcal{CMDNAME}^{\text{sub}}(arg)$ 

```

```

    • \cmdmthoargcls{cmdCls}[NEWNAME];
      \cmdClsCls[sub][sub][arg] =  $\mathcal{NEWNAME}_{sub}^{sub}(arg)$ 
510 \newcommandx{\cmdmthoargcls}[2][2=]
511   {\usrmth{#1}{Cls}{oargcls}{#2}}

\cmdmthparcls ... to do!
    • \cmdmthparcls{CMDNAME};
      \CMDNAMECls[sub][sub][ext1]{par}[ext2] =  $\mathcal{CMDNAME}_{sub}^{sub}ext1[par]ext2$ 
    • \cmdmthparcls{cmdName}[NEWNAME];
      \cmdNameCls[sub][sub][ext1]{par}[ext2] =  $\mathcal{NEWNAME}_{sub}^{sub}ext1[par]ext2$ 
512 \newcommandx{\cmdmthparcls}[2][2=]
513   {\usrmth{#1}{Cls}{parcls}{#2}}

\cmdmthoparcls ... to do!
    • \cmdmthoparcls{CMDNAME};
      \CMDNAMECls[sub][sub][par] =  $\mathcal{CMDNAME}_{sub}^{sub}[par]$ 
    • \cmdmthoparcls{cmdCls}[NEWNAME];
      \cmdClsCls[sub][sub][par] =  $\mathcal{NEWNAME}_{sub}^{sub}[par]$ 
514 \newcommandx{\cmdmthoparcls}[2][2=]
515   {\usrmth{#1}{Cls}{oparcls}{#2}}

\mthsig, ... ... to do!
    • \mthsig{Name}[sub][sup][Ext] =  $\mathcal{ame}_{sub}^{sup}Ext$ 
    • \mthargsig{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $\mathcal{ame}_{sub}^{sup}Ext1(Arg)Ext2$ 
    • \mthparsig{Name}[sub][sup][Ext1]{Par}[Ext2] =  $\mathcal{ame}_{sub}^{sup}Ext1[Par]Ext2$ 
516 %% Style for Signatures
517 \cmdmthall{sig}\newcommand{\mthstysig}{\mathpzc}

\asig, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
α, β, γ, δ, ε, ζ, η, θ, ϑ, ι, κ, λ, μ, ν, ξ, ο, π, ϖ, ρ, ϑ, σ, ς, τ, υ, φ, ϕ, χ, ψ, ω
518 \seqoflatlet{Sig}{mthsig}\seqofgrklow{Sig}{mthsig}

\cmdmthsig ... to do!
    • \cmdmthsig{cmdName};
      \cmdNameSig[sub][sub][ext] =  $cmd\mathcal{ame}_{sub}^{sub}ext$ 
    • \cmdmthsig{cmdName}[NewName];
      \cmdNameSig[sub][sub][ext] =  $\mathcal{ew}\mathcal{ame}_{sub}^{sub}ext$ 
519 \newcommandx{\cmdmthsig}[2][2=]
520   {\usrmth{#1}{Sig}{sig}{#2}}

\cmdmthargsig ... to do!
    • \cmdmthargsig{cmdName};
      \cmdNameSig[sub][sub][ext1]{arg}[ext2] =  $cmd\mathcal{ame}_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargsig{cmdName}[NewName];
      \cmdNameSig[sub][sub][ext1]{arg}[ext2] =  $\mathcal{ew}\mathcal{ame}_{sub}^{sub}ext1(arg)ext2$ 
521 \newcommandx{\cmdmthargsig}[2][2=]
522   {\usrmth{#1}{Sig}{argsig}{#2}}

\cmdmthoargsig ... to do!
    • \cmdmthoargsig{cmdName};
      \cmdNameSig[sub][sub][arg] =  $cmd\mathcal{ame}_{sub}^{sub}(arg)$ 
    • \cmdmthoargsig{cmdSig}[NewName];
      \cmdSigSig[sub][sub][arg] =  $\mathcal{ew}\mathcal{ame}_{sub}^{sub}(arg)$ 
523 \newcommandx{\cmdmthoargsig}[2][2=]
524   {\usrmth{#1}{Sig}{oargsig}{#2}}

```

```

\cmdmthparsig ... to do!
    • \cmdmthparsig{cmdName};
      \cmdNameSig[sub][sub][ext1]{par}[ext2] = cmd\Namesubext1[par]ext2
    • \cmdmthparsig{cmdName}[NewName];
      \cmdNameSig[sub][sub][ext1]{par}[ext2] = New\Namesubext1[par]ext2
525 \newcommandx{\cmdmthparsig}[2][2=]
526   {\usrmth{#1}{Sig}{parsig}{#2}}

\cmdmthoparsig ... to do!
    • \cmdmthoparsig{cmdName};
      \cmdNameSig[sub][sub][par] = cmd\Namesub[par]
    • \cmdmthoparsig{cmdSig}[NewName];
      \cmdSigSig[sub][sub][par] = New\Namesub[par]
527 \newcommandx{\cmdmthoparsig}[2][2=]
528   {\usrmth{#1}{Sig}{oparsig}{#2}}

\mthstr, ... ... to do!
    • \mthstr{Name}[sub][sup][Ext] = \NamesupExt
    • \mthargstr{Name}[sub][sup][Ext1]{Arg}[Ext2] = \NamesupExt1(Arg)Ext2
    • \mthparstr{Name}[sub][sup][Ext1]{Par}[Ext2] = \NamesupExt1[Par]Ext2
529 %% Style for Structures
530 \cmdmthall{str}\newcommand{\mthstystyr}{\mathfrak}

\astr, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
α, β, γ, δ, ε, ζ, η, θ, ι, κ, λ, μ, ν, ξ, ο, π, ρ, ς, σ, τ, υ, φ, ϕ, χ, ψ, ω
531 \seqoflatlet{Str}{mthstr}\seqofgrklow{Str}{mthstr}

\cmdmthstr ... to do!
    • \cmdmthstr{cmdName};
      \cmdNameStr[sub][sub][ext] = cmd\Namesubext
    • \cmdmthstr{cmdName}[NewName];
      \cmdNameStr[sub][sub][ext] = New\Namesubext
532 \newcommandx{\cmdmthstr}[2][2=]
533   {\usrmth{#1}{Str}{str}{#2}}

\cmdmthargstr ... to do!
    • \cmdmthargstr{cmdName};
      \cmdNameStr[sub][sub][ext1]{arg}[ext2] = cmd\Namesubext1(arg)ext2
    • \cmdmthargstr{cmdName}[NewName];
      \cmdNameStr[sub][sub][ext1]{arg}[ext2] = New\Namesubext1(arg)ext2
534 \newcommandx{\cmdmthargstr}[2][2=]
535   {\usrmth{#1}{Str}{argstr}{#2}}

\cmdmthoargstr ... to do!
    • \cmdmthoargstr{cmdName};
      \cmdNameStr[sub][sub][arg] = cmd\Namesub(arg)
    • \cmdmthoargstr{cmdStr}[NewName];
      \cmdStrStr[sub][sub][arg] = New\Namesub(arg)
536 \newcommandx{\cmdmthoargstr}[2][2=]
537   {\usrmth{#1}{Str}{oargstr}{#2}}

\cmdmthparstr ... to do!
    • \cmdmthparstr{cmdName};
      \cmdNameStr[sub][sub][ext1]{par}[ext2] = cmd\Namesubext1[par]ext2

```

```

    • \cmdmthparstr{cmdName}[NewName];
      \cmdNameStr[sub][sub][ext1]{par}[ext2] = \newNamesubsubext1[par]ext2
538 \newcommandx{\cmdmthparstr}[2][2=]
539   {\usrmth{#1}{Str}{parstr}[#2]}

\cmdmthoparstr ... to do!
    • \cmdmthoparstr{cmdName};
      \cmdNameStr[sub][sub][par] = cmdNamesubsub[par]
    • \cmdmthoparstr{cmdStr}[NewName];
      \cmdStrStr[sub][sub][par] = \newNamesubsub[par]
540 \newcommandx{\cmdmthoparstr}[2][2=]
541   {\usrmth{#1}{Str}{oparstr}[#2]}

\mthset, ... ... to do!
    • \mthset{Name}[sub][sup][Ext] = NamesupsubExt
    • \mthargset{Name}[sub][sup][Ext1]{Arg}[Ext2] = NamesupsubExt1(Arg)Ext2
    • \mthparset{Name}[sub][sup][Ext1]{Par}[Ext2] = NamesupsubExt1[Par]Ext2
542 %% Style for Sets
543 \cmdmthall{set}\newcommand{\mthstyset}{\mathrm}

\aset, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
 $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$ 
A, B,  $\Gamma, \Delta, E, Z, H, \Theta, \vartheta, I, K, K, \Lambda, M, N, \Xi, O, \Pi, \varPi, P, P, \Sigma, \varSigma, T, Y, \Phi, \varPhi, X, \Psi, \Omega$ 
544 \seqoflet{Set}{mthset}

\cmdmthset ... to do!
    • \cmdmthset{cmdName};
      \cmdNameSet[sub][sub][ext] = cmdNamesubsubext
    • \cmdmthset{cmdName}[NewName];
      \cmdNameSet[sub][sub][ext] = NewNamesubsubext
545 \newcommandx{\cmdmthset}[2][2=]
546   {\usrmth{#1}{Set}{set}[#2]}

\cmdmthargset ... to do!
    • \cmdmthargset{cmdName};
      \cmdNameSet[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
    • \cmdmthargset{cmdName}[NewName];
      \cmdNameSet[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
547 \newcommandx{\cmdmthargset}[2][2=]
548   {\usrmth{#1}{Set}{argset}[#2]}

\cmdmthoargset ... to do!
    • \cmdmthoargset{cmdName};
      \cmdNameSet[sub][sub][arg] = cmdNamesubsub(arg)
    • \cmdmthoargset{cmdSet}[NewName];
      \cmdSetSet[sub][sub][arg] = NewNamesubsub(arg)
549 \newcommandx{\cmdmthoargset}[2][2=]
550   {\usrmth{#1}{Set}{oargset}[#2]}

\cmdmthparset ... to do!
    • \cmdmthparset{cmdName};
      \cmdNameSet[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2
    • \cmdmthparset{cmdName}[NewName];
      \cmdNameSet[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2
551 \newcommandx{\cmdmthparset}[2][2=]
552   {\usrmth{#1}{Set}{parset}[#2]}

```

```

\cmdmthoparset ... to do!
    • \cmdmthoparset{cmdName};
      \cmdNameSet[sub][sub][par] = cmdNamesubsub[par]
    • \cmdmthoparset{cmdSet}[NewName];
      \cmdSetSet[sub][sub][par] = NewNamesubsub[par]
553 \newcommandx{\cmdmthoparset}[2][2=]
554   {\usrmth{#1}{Set}{oparset}{#2}}

\cmdmthsetext ... to do!
555 \newcommandx{\cmdmthsetext}[3][2=, 3=]
556   {\cmdmthset{#1}[#2]\caselower[q]{#1}%
557   \usrmthlet{\thestring}{Sym}{sym}
558   [\defval{#3}{\defval{\empchk{#2}{\lowercase{#2}}}{\thestring}}}%
559   \usrmthlet{\thestring}{Elm}{elm}
560   [\defval{#3}{\defval{\empchk{#2}{\lowercase{#2}}}{\thestring}}}]

\mthrel, ... ... to do!
    • \mthrel{Name}[sub][sup][Ext] = NamesupsubExt
    • \mthargrel{Name}[sub][sup][Ext1]{Arg}[Ext2] = NamesupsubExt1(Arg)Ext2
    • \mthparrel{Name}[sub][sup][Ext1]{Par}[Ext2] = NamesupsubExt1[Par]Ext2
561 %% Style for Relations
562 \cmdmthall{rel}\newcommand{\mthstyrel}{\mathit}

\arel, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, L, T, U, V, W, X, Y, Z
α, β, γ, δ, ε, ζ, η, θ, ϑ, ι, κ, λ, μ, ν, ξ, ο, π, ϖ, ρ, ϑ, σ, ς, τ, υ, φ, ϕ, χ, ψ, ω
A, B, Γ, Δ, E, E, Z, H, Θ, Θ, I, K, K, Λ, M, N, Ξ, O, Π, Π, P, P, Σ, Σ, T, Τ, Φ, Φ, X, Ψ, Ω
563 \seqoflet{Rel}{mthrel}

\cmdmthrel ... to do!
    • \cmdmthrel{cmdName};
      \cmdNameRel[sub][sub][ext] = cmdNamesubsubext
    • \cmdmthrel{cmdName}[NewName];
      \cmdNameRel[sub][sub][ext] = NewNamesubsubext
564 \newcommandx{\cmdmthrel}[2][2=]
565   {\usrmth{#1}{Rel}{rel}{#2}}

\cmdmthargrel ... to do!
    • \cmdmthargrel{cmdName};
      \cmdNameRel[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
    • \cmdmthargrel{cmdName}[NewName];
      \cmdNameRel[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
566 \newcommandx{\cmdmthargrel}[2][2=]
567   {\usrmth{#1}{Rel}{argrel}{#2}}

\cmdmthoargrel ... to do!
    • \cmdmthoargrel{cmdName};
      \cmdNameRel[sub][sub][arg] = cmdNamesubsub(arg)
    • \cmdmthoargrel{cmdRel}[NewName];
      \cmdRelRel[sub][sub][arg] = NewNamesubsub(arg)
568 \newcommandx{\cmdmthoargrel}[2][2=]
569   {\usrmth{#1}{Rel}{oargrel}{#2}}

\cmdmthparrel ... to do!
    • \cmdmthparrel{cmdName};
      \cmdNameRel[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2

```

```

    • \cmdmthparrel{cmdName}[NewName];
      \cmdNameRel[sub][sub][ext1]{par}[ext2] =  $NewName_{sub}^{sub}ext1[par]ext2$ 
570 \newcommandx{\cmdmthparrel}[2][2=]
571   {\usrmth{#1}{Rel}{parrel}{#2}}

\cmdmthoparrel ... to do!
    • \cmdmthoparrel{cmdName};
      \cmdNameRel[sub][sub][par] =  $cmdName_{sub}^{sub}[par]$ 
    • \cmdmthoparrel{cmdRel}[NewName];
      \cmdRelRel[sub][sub][par] =  $NewName_{sub}^{sub}[par]$ 
572 \newcommandx{\cmdmthoparrel}[2][2=]
573   {\usrmth{#1}{Rel}{oparrel}{#2}}

\mthfun, ... ... to do!
    • \mthfun{Name}[sub][sup][Ext] =  $Name_{sub}^{sup}Ext$ 
    • \mthargfun{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $Name_{sub}^{sup}Ext1(Arg)Ext2$ 
    • \mthparfun{Name}[sub][sup][Ext1]{Par}[Ext2] =  $Name_{sub}^{sup}Ext1[Par]Ext2$ 
574 %% Style for Functions
575 \cmdmthall{fun}\newcommand{\mthstyfun}{\mathsf}

\afun, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
 $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$ 
A, B,  $\Gamma, \Delta, E, Z, H, \Theta, \vartheta, I, K, \Lambda, M, N, \Xi, O, \Pi, \varPi, P, \Sigma, \varSigma, T, \Upsilon, \Phi, \varPhi, X, \Psi, \Omega$ 
576 \seqoflet{Fun}{mthfun}

\cmdmthfun ... to do!
    • \cmdmthfun{cmdName};
      \cmdNameFun[sub][sub][ext] =  $cmdName_{sub}^{sub}ext$ 
    • \cmdmthfun{cmdName}[NewName];
      \cmdNameFun[sub][sub][ext] =  $NewName_{sub}^{sub}ext$ 
577 \newcommandx{\cmdmthfun}[2][2=]
578   {\usrmth{#1}{Fun}{fun}{#2}}

\cmdmthargfun ... to do!
    • \cmdmthargfun{cmdName};
      \cmdNameFun[sub][sub][ext1]{arg}[ext2] =  $cmdName_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargfun{cmdName}[NewName];
      \cmdNameFun[sub][sub][ext1]{arg}[ext2] =  $NewName_{sub}^{sub}ext1(arg)ext2$ 
579 \newcommandx{\cmdmthargfun}[2][2=]
580   {\usrmth{#1}{Fun}{argfun}{#2}}

\cmdmthoargfun ... to do!
    • \cmdmthoargfun{cmdName};
      \cmdNameFun[sub][sub][arg] =  $cmdName_{sub}^{sub}(arg)$ 
    • \cmdmthoargfun{cmdFun}[NewName];
      \cmdFunFun[sub][sub][arg] =  $NewName_{sub}^{sub}(arg)$ 
581 \newcommandx{\cmdmthoargfun}[2][2=]
582   {\usrmth{#1}{Fun}{oargfun}{#2}}

\cmdmthparfun ... to do!
    • \cmdmthparfun{cmdName};
      \cmdNameFun[sub][sub][ext1]{par}[ext2] =  $cmdName_{sub}^{sub}ext1[par]ext2$ 
    • \cmdmthparfun{cmdName}[NewName];
      \cmdNameFun[sub][sub][ext1]{par}[ext2] =  $NewName_{sub}^{sub}ext1[par]ext2$ 
583 \newcommandx{\cmdmthparfun}[2][2=]
584   {\usrmth{#1}{Fun}{parfun}{#2}}

```



```

\cmdmthoparfun ... to do!
    • \cmdmthoparfun{cmdName};
      \cmdNameFun[sub][sub][par] = cmdNamesubsub[par]
    • \cmdmthoparfun{cmdFun}[NewName];
      \cmdFunFun[sub][sub][par] = NewNamesubsub[par]
585 \newcommandx{\cmdmthoparfun}[2][2=]
586   {\usrmth{#1}{Fun}{oparfun}{#2}}

\mthsym, ... ... to do!
    • \mthsym{Name}[sub][sup][Ext] = NamesupsubExt
    • \mthargsym{Name}[sub][sup][Ext1]{Arg}[Ext2] = NamesupsubExt1(Arg)Ext2
    • \mthparsym{Name}[sub][sup][Ext1]{Par}[Ext2] = NamesupsubExt1[Par]Ext2
587 %% Style for Symbols
588 \cmdmthall{sym}\newcommand{\mthstysym}{\mathhtt}

\asym, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
 $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$ 
A, B,  $\Gamma, \Delta, E, Z, H, \Theta, \Theta, I, K, K, \Lambda, M, N, \Xi, O, \Pi, \Pi, P, P, \Sigma, \Sigma, T, T, \Phi, \Phi, X, \Psi, \Omega$ 
589 \seqoflet{Sym}{mthsym}

\cmdmthsym ... to do!
    • \cmdmthsym{cmdName};
      \cmdNameSym[sub][sub][ext] = cmdNamesubsubext
    • \cmdmthsym{cmdName}[NewName];
      \cmdNameSym[sub][sub][ext] = NewNamesubsubext
590 \newcommandx{\cmdmthsym}[2][2=]
591   {\usrmth{#1}{Sym}{sym}{#2}}

\cmdmthargsym ... to do!
    • \cmdmthargsym{cmdName};
      \cmdNameSym[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
    • \cmdmthargsym{cmdName}[NewName];
      \cmdNameSym[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
592 \newcommandx{\cmdmthargsym}[2][2=]
593   {\usrmth{#1}{Sym}{argsym}{#2}}

\cmdmthoargsym ... to do!
    • \cmdmthoargsym{cmdName};
      \cmdNameSym[sub][sub][arg] = cmdNamesubsub(arg)
    • \cmdmthoargsym{cmdSym}[NewName];
      \cmdSymSym[sub][sub][arg] = NewNamesubsub(arg)
594 \newcommandx{\cmdmthoargsym}[2][2=]
595   {\usrmth{#1}{Sym}{oargsym}{#2}}

\cmdmthparsym ... to do!
    • \cmdmthparsym{cmdName};
      \cmdNameSym[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2
    • \cmdmthparsym{cmdName}[NewName];
      \cmdNameSym[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2
596 \newcommandx{\cmdmthparsym}[2][2=]
597   {\usrmth{#1}{Sym}{parsym}{#2}}

\cmdmthoparsym ... to do!
    • \cmdmthoparsym{cmdName};
      \cmdNameSym[sub][sub][par] = cmdNamesubsub[par]

```

```

    • \cmdmthoparsym{cmdSym}[NewName];
      \cmdSymSym[sub][sub][par] =  $NewName_{sub}^{sub}[par]$ 
598 \newcommandx{\cmdmthoparsym}[2][2=]
599   {\usrmth{#1}{Sym}{oparsym}[#2]}

\mthelm, ... ... to do!
    • \mthelm{Name}[sub][sup][Ext] =  $Name_{sub}^{sup}Ext$ 
    • \mthargelm{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $Name_{sub}^{sup}Ext1(Arg)Ext2$ 
    • \mthparelm{Name}[sub][sup][Ext1]{Par}[Ext2] =  $Name_{sub}^{sup}Ext1[Par]Ext2$ 
600 %% Style for Elements
601 \cmdmthall{elm}\newcommand{\mthstyelm}{\mathnormal}

\aelm, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
 $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \varkappa, \lambda, \mu, \nu, \xi, o, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$ 
A, B,  $\Gamma, \Delta, E, \mathbb{E}, Z, H, \Theta, \mathbb{O}, I, K, \mathbb{K}, \mathbb{A}, M, N, \Xi, O, \mathbb{H}, \mathbb{H}, P, \mathbb{P}, \Sigma, \mathbb{S}, T, \Upsilon, \Phi, \mathbb{P}, X, \Psi, \Omega$ 
602 \seqoflet{Elm}{mthelm}

\cmdmthelm ... to do!
    • \cmdmthelm{cmdName};
      \cmdNameElm[sub][sub][ext] =  $cmdName_{sub}^{sub}ext$ 
    • \cmdmthelm{cmdName}[NewName];
      \cmdNameElm[sub][sub][ext] =  $NewName_{sub}^{sub}ext$ 
603 \newcommandx{\cmdmthelm}[2][2=]
604   {\usrmth{#1}{Elm}{elm}[#2]}

\cmdmthargelm ... to do!
    • \cmdmthargelm{cmdName};
      \cmdNameElm[sub][sub][ext1]{arg}[ext2] =  $cmdName_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargelm{cmdName}[NewName];
      \cmdNameElm[sub][sub][ext1]{arg}[ext2] =  $NewName_{sub}^{sub}ext1(arg)ext2$ 
605 \newcommandx{\cmdmthargelm}[2][2=]
606   {\usrmth{#1}{Elm}{argelm}[#2]}

\cmdmthoargelm ... to do!
    • \cmdmthoargelm{cmdName};
      \cmdNameElm[sub][sub][arg] =  $cmdName_{sub}^{sub}(arg)$ 
    • \cmdmthoargelm{cmdElm}[NewName];
      \cmdElmElm[sub][sub][arg] =  $NewName_{sub}^{sub}(arg)$ 
607 \newcommandx{\cmdmthoargelm}[2][2=]
608   {\usrmth{#1}{Elm}{oargelm}[#2]}

\cmdmthparelm ... to do!
    • \cmdmthparelm{cmdName};
      \cmdNameElm[sub][sub][ext1]{par}[ext2] =  $cmdName_{sub}^{sub}ext1[par]ext2$ 
    • \cmdmthparelm{cmdName}[NewName];
      \cmdNameElm[sub][sub][ext1]{par}[ext2] =  $NewName_{sub}^{sub}ext1[par]ext2$ 
609 \newcommandx{\cmdmthparelm}[2][2=]
610   {\usrmth{#1}{Elm}{parelm}[#2]}

\cmdmthoparelm ... to do!
    • \cmdmthoparelm{cmdName};
      \cmdNameElm[sub][sub][par] =  $cmdName_{sub}^{sub}[par]$ 
    • \cmdmthoparelm{cmdElm}[NewName];
      \cmdElmElm[sub][sub][par] =  $NewName_{sub}^{sub}[par]$ 
611 \newcommandx{\cmdmthoparelm}[2][2=]
612   {\usrmth{#1}{Elm}{oparelm}[#2]}

```

```

613 %%*****%

\cmdmthsymelm ... to do!
    • \cmdmthsymelm{cmdName};
      \cmdNameSym[sub][sub][ext] = cmdNamesubsubext
      \cmdNameElm[sub][sub][ext] = cmdNamesubsubext
    • \cmdmthsymelm{cmdName}[NewName];
      \cmdNameSym[sub][sub][ext] = NewNamesubsubext
      \cmdNameElm[sub][sub][ext] = NewNamesubsubext
614 \newcommandx{\cmdmthsymelm}[2][2=]
615   {\cmdmthsym{#1}[#2]}%
616   \cmdmthelm{#1}[#2]}

\cmdmthargsymelm ... to do!
    • \cmdmthargsymelm{cmdName};
      \cmdNameSym[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
      \cmdNameElm[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
    • \cmdmthargsymelm{cmdName}[NewName];
      \cmdNameSym[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
      \cmdNameElm[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
617 \newcommandx{\cmdmthargsymelm}[2][2=]
618   {\cmdmthargsym{#1}[#2]}%
619   \cmdmthargelm{#1}[#2]}

\cmdmthoargsymelm ... to do!
    • \cmdmthoargsymelm{cmdName};
      \cmdNameSym[sub][sub][arg] = cmdNamesubsub(arg)
      \cmdNameElm[sub][sub][arg] = cmdNamesubsub(arg)
    • \cmdmthoargsymelm{cmdName}[NewName];
      \cmdNameSym[sub][sub][arg] = NewNamesubsub(arg)
      \cmdNameElm[sub][sub][arg] = NewNamesubsub(arg)
620 \newcommandx{\cmdmthoargsymelm}[2][2=]
621   {\cmdmthoargsym{#1}[#2]}%
622   \cmdmthoargelm{#1}[#2]}

\cmdmthparsymelm ... to do!
    • \cmdmthparsymelm{cmdName};
      \cmdNameSym[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2
      \cmdNameElm[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2
    • \cmdmthparsymelm{cmdName}[NewName];
      \cmdNameSym[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2
      \cmdNameElm[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2
623 \newcommandx{\cmdmthparsymelm}[2][2=]
624   {\cmdmthparsym{#1}[#2]}%
625   \cmdmthparelm{#1}[#2]}

\cmdmthoparsymelm ... to do!
    • \cmdmthoparsymelm{cmdName};
      \cmdNameSym[sub][sub][par] = cmdNamesubsub[par]
      \cmdNameElm[sub][sub][par] = cmdNamesubsub[par]
    • \cmdmthoparsymelm{cmdName}[NewName];
      \cmdNameSym[sub][sub][par] = NewNamesubsub[par]
      \cmdNameElm[sub][sub][par] = NewNamesubsub[par]
626 \newcommandx{\cmdmthoparsymelm}[2][2=]
627   {\cmdmthoparsym{#1}[#2]}%
628   \cmdmthoparelm{#1}[#2]}

629 %%*****%

\mthluop, ... ... to do!

```

- $\backslash\mathrm{mthluop}\{\backslash\mathrm{oplus}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \oplus_{\mathrm{sub}}^{\mathrm{sup}} \mathrm{Ext}$
- $\backslash\mathrm{mthlbop}\{\backslash\mathrm{oplus}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \oplus_{\mathrm{sub}}^{\mathrm{sup}} \mathrm{Ext}$

630 %% Style for \LaTeX Operators

631 \cmdmth{luop}\newcommand{\mthstyluop}[1]{\textstyle\mathop{\#1}}

632 \cmdmth{lbop}\newcommand{\mthstylbop}[1]{\textstyle\mathbin{\#1}}

\cmdmthluop, to do!

- \cmdmthluop{cmdName};
 \cmdNameUOp[sub][sub][ext] = $\mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$
- \cmdmthluop{cmdName}[\backslash\mathrm{oplus}];
 \cmdNameUOp[sub][sub][ext] = $\oplus_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$
- \cmdmthlbop{cmdName};
 \cmdNameBOp[sub][sub][ext] = $\mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$
- \cmdmthlbop{cmdName}[\backslash\mathrm{oplus}];
 \cmdNameBOp[sub][sub][ext] = $\oplus_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$

633 \newcommandx{\cmdmthluop}[2][2=]

634 {\usrmth{\#1}\UOp}\luop{\#2}

635 \newcommandx{\cmdmthlbop}[2][2=]

636 {\usrmth{\#1}\BOp}\lbop{\#2}

\mthlrel ... to do!

- \mthlrel{\preceq}[sub][sup][Ext] = $\preceq_{\mathrm{sub}}^{\mathrm{sup}} \mathrm{Ext}$

637 %% Style for \LaTeX Relations

638 \cmdmth{lrel}\newcommand{\mthstylrel}{\mathrel}

\cmdmthlrel ... to do!

- \cmdmthlrel{cmdName};
 \cmdNameRel[sub][sub][ext] = $\mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$
- \cmdmthlrel{cmdName}[\backslash\mathrm{preceq}];
 \cmdNameRel[sub][sub][ext] = $\preceq_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$

639 \newcommandx{\cmdmthlrel}[2][2=]

640 {\usrmth{\#1}\Rel}\lrel{\#2}

641 %%

\mthsnt, to do!

- \mthsnt{Name}[sub][sup][Ext] = $\mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}} \mathrm{Ext}$
- \mthargsnt{Name}[sub][sup][Ext1]{Arg}[Ext2] = $\mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}} \mathrm{Ext1}(\mathrm{Arg})\mathrm{Ext2}$
- \mthparsnt{Name}[sub][sup][Ext1]{Par}[Ext2] = $\mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}} \mathrm{Ext1}[\mathrm{Par}]\mathrm{Ext2}$

642 %% Style for Sentences

643 \cmdmthall{snt}\newcommand{\mthstysnt}{\mathsf}

\aSnt, to do!

a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
 $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$
A, B, Γ, Δ, E, E, Z, H, Θ, Θ, I, K, K, Λ, M, N, Ξ, O, Π, Π, P, P, Σ, Σ, T, Υ, Φ, Φ, X, Ψ, Ω

644 \seqoflet{Snt}{mthsnt}

\cmdmthsnt ... to do!

- \cmdmthsnt{cmdName};
 \cmdNameSnt[sub][sub][ext] = $\mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$
- \cmdmthsnt{cmdName}[NewName];
 \cmdNameSnt[sub][sub][ext] = $\mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}} \mathrm{ext}$

645 \newcommandx{\cmdmthsnt}[2][2=]

646 {\usrmth{\#1}\Snt}\snt{\#2}

\cmdmthargsnt ... to do!

- `\cmdmthargsnt{cmdName};`
`\cmdNameSnt[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2`
- `\cmdmthargsnt{cmdName}[NewName];`
`\cmdNameSnt[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2`

647 `\newcommandx{\cmdmthargsnt}[2][2=]`
648 `{\usrmth{#1}{Snt}{argsnt}{#2}}`

`\cmdmthoargsnt ... to do!`

- `\cmdmthoargsnt{cmdName};`
`\cmdNameSnt[sub][sub][arg] = cmdNamesubsub(arg)`
- `\cmdmthoargsnt{cmdName}[NewName];`
`\cmdNameSnt[sub][sub][arg] = NewNamesubsub(arg)`

649 `\newcommandx{\cmdmthoargsnt}[2][2=]`
650 `{\usrmth{#1}{Snt}{oargsnt}{#2}}`

`\cmdmthparsnt ... to do!`

- `\cmdmthparsnt{cmdName};`
`\cmdNameSnt[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2`
- `\cmdmthparsnt{cmdName}[NewName];`
`\cmdNameSnt[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2`

651 `\newcommandx{\cmdmthparsnt}[2][2=]`
652 `{\usrmth{#1}{Snt}{parsnt}{#2}}`

`\cmdmthoparsnt ... to do!`

- `\cmdmthoparsnt{cmdName};`
`\cmdNameSnt[sub][sub][par] = cmdNamesubsub[par]`
- `\cmdmthoparsnt{cmdName}[NewName];`
`\cmdNameSnt[sub][sub][par] = NewNamesubsub[par]`

653 `\newcommandx{\cmdmthoparsnt}[2][2=]`
654 `{\usrmth{#1}{Snt}{oparsnt}{#2}}`

`\mthfrm, ... to do!`

- `\mthfrm{Name}[sub][sup][Ext] = NamesupsubExt`
- `\mthargfrm{Name}[sub][sup][Ext1]{Arg}[Ext2] = NamesupsubExt1(Arg)Ext2`
- `\mthparfrm{Name}[sub][sup][Ext1]{Par}[Ext2] = NamesupsubExt1[Par]Ext2`

655 `%% Style for Formulae`
656 `\cmdmthall{frm}\newcommand{\mthstyfrm}{\mathit}`

`\aFrm, ... to do!`

a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
α, β, γ, δ, ε, ζ, η, θ, ϑ, ι, κ, λ, μ, ν, ξ, o, π, ϖ, ρ, ϑ, σ, ς, τ, υ, φ, ϕ, χ, ψ, ω
A, B, Γ, Δ, E, F, G, H, Θ, I, K, K, A, M, N, Ξ, O, Π, Π, P, P, Σ, Σ, T, Υ, Φ, Φ, X, Ψ, Ω

657 `\seqoflet{Frm}{mthfrm}`

`\cmdmthfrm ... to do!`

- `\cmdmthfrm{cmdName};`
`\cmdNameFrm[sub][sub][ext] = cmdNamesubsubext`
- `\cmdmthfrm{cmdName}[NewName];`
`\cmdNameFrm[sub][sub][ext] = NewNamesubsubext`

658 `\newcommandx{\cmdmthfrm}[2][2=]`
659 `{\usrmth{#1}{Frm}{frm}{#2}}`

`\cmdmthargfrm ... to do!`

- `\cmdmthargfrm{cmdName};`
`\cmdNameFrm[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2`
- `\cmdmthargfrm{cmdName}[NewName];`
`\cmdNameFrm[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2`

```

660 \newcommandx{\cmdmthargfrm}[2][2=]
661   {\usrmth{#1}{Frm}{argfrm}{#2}}

\cmdmthoargfrm ... to do!
  • \cmdmthoargfrm{cmdName};
    \cmdNameFrm[sub][sub][arg] =  $cmdName_{sub}^{sub}(arg)$ 
  • \cmdmthoargfrm{cmdName}[NewName];
    \cmdNameFrm[sub][sub][arg] =  $NewName_{sub}^{sub}(arg)$ 
662 \newcommandx{\cmdmthoargfrm}[2][2=]
663   {\usrmth{#1}{Frm}{oargfrm}{#2}}

\cmdmthparfrm ... to do!
  • \cmdmthparfrm{cmdName};
    \cmdNameFrm[sub][sub][ext1]{par}[ext2] =  $cmdName_{sub}^{sub}ext1[par]ext2$ 
  • \cmdmthparfrm{cmdName}[NewName];
    \cmdNameFrm[sub][sub][ext1]{par}[ext2] =  $NewName_{sub}^{sub}ext1[par]ext2$ 
664 \newcommandx{\cmdmthparfrm}[2][2=]
665   {\usrmth{#1}{Frm}{parfrm}{#2}}

\cmdmthoparfrm ... to do!
  • \cmdmthoparfrm{cmdName};
    \cmdNameFrm[sub][sub][par] =  $cmdName_{sub}^{sub}[par]$ 
  • \cmdmthoparfrm{cmdName}[NewName];
    \cmdNameFrm[sub][sub][par] =  $NewName_{sub}^{sub}[par]$ 
666 \newcommandx{\cmdmthoparfrm}[2][2=]
667   {\usrmth{#1}{Frm}{oparfrm}{#2}}

668 %%*****%

\mthmat, ... ... to do!
  • \mthmat{Name}[sub][sup][Ext] =  $\mathbf{Name}_{sub}^{sup}Ext$ 
  • \mthargmat{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $\mathbf{Name}_{sub}^{sup}Ext1(Arg)Ext2$ 
  • \mthparmat{Name}[sub][sup][Ext1]{Par}[Ext2] =  $\mathbf{Name}_{sub}^{sup}Ext1[Par]Ext2$ 
669 %% Style for Matrices
670 \cmdmthall{mat}\newcommand{\mthstymat}[1]{\boldsymbol{\mathsf{#1}}}

\mat, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
 $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$ 
A, B,  $\Gamma, \Delta, E, Z, H, \Theta, \Theta, I, K, K, \Lambda, M, N, \Xi, O, \Pi, \Pi, P, P, \Sigma, \Sigma, T, T, \Phi, \Phi, X, \Psi, \Omega$ 
671 \seqoflet{Mat}{mthmat}

\cmdmthmat ... to do!
  • \cmdmthmat{cmdName};
    \cmdNameMat[sub][sub][ext] =  $\mathbf{cmdName}_{sub}^{sub}ext$ 
  • \cmdmthmat{cmdName}[NewName];
    \cmdNameMat[sub][sub][ext] =  $\mathbf{NewName}_{sub}^{sub}ext$ 
672 \newcommandx{\cmdmthmat}[2][2=]
673   {\usrmth{#1}{Mat}{mat}{#2}}

\cmdmthargmat ... to do!
  • \cmdmthargmat{cmdName};
    \cmdNameMat[sub][sub][ext1]{arg}[ext2] =  $\mathbf{cmdName}_{sub}^{sub}ext1(arg)ext2$ 
  • \cmdmthargmat{cmdName}[NewName];
    \cmdNameMat[sub][sub][ext1]{arg}[ext2] =  $\mathbf{NewName}_{sub}^{sub}ext1(arg)ext2$ 
674 \newcommandx{\cmdmthargmat}[2][2=]
675   {\usrmth{#1}{Mat}{argmat}{#2}}

```

```

\cmdmthoargmat ... to do!
    • \cmdmthoargmat{cmdName};
      \cmdNameMat[sub][sub][arg] = cmdNamesub(arg)
    • \cmdmthoargmat{cmdName}[NewName];
      \cmdNameMat[sub][sub][arg] = NewNamesub(arg)
676 \newcommandx{\cmdmthoargmat}[2][2=]
677   {\usrmth{#1}{Mat}{oargmat}{#2}}

\cmdmthparmat ... to do!
    • \cmdmthparmat{cmdName};
      \cmdNameMat[sub][sub][ext1]{par}[ext2] = cmdNamesubext1[par]ext2
    • \cmdmthparmat{cmdName}[NewName];
      \cmdNameMat[sub][sub][ext1]{par}[ext2] = NewNamesubext1[par]ext2
678 \newcommandx{\cmdmthparmat}[2][2=]
679   {\usrmth{#1}{Mat}{parmat}{#2}}

\cmdmthoparmat ... to do!
    • \cmdmthoparmat{cmdName};
      \cmdNameMat[sub][sub][par] = cmdNamesub[par]
    • \cmdmthoparmat{cmdName}[NewName];
      \cmdNameMat[sub][sub][par] = NewNamesub[par]
680 \newcommandx{\cmdmthoparmat}[2][2=]
681   {\usrmth{#1}{Mat}{oparmat}{#2}}

\mthvec, ... ... to do!
    • \mthvec{Name}[sub][sup][Ext] = NamesupsubExt
    • \mthargvec{Name}[sub][sup][Ext1]{Arg}[Ext2] = NamesupsubExt1(Arg)Ext2
    • \mthparvec{Name}[sub][sup][Ext1]{Par}[Ext2] = NamesupsubExt1[Par]Ext2
682 %% Style for Vectors
683 \cmdmthall{vec}\newcommand{\mthstyvec}[1]{\boldsymbol{\mathit{#1}}}

\avec, ... ... to do!
a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
α, β, γ, δ, ε, ζ, η, θ, ϑ, ι, κ, λ, μ, ν, ξ, ο, π, ϖ, ρ, ϱ, σ, ς, τ, υ, φ, ϕ, χ, ψ, ω
A, B, Γ, Δ, E, E, Z, H, Θ, Θ, I, K, K, Λ, M, N, Ξ, O, Π, Π, P, P, Σ, Σ, T, Υ, Φ, Φ, X, Ψ, Ω
684 \seqoflet{Vec}{mthvec}

\cmdmthvec ... to do!
    • \cmdmthvec{cmdName};
      \cmdNameVec[sub][sub][ext] = cmdNamesubsubext
    • \cmdmthvec{cmdName}[NewName];
      \cmdNameVec[sub][sub][ext] = NewNamesubsubext
685 \newcommandx{\cmdmthvec}[2][2=]
686   {\usrmth{#1}{Vec}{vec}{#2}}

\cmdmthargvec ... to do!
    • \cmdmthargvec{cmdName};
      \cmdNameVec[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
    • \cmdmthargvec{cmdName}[NewName];
      \cmdNameVec[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
687 \newcommandx{\cmdmthargvec}[2][2=]
688   {\usrmth{#1}{Vec}{argvec}{#2}}

\cmdmthoargvec ... to do!
    • \cmdmthoargvec{cmdName};
      \cmdNameVec[sub][sub][arg] = cmdNamesub(arg)

```

- $\backslash\text{cmdmthoargvec}\{\text{cmdName}\}[\text{NewName}]$;
 $\backslash\text{cmdNameVec}[\text{sub}][\text{sub}][\text{arg}] = \text{NewName}_{\text{sub}}^{\text{sub}}(\text{arg})$

```

689 \newcommandx{\cmdmthoargvec}[2][2=]
690   {\usrmth{\#1}\Vec}\oargvec{\#2}}

\cmdmthparvec ... to do!


- $\backslash\text{cmdmthparvec}\{\text{cmdName}\}$ ;  

 $\backslash\text{cmdNameVec}[\text{sub}][\text{sub}][\text{ext1}][\text{par}][\text{ext2}] = \text{cmdName}_{\text{sub}}^{\text{sub}}\text{ext1}[\text{par}]\text{ext2}$
- $\backslash\text{cmdmthparvec}\{\text{cmdName}\}[\text{NewName}]$ ;  

 $\backslash\text{cmdNameVec}[\text{sub}][\text{sub}][\text{ext1}][\text{par}][\text{ext2}] = \text{NewName}_{\text{sub}}^{\text{sub}}\text{ext1}[\text{par}]\text{ext2}$



```

691 \newcommandx{\cmdmthparvec}[2][2=]
692 {\usrmth{\#1}\Vec}\parvec{\#2}}

\cmdmthoparvec ... to do!

- $\backslash\text{cmdmthoparvec}\{\text{cmdName}\}$;

 $\backslash\text{cmdNameVec}[\text{sub}][\text{sub}][\text{par}] = \text{cmdName}_{\text{sub}}^{\text{sub}}[\text{par}]$
- $\backslash\text{cmdmthoparvec}\{\text{cmdName}\}[\text{NewName}]$;

 $\backslash\text{cmdNameVec}[\text{sub}][\text{sub}][\text{par}] = \text{NewName}_{\text{sub}}^{\text{sub}}[\text{par}]$


```

693 \newcommandx{\cmdmthoparvec}[2][2=]
694   {\usrmth{\#1}\Vec}\oparvec{\#2}}

695 \fi
696 %*****
697 %*****
698 %** Elementary Macros for Text *****
699 %*****
700 \iftext@
701 %** Latin Abbreviations *****

\adhoc      • \adhoc = ad hoc
702 \cmdtxtabr{\adhoc}[ad hoc]

\afortiori  • \afortiori = a fortiori
703 \cmdtxtabr{\afortiori}[a fortiori]

\apriori    • \apriori = a priori
704 \cmdtxtabr{\apriori}[a priori]

\aposteriori • \aposteriori = a posteriori
705 \cmdtxtabr{\aposteriori}[a posteriori]

\cf         • \cf = cf.
706 \cmdtxtabr{\cf}[cf.]

\dedicto    • \dedicto = de dicto
707 \cmdtxtabr{\dedicto}[de dicto]

\defacto    • \defacto = de facto
708 \cmdtxtabr{\defacto}[de facto]

\dere       • \dere = de re
709 \cmdtxtabr{\dere}[de re]

\divideetimperā • \divideetimperā = divide et impera
710 \cmdtxtabr{\divideetimperā}[divide et impera]

\eg         • \eg = e.g.
711 \cmdtxtabr{\eg}[e.g.]

```


```


```


`\ergo` • `\ergo = ergo`
712 `\cmdtxtabr{ergo}`

`\errata` • `\errata = errata`
713 `\cmdtxtabr{errata}`

`\erratum` • `\erratum = erratum`
714 `\cmdtxtabr{erratum}`

`\etal` • `\etal = et al.`
715 `\cmdtxtabr{etal}[et al.]`

`\etc` • `\etc = etc.`
716 `\cmdtxtabr{etc}[etc.]`

`\ie` • `\ie = i.e.`
717 `\cmdtxtabr{ie}[i.e.]`

`\mutatismutandis` • `\mutatismutandis = mutatis mutandis`
718 `\cmdtxtabr{mutatismutandis}[mutatis mutandis]`

`\percontra` • `\percontra = per contra`
719 `\cmdtxtabr{percontra}[per contra]`

`\primafacie` • `\primafacie = prima facie`
720 `\cmdtxtabr{primafacie}[prima facie]`

`\viceversa` • `\viceversa = vice versa`
721 `\cmdtxtabr{viceversa}[vice versa]`

`\vs` • `\vs = vs.`
722 `\cmdtxtabr{vs}[vs.]`

`\viz` • `\viz = viz.`
723 `\cmdtxtabr{viz}[viz.]`
724 `%%*****%`

`\Afortiori` • `\Afortiori = A fortiori`
725 `\cmdtxtabr{Afortiori}[A fortiori]`

`\Apriori` • `\Apriori = A priori`
726 `\cmdtxtabr{Apriori}[A priori]`

`\Aposteriori` • `\Aposteriori = A posteriori`
727 `\cmdtxtabr{Aposteriori}[A posteriori]`

`\Dedicto` • `\Dedicto = De dicto`
728 `\cmdtxtabr{Dedicto}[De dicto]`

`\Defacto` • `\Defacto = De facto`
729 `\cmdtxtabr{Defacto}[De facto]`

`\Dere` • `\Dere = De re`
730 `\cmdtxtabr{Dere}[De re]`

`\Divideetimperaper` • `\Divideetimperaper = Divide et impera`
731 `\cmdtxtabr{Divideetimperaper}[Divide et impera]`

`\Eg` • `\Eg = E.g.`

732 `\cmdtxtabr{Eg}[E.g.]`

`\Errata` • `\Errata = Errata`

733 `\cmdtxtabr{Errata}`

`\Erratum` • `\Erratum = Erratum`

734 `\cmdtxtabr{Erratum}`

`\Mutatismutandis` • `\Mutatismutandis = Mutatis mutandis`

735 `\cmdtxtabr{Mutatismutandis}[Mutatis mutandis]`

`\Percontra` • `\Percontra = Per contra`

736 `\cmdtxtabr{Percontra}[Per contra]`

`\Primafacie` • `\Primafacie = Prima facie`

737 `\cmdtxtabr{Primafacie}[Prima facie]`

`\Viceversa` • `\Viceversa = Vice versa`

738 `\cmdtxtabr{Viceversa}[Vice versa]`

739 `%%** Italian Abbreviations *****%`

...

740 `%%*****%`

...

741 `%%** French Abbreviations *****%`

`\naif` • `\naif = naïf`

742 `\cmdtxtabr{naif}[na\{i}f]`

`\naive` • `\naive = naïve`

743 `\cmdtxtabr{naive}[na\{i}ve]`

`\role` • `\role = rôle`

744 `\cmdtxtabr{role}[r\{o}le]`

745 `%%*****%`

`\Role` • `\Role = Rôle`

746 `\cmdtxtabr{Role}[R\{o}le]`

747 `%%** English Abbreviations *****%`

`\aka` • `\aka = a.k.a.`

748 `\cmdtxtabr{aka}[a.k.a.]`

`\contd` • `\contd = contd.`

749 `\cmdtxtabr{contd}[contd.]`

`\iff` • `\iff = iff`

750 `\cmdtxtabr{iff}`

`\stx` • `\stx = s.t.`

751 `\cmdtxtabr{stx}[s.t.]`

`\resp` • `\resp = resp.`

752 `\cmdtxtabr{resp}[resp.]`

```

\wrt      • \wrt = w.r.t.
753 \cmdtxtabr{wrt}[w.r.t.]

\wlogx    • \wlogx = w.l.o.g.
754 \cmdtxtabr{wlogx}[w.l.o.g.]

755 %%*****

\Contd    • \Contd = Contd.
756 \cmdtxtabr{Contd}[Contd.]

\Wlogx    • \Wlogx = W.l.o.g.
757 \cmdtxtabr{Wlogx}[W.l.o.g.]

758 \fi
759 %%*****

760 %%*****
761 %%** Elementary Macros for Math *****
762 %%*****
763 \ifmath@
764 %%** General Notation *****

```

```

\defeq, \seteq ...
765 \DeclareRobustCommand{\defeq}
766   {\@ifstar%
767     {\mthlbop{\stackrel{\text{\textup{def}}}{=}}}%
768     {\mthlbop{\triangleq}}}
769 \DeclareRobustCommand{\seteq}
770   {\@ifstar{\mthlbop{:=}}{\mthlbop{=:}}}
771 %%*****

```

```

\implies, ... ...
772 \DeclareRobustCommand{\implies}
773   {\mthlrel{\Rightarrow}}
774 \DeclareRobustCommand{\notimplies}
775   {\mthlrel{\not\Rightarrow}}

```

```

\implied, ... ...
776 \DeclareRobustCommand{\implied}
777   {\mthlrel{\Leftarrow}}
778 \DeclareRobustCommand{\notimplied}
779   {\mthlrel{\not\Leftarrow}}

```

```

\coimplies, ... ...
780 \DeclareRobustCommand{\coimplies}
781   {\mthlrel{\Leftrightarrow}}
782 \DeclareRobustCommand{\notcoimplies}
783   {\mthlrel{\not\!\Leftrightarrow}}
784 %%*****

```

```

\cmodels, ... ...
785 \DeclareRobustCommand{\cmodels}
786   {\mthlrel{\models}}
787 \DeclareRobustCommand{\notcmodels}
788   {\mthlrel{\not\models}}

```

```

\cequiv, ... ...
789 \DeclareRobustCommand{\cequiv}
790   {\mthlrel{\equiv}}
791 \DeclareRobustCommand{\notcequiv}
792   {\mthlrel{\not\equiv}}

```

```

793 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\dual, \adj, ... ...
794 \DeclareRobustCommand{\dual}[1]
795   {\mth{\overline{#1}}}
796 \DeclareRobustCommand{\adj}[1]
797   {\mth{\mathring{#1}}}
798 \DeclareRobustCommand{\der}[1]
799   {\mth{\widehat{#1}}}
800 \DeclareRobustCommand{\trn}[1]
801   {\mth{\widetilde{#1}}}

\vec ...
802 \DeclareRobustCommand{\vec}
803   {\@ifstar{\@svec}{\@vec}}
804 \DeclareRobustCommand{\@vec}[1]
805   {\mth{\mathaccent"017E{#1}}}
806 \DeclareRobustCommand{\@svec}[1]
807   {\mth{\overline{#1}}}

808 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\enumeration, ... ...
809 \varcmd{enumeration}{\mth}{,}{,}{,}{}
810 \varcmd{enumerationx}{\mth}{,}{,}{,}{}

\sequence, ... ...
811 \varcmd{sequence}{\mth}{\left[{}{,}{\right]}{}
812 \varcmd{sequence1}{\mth}{\left[{}{,}{\right.}{}
813 \varcmd{sequencer}{\mth}{\left.{}{,}{\right]}{}
814 \varcmd{sequencex}{\mth}{\left[{}{,}{\right]}{}
815 \varcmd{sequencex1}{\mth}{\left[{}{,}{\right.}{}
816 \varcmd{sequencexr}{\mth}{\left.{}{,}{\right]}{}

\tuple, ... ...
817 \varcmd{tuple}{\mth}{\left\langle{}{,}{\right\rangle}{}
818 \varcmd{tuple1}{\mth}{\left\langle{}{,}{\right.}{}
819 \varcmd{tupler}{\mth}{\left.{}{,}{\right\rangle}{}
820 \varcmd{tuplex}{\mth}{\left\langle{}{,}{\right\rangle}{}
821 \varcmd{tuplex1}{\mth}{\left\langle{}{,}{\right.}{}
822 \varcmd{tuplexr}{\mth}{\left.{}{,}{\right\rangle}{}

823 %** Sets %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\set, ... ...
824 \DeclareRobustCommand{\set}
825   {\@ifstar{\@set}{\@set[\left][\middle][\right]}}
826 \DeclareRobustCommand{\@set}[5][1=, 2=, 3=]
827   {\mth{\argmid{#1\lbrace}{\argsep{#4}{\,},#2\vert\,}{#5}}{\#3\rbrace}}
828 \DeclareRobustCommand{\set1}
829   {\@ifstar{\@set1}{\@set1[\left][\right]}}
830 \DeclareRobustCommand{\@set1}[3][1=, 2=]
831   {\mth{\argmid{#1\lbrace}{#3}{\,},#2\vert\!}}
832 \DeclareRobustCommand{\setr}
833   {\@ifstar{\@setr}{\@setr[\left.][\right]}}
834 \DeclareRobustCommand{\@setr}[3][1=, 2=]
835   {\mth{\argmid{#1}{#3}{#2\rbrace}}}

\card ...
836 \DeclareRobustCommand{\card}
837   {\@ifstar{\@card}{\@card[\left][\right]}}
838 \DeclareRobustCommand{\@card}[3][1=, 2=]
839   {\mth{\argmid{#1\lvert}{#3}{#2\rvert}}}

```

```

\pow ...
840 \DeclareRobustCommand{\pow}[1]
841   {\mth{2^{\defval{#1}{\cdot}}}}

\denot ...
842 \DeclareRobustCommand{\denot}
843   {\@ifstar{\@denot}{\@denot[\left][\right]}}
844 \DeclareRobustCommandx{\@denot}[3][1=, 2=]
845   {\mth{\argmid{#1\llbracket}{#3}{#2\rrbracket}}}

846 %** Relations *****%

\emptyrel ...
847 \DeclareRobustCommand{\emptyrel}
848   {\mth{\varnothing}}

849 %*****%

\dom, \cod, ... ...
850 \DeclareRobustCommand{\dom}
851   {\mthargfun{dom}}
852 \DeclareRobustCommand{\cod}
853   {\mthargfun{cod}}
854 \DeclareRobustCommand{\rng}
855   {\mthargfun{rng}}
856 \DeclareRobustCommand{\img}
857   {\mthargfun{img}}

858 %*****%

\prj ...
859 \DeclareRobustCommand{\prj}
860   {\mthargfun{prj}}

\rst ...
861 \DeclareRobustCommand{\rst}
862   {\mthlbop{\upharpoonright}}

\cmp ...
863 \DeclareRobustCommand{\cmp}
864   {\mthlbop{\circ}}

865 %** Functions *****%

\emptyfun ...
866 \DeclareRobustCommand{\emptyfun}
867   {\mth{\varnothing}}

868 %*****%

\pto, \pmapsto ...
869 \DeclareMathOperator{\pto}
870   {\ensuremath{\rightharpoonup}}
871 \DeclareMathOperator{\pmapsto}
872   {\ensuremath{\mathrel{\raisebox{0.5ex}{\footnotesize$\llcorner$}}}%
873     \kern-1.5ex\rightharpoonup}}

874 %*****%

```

```

\fix, \ifp, ... ...
875 \DeclareRobustCommand{\fix}
876   {\mthfun{fix}}
877 \DeclareRobustCommand{\ifp}
878   {\mthfun{ifp}}
879 \DeclareRobustCommand{\lfp}
880   {\mthfun{lfp}}
881 \DeclareRobustCommand{\gfp}
882   {\mthfun{gfp}}
883 %%*****%

\Aomega, \AOmega ...
884 \DeclareRobustCommand{\Aomega}
885   {\mthargset{\omega}}
886 \DeclareRobustCommand{\AOmega}
887   {\mthargset{\Omega}}

\Atheta, \ATheta ...
888 \DeclareRobustCommand{\Atheta}
889   {\mthargset{\theta}}
890 \DeclareRobustCommand{\ATheta}
891   {\mthargset{\Theta}}

\Aomicron, ... ...
892 \DeclareRobustCommand{\Aomicron}
893   {\mthargset{\omicron}}
894 \DeclareRobustCommand{\AOmicron}
895   {\mthargset{\Omicron}}
896 %%** Numbers *****%

\SetB ...
897 \DeclareRobustCommand{\SetB}
898   {\mthset[mathbb]{B}}

\SetF ...
899 \DeclareRobustCommand{\SetF}
900   {\mthset[mathbb]{F}}

\SetN, ... ...
901 \DeclareRobustCommand{\SetN}
902   {\mthset[mathbb]{N}}
903 \DeclareRobustCommand{\SetNI}[1] []
904   {\SetN[\infty #1]}

\SetZ, ... ...
905 \DeclareRobustCommand{\SetZ}
906   {\mthset[mathbb]{Z}}
907 \DeclareRobustCommand{\SetZI}[1] []
908   {\SetZ[\pm\infty #1]}
909 \DeclareRobustCommand{\SetZPI}[1] []
910   {\SetZ[+\infty #1]}
911 \DeclareRobustCommand{\SetZNI}[1] []
912   {\SetZ[-\infty #1]}

\SetQ, ... ...
913 \DeclareRobustCommand{\SetQ}
914   {\mthset[mathbb]{Q}}
915 \DeclareRobustCommand{\SetQI}[1] []
916   {\SetQ[\pm\infty #1]}
917 \DeclareRobustCommand{\SetQPI}[1] []
918   {\SetQ[+\infty #1]}
919 \DeclareRobustCommand{\SetQNI}[1] []
920   {\SetQ[-\infty #1]}

```

```

\SetR, ... ...
921 \DeclareRobustCommand{\SetR}
922   {\mthset[mathbb]{R}}
923 \DeclareRobustCommand{\SetRI}[1] []
924   {\SetR[\pm\infty #1]}
925 \DeclareRobustCommand{\SetRPI}[1] []
926   {\SetR[+\infty #1]}
927 \DeclareRobustCommand{\SetRNI}[1] []
928   {\SetR[-\infty #1]}

\SetC, ... ...
929 \DeclareRobustCommand{\SetC}
930   {\mthset[mathbb]{C}}
931 \DeclareRobustCommand{\SetCI}[1] []
932   {\SetC[\infty #1]}

933 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\num, ... ...
934 \DeclareRobustCommand{\num}[1]
935   {\mth{[#1]}}
936 \DeclareRobustCommand{\numcc}[2]
937   {\mth{[\argsep{#1}{,}{#2}]}}
938 \DeclareRobustCommand{\numco}[2]
939   {\mth{[\argsep{#1}{,}{#2})}}
940 \DeclareRobustCommand{\numoc}[2]
941   {\mth{(\argsep{#1}{,}{#2}]}}
942 \DeclareRobustCommand{\numoo}[2]
943   {\mth{(\argsep{#1}{,}{#2})}}

944 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\floor, \ceil ...
945 \DeclareRobustCommand{\floor}
946   {\@ifstar{\@floor}{\@floor[\left][\right]}}
947 \DeclareRobustCommandx{\@floor}[3] [1=, 2=]
948   {\mth{\argmid{#1\lfloor}{#3}{#2\rfloor}}}
949 \DeclareRobustCommand{\ceil}
950   {\@ifstar{\@ceil}{\@ceil[\left][\right]}}
951 \DeclareRobustCommandx{\@ceil}[3] [1=, 2=]
952   {\mth{\argmid{#1\lceil}{#3}{#2\rceil}}}

953 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\arg ...
954 \DeclareRobustCommand{\arg}
955   {\mthfun{arg}}

\evn, \odd ...
956 \DeclareRobustCommand{\evn}
957   {\mthfun{evn}}
958 \DeclareRobustCommand{\odd}
959   {\mthfun{odd}}

\bst, ... ...
960 \DeclareRobustCommand{\bst}
961   {\mthfun{bst}}
962 \DeclareRobustCommand{\argbst}
963   {\mthfun{arg bst}}

\min, \max, ... ...
964 \DeclareRobustCommand{\min}
965   {\mthfun{min}}

```

```

966 \DeclareRobustCommand{\max}
967   {\mthfun{max}}
968 \DeclareRobustCommand{\argmin}
969   {\mthfun{arg min}}
970 \DeclareRobustCommand{\argmax}
971   {\mthfun{arg max}}

\inf, \sup ...
972 \DeclareRobustCommand{\inf}
973   {\mthfun{inf}}
974 \DeclareRobustCommand{\sup}
975   {\mthfun{sup}}

976 %** Sequences *****%

\emptyseq ...
977 \DeclareRobustCommand{\emptyseq}
978   {\mth{\varepsilon}}

\fst, \lst ...
979 \DeclareRobustCommand{\fst}
980   {\mthargfun{fst}}
981 \DeclareRobustCommand{\lst}
982   {\mthargfun{lst}}

983 \fi
984 %*****%
985 %*****%
986 %** Macros for Computational-Complexity Classes *****%
987 %*****%
988 \ifcom@

\defcomcls ... to do!
  • \defcomcls{CompClass};

  \CompClass[sub][sup][ext] = COMPCLASSSUPSUBEXT
  \CoCompClass[sub][sup][ext] = CoCOMPCLASSSUPSUBEXT
  \CompClassE[sub][sup][ext] = COMPCLASS-EASYSUPSUBEXT
  \CoCompClassE[sub][sup][ext] = CoCOMPCLASS-EASYSUPSUBEXT
  \CompClassH[sub][sup][ext] = COMPCLASS-HARDSUPSUBEXT
  \CoCompClassH[sub][sup][ext] = CoCOMPCLASS-HARDSUPSUBEXT
  \CompClassC[sub][sup][ext] = COMPCLASS-COMPLETESUPSUBEXT
  \CoCompClassC[sub][sup][ext] = CoCOMPCLASS-COMPLETESUPSUBEXT

  \NCompClass[sub][sup][ext] = NCOMPCLASSSUPSUBEXT
  \CoNCompClass[sub][sup][ext] = CoNCOMPCLASSSUPSUBEXT
  \NCompClassE[sub][sup][ext] = NCOMPCLASS-EASYSUPSUBEXT
  \CoNCompClassE[sub][sup][ext] = CoNCOMPCLASS-EASYSUPSUBEXT
  \NCompClassH[sub][sup][ext] = NCOMPCLASS-HARDSUPSUBEXT
  \CoNCompClassH[sub][sup][ext] = CoNCOMPCLASS-HARDSUPSUBEXT
  \NCompClassC[sub][sup][ext] = NCOMPCLASS-COMPLETESUPSUBEXT
  \CoNCompClassC[sub][sup][ext] = CoNCOMPCLASS-COMPLETESUPSUBEXT

  \UCompClass[sub][sup][ext] = UCOMPCLASSSUPSUBEXT
  \CoUCompClass[sub][sup][ext] = CoUCOMPCLASSSUPSUBEXT
  \UCompClassE[sub][sup][ext] = UCOMPCLASS-EASYSUPSUBEXT
  \CoUCompClassE[sub][sup][ext] = CoUCOMPCLASS-EASYSUPSUBEXT
  \UCompClassH[sub][sup][ext] = UCOMPCLASS-HARDSUPSUBEXT
  \CoUCompClassH[sub][sup][ext] = CoUCOMPCLASS-HARDSUPSUBEXT
  \UCompClassC[sub][sup][ext] = UCOMPCLASS-COMPLETESUPSUBEXT
  \CoUCompClassC[sub][sup][ext] = CoUCOMPCLASS-COMPLETESUPSUBEXT

  \ACompClass[sub][sup][ext] = ACOMPCLASSSUPSUBEXT
  \CoACompClass[sub][sup][ext] = CoACOMPCLASSSUPSUBEXT

```



```

\ACompClassE[sub][sup][ext] = ACOMPCLASS-EASYSUPSUBEXT
\CoACompClassE[sub][sup][ext] = CoACOMPCLASS-EASYSUPSUBEXT
\ACompClassH[sub][sup][ext] = ACOMPCLASS-HARDSUPSUBEXT
\CoACompClassH[sub][sup][ext] = CoACOMPCLASS-HARDSUPSUBEXT
\ACompClassC[sub][sup][ext] = ACOMPCLASS-COMPLETESUPSUBEXT
\CoACompClassC[sub][sup][ext] = CoACOMPCLASS-COMPLETESUPSUBEXT

```

• \defcomcls{CompClass}[NewClass];

```

\CompClass[sub][sup][ext] = NEWCLASSSUPSUBEXT
\CoCompClass[sub][sup][ext] = CoNEWCLASSSUPSUBEXT
\CompClassE[sub][sup][ext] = NEWCLASS-EASYSUPSUBEXT
\CoCompClassE[sub][sup][ext] = CoNEWCLASS-EASYSUPSUBEXT
\CompClassH[sub][sup][ext] = NEWCLASS-HARDSUPSUBEXT
\CoCompClassH[sub][sup][ext] = CoNEWCLASS-HARDSUPSUBEXT
\CompClassC[sub][sup][ext] = NEWCLASS-COMPLETESUPSUBEXT
\CoCompClassC[sub][sup][ext] = CoNEWCLASS-COMPLETESUPSUBEXT

```

```

\NCompClass[sub][sup][ext] = NNEWCLASSSUPSUBEXT
\CoNCompClass[sub][sup][ext] = CoNNEWCLASSSUPSUBEXT
\NCompClassE[sub][sup][ext] = NNEWCLASS-EASYSUPSUBEXT
\CoNCompClassE[sub][sup][ext] = CoNNEWCLASS-EASYSUPSUBEXT
\NCompClassH[sub][sup][ext] = NNEWCLASS-HARDSUPSUBEXT
\CoNCompClassH[sub][sup][ext] = CoNNEWCLASS-HARDSUPSUBEXT
\NCompClassC[sub][sup][ext] = NNEWCLASS-COMPLETESUPSUBEXT
\CoNCompClassC[sub][sup][ext] = CoNNEWCLASS-COMPLETESUPSUBEXT

```

```

\UCompClass[sub][sup][ext] = UNEWCLASSSUPSUBEXT
\CoUCompClass[sub][sup][ext] = CoUNEWCLASSSUPSUBEXT
\UCompClassE[sub][sup][ext] = UNEWCLASS-EASYSUPSUBEXT
\CoUCompClassE[sub][sup][ext] = CoUNEWCLASS-EASYSUPSUBEXT
\UCompClassH[sub][sup][ext] = UNEWCLASS-HARDSUPSUBEXT
\CoUCompClassH[sub][sup][ext] = CoUNEWCLASS-HARDSUPSUBEXT
\UCompClassC[sub][sup][ext] = UNEWCLASS-COMPLETESUPSUBEXT
\CoUCompClassC[sub][sup][ext] = CoUNEWCLASS-COMPLETESUPSUBEXT

```

```

\ACompClass[sub][sup][ext] = ANEWCLASSSUPSUBEXT
\CoACompClass[sub][sup][ext] = CoANEWCLASSSUPSUBEXT
\ACompClassE[sub][sup][ext] = ANEWCLASS-EASYSUPSUBEXT
\CoACompClassE[sub][sup][ext] = CoANEWCLASS-EASYSUPSUBEXT
\ACompClassH[sub][sup][ext] = ANEWCLASS-HARDSUPSUBEXT
\CoACompClassH[sub][sup][ext] = CoANEWCLASS-HARDSUPSUBEXT
\ACompClassC[sub][sup][ext] = ANEWCLASS-COMPLETESUPSUBEXT
\CoACompClassC[sub][sup][ext] = CoANEWCLASS-COMPLETESUPSUBEXT

```

```

989 \newcommandx{\defcomcls}[2][2=]
990   {\defcomclssem{#1}{\defval{#2}{#1}}%
991   \defcomclssem{#1}{\defval{#2}{#1}}[Co]}
992 \newcommandx{\defcomclssem}[3][3=]
993   {\defcomclsred{#3#1}{#2}{#3}%
994   \defcomclsred{#3N#1}{#2}{#3N}%
995   \defcomclsred{#3U#1}{#2}{#3U}%
996   \defcomclsred{#3A#1}{#2}{#3A}}
997 \newcommandx{\defcomclsred}[3][3=]
998   {\defcomclscmd{#1}{#2}{#3}%
999   \defcomclscmd{#1E}{#2}{#3}[-easy]%
1000   \defcomclscmd{#1H}{#2}{#3}[-hard]%
1001   \defcomclscmd{#1C}{#2}{#3}[-complete]]%
1002 \newcommandx{\defcomclscmd}[4][3=, 4=]
1003   {\csdef{#1}{\txtcom{#3#2#4}}}

```

\defcomhrc ... to do!

• \defcomhrc{CompHierarchy};

```
CompHierarchy[sub][sup][ext] = COMPHIERARCHYSUPSUBEXT
```

```

• \defcomhrc{CompHierarchy}[NewHierarchy];

CompHierarchy[sub][sup][ext] = NEWHIERARCHYSUBEXT

1004 \newcommandx{\defcomhrc}[2][2=]
1005   {\csdef{#1}{\txtcom{\defval{#2}{#1}}}}

1006 %%*****%

\Easy, \Hard, ...

1007 \cmdtxtcom{Easy}
1008 \cmdtxtcom{Hard}
1009 \cmdtxtcom{Complete}

1010 %%*****%

\Time, ...
• \Time[sub][sup][ext] = TIMESUBEXT
  \TimeE[sub][sup][ext] = TIME-EASYSUBEXT
  \TimeH[sub][sup][ext] = TIME-HARDSUBEXT
  \TimeC[sub][sup][ext] = TIME-COMpleteSUBEXT
• \NTime[sub][sup][ext] = NTIMESUBEXT
  \NTimeE[sub][sup][ext] = NTIME-EASYSUBEXT
  \NTimeH[sub][sup][ext] = NTIME-HARDSUBEXT
  \NTimeC[sub][sup][ext] = NTIME-COMpleteSUBEXT
• \UTime[sub][sup][ext] = UTIMESUBEXT
  \UTimeE[sub][sup][ext] = UTIME-EASYSUBEXT
  \UTimeH[sub][sup][ext] = UTIME-HARDSUBEXT
  \UTimeC[sub][sup][ext] = UTIME-COMpleteSUBEXT
• \ATime[sub][sup][ext] = ATIMESUBEXT
  \ATimeE[sub][sup][ext] = ATIME-EASYSUBEXT
  \ATimeH[sub][sup][ext] = ATIME-HARDSUBEXT
  \ATimeC[sub][sup][ext] = ATIME-COMpleteSUBEXT
1011 \defcomcls{Time}

\Space, ...
• \Space[sub][sup][ext] = SPACESUBEXT
  \SpaceE[sub][sup][ext] = SPACE-EASYSUBEXT
  \SpaceH[sub][sup][ext] = SPACE-HARDSUBEXT
  \SpaceC[sub][sup][ext] = SPACE-COMpleteSUBEXT
• \NSpace[sub][sup][ext] = NSPACESUBEXT
  \NSpaceE[sub][sup][ext] = NSPACE-EASYSUBEXT
  \NSpaceH[sub][sup][ext] = NSPACE-HARDSUBEXT
  \NSpaceC[sub][sup][ext] = NSPACE-COMpleteSUBEXT
• \USpace[sub][sup][ext] = USPACESUBEXT
  \USpaceE[sub][sup][ext] = USPACE-EASYSUBEXT
  \USpaceH[sub][sup][ext] = USPACE-HARDSUBEXT
  \USpaceC[sub][sup][ext] = USPACE-COMpleteSUBEXT
• \ASpace[sub][sup][ext] = ASPACESUBEXT
  \ASpaceE[sub][sup][ext] = ASPACE-EASYSUBEXT
  \ASpaceH[sub][sup][ext] = ASPACE-HARDSUBEXT
  \ASpaceC[sub][sup][ext] = ASPACE-COMpleteSUBEXT
1012 \defcomcls{Space}

\LogTime, ...
• \LogTime[sub][sup][ext] = LOGTIMESUBEXT
  \LogTimeE[sub][sup][ext] = LOGTIME-EASYSUBEXT
  \LogTimeH[sub][sup][ext] = LOGTIME-HARDSUBEXT
  \LogTimeC[sub][sup][ext] = LOGTIME-COMpleteSUBEXT
• \NLogTime[sub][sup][ext] = NLOGTIMESUBEXT
  \NLogTimeE[sub][sup][ext] = NLOGTIME-EASYSUBEXT
  \NLogTimeH[sub][sup][ext] = NLOGTIME-HARDSUBEXT
  \NLogTimeC[sub][sup][ext] = NLOGTIME-COMpleteSUBEXT

```



```

\ExpSpace, ...
    • \ExpSpace[sub][sup][ext] = EXPSPACESUBSUPEXT
    \ExpSpaceE[sub][sup][ext] = EXPSPACE-EASYSUBSUPEXT
    \ExpSpaceH[sub][sup][ext] = EXPSPACE-HARDSUBSUPEXT
    \ExpSpaceC[sub][sup][ext] = EXPSPACE-COMPLETESUBSUPEXT

    • \NExpSpace[sub][sup][ext] = NEXPSPACESUBSUPEXT
    \NExpSpaceE[sub][sup][ext] = NEXPSPACE-EASYSUBSUPEXT
    \NExpSpaceH[sub][sup][ext] = NEXPSPACE-HARDSUBSUPEXT
    \NExpSpaceC[sub][sup][ext] = NEXPSPACE-COMPLETESUBSUPEXT

    • \UExpSpace[sub][sup][ext] = UEXPSPACESUBSUPEXT
    \UExpSpaceE[sub][sup][ext] = UEXPSPACE-EASYSUBSUPEXT
    \UExpSpaceH[sub][sup][ext] = UEXPSPACE-HARDSUBSUPEXT
    \UExpSpaceC[sub][sup][ext] = UEXPSPACE-COMPLETESUBSUPEXT

    • \AExpSpace[sub][sup][ext] = AEXPSPACESUBSUPEXT
    \AExpSpaceE[sub][sup][ext] = AEXPSPACE-EASYSUBSUPEXT
    \AExpSpaceH[sub][sup][ext] = AEXPSPACE-HARDSUBSUPEXT
    \AExpSpaceC[sub][sup][ext] = AEXPSPACE-COMPLETESUBSUPEXT
1020 \defcomcls{ExpSpace}

1021 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\PH
    • \PH[sub][sup][ext] = PHSUBSUPEXT
1022 \defcomhrc{PH}

...

1023 \fi
1024 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
1025 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
1026 %** Macros for Games %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
1027 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
1028 \ifgam@
1029 %** Logic Games %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\SATG, ...
...
1030 %% Satisfiability Games
1031 \cmdtxttoparname{SATG}[Sat]
1032
1033 %% Validity Games
1034 \cmdtxttoparname{VALG}[Val]
1035
1036 %% Evaluation Games
1037 \cmdtxttoparname{EVLG}[Evl]
1038
1039 %% Synthesis Games
1040 \cmdtxttoparname{SYNG}[Syn]
1041
1042 %% Model-Checking Games
1043 \cmdtxttoparname{MCG}[MC]
1044
1045 %% Ehrenfeucht-Fraisse Games
1046 \cmdtxttoparname{EFG}[EF]

1047 %** Syntax %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\PlrSym, \OppSym ...
1048 \newcommand{\plrsym}{E}
1049 \cmdmthsym{Plr}{\plrsym}
1050 \newcommand{\oppsym}{A}
1051 \cmdmthsym{Opp}{\oppsym}

\ArenaName, ...
...
1052 \newcommand{\arenaname}{A}
1053 \usrmthlatupp{Arena}{Name}{name}{\arenaname}

```

```

\PosSet, ... ...
1054 \newcommand{\possym}{v}
1055 \newcommand{\posset}{Ps}
1056 \cmdmthsetext{Pos}[\posset][\possym]
1057 \cmdmthsymelm{ipos}[\possym_{I}]
1058 \cmdmthsymelm{fpos}[\possym_{F}]
1059 \cmdmthset{PPos}[\posset_{\PlrSym}]
1060 \cmdmthsymelm{ppos}[\possym_{\PlrSym}]
1061 \cmdmthset{OPos}[\posset_{\OppSym}]
1062 \cmdmthsymelm{opos}[\possym_{\OppSym}]

\PlrFun ...
1063 \newcommand{\plrfun}{pl}
1064 \cmdmthfun{plr}[\plrfun]

\MovRel ...
1065 \newcommand{\movrel}{Mv}
1066 \cmdmthrel{Mov}[\movrel]

\GameName, ... ...
1067 \newcommand{\gamename}{\Game}
1068 \usrmthlatupp{Game}{Name}{name}[\gamename]

\WinSet ...
1069 \newcommand{\winset}{Wn}
1070 \cmdmthset{Win}[\winset]

\ObsSet, \obsFun ...
1071 \newcommand{\obsset}{Ob}
1072 \cmdmthset{Obs}[\obsset]
1073 \cmdmthfun{obs}

1074 %%** Semantics *****%%

\PthSet, \pthFun ...
1075 \newcommand{\pthsym}{\pi}
1076 \newcommand{\pthset}{Pth}
1077 \cmdmthsetext{Pth}[\pthset][\pthsym]
1078 \cmdmthfun{pth}

\HstSet, ... ...
1079 \newcommand{\hstsym}{\rho}
1080 \newcommand{\hstset}{Hst}
1081 \cmdmthsetext{Hst}[\hstset][\hstsym]
1082 \cmdmthset{PHst}[\hstset_{\PlrSym}]
1083 \cmdmthsymelm{phst}[\hstsym_{\PlrSym}]
1084 \cmdmthset{OHst}[\hstset_{\OppSym}]
1085 \cmdmthsymelm{ohst}[\hstsym_{\OppSym}]
1086 \cmdmthfun{hst}

\PlaySet, \playFun ...
1087 \newcommand{\playsym}{\pi}
1088 \newcommand{\playset}{Play}
1089 \cmdmthsetext{Play}[\playset][\playsym]
1090 \cmdmthfun{play}

\StrSet, ... ...
1091 \newcommand{\strsym}{\sigma}
1092 \newcommand{\strset}{Str}
1093 \cmdmthsetext{Str}[\strset][\strsym]
1094 \cmdmthset{PStr}[\strset_{\PlrSym}]
1095 \cmdmthsymelm{pstr}[\strsym_{\PlrSym}]
1096 \cmdmthset{OStr}[\strset_{\OppSym}]
1097 \cmdmthsymelm{ostr}[\strsym_{\OppSym}]

```

```

\PrfSet, \prfFun ...
1098 \newcommand{\prfsym}{\xi}
1099 \newcommand{\prfset}{Prf}
1100 \cmdmthsetext{Prf}[\prfset][\prfsym]

\preFun, \sucFun ...
1101 \newcommand{\prefun}{pre}
1102 \cmdmthoargfun{pre}[\prefun]
1103 \newcommand{\sucfun}{suc}
1104 \cmdmthoargfun{suc}[\sucfun]

\entFun, \escFun ...
1105 \newcommand{\entfun}{ent}
1106 \cmdmthoargfun{ent}[\entfun]
1107 \newcommand{\escfun}{esc}
1108 \cmdmthoargfun{esc}[\escfun]

\intFun, \outFun ...
1109 \newcommand{\intfun}{int}
1110 \cmdmthoargfun{int}[\intfun]
1111 \newcommand{\outfun}{out}
1112 \cmdmthoargfun{out}[\outfun]

\atrFun, \rchFun ...
1113 \newcommand{\atrfun}{atr}
1114 \cmdmthoargfun{atr}[\atrfun]
1115 \newcommand{\rchfun}{rch}
1116 \cmdmthoargfun{rch}[\rchfun]

\liftFun ...
1117 \newcommand{\liftfun}{lift}
1118 \cmdmthoargfun{lift}[\liftfun]

\solFun ...
1119 \newcommand{\solfun}{sol}
1120 \cmdmthoargfun{sol}[\solfun]

1121 %** Qualitative Games on Graph *****%

\BG, ... ...
1122 %% Buchi Games
1123 \cmdtxtoparname{BG}
1124
1125 %% Co-Buchi Games
1126 \cmdtxtoparname{CG}
1127
1128 %% Parity Games
1129 \cmdtxtoparname{PG}
1130
1131 %% Rabin Games
1132 \cmdtxtoparname{RG}
1133
1134 %% Streett Games
1135 \cmdtxtoparname{SG}
1136
1137 %% Muller Games
1138 \cmdtxtoparname{MG}

1139 %** Syntax *****%

\EvnSym, \OddSym ...
1140 \newcommand{\evnsym}{0}
1141 \cmdmthsym{Evnsym}[\evnsym]
1142 \newcommand{\oddsym}{1}
1143 \cmdmthsym{Oddsym}[\oddsym]

```

```

\PrtSet, \prtFun ...
1144 \newcommand{\prtsym}{p}
1145 \newcommand{\prtset}{Pr}
1146 \cmdmthsetext{Prt}[\prtset][\prtsym]
1147 \cmdmthfun{prt}[pr]

1148 %%** Semantics *****%%
...
1149 %%** Quantitative Games on Graph *****%%

\EG, ... ...
1150 %% Energy Games
1151 \cmdtxttoparname{EG}
1152
1153 %% Mean-Payoff Games
1154 \cmdtxttoparname{MPG}
1155
1156 %% Discounted-Payoff Games
1157 \cmdtxttoparname{DPG}

1158 %%** Syntax *****%%

\MaxSym, \MinSym ...
1159 \newcommand{\maxsym}{\oplus}
1160 \cmdmthsym{Max}[\maxsym]
1161 \newcommand{\minsym}{\boxminus}
1162 \cmdmthsym{Min}[\minsym]

\WghSet, \wghFun ...
1163 \newcommand{\wghsym}{w}
1164 \newcommand{\wghset}{Wg}
1165 \cmdmthsetext{Wgh}[\wghset][\wghsym]
1166 \cmdmthfun{wgh}[wg]

1167 %%** Semantics *****%%
...
1168 \fi
1169 %*****%%
1170 %*****%%
1171 %%** Macros for Logics *****%%
1172 %*****%%
1173 \iflog@
1174 %%** Propositional Logics *****%%

\BF, \QBF, ... ...
1175 % Boolean Formulae
1176 \cmdtxttoparname{BF}
1177
1178 % Quantified Boolean Formulae
1179 \DeclareRobustCommand{\QBF}
1180   {\{\txtrname{Q}\}\BF}
1181 \DeclareRobustCommand{\EBF}
1182   {\ensuremath{\exists}\BF}
1183 \DeclareRobustCommand{\UBF}
1184   {\ensuremath{\forall}\BF}

1185 %%** Syntax *****%%

\LogSig, ... ...
1186 \newcommand{\logsig}{L}
1187 \usrmthlatupp{Log}{Sig}{sig}[\logsig]

```



```

\Tt, \Ff ...
1188 \newcommand{\ttsym}{\top}
1189 \usrmth{Tt}{\}{sym}[\ttsym]
1190 \newcommand{\ffsym}{\bot}
1191 \usrmth{Ff}{\}{sym}[\ffsym]

\LNeg, \LNot ...
1192 \newcommand{\lnegsym}{\neg}
1193 \usrmth{LNeg}{\}{luop}[\lnegsym]
1194 \newcommand{\lnotsym}{\sim}
1195 \usrmth{LNot}{\}{luop}[\lnotsym]

\LCon, \LDis ...
1196 \newcommand{\lconsym}{\land}
1197 \usrmth{LCon}{\}{lbop}[\lconsym]
1198 \newcommand{\ldissym}{\lor}
1199 \usrmth{LDis}{\}{lbop}[\ldissym]

\LImp, \LCoi ...
1200 \newcommand{\limpsym}{\rightarrow}
1201 \usrmth{LImp}{\}{lbop}[\limpsym]
1202 \newcommand{\lcoisym}{\leftrightharpoonup}
1203 \usrmth{LCoi}{\}{lbop}[\lcoisym]

\LExs, \LAll ...
1204 \newcommand{\lexssym}{\exists}
1205 \usrmth{LExs}{\}{luop}[\lexssym]
1206 \newcommand{\lallsym}{\forall}
1207 \usrmth{LAll}{\}{luop}[\lallsym]

\APSet, ... ...
1208 \newcommand{\apsym}{\wp}
1209 \newcommand{\apset}{\mathcal{AP}}
1210 \cmdmthsetext{AP}{\apset}[\apsym]
1211 \cmdmthfun{ap}{\usrmth{ap}{\}{argfun}}

\sub ...
1212 \usrmth{sub}{\}{argfun}

\Cnt, \Qnt, \Sym ...
1213 \usrmth{Cnt}{\}{sym}[C]
1214 \usrmth{Qnt}{\}{sym}[Q]
1215 \usrmth{Sym}{\}{sym}[\odot]

\QAE, \QEA ...
1216 \usrmth{QAE}{\}{sym}[\forall\exists]
1217 \usrmth{QEA}{\}{sym}[\exists\forall]

\QntSet, ... ...
1218 \newcommand{\qntsym}{\wp}
1219 \newcommand{\qntset}{\mathcal{Qn}}
1220 \cmdmthsetext{Qnt}{\qntset}[\qntsym]

\free, \bound ...
1221 \usrmth{free}{\}{argfun}
1222 \usrmth{bound}{\}{argfun}

\dep, \alt ...
1223 \usrmth{dep}{\}{argfun}
1224 \usrmth{alt}{\}{argfun}

```

```

\cnf, \dnf, ... ...
1225 \cmdtxtabr{cnf}
1226 \cmdtxtabr{dnf}
1227 \cmdtxtabr{pnf}
1228 \cmdtxtabr{nnf}

1229 %** Semantics *****%%

\LogStr, ... ...
1230 \newcommand{\logstr}{L}
1231 \usrmthlatupp{Log}{Str}{str}[\logstr]

\ValSet, ... ...
1232 \newcommand{\valsym}{\xi}
1233 \newcommand{\valset}{Val}
1234 \cmdmthsetext{Val}[\valset][\valsym]

\AsgSet, ... ...
1235 \newcommand{\asgsym}{\chi}
1236 \newcommand{\asgset}{Asg}
1237 \cmdmthsetext{Asg}[\asgset][\asgsym]

1238 %** First-Order Logics I *****%%

\FOL, ... ...
1239 % First-Order Logic
1240 \cmdtxtoparname{FOL}[Fol]
1241 \cmdtxtoparname{FO}[FO]
1242
1243 % Monadic First-Order Logic
1244 \DeclareRobustCommand{\MFOL}
1245   {\{\txtname{M}\}\FOL}
1246 \DeclareRobustCommand{\MFO}
1247   {\{\txtname{M}\}\FO}

1248 %** Syntax *****%%

\VarSig, ... ...
1249 \newcommand{\varsig}{V}
1250 \usrmthlatupp{Var}{Sig}{sig}[\varsig]
1251 \newcommand{\varsym}{x}
1252 \newcommand{\varset}{Vr}
1253 \cmdmthsetext{Var}[\varset][\varsym]
1254 \usrmth{var}{-}{argfun}[vr]
1255 \cmdmthfun{dim}[dm]\usrmth{dim}{-}{argfun}[dm]

\ConSig, ... ...
1256 \newcommand{\consig}{C}
1257 \usrmthlatupp{Con}{Sig}{sig}[\consig]
1258 \newcommand{\consym}{c}
1259 \newcommand{\conset}{Cn}
1260 \cmdmthsetext{Con}[\conset][\consym]
1261 \usrmth{con}{-}{argfun}[cn]

\FunSig, ... ...
1262 \newcommand{\funsig}{F}
1263 \usrmthlatupp{Fun}{Sig}{sig}[\funsig]
1264 \newcommand{\funsym}{f}
1265 \newcommand{\funset}{Fn}
1266 \cmdmthsetext{Fun}[\funset][\funsym]
1267 \usrmth{fun}{-}{argfun}[fn]
1268 \cmdmthfun{art}[ar]\usrmth{art}{-}{argfun}[ar]

```

```

\TerSig, ... ...
1269 \newcommand{\tersig}{T}
1270 \usrmthlatupp{Ter}{Sig}{sig}[\tersig]
1271 \newcommand{\tersym}{t}
1272 \newcommand{\terset}{Tr}
1273 \cmdmthsetext{Ter}[\terset][\tersym]
1274 \usrmth{ter}{}{argfun}

\RelSig, ... ...
1275 \newcommand{\relsig}{R}
1276 \usrmthlatupp{Rel}{Sig}{sig}[\relsig]
1277 \newcommand{\relsym}{r}
1278 \newcommand{\relset}{Rl}
1279 \cmdmthsetext{Rel}[\relset][\relsym]
1280 \usrmth{rel}{}{argfun}[rl]

\skm ...
1281 \usrmth{skm}{}{argfun}

1282 %%** Semantics *****%%

\ConStr, ... ...
1283 \newcommand{\constr}{C}
1284 \usrmthlatupp{Con}{Str}{str}[\constr]

\FunStr, ... ...
1285 \newcommand{\funstr}{F}
1286 \usrmthlatupp{Fun}{Str}{str}[\funstr]

\TerStr, ... ...
1287 \newcommand{\terstr}{T}
1288 \usrmthlatupp{Ter}{Str}{str}[\terstr]

\RelStr, ... ...
1289 \newcommand{\relstr}{R}
1290 \usrmthlatupp{Rel}{Str}{str}[\relstr]

1291 %%** First-Order Logics II *****%%

\DF, \IF, ... ...
1292 % Dependence-Friendly Logic
1293 \cmdtxtoparname{DF}
1294
1295 % Independence-Friendly Logic
1296 \cmdtxtoparname{IF}
1297
1298 % Dependence/Independence-Friendly Logic
1299 \cmdtxtoparname{DIF}
1300
1301 % Dependence Logic
1302 \cmdtxtoparname{DL}
1303
1304 % Team Logic
1305 \cmdtxtoparname{TL}
1306
1307 % Alternating Dependence-Friendly Logic
1308 \cmdtxtoparname{ADF}
1309
1310 % Alternating Independence-Friendly Logic
1311 \cmdtxtoparname{AIF}
1312
1313 % Alternating Dependence/Independence-Friendly Logic
1314 \cmdtxtoparname{ADIF}

```

```

...
1315 %** Syntax *****%%
\LEExs, \LAA11 ...
1316 \newcommand{\leexssym}{\Sigma}
1317 \usrmth{LEExs}{\luop}{\leexssym}
1318 \newcommand{\laallsym}{\Pi}
1319 \usrmth{LAA11}{\luop}{\laallsym}

1320 %** Semantics *****%%
...
1321 %** Second-Order Logics I *****%%
\SOL, ... ...
1322 % Second-Order Logic
1323 \cmdtxtopname{SOL}[Sol]
1324 \cmdtxtopname{SO}
1325
1326 % Weak Second-Order Logic
1327 \DeclareRobustCommand{\WSOL}
1328   {\{\txtname{W}\}\SOL}
1329 \DeclareRobustCommand{\WSO}
1330   {\{\txtname{W}\}\SO}
1331
1332 % coWeak Second-Order Logic
1333 \DeclareRobustCommand{\coWSOL}
1334   {\{\txtname{coW}\}\SOL}
1335 \DeclareRobustCommand{\coWSO}
1336   {\{\txtname{coW}\}\SO}
1337
1338 % Monadic Second-Order Logic
1339 \DeclareRobustCommand{\MSOL}
1340   {\{\txtname{M}\}\SOL}
1341 \DeclareRobustCommand{\MSO}
1342   {\{\txtname{M}\}\SO}
1343
1344 % Weak Monadic Second-Order Logic
1345 \DeclareRobustCommand{\WMSOL}
1346   {\{\txtname{W}\}\MSOL}
1347 \DeclareRobustCommand{\WMSO}
1348   {\{\txtname{W}\}\MSO}
1349
1350 % coWeak Monadic Second-Order Logic
1351 \DeclareRobustCommand{\coWMSOL}
1352   {\{\txtname{coW}\}\MSOL}
1353 \DeclareRobustCommand{\coWMSO}
1354   {\{\txtname{coW}\}\MSO}

1355 %** Syntax *****%%
\FVarSet, ... ...
1356 \newcommand{\fvarsym}{x}
1357 \newcommand{\fvarset}{FVr}
1358 \cmdmthsetext{FVar}[\fvarset][\fvarsym]

\SVarSet, ... ...
1359 \newcommand{\svarsym}{X}
1360 \newcommand{\svarset}{SVr}
1361 \cmdmthsetext{SVar}[\svarset][\svarsym]

1362 %** Semantics *****%%

```

```

...
1363 %** Second-Order Logics II *****%%
\TL, \PL, ... ...
1364 % Tree Logic
1365 \cmdtxttoparname{TL}
1366
1367 % Weak Tree Logic
1368 \DeclareRobustCommand{\WTL}
1369   {\txtname{W}}\TL}
1370
1371 % coWeak Tree Logic
1372 \DeclareRobustCommand{\coWTL}
1373   {\txtname{coW}}\TL}
1374
1375 % Monadic Tree Logic
1376 \DeclareRobustCommand{\MTL}
1377   {\txtname{M}}\TL}
1378
1379 % Weak Monadic Tree Logic
1380 \DeclareRobustCommand{\WMTL}
1381   {\txtname{W}}\MTL}
1382
1383 % coWeak Monadic Tree Logic
1384 \DeclareRobustCommand{\coWMTL}
1385   {\txtname{coW}}\MTL}
1386
1387 % Path Logic
1388 \cmdtxttoparname{PL}
1389
1390 % Weak Path Logic
1391 \DeclareRobustCommand{\WPL}
1392   {\txtname{W}}\PL}
1393
1394 % coWeak Path Logic
1395 \DeclareRobustCommand{\coWPL}
1396   {\txtname{coW}}\PL}
1397
1398 % Monadic Path Logic
1399 \DeclareRobustCommand{\MPL}
1400   {\txtname{M}}\PL}
1401
1402 % Weak Monadic Path Logic
1403 \DeclareRobustCommand{\WMPL}
1404   {\txtname{W}}\MPL}
1405
1406 % coWeak Monadic Path Logic
1407 \DeclareRobustCommand{\coWMPL}
1408   {\txtname{coW}}\MPL}
1409 %** Syntax *****%%
...
1410 %** Semantics *****%%
...
1411 %** Modal Logics I *****%%
\ML, \GML, ... ...
1412 % Modal Logic
1413 \cmdtxttoparname{ML}
1414
1415 % Graded Modal Logic

```

```

1416 \DeclareRobustCommand{\GML}
1417   {\textname{G}\ML}
1418
1419 % Quantified Modal Logic
1420 \DeclareRobustCommand{\QML}
1421   {\textname{Q}\ML}
1422 \DeclareRobustCommand{\EML}
1423   {\ensuremath{\exists}\ML}
1424 \DeclareRobustCommand{\UML}
1425   {\ensuremath{\forall}\ML}

1426 %** Syntax *****%

```

\Opr ...

```
1427 \usrmth{Opr}{\sym}[Op]
```

\DMod, \BMod ...

```
1428 \usrmth{DMod}{\sym}[\Diamond]
1429 \usrmth{BMod}{\sym}[\Box]
```

\Exs, \All ...

```
1430 \DeclareRobustCommand{\Exs}[1]
1431   {\mth{defval{\argmid{\langle}{#1}{\rangle}}{\DMod}}}
1432 \DeclareRobustCommand{\All}[1]
1433   {\mth{defval{\argmid{\left[]{\#1}{\right]}}{\BMod}}}
```

```
1434 %** Semantics *****%
```

\KrpStr, ...

```
1435 \newcommand{\krpstr}{K}
1436 \usrmthlatupp{Krp}{Str}{str}[\krpstr]
```

\WrlSet, ...

```
1437 \newcommand{\wrlsym}{w}
1438 \newcommand{\wrlset}{W}
1439 \cmdmthsetext{Wrl}[\wrlset][\wrlsym]
1440 \cmdmthsymelm{iwrl}[\wrlsym_{I}]
```

\AccRel, \TrnRel ...

```
1441 \newcommand{\accsym}{R}
1442 \cmdmthrel{Acc}[\accsym]
1443 \cmdmthrel{Trn}[\accsym]
```

\labFun ...

```
1444 \newcommand{\labsym}{\lambda}
1445 \cmdmthfun{lab}[\labsym]
```

\PthSet, \pthFun ...

```
1446 \providecommand{\pthsym}{\pi}
1447 \providecommand{\pthset}{Pth}
1448 \cmdmthsetext{Pth}[\pthset][\pthsym]
1449 \cmdmthfun{pth}
```

```
1450 %** Modal Logics II *****%
```

\MC, \GMC, ...

```
1451 % Mu Calculus
1452 \cmdtxtoparname{MC}[\ensuremath{\mu}-Calculus]
1453
1454 % Graded Mu Calculus
1455 \DeclareRobustCommand{\GMC}
1456   {\textname{G}\MC}
1457
```

```

1458 % Quantified Mu Calculus
1459 \DeclareRobustCommand{\QMC}
1460   {\textrm{Q}}\MC}
1461 \DeclareRobustCommand{\EMC}
1462   {\ensuremath{\exists}\MC}
1463 \DeclareRobustCommand{\UMC}
1464   {\ensuremath{\forall}\MC}
1465
1466 % Alternation-Free Mu Calculus
1467 \DeclareRobustCommand{\AFMC}
1468   {\textrm{AF}}\MC}
1469
1470 % Alternation-Free Graded Mu Calculus
1471 \DeclareRobustCommand{\AFGMC}
1472   {\textrm{AF}}\GMC}
1473
1474 % Quantified Alternation-Free Mu Calculus
1475 \DeclareRobustCommand{\QAFMC}
1476   {\textrm{Q}}\AFMC}
1477 \DeclareRobustCommand{\EAFMC}
1478   {\ensuremath{\exists}\AFMC}
1479 \DeclareRobustCommand{\UAFMC}
1480   {\ensuremath{\forall}\AFMC}
1481
1482 %** Syntax *****%
...
1483 %** Semantics *****%
...
1484 %** Temporal Logics I *****%

\PTL, \LTL, ... ...
1485 % Propositional Temporal Logic
1486 \cmdtxttoparname{PTL}
1487
1488 % Quantified Propositional Temporal Logic
1489 \DeclareRobustCommand{\QPTL}
1490   {\textrm{Q}}\PTL}
1491 \DeclareRobustCommand{\EPTL}
1492   {\ensuremath{\exists}\PTL}
1493 \DeclareRobustCommand{\UPTL}
1494   {\ensuremath{\forall}\PTL}
1495
1496 % Linear Temporal Logic
1497 \cmdtxttoparname{LTL}
1498
1499 % Quantified Linear Temporal Logic
1500 \DeclareRobustCommand{\QLTL}
1501   {\textrm{Q}}\LTL}
1502 \DeclareRobustCommand{\ELTL}
1503   {\ensuremath{\exists}\LTL}
1504 \DeclareRobustCommand{\ULTL}
1505   {\ensuremath{\forall}\LTL}
1506 %** Syntax *****%

\X, ... ...
1507 \usrmth{X}{-}{sym}[X,]
1508 \usrmth{F}{-}{sym}[F,]
1509 \usrmth{G}{-}{sym}[G,]
1510 \usrmth{U}{-}{sym}[\,U\,]
1511 \usrmth{R}{-}{sym}[\,R\,]

```

```

\Y, ... ...
1512 \usrmth{Y}{-}{sym}[G\,]
1513 \usrmth{P}{-}{sym}[P\,]\let\SavePilcrow\P
1514 \usrmth{H}{-}{sym}[H\,]\let\SaveDoubleAcute\H
1515 \usrmth{S}{-}{sym}[\,S\,]\let\SaveSectionSymbol\S
1516 \usrmth{B}{-}{sym}[\,B\,]

1517 %%** Semantics *****%%

...

1518 %%** Temporal Logics II *****%%

\PDL, \CTL, ... ...
1519
1520 % Propositional Dynamic Logic
1521 \cmdtxttoparname{PDL}
1522
1523 % Computation Tree Logic
1524 \cmdtxttoparname{CTL}
1525
1526 % Weak Computation Tree Logic
1527 \DeclareRobustCommand{\WCTL}
1528   {\{\txtrname{W}\}\CTL}
1529
1530 % Quantified Computation Tree Logic
1531 \DeclareRobustCommand{\QCTL}
1532   {\{\txtrname{Q}\}\CTL}
1533 \DeclareRobustCommand{\ECTL}
1534   {\ensuremath{\exists}\CTL}
1535 \DeclareRobustCommand{\UCTL}
1536   {\ensuremath{\forall}\CTL}
1537
1538 % Improved Computation Tree Logic
1539 \cmdtxttoparname{CTLP}[CTL$^{+}$]
1540
1541 % Weak Improved Computation Tree Logic
1542 \DeclareRobustCommand{\WCTLP}
1543   {\{\txtrname{W}\}\CTLP}
1544
1545 % Quantified Improved Computation Tree Logic
1546 \DeclareRobustCommand{\QCTLP}
1547   {\{\txtrname{Q}\}\CTLP}
1548 \DeclareRobustCommand{\ECTLP}
1549   {\ensuremath{\exists}\CTLP}
1550 \DeclareRobustCommand{\UCTLP}
1551   {\ensuremath{\forall}\CTLP}
1552
1553 % Full Computation Tree Logic
1554 \cmdtxttoparname{CTLS}[CTL*]
1555
1556 % Weak Full Computation Tree Logic
1557 \DeclareRobustCommand{\WCTLS}
1558   {\{\txtrname{W}\}\CTLS}
1559
1560 % Quantified Full Computation Tree Logic
1561 \DeclareRobustCommand{\QCTLS}
1562   {\{\txtrname{Q}\}\CTLS}
1563 \DeclareRobustCommand{\ECTLS}
1564   {\ensuremath{\exists}\CTLS}
1565 \DeclareRobustCommand{\UCTLS}
1566   {\ensuremath{\forall}\CTLS}

1567 %%** Syntax *****%%

```


$\backslash E, \backslash A \dots$

\ATL,

\EExs, \AA11 ...

```

\CGS ...
1622 \cmdtxtname{CGS}

\CGSStr, ... ...
1623 \newcommand{\cgsstr}{G}
1624 \usrmthlatupp{CGS}{Str}{str}[\cgsstr]

\AgnSet, ... ...
1625 \newcommand{\agnsym}{a}
1626 \newcommand{\agnset}{Ag}
1627 \cmdmthsetext{Agn}[\agnset][\agnsym]

\PosSet, ... ...
1628 \providecommand{\possym}{v}
1629 \providecommand{\posset}{Ps}
1630 \cmdmthsetext{Pos}[\posset][\possym]
1631 \cmdmthsymelm{ipos}[\possym_{I}]
1632 \cmdmthsymelm{fpos}[\possym_{F}]
1633 \cmdmthset{PPos}[\posset_{\PlrSym}]
1634 \cmdmthsymelm{ppos}[\possym_{\PlrSym}]
1635 \cmdmthset{OPos}[\posset_{\OppSym}]
1636 \cmdmthsymelm{opos}[\possym_{\OppSym}]

\SttSet, ... ...
1637 \newcommand{\sttsym}{s}
1638 \newcommand{\sttset}{St}
1639 \cmdmthsetext{Stt}[\sttset][\sttsym]
1640 \cmdmthset{IStt}[\sttset_{I}]
1641 \cmdmthsymelm{istt}[\sttsym_{I}]
1642 \cmdmthset{FStt}[\sttset_{F}]
1643 \cmdmthsymelm{fstt}[\sttsym_{F}]

\ActSet, ... ...
1644 \newcommand{\actsym}{c}
1645 \newcommand{\actset}{Ac}
1646 \cmdmthsetext{Act}[\actset][\actsym]

\DecSet, ... ...
1647 \newcommand{\decsym}{d}
1648 \newcommand{\decset}{Dc}
1649 \cmdmthsetext{Dec}[\decset][\decsym]

\movFun ...
1650 \newcommand{\movsym}{\tau}
1651 \cmdmthfun{mov}[\movsym]

\HstSet, ... ...
1652 \providecommand{\hstsym}{\rho}
1653 \providecommand{\hstset}{Hst}
1654 \cmdmthsetext{Hst}[\hstset][\hstsym]
1655 \cmdmthset{PHst}[\hstset_{\PlrSym}]
1656 \cmdmthsymelm{phst}[\hstsym_{\PlrSym}]
1657 \cmdmthset{OHst}[\hstset_{\OppSym}]
1658 \cmdmthsymelm{ohst}[\hstsym_{\OppSym}]
1659 \cmdmthfun{hst}

\PlaySet,\playFun ...
1660 \providecommand{\playsym}{\pi}
1661 \providecommand{\playset}{Play}
1662 \cmdmthsetext{Play}[\playset][\playsym]
1663 \cmdmthfun{play}

```

```

\StrSet, ... ...
1664 \providecommand{\strsym}{\sigma}
1665 \providecommand{\strset}{Str}
1666 \cmdmthsetext{Str}[\strset][\strsym]
1667 \cmdmthset{PStr}[\strset_]{\PlrSym}
1668 \cmdmthsymelm{pstr}[\strsym_]{\PlrSym}
1669 \cmdmthset{OStr}[\strset_]{\OppSym}
1670 \cmdmthsymelm{ostr}[\strsym_]{\OppSym}

\PrfSet, \prfFun ...
1671 \providecommand{\prfsym}{\xi}
1672 \providecommand{\prfset}{Prf}
1673 \cmdmthsetext{Prf}[\prfset][\prfsym]

1674 %** Strategic Logics II *****%

\SL, ... ...
1675 % Strategy Logic
1676 \cmdtxtoparname{SL}
1677
1678 \DeclareRobustCommand{\ESL}
1679   {\ensuremath{\exists}SL}
1680 \DeclareRobustCommand{\USL}
1681   {\ensuremath{\forall}SL}
1682
1683 \DeclareRobustCommand{\FSL}
1684   {\{\textname{F}\}SL}
1685
1686 \DeclareRobustCommand{\EFSL}
1687   {\ensuremath{\exists}FSL}
1688 \DeclareRobustCommand{\UFSL}
1689   {\ensuremath{\forall}FSL}
1690
1691 % One-Goal Strategy Logic
1692 \DeclareRobustCommandx{\OGSL}[3][1=, 2=, 3=]
1693   {\SL[#1][#2][1g\arglef{,}{#3}]}
1694
1695 \DeclareRobustCommand{\EOGSL}
1696   {\ensuremath{\exists}\OGSL}
1697 \DeclareRobustCommand{\UOGSL}
1698   {\ensuremath{\forall}\OGSL}
1699
1700 \DeclareRobustCommand{\FOGSL}
1701   {\{\textname{F}\}\OGSL}
1702
1703 \DeclareRobustCommand{\EFOGSL}
1704   {\ensuremath{\exists}\FOGSL}
1705 \DeclareRobustCommand{\UFOGSL}
1706   {\ensuremath{\forall}\FOGSL}
1707
1708 % Conjunctive-Goal Strategy Logic
1709 \DeclareRobustCommandx{\CGSL}[3][1=, 2=, 3=]
1710   {\SL[#1][#2][cg\arglef{,}{#3}]}
1711
1712 \DeclareRobustCommand{\ECGSL}
1713   {\ensuremath{\exists}\CGSL}
1714 \DeclareRobustCommand{\UCGSL}
1715   {\ensuremath{\forall}\CGSL}
1716
1717 \DeclareRobustCommand{\FCGSL}
1718   {\{\textname{F}\}\CGSL}
1719
1720 \DeclareRobustCommand{\EFCGSL}

```

```

1721 {\ensuremath{\exists}\FCGSL}
1722 \DeclareRobustCommand{\UFCGSL}
1723 {\ensuremath{\forall}\FCGSL}
1724
1725 % Disjunctive-Goal Strategy Logic
1726 \DeclareRobustCommandx{\DGS}[3][1=, 2=, 3=]
1727 {\SL[#1][#2][dg\arglef{,}{#3}]}
1728
1729 \DeclareRobustCommand{\EDGSL}
1730 {\ensuremath{\exists}\DGS}
1731 \DeclareRobustCommand{\UDGSL}
1732 {\ensuremath{\forall}\DGS}
1733
1734 \DeclareRobustCommand{\FDGSL}
1735 {\{\textname{F}\}\xGSL}
1736
1737 \DeclareRobustCommand{\EFDGSL}
1738 {\ensuremath{\exists}\FDGSL}
1739 \DeclareRobustCommand{\UFDGSL}
1740 {\ensuremath{\forall}\FDGSL}
1741
1742 % Alternating-Goal Strategy Logic
1743 \DeclareRobustCommandx{\AGSL}[3][1=, 2=, 3=]
1744 {\SL[#1][#2][ag\arglef{,}{#3}]}
1745
1746 \DeclareRobustCommand{\EAGSL}
1747 {\ensuremath{\exists}\AGSL}
1748 \DeclareRobustCommand{\UAGSL}
1749 {\ensuremath{\forall}\AGSL}
1750
1751 \DeclareRobustCommand{\FAGSL}
1752 {\{\textname{F}\}\xGSL}
1753
1754 \DeclareRobustCommand{\EFAGSL}
1755 {\ensuremath{\exists}\FAGSL}
1756 \DeclareRobustCommand{\UFAGSL}
1757 {\ensuremath{\forall}\FAGSL}
1758
1759 % Extended-Goal Strategy Logic
1760 \DeclareRobustCommandx{\EGSL}[3][1=, 2=, 3=]
1761 {\SL[#1][#2][eg\arglef{,}{#3}]}
1762
1763 \DeclareRobustCommand{\EEGSL}
1764 {\ensuremath{\exists}\EGSL}
1765 \DeclareRobustCommand{\UEGSL}
1766 {\ensuremath{\forall}\EGSL}
1767
1768 \DeclareRobustCommand{\FEGSL}
1769 {\{\textname{F}\}\xGSL}
1770
1771 \DeclareRobustCommand{\EFEGSL}
1772 {\ensuremath{\exists}\FEGSL}
1773 \DeclareRobustCommand{\UFEGSL}
1774 {\ensuremath{\forall}\FEGSL}
1775
1776 % Boolean-Goal Strategy Logic
1777 \DeclareRobustCommandx{\BGSL}[3][1=, 2=, 3=]
1778 {\SL[#1][#2][bg\arglef{,}{#3}]}
1779
1780 \DeclareRobustCommand{\EBGSL}
1781 {\ensuremath{\exists}\BGSL}
1782 \DeclareRobustCommand{\UBGSL}
1783 {\ensuremath{\forall}\BGSL}

```

```

1784
1785 \DeclareRobustCommand{\FBGSL}
1786   {\texname{F}}\xGSL}
1787
1788 \DeclareRobustCommand{\EFBGSL}
1789   {\ensuremath{\exists}\FBGSL}
1790 \DeclareRobustCommand{\UFBGSL}
1791   {\ensuremath{\forall}\FBGSL}
1792
1793 % Nested-Goal Strategy Logic
1794 \DeclareRobustCommandx{\NGSL}[3][1=, 2=, 3=]
1795   {\SL[#1][#2][ng\arglef{,}{#3}]}
1796
1797 \DeclareRobustCommand{\ENGSL}
1798   {\ensuremath{\exists}\NGSL}
1799 \DeclareRobustCommand{\UNGSL}
1800   {\ensuremath{\forall}\NGSL}
1801
1802 \DeclareRobustCommand{\FNGSL}
1803   {\texname{F}}\xGSL}
1804
1805 \DeclareRobustCommand{\EFNGSL}
1806   {\ensuremath{\exists}\FNGSL}
1807 \DeclareRobustCommand{\UFNGSL}
1808   {\ensuremath{\forall}\FNGSL}
1809
1810 % Undefined-Goal Strategy Logic
1811 \DeclareRobustCommandx{\XGSL}[3][1=, 2=, 3=]
1812   {\SL[#1][#2][xg\arglef{,}{#3}]}
1813
1814 \DeclareRobustCommand{\EXGSL}
1815   {\ensuremath{\exists}\XGSL}
1816 \DeclareRobustCommand{\UXGSL}
1817   {\ensuremath{\forall}\XGSL}
1818
1819 \DeclareRobustCommand{\FXGSL}
1820   {\texname{F}}\xGSL}
1821
1822 \DeclareRobustCommand{\EFXGSL}
1823   {\ensuremath{\exists}\FXGSL}
1824 \DeclareRobustCommand{\UFXGSL}
1825   {\ensuremath{\forall}\FXGSL}
1826 %** Syntax *****%

\BndSet, ... ...
1827 \newcommand{\bndsym}{\flat}
1828 \newcommand{\bndset}{Bn}
1829 \cmdmthsetext{Bnd}[\bndset][\bndsym]
1830 \usrmth{bnd}{-}{argfun}

\psn ...
1831 \usrmth{psn}{-}{argfun}

1832 %** Semantics *****%

\nxtFun ...
1833 \newcommand{\nxtfun}{nxt}
1834 \cmdmthfun{nxt}[\nxtfun]

1835 \fi
1836 %*****%

```

```

1837 %*****%
1838 %** Macros for Automata *****%
1839 %*****%
1840 \ifaut@
1841 %** Finite Word Automata *****%

```

\DFA,

```

1842 \cmdtxtoparname{DFA}\cmdtxtoparname{NFA}\cmdtxtoparname{UFA}\cmdtxtoparname{AFA}
1843
1844 \cmdtxtoparname{DWA}\cmdtxtoparname{NWA}\cmdtxtoparname{UWA}\cmdtxtoparname{AWA}
1845
1846 \cmdtxtoparname{DFW}\cmdtxtoparname{NFW}\cmdtxtoparname{UFW}\cmdtxtoparname{AFW}
1847 \cmdtxtoparname{DBW}\cmdtxtoparname{NBW}\cmdtxtoparname{UBW}\cmdtxtoparname{ABW}
1848 \cmdtxtoparname{DCW}\cmdtxtoparname{NCW}\cmdtxtoparname{UCW}\cmdtxtoparname{ACW}
1849 \cmdtxtoparname{DPW}\cmdtxtoparname{NPW}\cmdtxtoparname{UPW}\cmdtxtoparname{APW}
1850 \cmdtxtoparname{DRW}\cmdtxtoparname{NRW}\cmdtxtoparname{URW}\cmdtxtoparname{ARW}
1851 \cmdtxtoparname{DSW}\cmdtxtoparname{NSW}\cmdtxtoparname{USW}\cmdtxtoparname{ASW}
1852 \cmdtxtoparname{DMW}\cmdtxtoparname{NMW}\cmdtxtoparname{UMW}\cmdtxtoparname{AMW}

```

\GFG, \PD,

```

1853 \cmdtxtoparname{GFG}
1854
1855 \cmdtxtoparname{PD}
1856
1857 %% ...
1858 %** Syntax *****%

```

\AutName,

```

1859 \newcommand{\autname}{A}
1860 \usrmthlatupp{Aut}{Name}{name}[\autname]
1861 \newcommand{\autset}{Aut}
1862 \cmdmthset{Aut}[\autset]

```

\WAutSet

```

1863 \newcommand{\wautset}{WAut}
1864 \cmdmthset{WAut}[\wautset]

```

\SttSet,

```

1865 \def\sttsym{q}
1866 \def\sttset{Q}
1867 \cmdmthsetext{Stt}[\sttset][\sttsym]
1868 \cmdmthset{IStt}[\sttset_{I}]
1869 \cmdmthsymelm{istt}[\sttsym_{I}]
1870 \cmdmthset{FStt}[\sttset_{F}]
1871 \cmdmthsymelm{fstt}[\sttsym_{F}]

```

\SymSet,

```

1872 \newcommand{\symsym}{\sigma}
1873 \newcommand{\symset}{\Sigma}
1874 \cmdmthsetext{Sym}[\symset][\symsym]

```

\trnFun

```

1875 \newcommand{\trnsym}{\delta}
1876 \cmdmthfun{trn}[\trnsym]

```

```

1877 %** Semantics *****%

```

\LangFun

```

1878 \newcommand{\langfun}{L}
1879 \cmdmthfun{Lang}[\langfun]

```

```

\WrdSet, ... ...
1880 \newcommand{\wrdsym}{w}
1881 \newcommand{\wrdsym}{w}
1882 \cmdmthsettext{Wrd}[\wrdsym] [\wrdsym]

1883 %** Finite Tree Automata *****%

\DTA, ... ...
1884 \cmdttopname{DTA}\cmdttopname{NTA}\cmdttopname{UTA}\cmdttopname{ATA}
1885
1886 \cmdttopname{DFT}\cmdttopname{NFT}\cmdttopname{UFT}\cmdttopname{AFT}
1887 \cmdttopname{DBT}\cmdttopname{NBT}\cmdttopname{UBT}\cmdttopname{ABT}
1888 \cmdttopname{DCT}\cmdttopname{NCT}\cmdttopname{UCT}\cmdttopname{ACT}
1889 \cmdttopname{DPT}\cmdttopname{NPT}\cmdttopname{UPT}\cmdttopname{APT}
1890 \cmdttopname{DRT}\cmdttopname{NRT}\cmdttopname{URT}\cmdttopname{ART}
1891 \cmdttopname{DST}\cmdttopname{NST}\cmdttopname{UST}\cmdttopname{AST}
1892 \cmdttopname{DMT}\cmdttopname{NMT}\cmdttopname{UMT}\cmdttopname{AMT}

1893 %** Syntax *****%

\TAutSet ...
1894 \newcommand{\tautset}{TAut}
1895 \cmdmthset{TAut}[\tautset]

\DirSet, ... ...
1896 \newcommand{\dirsym}{d}
1897 \newcommand{\dirset}{\Lambda}
1898 \cmdmthsettext{Dir}[\dirset] [\dirsym]

1899 %** Semantics *****%

\TreeSet, ... ...
1900 \newcommand{\treesym}{T}
1901 \newcommand{\treeset}{Tr}
1902 \cmdmthsettext{Tree}[\treeset] [\treesym]

\wotFun ...
1903 \newcommand{\wotfun}{wot}
1904 \cmdmthfun{wot}[\wotfun]

1905 \fi
1906 %*****%
1907 %*****%
1908 %** Format Tricks *****%
1909 %*****%
1910 \iffm@

... ...
1911 %...

1912 \fi
1913 %*****%
1914 %*****%
1915 %** Figure Tricks *****%
1916 %*****%
1917 \iffig@

1918 \RequirePackage{tikz}
1919 \usetikzlibrary{arrows,graphs,matrix,patterns,shapes}

1920 \tikzstyle{every node} =
1921 [draw = none, fill = none, black, thin]
1922 \tikzstyle{every edge} +=
1923 [black, thick]

```

```

1924 \tikzstyle{noall} =
1925   [draw = none, fill = none]
1926 \tikzstyle{nodraw} =
1927   [draw = none, fill = white]
1928 \tikzstyle{nofill} =
1929   [draw = black, fill = none]

1930 \ifwrpfig@
1931   % Wrapfig Package
1932   \RequirePackage{wrapfig}
1933 \fi

1934 \fi
1935 %%*****%
1936 %%*****%
1937 %%** Table Tricks *****%
1938 %%*****%
1939 \iftab@

... ...

1940 %%...

1941 \fi
1942 %%*****%
1943 %%*****%
1944 %%** Algorithm Tricks *****%
1945 %%*****%
1946 \ifalg@

1947 \RequirePackage[ruled,vlined]{algorithm2e}
1948 \setlength{\algomargin}{1.25em}
1949 \DontPrintSemicolon
1950 \SetInd{0.25em}{0.5em}

\Signature ...
1951 \SetKw{Signature}{signature}

\Macro, ... ...
1952 \SetKwFor{Macro}{macro}{}{}
1953 \SetKwFor{Function}{function}{}{}
1954 \SetKwFor{Procedure}{procedure}{}{}

\Let ...
1955 \SetKwFor{Let}{let}{in}{}

\True, \False ...
1956 \SetKw{True}{true}
1957 \SetKw{False}{false}

\From, ... ...
1958 \SetKw{From}{from}
1959 \SetKw{To}{to}
1960 \SetKw{DownTo}{downto}

\GoTo, ... ...
1961 \SetKw{GoTo}{goto}
1962 \SetKw{Break}{break}
1963 \SetKw{Continue}{continue}

\MIf, ... ...
1964 \SetKwIF{MIf}{MElseIf}{MElse}{\#if}{\#then}{\#else \#if}{\#else}{\#endif}

```



```

\nlr ...
1965 \DeclareRobustCommand{\nlr}[1]
1966   {\addtocounter{AlgoLine}{1}%
1967   \nlset{\arabic{AlgoLine}-\addtocounter{AlgoLine}{#1}\arabic{AlgoLine}}}

1968 \fi
1969 %%*****%
1970 \endinput
1971 \</package>

```

2 Change History

v0.0	General: First public release 1	v0.4	General: Refactoring, corrections, and extensions 1
v0.1	General: Algorithm tricks 1	v0.5	General: Figure tricks 1
v0.10	General: Small refinements 1	v0.6	General: Small refinements 1
v0.11	General: Few additions and corrections 1	v0.7	General: Refinements, corrections, and extensions 1
v0.12	General: New starred variants 1	v0.8	General: Few refinements and corrections . . . 1
v0.2	General: Changes in auxiliary tricks 1	v0.9	General: Small addition to ‘Algorithm tricks’ 1
v0.3	General: Few problems solved 1		

3 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.

Symbols			
\!	352, 360, 783, 831, 1618	\aFun,␣...	576
\"	742, 743	\agnset	1626, 1627
\#	1964	\AgnSet,␣...	1625
\,	827, 831, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516	\agnsym	1625, 1627
\...	1911, 1940	\AGSL	1743, 1747, 1749
\@card	837, 838	\aka	748
\@ceil	950, 951	\alg@false	121, 123
\@denot	843, 844	\alg@true	122
\@floor	946, 947	\algomargin	1948
\@for	256, 260	\allowbreak	238, 240, 242, 244
\@ifstar	766, 770, 803, 825, 829, 833, 837, 843, 946, 950	\Alpha,␣...	224
\@set	825, 826	\aMat,␣...	671
\@setl	829, 830	\amsdef@false	17
\@setr	833, 834	\amsdef@true	16
\@svec	803, 806	\amsthm@false	21
\@vec	803, 804	\amsthm@true	20
\^	744, 746	\AName,␣...	479
A		\Aomega,␣\AOmega	884
\AccRel,␣\TrnRel	1441	\Aomicron	894
\accsym	1441, 1442, 1443	\Aomicron,␣...	892
\ACls,␣...	505	\Aposteriori	727
\actset	1645, 1646	\Aposteriori	705
\ActSet,␣...	1644	\Apriori	726
\actsym	1644, 1646	\apriori	704
\addtocounter	1966, 1967	\apset	1209, 1210
\adhoc	702	\APSet,␣...	1208
\aElm,␣...	602	\apsym	1208, 1210
\AFam,␣...	492	\arabic	1967
\AFGMC	1471	\aRel,␣...	563
\AFMC	1467, 1476, 1478, 1480	\arenaname	1052, 1053
\Afortiori	725	\ArenaName,␣...	1052
\afortiori	703	\arg	954
\aFrm,␣...	657	\argbst	962
		\arglef	237, 244, 352, 360, 1693, 1710, 1727, 1744, 1761, 1778, 1795, 1812
		\argmax	970
		\argmid	241, 297, 305, 352, 360, 827, 831, 835, 839, 845, 948, 952, 1431, 1433, 1618, 1620
		\argmin	968
		\argrig	239
		\argsep	243, 248, 827, 937, 939, 941, 943
		\aSet,␣...	544
		\asgset	1236, 1237
		\AsgSet,␣...	1235
		\asgsym	1235, 1237
		\aSig,␣...	518
		\aSnt,␣...	644
		\aStr,␣...	531
		\aSym,␣...	589
		\Atheta,␣\ATheta	888
		\ATL,␣...	1572
		\ATLP	1592, 1596, 1598, 1600
		\ATLS	1607, 1611, 1613, 1615
		\atrfun	1113, 1114
		\atrFun,␣rchFun	1113
		\aut@false	56, 62, 93, 95
		\aut@true	94
		\autname	1859, 1860
		\AutName,␣...	1859
		\autset	1861, 1862
		\aux@false	11, 13
		\aux@true	12
		\aVec,␣...	684
		B	
		\BF,␣\QBF,␣...	1175
		\bfseries	423
		\BG,␣...	1122
		\bgroup	251
		\BGSL	1777, 1781, 1783
		\BMod	1433

<code>\bndset</code>	1828, 1829	<code>\cmdmthoargfun</code>		<code>\cmdmthsig</code>	519
<code>\BndSet,□</code>	1827	581, 1102, 1104,	<code>\cmdmthsent</code>	645
<code>\bndsym</code>	1827, 1829	1106, 1108, 1110, 1112,		<code>\cmdmthstr</code>	532
<code>\boldsymbol</code>	670, 683	1114, 1116, 1118, 1120		<code>\cmdmthsym</code>	
<code>\bot</code>	1190	<code>\cmdmthoargmat</code>	676	590, 615, 1049, 1051,
<code>\Box</code>	1429	<code>\cmdmthoargname</code>	484	1141, 1143, 1160, 1162	
<code>\boxminus</code>	1161	<code>\cmdmthoargrel</code>	568	<code>\cmdmthsymelm</code>	614, 1057,
<code>\bst,□</code>	960	<code>\cmdmthoargset</code>	549	1058, 1060, 1062, 1083,	
		<code>\cmdmthoargsig</code>	523	1085, 1095, 1097, 1440,	
		<code>\cmdmthoargsnt</code>	649	1631, 1632, 1634, 1636,	
		<code>\cmdmthoargstr</code>	536	1641, 1643, 1656, 1658,	
		<code>\cmdmthoargsym</code>	594, 621	1668, 1670, 1869, 1871	
		<code>\cmdmthoargsymelm</code>	620	<code>\cmdmthvec</code>	685
C		<code>\cmdmthoargvec</code>	689	<code>\cmdtxt</code>	328, 339
<code>\card</code>	836	<code>\cmdmthopar</code>	391, 394	<code>\cmdtxtabr</code> 436, 702, 703, 704,	
<code>\caselower</code>	556	<code>\cmdmthoparcls</code>	514	705, 706, 707, 708, 709,	
<code>\cdot</code>	841	<code>\cmdmthoparelm</code>	611, 628	710, 711, 712, 713, 714,	
<code>\cequiv,□</code>	789	<code>\cmdmthoparfam</code>	501	715, 716, 717, 718, 719,	
<code>\cf</code>	706	<code>\cmdmthoparfrm</code>	666	720, 721, 722, 723, 725,	
<code>\CGS</code>	1622	<code>\cmdmthoparfun</code>	585	726, 727, 728, 729, 730,	
<code>\CGSL</code>	1709, 1713, 1715	<code>\cmdmthoparmat</code>	680	731, 732, 733, 734, 735,	
<code>\cgsstr</code>	1623, 1624	<code>\cmdmthoparname</code>	488	736, 737, 738, 742, 743,	
<code>\CGSstr,□</code>	1623	<code>\cmdmthoparrel</code>	572	744, 746, 748, 749, 750,	
<code>\chgbar@false</code>	44	<code>\cmdmthoparset</code>	553	751, 752, 753, 754, 756,	
<code>\chgbar@true</code>	45	<code>\cmdmthoparsig</code>	527	757, 1225, 1226, 1227, 1228	
<code>\chi</code>	1235	<code>\cmdmthoparsnt</code>	653	<code>\cmdtxtall</code> 338, 423, 435, 448, 460	
<code>\circ</code>	864	<code>\cmdmthoparstr</code>	540	<code>\cmdtxtarg</code>	330, 339
<code>\cmdmth</code> 383, 394, 631, 632, 638		<code>\cmdmthoparsym</code>	598, 627	<code>\cmdtxtargabr</code>	438
<code>\cmdmthall</code> 393, 478, 491, 504,		<code>\cmdmthoparsymelm</code>	626	<code>\cmdtxtargcom</code>	463
517, 530, 543, 562, 575,		<code>\cmdmthoparvec</code>	693	<code>\cmdtxtargdef</code>	426
588, 601, 643, 656, 670, 683		<code>\cmdmthpar</code>	389, 394	<code>\cmdtxtargname</code>	451
<code>\cmdmtharg</code>	385, 394	<code>\cmdmthparcls</code>	512	<code>\cmdtxtcom</code> 461, 1007, 1008, 1009	
<code>\cmdmthargcls</code>	508	<code>\cmdmthparelm</code>	609, 625	<code>\cmdtxtdef</code>	424
<code>\cmdmthargelm</code>	605, 619	<code>\cmdmthparfam</code>	499	<code>\cmdtxtname</code>	449, 1622
<code>\cmdmthargfam</code>	495	<code>\cmdmthparfrm</code>	664	<code>\cmdtxtoarg</code>	332, 339
<code>\cmdmthargfrm</code>	660	<code>\cmdmthparfun</code>	583	<code>\cmdtxtoargabr</code>	440
<code>\cmdmthargfun</code>	579	<code>\cmdmthparmat</code>	678	<code>\cmdtxtoargcom</code>	465
<code>\cmdmthargmat</code>	674	<code>\cmdmthparname</code>	486	<code>\cmdtxtoargdef</code>	428
<code>\cmdmthargname</code>	482	<code>\cmdmthparrel</code>	570	<code>\cmdtxtoargname</code>	453
<code>\cmdmthargrel</code>	566	<code>\cmdmthparset</code>	551	<code>\cmdtxtopar</code>	336, 339
<code>\cmdmthargset</code>	547	<code>\cmdmthparsig</code>	525	<code>\cmdtxtoparabr</code>	444
<code>\cmdmthargsig</code>	521	<code>\cmdmthparsnt</code>	651	<code>\cmdtxtoparcom</code>	469
<code>\cmdmthargsnt</code>	647	<code>\cmdmthparstr</code>	538	<code>\cmdtxtopardef</code>	432
<code>\cmdmthargstr</code>	534	<code>\cmdmthparsym</code>	596, 624	<code>\cmdtxtoparname</code> 457, 1031,	
<code>\cmdmthargsym</code>	592, 618	<code>\cmdmthparsymelm</code>	623	1034, 1037, 1040, 1043,	
<code>\cmdmthargsymelm</code>	617	<code>\cmdmthparvec</code>	691	1046, 1123, 1126, 1129,	
<code>\cmdmthargvec</code>	687	<code>\cmdmthrel</code> 564, 1066, 1442, 1443		1132, 1135, 1138, 1151,	
<code>\cmdmthcls</code>	506	<code>\cmdmthset</code>	545, 556, 1059,	1154, 1157, 1176, 1240,	
<code>\cmdmthelm</code>	603, 616	1061, 1070, 1072, 1082,		1241, 1293, 1296, 1299,	
<code>\cmdmthfam</code>	493	1084, 1094, 1096, 1633,		1302, 1305, 1308, 1311,	
<code>\cmdmthfrm</code>	658	1635, 1640, 1642, 1655,		1314, 1323, 1324, 1365,	
<code>\cmdmthfun</code>		1657, 1667, 1669, 1862,		1388, 1413, 1452, 1486,	
577, 1064, 1073, 1078,		1864, 1868, 1870, 1895		1497, 1521, 1524, 1539,	
1086, 1090, 1147, 1166,		<code>\cmdmthsetext</code>	555,	1554, 1573, 1588, 1603,	
1211, 1255, 1268, 1445,		1056, 1077, 1081, 1089,		1676, 1842, 1844, 1846,	
1449, 1651, 1659, 1663,		1093, 1100, 1146, 1165,		1847, 1848, 1849, 1850,	
1834, 1876, 1879, 1904		1210, 1220, 1234, 1237,		1851, 1852, 1853, 1855,	
<code>\cmdmthlbop</code>	635	1253, 1260, 1266, 1273,		1884, 1886, 1887, 1888,	
<code>\cmdmthlrel</code>	639	1279, 1358, 1361, 1439,		1889, 1890, 1891, 1892	
<code>\cmdmthluop,□</code>	633	1448, 1627, 1630, 1639,		<code>\cmdtxtpar</code>	334, 339
<code>\cmdmthmat</code>	672	1646, 1649, 1654, 1662,		<code>\cmdtxtparabr</code>	442
<code>\cmdmthname</code>	480	1666, 1673, 1829, 1867,		<code>\cmdtxtparcom</code>	467
<code>\cmdmthoarg</code>	387, 394	1874, 1882, 1898, 1902		<code>\cmdtxtpardef</code>	430
<code>\cmdmthoargcls</code>	510				
<code>\cmdmthoargelm</code>	607, 622				
<code>\cmdmthoargfam</code>	497				
<code>\cmdmthoargfrm</code>	662				

<code>\newmthoarg</code>	355, 358	<code>\pi</code>	1075, 1087, 1446, 1660	<code>\QPTL</code>	1489
<code>\newmthoargsty</code>	357, 375, 388	<code>\playset</code>	1088, 1089, 1661, 1662	R	
<code>\newmthopar</code>	363, 366	<code>\PlaySet, \playFun</code>	1087, 1660		
<code>\newmthoparsty</code>	365, 379, 392	<code>\playsym</code>	1087, 1089, 1660, 1662	<code>\raisebox</code>	872
<code>\newmthpar</code>	359, 362, 364	<code>\PlrFun</code>	1063	<code>\rangle</code>	817,
<code>\newmthparsty</code>	361, 377, 390	<code>\plrfun</code>	1063, 1064		819, 820, 822, 1431, 1618
<code>\newmthsty</code>	349, 371, 384	<code>\PlrSym</code>		<code>\rbrace</code>	827, 835
<code>\newtxt</code>	292, 295, 297, 305		1059, 1060, 1082, 1083,	<code>\rceil</code>	952
<code>\newtxtarg</code>	296, 299, 301		1094, 1095, 1633, 1634,	<code>\rchfun</code>	1115, 1116
<code>\newtxtargsty</code>	298, 318, 331		1655, 1656, 1667, 1668	<code>\relax</code>	130
<code>\newtxtoarg</code>	300, 303	<code>\plrSym</code>	1048, 1049	<code>\relset</code>	1278, 1279
<code>\newtxtoargsty</code>	302, 320, 333	<code>\PlrSym, \OppSym</code>	1048	<code>\relsig</code>	1275, 1276
<code>\newtxtopar</code>	308, 311	<code>\pm</code>	908, 916, 924	<code>\RelSig, \u</code>	1275
<code>\newtxtoparsty</code>	310, 324, 337	<code>\posset</code>		<code>\relstr</code>	1289, 1290
<code>\newxtpar</code>	304, 307, 309		1055, 1056, 1059, 1061,	<code>\RelStr, \u</code>	1289
<code>\newxtparsty</code>	306, 322, 335		1629, 1630, 1633, 1635	<code>\relsym</code>	1277, 1279
<code>\newxtsty</code>	294, 316, 329	<code>\PosSet, \u</code>	1054, 1628	<code>\RequirePackage</code>	3, 5,
<code>\NGSL</code>	1794, 1798, 1800	<code>\possym</code>			6, 7, 141, 142, 143, 149,
<code>\nlr</code>	1965		1054, 1056, 1057, 1058,		154, 159, 164, 179, 194,
<code>\nlset</code>	1967		1060, 1062, 1628, 1630,		200, 202, 1918, 1932, 1947
<code>\noexpand</code>	258, 262		1631, 1632, 1634, 1636	<code>\resp</code>	752
<code>\normalfont</code>	423, 448, 460	<code>\pow</code>	840	<code>\rfloor</code>	948
<code>\not</code>	775, 779, 783, 788, 792	<code>\prefun</code>	1101, 1102	<code>\rho</code>	1079, 1652
<code>\notcequiv</code>	791	<code>\preFun, \sucFun</code>	1101	<code>\right</code>	352, 360, 811,
<code>\notcmmodels</code>	787	<code>\prfset</code>	1099, 1100, 1672, 1673		812, 813, 814, 815, 816,
<code>\notcoimplies</code>	782	<code>\PrfSet, \prfFun</code>	1098, 1671		817, 818, 819, 820, 821,
<code>\notimplied</code>	778	<code>\prfsym</code>	1098, 1100, 1671, 1673		822, 825, 829, 833, 837,
<code>\notimplies</code>	774	<code>\PrimaFacie</code>	737		843, 946, 950, 1433, 1620
<code>\num, \u</code>	934	<code>\primaFacie</code>	720	<code>\Rightarrow</code>	773, 775
<code>\numcc</code>	936	<code>\prj</code>	859	<code>\rightarrow</code>	1200
<code>\numco</code>	938	<code>\ProcessOptions</code>	130	<code>\rightharpoonup</code>	870, 873
<code>\numoc</code>	940	<code>\providecommand</code>		<code>\rmfamily</code>	326, 460
<code>\numoo</code>	942		1446, 1447, 1628, 1629,	<code>\rng</code>	854
<code>\nxtFun</code>	1833		1652, 1653, 1660, 1661,	<code>\Role</code>	746
<code>\nxtfun</code>	1833, 1834		1664, 1665, 1671, 1672	<code>\role</code>	744
O		<code>\prtset</code>	1145, 1146	<code>\rrbracket</code>	845
<code>\obsset</code>	1071, 1072	<code>\PrtSet, \prtFun</code>	1144	<code>\rst</code>	861
<code>\ObsSet, \u\obsFun</code>	1071	<code>\prtsym</code>	1144, 1146	<code>\rvert</code>	839
<code>\oddsym</code>	1142, 1143	<code>\psn</code>	1831	S	
<code>\odot</code>	1215	<code>\PSpace, \u</code>	1016		
<code>\OGSL</code>	1692, 1696, 1698, 1701	<code>\pthset</code>	1076, 1077, 1447, 1448	<code>\S</code>	1515
<code>\Omega</code>	887	<code>\PthSet, \pthFun</code>	1075, 1446	<code>\SATG, \u</code>	1030
<code>\omega</code>	885	<code>\pthsym</code>	1075, 1077, 1446, 1448	<code>\SaveDoubleAcute</code>	1514
<code>\Omicron</code>	895	<code>\PTime, \u</code>	1015	<code>\SavePilcrow</code>	1513
<code>\omicron</code>	223, 893	<code>\PTL, \LTL, \u</code>	1485	<code>\SaveSectionSymbol</code>	1515
<code>\oplus</code>	1159	<code>\pto, \pmapsto</code>	869	<code>\scshape</code>	448, 460
<code>\OppSym</code>		Q		<code>\seqofcmd</code>	259, 272, 276
	1061, 1062, 1084, 1085,	<code>\QAE, \QEA</code>	1216	<code>\seqofgrklet</code>	279, 410
	1096, 1097, 1635, 1636,	<code>\QAFMC</code>	1475	<code>\seqofgrklow</code>	
	1657, 1658, 1669, 1670	<code>\QATL</code>	1580		271, 280, 283, 406, 518, 531
<code>\oppsym</code>	1050, 1051	<code>\QATLP</code>	1595	<code>\seqofgrkupp</code>	275, 280, 285, 408
<code>\Opr</code>	1427	<code>\QATLS</code>	1610	<code>\seqoflatlet</code>	268, 404, 518, 531
<code>\outfun</code>	1111, 1112	<code>\QCTL</code>	1531	<code>\seqoflatlow</code>	264, 269, 283, 400
<code>\overline</code>	795, 807	<code>\QCTLP</code>	1546	<code>\seqoflatupp</code>	266,
P		<code>\QCTLS</code>	1561		269, 285, 402, 479, 492, 505
<code>\P</code>	1513	<code>\QLTL</code>	1500	<code>\seqoflet</code>	
<code>\PackageWarning</code>	126	<code>\QMC</code>	1459		286, 416, 544, 563, 576,
<code>\PDL, \u\CTL, \u</code>	1519	<code>\QML</code>	1420		589, 602, 644, 657, 671, 684
<code>\Percontra</code>	736	<code>\qntset</code>	1219, 1220	<code>\seqoflow</code>	282, 287, 412
<code>\percontra</code>	719	<code>\QntSet, \u</code>	1218	<code>\seqoftag</code>	255, 265, 267
<code>\PH</code>	1022	<code>\qntsym</code>	1218, 1220	<code>\seqofupp</code>	284, 287, 414
<code>\Pi</code>	1318	<code>\QPSpace, \u</code>	1018	<code>\sequence, \u</code>	811
		<code>\QPTIME, \u</code>	1017	<code>\set, \u</code>	824
				<code>\SetB</code>	897

\SetC, \square ...	929	T	\txtopar	323	
\SetCI	931	\tab@false	115 , 117	\txtpar	321
\SetF	899	\tab@true	116	\txtsty	316 , 318 , 320 , 322 , 324 , 325
\SetInd	1950	\tau	1650	\txtstyabr	435
\SetKw	1951 , 1956 , 1957 , 1958 , 1959 , 1960 , 1961 , 1962 , 1963	\TAutSet	1894	\txtstycom	460
\SetKwFor	1952 , 1953 , 1954 , 1955	\tautset	1894 , 1895	\txtstydef	423
\SetKwIF	1964	\terset	1272 , 1273	\txtstyname	448
\setl	828	\tersig	1269 , 1270	\txtsubsup	293 , 312
\setlength	1948	\TerSig, \square ...	1269		
\SetN, \square ...	901	\terstr	1287 , 1288	U	
\SetNI	903	\TerStr, \square ...	1287	\UAFMC	1479
\SetQ, \square ...	913	\tersym	1271 , 1273	\UAGSL	1748
\SetQI	915	\text	293 , 313 , 767	\UATL	1584
\SetQNI	919	\text@false	56 , 66 , 68	\UATLP	1599
\SetQPI	917	\text@true	67	\UATLS	1614
\setr	832	\textstyle	631 , 632	\UBF	1183
\SetR, \square ...	921	\textup	767	\UBGSL	1782
\SetRI	923	\thestring	557 , 558 , 559 , 560	\UCGSL	1714
\SetRNI	927	\Theta	891	\UCTL	1535
\SetRPI	925	\theta	889	\UCTLP	1550
\SetZ, \square ...	905	\thmtls@false	25	\UCTLS	1565
\SetZI	907	\thmtls@true	24	\UDGSL	1731
\SetZNI	911	\tikzstyle	1920 , 1922 , 1924 , 1926 , 1928	\UEGSL	1765
\SetZPI	909	\Time, \square ...	1011	\UFAGSL	1756
\sffamily	448	\TL, \square \PL, \square ...	1364	\UFBGSL	1790
\Sigma	1316 , 1873	\top	1188	\UFCGSL	1722
\sigma	1091 , 1664 , 1872	\treeset	1901 , 1902	\UFDGSL	1739
\Signature	1951	\TreeSet, \square ...	1900	\UFEGSL	1773
\sim	1194	\treesym	1900 , 1902	\UFNGSL	1807
\skm	1281	\triangleq	768	\UFOGSL	1705
\SL, \square ...	1675	\trn	800	\UFSL	1688
\SO	1330 , 1336 , 1342	\trnFun	1875	\UFXGSL	1824
\SOL, \square ...	1322	\trnsym	1875 , 1876	\ULTL	1504
\solFun	1119	\True, \square \False	1956	\UMC	1463
\solfun	1119 , 1120	\Tt, \square \Ff	1188	\UML	1424
\Space, \square ...	1012	\ttsym	1188 , 1189	\UNGSL	1799
\stackrel	767	\tuple, \square ...	817	\UOGSL	1697
\strset	1092 , 1093 , 1094 , 1096 , 1665 , 1666 , 1667 , 1669	\txt	315	\upharpoonright	862
\StrSet, \square ...	1091 , 1664	\txtabr, \square ...	434	\upshape	326
\strsym	1091 , 1093 , 1095 , 1097 , 1664 , 1666 , 1668 , 1670	\txtarg	317	\UPTL	1493
\sttset	1638 , 1639 , 1640 , 1642 , 1866 , 1867 , 1868 , 1870	\txtcom	1003 , 1005	\usetikzlibrary	1919
\SttSet, \square ...	1637 , 1865	\txtcom, \square ...	459	\USL	1680
\sttsym	1637 , 1639 , 1641 , 1643 , 1865 , 1867 , 1869 , 1871	\txtdef, \square ...	422	\usrmth	396 , 400 , 402 , 404 , 406 , 408 , 410 , 412 , 414 , 416 , 481 , 483 , 485 , 487 , 489 , 494 , 496 , 498 , 500 , 502 , 507 , 509 , 511 , 513 , 515 , 520 , 522 , 524 , 526 , 528 , 533 , 535 , 537 , 539 , 541 , 546 , 548 , 550 , 552 , 554 , 565 , 567 , 569 , 571 , 573 , 578 , 580 , 582 , 584 , 586 , 591 , 593 , 595 , 597 , 599 , 604 , 606 , 608 , 610 , 612 , 634 , 636 , 640 , 646 , 648 , 650 , 652 , 654 , 659 , 661 , 663 , 665 , 667 , 673 , 675 , 677 , 679 , 681 , 686 , 688 , 690 , 692 , 694 , 1189 , 1191 , 1193 , 1195 , 1197 , 1199 , 1201 , 1203 , 1205 , 1207 , 1211 , 1212 , 1213 , 1214 , 1215 , 1216 ,
\stx	751	\txtgen@false	53 , 56		
\sub	1212	\txtgen@true	54 , 67 , 78 , 84 , 89 , 94		
\sucfun	1103 , 1104	\txtname	1180 , 1245 , 1247 , 1328 , 1330 , 1334 , 1336 , 1340 , 1342 , 1346 , 1348 , 1352 , 1354 , 1369 , 1373 , 1377 , 1381 , 1385 , 1392 , 1396 , 1400 , 1404 , 1408 , 1417 , 1421 , 1456 , 1460 , 1468 , 1472 , 1476 , 1490 , 1501 , 1528 , 1532 , 1543 , 1547 , 1558 , 1562 , 1577 , 1581 , 1592 , 1596 , 1607 , 1611 , 1684 , 1701 , 1718 , 1735 , 1752 , 1769 , 1786 , 1803 , 1820		
\svarset	1360 , 1361	\txtname, \square ...	447		
\SVarSet, \square ...	1359	\txtoarg	319		
\svarsym	1359 , 1361				
\symset	1873 , 1874				
\SymSet, \square ...	1872				
\symsym	1872 , 1874				

1217, 1221, 1222, 1223, 1224, 1254, 1255, 1261, 1267, 1268, 1274, 1280, 1281, 1317, 1319, 1427, 1428, 1429, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1568, 1569, 1830, 1831	\varcmd . 246, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822	\Wlogx 757 \wlogx 754 \WMPL 1403 \WMSO 1347 \WMSOL 1345 \WMTL 1380 \wotfun 1903 \wotfun 1903, 1904 \wp 1218 \WPL 1391 \wrdset 1881, 1882 \WrdSet,␣... 1880 \wrdsym 1880, 1882 \wrlset 1438, 1439 \WrlSet,␣... 1437 \wrlsym 1437, 1439, 1440 \wrpfig@false 111 \wrpfig@true 110 \wrt 753 \WSO 1329 \WSOL 1327 \WTL 1368
\usrmthgrklet 409 \usrmthgrklow 405 \usrmthgrkupp 407 \usrmthlatlet 403 \usrmthlatlow 399 \usrmthlatupp 401, 1053, 1068, 1187, 1231, 1250, 1257, 1263, 1270, 1276, 1284, 1286, 1288, 1290, 1436, 1624, 1860 \usrmthlet 415, 557, 559 \usrmthlow 411 \usrmthupp 413 \usrtxt 341, 425, 427, 429, 431, 433, 437, 439, 441, 443, 445, 450, 452, 454, 456, 458, 462, 464, 466, 468, 470 \UXGSL 1816	\varepsilon 978 \varnothing 848, 867 \varset 1252, 1253 \varsig 1249, 1250 \VarSig,␣... 1249 \varsym 1251, 1253 \vec 802 \vert 827, 831 \Viceversa 738 \viceversa 721 \viz 723 \vs 722	
	W	
	\WATL 1576 \WATLP 1591 \WATLS 1606 \WAutSet 1863 \wautset 1863, 1864 \WCTL 1527 \WCTLP 1542 \WCTLs 1557 \wghset 1164, 1165 \WghSet,␣\wghFun 1163 \wghsym 1163, 1165 \widehat 799 \widetilde 801 \WinSet 1069 \winset 1069, 1070	
	V	
\valset 1233, 1234 \ValSet,␣... 1232 \valsym 1232, 1234		
	X	
	\X,␣... 1507 \XGSL 1811, 1815, 1817 \xGSL 1718, 1735, 1752, 1769, 1786, 1803, 1820 \xi 1098, 1232, 1671 \xspace 293	
	Y	
	\Y,␣... 1512	