## fmocdmac — FM's OCD LATEX Macro\*

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## 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:
3 \RequirePackage{etoolbox}
5 \RequirePackage{xargs}
6 \RequirePackage{xspace}
7 \RequirePackage{stringstrings}
 Package options:
10 %% Auxiliary packages
11 \newif\ifaux@ \aux@false
12 \DeclareOption{aux}{\aux@true}
13 \DeclareOption{noaux}{\aux@false}
15 %% AMS defaults
16 \newif\ifamsdef@ \amsdef@true
17 \DeclareOption{noamsdef}{\amsdef@false}
19\ \mbox{\%\%} AMS theorem tools
20 \newif\ifamsthm@ \amsthm@true
23 %% Extended Theorem tools
24 \newif\ifthmtls@ \thmtls@true
25 \DeclareOption{nothmtls}{\thmtls@false}
27 %% Enumeration tools
28 \newif\ifenmtls@ \enmtls@true
29 \verb|\DeclareOption{noenmtls}{\cline{conmtls}}| 
31 %% Hyper reference
32 \neq 0 
35 %% Font tools
36 \newif\iffnttls@ \fnttls@true
```

<sup>\*</sup>This document describes version v0.11 of the fmocdmac package, last revised 2023/01/03.

```
37 \DeclareOption{nofnttls}{\fnttls@false}
39 %% Camera-ready version
40 \newif\ifcrv@ \crv@false
41 \DeclareOption{crv}{\crv@true}
43 %% Change bars
44 \newif\ifchgbar@ \chgbar@false
45 \DeclareOption{chgbar}{\chgbar@true}
47 %% Line numbers
48 \newif\iflinnum@ \linnum@false
49 \DeclareOption{linnum}{\linnum@true}
51
52 %% Text macro generation
53 \newif\iftxtgen@ \txtgen@false
54 \DeclareOption{txtgen}{\txtgen@true}
55 \DeclareOption{notxtgen}
    {\txtgen@false\text@false\com@false\log@false\aut@false}
57
58 %% Math macro generation
59 \newif\ifmthgen@ \mthgen@false
60 \DeclareOption{mthgen}{\mthgen@true}
61 \DeclareOption{nomthgen}
    {\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}
70 %% Elementary macros for math
71 \newif\ifmath@ \math@false
72 \DeclareOption{math}{\math@true\mthgen@true}
73 \ensuremath{$\ $\ $} \{\math@false\}
75
76 %% Macros for computational-complexity classes
77 \newif\ifcom@ \com@false
78 \DeclareOption{com}{\com@true\txtgen@true}
79 \DeclareOption{nocom}{\com@false}
82 %% Macros for games
83 \newif\ifgam@ \gam@false
84 \end{true} txtgen@true\mthgen@true\}
85 \DeclareOption{nogam}{\gam@false}
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 \end{aut} {\aut@true} txtgen@true\mthgen@true}
95 \DeclareOption{noaut}{\aut@false}
96
98 %% Format-related tricks
99 \newif\iffrm@ \frm@false
```

```
100 \DeclareOption{frm}{\frm@true}
101 \DeclareOption{nofrm}{\frm@false}
102
103
104 %% Figure-related tricks
105 \neq \frac{1}{100} \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 \ensuremath{\mbox{\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{}\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{
128 \ExecuteOptions{aux,txtgen,mthgen,text,math,com,gam,log,aut}%
130 \ProcessOptions\relax%
132 \ \texttt{\formula} \ \texttt{\formu
137 \ifaux@
138
139 \ifamsdef@
140 % AMS Packages
                    \RequirePackage{amsmath}
                    \RequirePackage{amssymb}
                    \RequirePackage{stmaryrd}
                    \interdisplaylinepenalty=2500
144
145\,\backslash\mathrm{fi}
146
147 \ifamsthm@
148 % AMS Theorem Tools
                \RequirePackage{amsthm}
150 \fi
151
152 \left| \text{ifthmtls@} \right|
153 % Extended Theorem Tools
154
                    \RequirePackage{thmtools, thm-restate}
155 \fi
156
157 \ifenmtls@
                    % Enumeration Tools
                    \RequirePackage{paralist}
160 \fi
161
```

```
163
                                                % Hyper References
                                 164
                                                 \RequirePackage{hyperref}
                                 165
                                                \hypersetup
                                 166
                                 167
                                                      pdfsubject
                                                                                                  = {},
                                 168
                                                      pdfkeywords
                                                                                                  = {},
                                 169
                                                      pdfproducer
                                                                                                 = {},
                                 170
                                                      pdfcreator
                                                                                                  = {},
                                 171
                                                      pdfpagemode = {UseNone},
                                 172
                                 173
                                                      pdfstartview = {FitH},
                                                                                                 = {blue},
                                 174
                                                      urlcolor
                                                      colorlinks
                                 175
                                 176
                                 177 \fi
                                 178
                                 179 \iffnttls@
                                                % Font Tools
                                                 \RequirePackage[final]{microtype}
                                 181
                                 182 \fi
                                 183
                                 184 \ifcrv@
                                               % Camera-Ready Version
                                 185
                                 186
                                                %%...
                                 187
                                 188
                                 189 \else
                                               % Draft Version
                                 190
                                 191
                                               %%...
                                 192
                                                \ifchgbar@
                                 194
                                 195
                                                      % Change Bars
                                                      \RequirePackage{changebar}
                                 196
                                                \fi
                                 197
                                 198
                                                \iflinnum@
                                 199
                                                      % Line Numbers
                                 200
                                 201
                                                       \if@twocolumn
                                 202
                                                             \RequirePackage[switch, columnwise, mathlines]{lineno}\linenumbers
                                 203
                                                             \RequirePackage[columnwise, mathlines]{lineno}\linenumbers
                                 204
                                 205
                                                \fi
                                 206
                                 207
                                 208
                                                %%...
                                209
                                210 \fi
                                211
                                 \mathbbo Bbo Math Font: ... to do!
                                 217 \left( \mathbf{Mathbbo}_{l} \right) \\  217 \left( \mathbf{Mathbbo}_{l} \right) \\ 
\matheus Eus Math Font: ... to do!
                                 218 \left\{ \mathbb{T}_{matheus} \right. \\
\mathpzc Pzc Math Font: ... to do!
                                  219 \left\{ \mathbf{T1}_{pzc}_{m}(it) \right\} \\
```

162 \ifhypref@

```
\mathscr Scr Math Font: ... to do!
                                220 \left\{ \mathbf{Wathscr} \right\} \left\{ \mathbf{Mathscr} \right\} 
                                \omicron Auxiliary Greek lowercase letter: ... to do!
                                225 \csdef{omicron}{o}
\Alpha, ... Auxiliary Greek uppercase letters: ... to do!
                                226 \csdef{Alpha}{A} \csdef{Beta}{B} \csdef{Epsilon}{E} \csdef{varEpsilon}{E}
                                227 \texttt{Zeta}{Z} \texttt{Eta}{H} \texttt{Iota}{I} \texttt{Kappa}{K}
                                228 \csdef{varKappa}{K} \csdef{Mu}{M} \csdef{Nu}{N} \csdef{Omicron}{O}
                                229 \csdef{Rho}{P} \csdef{varRho}{P} \csdef{Tau}{T} \csdef{Chi}{X}
                                Emptiness check: \{A\}\{\langle B\}\}\ evaluates to the empty string, if Argument \langle A\rangle is empty,
                              and to Argument \langle B \rangle, otherwise.
                                      • \empchk{}{B} = ""
                                      • \empchk{A}{B} = "B"
                                234 \newcommand{\empchk}[2]
                                          {\left\{ if & 1 \right\} }
         \defval Default value: \defval{\langle A \rangle}{\langle B \rangle} evaluates to Argument \langle B \rangle, if Argument \langle A \rangle is empty, and to
                              Argument \langle A \rangle itself, otherwise.
                                      • \defval{}{B} = "B"
                                      • \defval{A}{B} = "A"
                                236 \newcommand{\defval}[2]
                                           {\left\{ if & 1 & 2 \le 1 \le 1 \right\}}
                                \alpha Left extension: \alpha \alpha evaluates to the concatenation \langle AB \rangle of the two arguments, if
                              Argument \langle B \rangle is non-empty, and to the empty string, otherwise.
                                      • \arglef{A}{} = ""
                                      • \arglef{A}{B} = "AB"
                                239 \newcommand{\arglef}[2]
                                           {\empchk{#2}{#1\allowbreak#2}}
         \argrig Right extension: \argrig{\langle A\rangle}{\langle B\rangle} evaluates to the concatenation \langle AB \rangle of the two arguments,
                              if Argument \langle A \rangle is non-empty, and to the empty string, otherwise.
                                      • \argrig{}{B} = ""
                                      • \argrig{A}{B} = "AB"
                                241 \newcommand{\argrig}[2]
                                          {\empchk{#1}{#1\allowbreak#2}}
         \ Middle extension: \ of the three
                              arguments, if Argument \langle B \rangle is non-empty, and to the empty string, otherwise.
                                      • \argmid{A}{}{C} = ""
                                      • \argmid{A}{B}{C} = "ABC"
                                243 \newcommand{\argmid}[3]
                                         {\empchk{#2}{#1\allowbreak#2\allowbreak#3}}
```

```
Separators: \argsep{\langle A \rangle}{\langle B \rangle}{\langle C \rangle} evaluates to Argument \langle C \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"
                245 \newcommand{\argsep}[3]
                    \label{limits} $$ {\left  \  \  \right } = 1\allowbreak\arglef{#2}{\#3}\fi}
                Variadic commands: \operatorname{Varcmd}\{\langle A \rangle\}\{\langle B \rangle\}\{\langle C \rangle\}\{\langle D \rangle\}\{\langle E \rangle\}\{\langle F \rangle\} \dots to do!
     \varcmd
                248 \newcommand{\varcmd}[6]
                     {\expandafter\newcommand\csname gobble#1arg\endcsname[2]
                249
                        {\csname check#1arg\endcsname{\argsep{##1}{#4}{##2}}}%
                250
                251
                     \expandafter\newcommand\csname check#larg\endcsname[1]
                252
                       {\csname @ifnextchar\endcsname%
                          \bgroup{\csname gobble#1arg\endcsname{##1}}{#2{##1#5}#6}}%
                253
                     \expandafter\newcommand\csname#1\endcsname[1]
                254
                       {\csname check#1arg\endcsname{#3##1}}}
                \seqoftag Sequence of tags: \seqoftag\{\langle A \rangle\}\{\langle B \rangle\}\{\langle C \rangle\} ... to do!
                257 \newcommand{\seqoftag}[3]
                258
                     {\@for\itr:={#1}\do%
                259
                       {\expandafter\csedef{\itr#2}%
                          {\noexpand\csname #3\endcsname{\itr}}}
                260
               Sequence of commands: \sqoign{A}{\langle A \rangle} {\langle A \rangle} {\langle C \rangle} \dots \text{ to do!}
   \seqofcmd
                261 \newcommand{\seqofcmd}[3]
                262
                     {\@for\itr:={#1}\do%
                263
                       {\expandafter\csedef{\itr#2}%
                264
                          {\noexpand\csname #3\endcsname{\csname \itr\endcsname}}}}
                \seqoflatlow Sequence of Latin lowercase letters: \seqoflatlow{\langle A \rangle}{\langle B \rangle} ... to do!
                266 \newcommand{\seqoflatlow}
                     {\left(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\right)}
\seqoflatupp Sequence of Latin uppercase letters: \seqoflatupp\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
                268 \newcommand{\seqoflatupp}
                     {\left(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\right)}
\seqoflatlet Sequence of Latin letters: \seqoflatlet\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
                270 \newcommand{\seqoflatlet}[2]
                     {\seqoflatlow{#1}{\#2}\seqoflatupp{#1}{\#2}}
                Sequence of Greek lowercase letters: \seqofgrklow{\langle A \rangle}{\langle B \rangle} ... to do!
\seqofgrklow
                273 \newcommand{\seqofgrklow}
                     {\seqofcmd{alpha,beta,gamma,delta,epsilon,varepsilon,zeta,eta,theta,vartheta,%
                275
                     iota, kappa, varkappa, lambda, mu, nu, xi, omicron, pi, varpi, rho, varrho, sigma, %
                276
                     varsigma,tau,upsilon,phi,varphi,chi,psi,omega}}
              Sequence of Greek uppercase letters: \seqofgrkupp\{\langle A \rangle\}\{\langle B \rangle\}\ ... to do!
\seqofgrkupp
                277 \newcommand{\seqofgrkupp}
                278
                     {\seqofcmd{Alpha,Beta,Gamma,Delta,Epsilon,varEpsilon,Zeta,Eta,Theta,varTheta,%
                279
                     Iota, Kappa, varKappa, Lambda, Mu, Nu, Xi, Omicron, Pi, varPi, Rho, varRho, Sigma, %
                280
                     varSigma,Tau,Upsilon,Phi,varPhi,Chi,Psi,Omega}}
```

```
\seqofgrklet Sequence of Greek letters: \seqofgrklet\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
                                   281 \newcommand{\seqofgrklet}[2]
                                             {\seqofgrklow{#1}{#2}\seqofgrkupp{#1}{#2}}
                                   \seqoflow Sequence of lowercase letters: \seqoflow{\langle A \rangle}{\langle B \rangle} ... to do!
                                   284 \newcommand{\seqoflow}[2]
                                            {\seqoflatlow{#1}{#2}\seqofgrklow{#1}{#2}}
        \seqofupp Sequence of uppercase letters: \seqofupp\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
                                   286 \newcommand{\seqofupp}[2]
                                             {\seqoflatupp{#1}{#2}\seqofgrkupp{#1}{#2}}
        \seqoflet Sequence of all letters: \seqoflet\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
                                   288 \newcommand{\seqoflet}[2]
                                             {\seqoflow{#1}{#2}\seqofupp{#1}{#2}}
                                   \newtxt ... to do!
                                        • \newtxt[\rmfamily]{Name}[sub][sup][Ext] = "Name_sub_Ext"
                                        • \newtxt[\sffamily]{Name}[sub][sup][Ext] = "Name_sub_Ext"
                                         • \newtxt[\ttfamily]{Name}[sub][sup][Ext] = "Name_sub_Ext"
                                   294 \newcommandx{\newtxt}[5][1=, 3=, 4=, 5=]
                                              {\text{#1#2\txtsubsup[#1]{#3}{#4}#5}\xspace}
      \newtxtsty ... to do!
                                        • \newtxtsty{\rmfamily}{Name}[sub][sup][Ext] = "Name_sup_Ext"
                                        • \newtxtsty{\rmfamily}[\sffamily]{Name}[sub][sup][Ext] = "Name_sub_Ext"
                                         • \newtxtsty{\rmfamily}[\ttfamily]{Name}[sub][sup][Ext] = "Name_sup_Ext"
                                   296 \newcommandx{\newtxtsty}[2][2=]
                                             {\newtxt[\defval{#2}{#1}]}
      \newtxtarg ... to do!
                                        • \newtxtarg[\rmfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_{\text{sup}}^{\text{sup}}Ext1(Arg)Ext2"
                                        • \newtxtarg[\sffamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_sup_Ext1(Arg)Ext2"
                                         • \newtxtarg[\ttfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_sub_Ext1(Arg)Ext2"
                                   298 \newcommandx{\newtxtarg}[7][1=, 3=, 4=, 5=, 7=]
                                              {\newtxt[#1]{#2}[#3][#4][#5\argmid{(}{#6}{)}#7]}
\newtxtargsty ... to do!
                                         \bullet \mathtt{Name}^{\sup}_{\sup} [\mathtt{Ext1}] \{\mathtt{Arg}\} [\mathtt{Ext2}] = \mathtt{``Name}^{\sup}_{\sup} [\mathtt{Ext1}] \{\mathtt{Arg}\} [\mathtt{Ext2}] = \mathtt{``Name}^{\sup}_{\sup} [\mathtt{Ext1}] (\mathtt{Arg}) [\mathtt{Ext2}] = \mathtt{``Name}^{\sup}_{\sup} [\mathtt{Ex
                                        • \newtxtargsty{\rmfamily}[\sffamily][\sup][\sup][\sup][\sup][\st1]{\Arg}[\st2] = "Name_sup_\sup \st1(\Arg)\st2"
                                         • \newtxtargsty{\rmfamily}[\ttfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Namesup Ext1(Arg)Ext2"
                                   300 \newcommandx{\newtxtargsty}[2][2=]
                                            {\newtxtarg[\defval{#2}{#1}]}
    \newtxtoarg ... to do!
                                        • \newtxtoarg[\rmfamily]{Name}[sub][sup][Arg] = "Name_{sub}^{sup}(Arg)"
                                         • \newtxtoarg[\sffamily]{Name}[sub][sup][Arg] = "Name_sub_(Arg)"
                                         • \newtxtoarg[\ttfamily]{Name}[sub][sup][Arg] = "Name_sub_(Arg)"
                                   302 \newcommandx{\newtxtoarg}[5][1=, 3=, 4=, 5=]
                                            {\newtxtarg[#1]{#2}[#3][#4][]{#5}[]}
```

```
\newtxtoargsty ... to do!
                                     • \mbox{\normalize} \{\mbox{\normalize}, \mbox{\normalize} \} \ [sub] [sup] [Arg] = "Name_{
m sub}^{
m sup} (\mbox{\normalize}, \mbox{\normalize})"
                                      \bullet \verb| \newtxtoargsty{\mbox{\newtxtoargsty}[\mbox{\newtxtoargsty}[\mbox{\newtxtoargsty}] [\mbox{\newtxtoargsty}] [\mbox{\newtxtoargsty}[\mbox{\newtxtoargsty}] [\mbox{\newtxtoargsty}] [\mbox{\newtxt
                                304 \newcommandx{\newtxtoargsty}[2][2=]
                                305 {\newtxtoarg[\defval{#2}{#1}]}
       \newtxtpar ... to do!
                                     • \newtxtpar[\rmfamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name_sup_Ext1[Par]Ext2"
                                     • \newtxtpar[\sffamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name_sup}Ext1[Par]Ext2"
                                     • \newtxtpar[\ttfamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name_sub_Ext1[Par]Ext2"
                                306 \newcommandx{\newtxtpar}[7][1=, 3=, 4=, 5=, 7=]
                                        {\newtxt[#1]{#2}[#3][#4][#5\argmid{[}{#6}{]}#7]}
 \newtxtparsty ... to do!
                                     • \newtxtparsty{\rmfamily}{Name}[sub] [sup] [Ext1] {Par} [Ext2] = "Name_{sub}^{sup}Ext1[Par]Ext2"
                                     • \newtxtparsty{\rmfamily}[\sffamily]{\Name}[sub][sup][Ext1]{\Par}[Ext2] = "Name_sub_Ext1[\Par]Ext2"
                                     • \newtxtparsty{\rmfamily}[\ttfamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = "NamesubExt1[Par]Ext2"
                                308 \newcommandx{\newtxtparsty}[2][2=]
                                309 {\newtxtpar[\defval{#2}{#1}]}
     \newtxtopar ... to do!
                                     • \newtxtopar[\rmfamily]{Name}[sub][sup][Par] = "Name_sub_[Par]"
                                     • \newtxtopar[\sffamily]{Name}[sub][sup][Par] = "Name_sub_[Par]"
                                     • \newtxtopar[\ttfamily]{Name}[sub][sup][Par] = "Name_sub_Par]"
                                310 \newcommandx{\newtxtopar}[5][1=, 3=, 4=, 5=]
                                       {\newtxtpar[#1]{#2}[#3][#4][]{#5}[]}
\newtxtoparsty ... to do!
                                     • \mbox{\ensuremath{\mbox{Name}} (Sub) [Sup] [Par] = "Name}_{sub} [Par]"}
                                     \newtxtoparsty{\rmfamily}[\sffamily] {\Name} [sub] [sup] [Par] = "Name_sup[Par]"
                                     • \newtxtoparsty{\rmfamily}[\ttfamily]{\Name}[sub][sup][Par] = "Name_sup_[Par]"
                                312 \newcommandx{\newtxtoparsty}[2][2=]
                                        {\newtxtopar[\defval{#2}{#1}]}
       \txtsubsup ... to do!
                                     • \txtsubsup{sub}{} = "sub"; \txtsubsup{}{sup} = "sup"; \txtsubsup{sub}{sup} = "sub"
                                     • \txtsubsup[\sffamily]{Aa}{Bb} = "Bb" Aa
                                     • \txtsubsup[\ttfamily]{Aa}{Bb} = ^{\text{"Bb"}}_{Aa}
                                314 \newcommand{\txtsubsup}[3][]
                                         {\ensuremath{\empchk{#2}{_{\text{#1#2}}}\empchk{#3}{^{\text{#1#3}}}}}
                                \txt ... to do!
                                     • \text{txt{Name}}[\text{sub}][\text{sup}][\text{Ext}] = \text{"Name}_{\text{sub}}^{\text{sup}}\text{Ext"}
                                     • \txt[\schape]{Name}[sub][sup][Ext] = "NAME_{SUB}^{SUP}EXT"
                                     • \text{txt}[\text{bfseries}]{\text{Name}}[\text{sub}][\text{sup}][\text{Ext}] = \text{"Name}_{\text{sub}}^{\text{sup}}\text{Ext}"
                                317 \newcommand{\txt}
                                        {\newtxtsty{\txtsty}}
             \txtarg ... to do!
                                     • \text{txtarg{Name}}[\text{sub}][\text{sup}][\text{Ext1}]{\text{Arg}}[\text{Ext2}] = \text{"Name}_{\text{sub}}^{\text{sup}}\text{Ext1}(\text{Arg})\text{Ext2}"
                                     • \txtarg[\scshape]{Name}[sub] [sup] [Ext1] {Arg}[Ext2] = "NAME_SUB_EXT1(ARG)EXT2"
```

```
• \txtarg[\bfseries]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_{sub}^{sup}Ext1(Arg)Ext2"
               319 \newcommand{\txtarg}
               320 {\newtxtargsty{\txtsty}}
   \txtoarg ... to do!
                  • \txtoarg{Name}[sub][sup][Arg] = "Name<sup>sup</sup><sub>sub</sub>(Arg)"
                  • \txtoarg[\scshape]{Name}[sub][sup][Arg] = "NAME_SUB(ARG)"
                  • \t \ [sub] [sup] [Arg] = "Name \ [sub]" [Arg] = "Name \ [sub]"
               321 \newcommand{\txtoarg}
               322 {\newtxtoargsty{\txtsty}}
    \txtpar ... to do!
                  • \text{txtpar{Name}[sub][sup][Ext1]{Par}[Ext2]} = \text{"Name}_{\text{sub}}^{\text{sup}}\text{Ext1}[Par]\text{Ext2"}
                  • \txtpar[\scshape]{Name}[sub][sup][Ext1]{Par}[Ext2] = "NAME_{SUB}^{SUP}EXT1[PAR]EXT2"
                  • \txtpar[\bfseries] {Name} [sub] [sub] [Ext1] {Par} [Ext2] = "Name sub Ext1[Par] Ext2"
               323 \newcommand{\txtpar}
               324 {\newtxtparsty{\txtsty}}
   \txtopar ... to do!
                  • \text{txtopar{Name}[sub][sup][Par]} = \text{"Name}_{\text{sub}}^{\text{sup}}[Par]"
                  • \txtopar[\schape]{Name}[sub][sup][Par] = "NAME_{SUB}^{SUP}[PAR]"
                  • \t \ [Sub] [Sup] [Par] = "Name \ [Par]"
               325 \newcommand{\txtopar}
                    {\newtxtoparsty{\txtsty}}
    \txtsty ... to do!
               327 \newcommand{\txtsty}
                    {\mdseries\upshape\rmfamily}
               \cmdtxt ... to do!
                  • \cmdtxt{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                    \mathsf{Name}[\mathsf{sub}][\mathsf{sup}][\mathsf{Ext}] = \mathsf{Name}^{\mathsf{SUP}}_{\mathsf{SUB}}[\mathsf{Ext}]
               330 \newcommand{\cmdtxt}[1]
                    {\csdef{txt#1}{\newtxtsty{\csname txtsty#1\endcsname}}}
 \cmdtxtarg ... to do!
                  • \cmdtxtarg{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                    \texttt{\txtargNewCmd}\{\texttt{Name}\}[\texttt{sub}][\texttt{sup}][\texttt{Ext1}]\{\texttt{Arg}\}[\texttt{Ext2}] = \texttt{Name}^{\texttt{SUP}}_{\texttt{SUB}}\texttt{Ext1}(\texttt{Arg})\texttt{Ext2}
               332 \newcommand{\cmdtxtarg}[1]
               333 {\csdef{txtarg#1}{\newtxtargsty{\csname txtsty#1\endcsname}}}
\cmdtxtoarg ... to do!
                  • \cmdtxtoarg{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                    \t Name [sub] [sup] [Arg] = Name_{SUB} (Arg)
               334 \newcommand{\cmdtxtoarg}[1]
                    {\csdef{txtoarg#1}{\newtxtoargsty{\csname txtsty#1\endcsname}}}
 \cmdtxtpar ... to do!
                  • \cmdtxtpar{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                    \txtparNewCmd{Name}[sub][sup][Ext1]{Par}[Ext2] = NAME_SUB_EXT1[PAR]EXT2
               336 \newcommand{\cmdtxtpar}[1]
                    {\csdef{txtpar#1}{\newtxtparsty{\csname txtsty#1\endcsname}}}
\cmdtxtopar ... to do!
```

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\cmdtxtopar{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                                                  \verb|\txtoparNewCmd{Name}[sub][sup][Par] = \verb|\txtoparNewCmd{Name}[Par]|
                                        338 \newcommand{\cmdtxtopar}[1]
                                                  {\csdef{txtopar#1}{\newtxtoparsty{\csname txtsty#1\endcsname}}}
       \cmdtxtall ... to do!
                                              • \cmdtxtall{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                                                  \verb|\txtNewCmd{Name}[sub][sup][Ext] = \verb|\NAME|_{SUB}^{SUP}Ext|
                                                   \txtargNewCmd{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAME_SUB_EXT1(ARG)EXT2
                                                  \verb|\txtoargNewCmd{Name}[sub][sup][Arg] = \verb|\Name|^{SUP}(Arg)
                                                   \texttt{\txtparNewCmd}\{\texttt{Name}\}[\texttt{sub}][\texttt{sup}][\texttt{Ext1}]\{\texttt{Par}\}[\texttt{Ext2}] = \texttt{Name}^{\texttt{SUP}}_{\texttt{SUB}}\texttt{Ext1}[\texttt{Par}]\texttt{Ext2}
                                                  \t \ [sub] [sup] [Par] = NAME_{SUB}^{SUP} [PAR]
                                        340 \newcommand{\cmdtxtall}[1]
                                        341 {\cmdtxt{#1}\cmdtxtarg{#1}\cmdtxtoarg{#1}\cmdtxtpar{#1}\cmdtxtopar{#1}}
               \usrtxt ... to do!
                                              • \usrtxt{cmdName}{Suf}{}; \cmdNameSuf = cmdName
                                                   \t CmdName {Suf}{arg}; \c MameSuf{Arg} = cmdName(Arg)
                                                   \t \operatorname{CmdName} \{Suf\} \{par\}; \operatorname{CmdNameSuf} \{Par\} = \operatorname{cmdName} [Par] 
                                              • \usrtxt{cmdName}{Suf}{}[newName]; \cmdNameSuf = newName
                                                   \usrtxt{cmdName}{Suf}{arg}[newName]; \cmdNameSuf{Arg} = newName(Arg)
                                                   \t {cmdName} {Suf} {par} [newName]; \t {Par} = newName [Par]
                                        343 \newcommandx{\usrtxt}[4][4=]
                                                  {\csdef{#1#2}{\csname txt#3\endcsname{\defval{#4}{#1}}}}
                                        \newmth ... to do!
                                              • \newmth[mathrm]{Name}[sub][sup][Ext] = "Name_{sub}^{sup}Ext"
                                              • \newmth[mathsf]{Name}[sub][sup][Ext] = "Name_{sub}^{sup}Ext"
                                              • \newmth[mathtt]{Name}[sub][sup][Ext] = "Name_{sub}^{sup}Ext"
                                        349 \newcommandx{\newmth}[5][1=, 3=, 4=, 5=]
                                                  {\ensuremath{\csname#1\endcsname{#2}\mthsubsup{#3}{#4}#5}}
       \newmthsty ... to do!
                                              • \newmthsty{mathrm}{Name}[sub][sup][Ext] = "Name_{sub}^{sup}Ext"
                                              • \newmthsty{mathrm}[mathsf]{Name}[sub][sup][Ext] = "Name_{sub}^{sup}Ext"
                                              • \newmthsty{mathrm}[mathtt]{Name}[sub][sup][Ext] = "Name_{sub}^{sup}Ext"
                                        351 \newcommandx{\newmthsty}[2][2=]
                                        352 \{ \left( \frac{\#2}{\#1} \right) \}
       \newmtharg ... to do!
                                              • \newmtharg[mathrm] {Name} [sub] [sup] [Ext1] {Arg} [Ext2] = "Name_{sub}^{sup} Ext1(Arg)Ext2"
                                              • \newmtharg[mathsf]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_{sub}^{sup}Ext1(Arg)Ext2"
                                               \bullet \verb| \newmtharg[mathtt] {Name}[sub][sup][Ext1] {Arg}[Ext2] = "Name|_{sub}^{sup} Ext1(Arg) Ext2" \\
                                        353 \newcommandx{\newmtharg}[7][1=, 3=, 4=, 5=, 7=]
                                                  {\newmth[#1]{#2}[#3][#4][#5\argmid{\!\left(}{#6}{\right)\arglef{\!}{#7}}]}
\newmthargsty ... to do!
                                              • \newmthargsty{mathrm}{Name} [sub] [sup] [Ext1] {Arg} [Ext2] = "Name_{sub}^{sup} Ext1(Arg) Ext2"
                                               \bullet \verb| \newmthargsty{mathrm}[mathsf]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_{sub}^{sup}Ext1(Arg)Ext2" | \normalised for the subset of the s
                                               \bullet \verb| \newmthargsty{mathrm}[mathtt]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name $^{sup}_{sub}Ext1(Arg)Ext2" | The substitution of the substitution
```

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355 \newcommandx{\newmthargsty}[2][2=]
                                                                                   {\newmtharg[\defval{#2}{#1}]}
            \newmthoarg ... to do!
                                                                            • \newmthoarg[mathrm] {Name} [sub] [sup] [Arg] = "Name _{sub}^{sup}(Arg)"
                                                                             • \newmthoarg[mathsf]{Name}[sub][sup][Arg] = "Name_{sub}^{sup}(Arg)"
                                                                             • \newmthoarg[mathtt]{Name}[sub][sup][Arg] = "Name_{sub}^{sup}(Arg)"
                                                                   357 \newcommandx{\newmthoarg}[5][1=, 3=, 4=, 5=]
                                                                                       {\newmtharg[#1]{#2}[#3][#4][]{#5}[]}
\newmthoargsty ... to do!
                                                                            • \newmthoargsty{mathrm}{Name}[sub][sup][Arg] = "Name_{sub}^{sup}(Arg)"
                                                                            • \newmthoargsty{mathrm} [mathsf] {Name} [sub] [sup] [Arg] = "Name_{sub}^{sup}(Arg)"
                                                                              \qquad \qquad \texttt{(Name) [sub] [sup] [Arg]} = \texttt{(Name)}^{sup} (Arg) \texttt{(Arg)} \texttt{(Arg)} \texttt{(Arg)} \texttt{(Name)}^{sup} (Arg) \texttt{(Arg)} \texttt{(
                                                                   359 \newcommandx{\newmthoargsty}[2][2=]
                                                                                       {\newmthoarg[\defval{#2}{#1}]}
               \newmthpar ... to do!
                                                                            • \newmthpar[mathrm] {Name} [sub] [sup] [Ext1] {Par} [Ext2] = "Name _{sub}^{sup} Ext1[Par]Ext2"
                                                                            \bullet \ \texttt{\ \ } [\texttt{Ext1}] \ \texttt{\ \ } [\texttt{Ext2}] = "\texttt{Name}^{sup}_{sub} Ext1[Par] Ext2"
                                                                              \bullet \ \texttt{\  Name} \ \texttt{\  Ext1} \ \texttt{\  (Par)} \ \texttt{\  Ext2} \ = \ \texttt{\  \  } \ \texttt{\  Ext1} \ \texttt{\  } \ \texttt{\ 
                                                                   361 \newcommandx{\newmthpar}[7][1=, 3=, 4=, 5=, 7=]
                                                                                      {\newmth[#1]{#2}[#3][#4][#5\argmid{\!\left[}{#6}{\right]\arglef{\!}{#7}}]}
   \newmthparsty ... to do!
                                                                             \bullet \verb| \newmthparsty{mathrm}{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name_{sub}^{sup}Ext1[Par]Ext2" 
                                                                             • \newmthparsty{mathrm} [mathsf] {Name} [sub] [sup] [Ext1] {Par} [Ext2] = "Name _{sub}^{sup} Ext1[Par] Ext2"
                                                                              \bullet \texttt{ \  \  } \texttt{ [Ext1] \{Par\}[Ext2]} = \texttt{``Name} \texttt{ \  } \texttt{ Ext1[Par]Ext2''} 
                                                                   363 \newcommandx{\newmthparsty}[2][2=]
                                                                                    {\newmthpar[\defval{#2}{#1}]}
            \newmthopar ... to do!
                                                                             \bullet \verb| \newmthopar[mathrm]{Name}[sub][sup][Par] = "Name_{sub}^{sup}[Par]" 
                                                                              \qquad \qquad \texttt{`Name}^{sup}_{sub} \texttt{[Sub] [Sup] [Par]} = \texttt{``Name}^{sup}_{sub} [Par]" \\
                                                                             • \newmthopar[mathtt] {Name} [sub] [sup] [Par] = "Name_{sub}^{sup}[Par]"
                                                                  365 \newcommandx{\newmthopar}[5][1=, 3=, 4=, 5=]
                                                                                      {\newmthpar[#1]{#2}[#3][#4][]{#5}[]}
\newmthoparsty ... to do!
                                                                             \bullet \texttt{\ \ } [sub] [sup] [Par] = "Name_{sub}^{sup} [Par]" 
                                                                            • \newmthoparsty{mathrm} [mathsf] {Name} [sub] [sup] [Par] = "Name_{sub}^{sup}[Par]"
                                                                             • \newmthoparsty{mathrm} [mathtt] {Name} [sub] [sup] [Par] = "Name _{sub}^{sup} [Par]"
                                                                  367 \newcommandx{\newmthoparsty}[2][2=]
                                                                                   {\mathbb{L}}{\mathbb{L}}
               \mthsubsup ... to do!
                                                                  369 \newcommand{\mthsubsup}[2]
                                                                  370 {\empchk{#1}{_{#1}}\empchk{#2}{^{#2}}}
                                                                  \mth ... to do!
                                                                            • \mathbb{Sup}[Sup][Ext] = "Name^{sup}_{sub}Ext"
                                                                             • \mathbf{Name}_{sub}^{sup}[\mathbf{Ext}] = \mathbf{Name}_{sub}^{sup}Ext
```

```
372 \newcommand{\mth}
                                                                                                                          {\newmthsty{\mthsty}}
                          \mtharg ... to do!
                                                                                                               \bullet \  \  \, \texttt{\bar{Name}} \  \, \texttt{\bar{Ext1}} \  \, \texttt{\bar{Ext2}} \  \, = \  \, "Name_{sub}^{sup} Ext1 (Arg) Ext2"
                                                                                                               • \mbox{\mbox{\tt mtharg[mathbf]} {\tt Name} [sub] [sup] [Ext1] {\tt Arg} [Ext2] = "Name_{sub}^{sup} Ext1(Arg) Ext2"}
                                                                                                                • \mtharg[mathtt]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name _{sub}^{sup}Ext1(Arg)Ext2"
                                                                                              374 \newcommand{\mtharg}
                                                                                                                           {\newmthargsty{\mthsty}}
                    \mthoarg ... to do!
                                                                                                               • \mthoarg{Name}[sub][sup] [Arg] = "Name_{sub}^{sup}(Arg)"
                                                                                                               • \mthoarg[mathbf] {Name} [sub] [sup] [Arg] = "Name_{sub}^{sup}(Arg)"
                                                                                                                \bullet \ \texttt{\t Name} \ \texttt{\t [sub] [sup] [Arg]} = \texttt{\t "Name} \ \texttt{\t sub} \ \texttt{\t [sup] [Arg]} = \texttt{\t "Name} \ \texttt{\t sub} \ \texttt{\t [sup] [Arg]} 
                                                                                              376 \newcommand{\mthoarg}
                                                                                                                                  {\newmthoargsty{\mthsty}}
                          \mthpar ... to do!
                                                                                                               \bullet \  \  \, \texttt{\bare}[\mathtt{Sub}] \  \, \texttt{\bare}[\mathtt{Ext1}] \  \, \texttt{\bare}[\mathtt{Ext2}] \  \, = \  \, "Name^{sup}_{sub} Ext1[Par] Ext2"
                                                                                                               \bullet \  \, \texttt{\bare}[mathbf] \  \, \texttt{\bare}[sub] \  \, \texttt{\bare}[Ext1] \  \, \texttt{\bare}[Ext2] \  \, = \  \, \texttt{\bare}[sub] \  \, \texttt{\bare}[Ext1] \  \, \texttt{\bare}[Ext2] \  \, = \  \, \texttt{\bare}[sub] \  \, \texttt{
                                                                                                               \bullet \  \, \texttt{\bare}[\texttt{mathtt}] \, \{\texttt{Name}\} \, [\texttt{sub}] \, [\texttt{sup}] \, [\texttt{Ext1}] \, \{\texttt{Par}\} \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 [Par] Ext2 \, \text{'`Par} \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext1 \, [Par] \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} \, \frac{\sup}{\sup} Ext2 \, [\texttt{Ext2}] \, = \, \text{``Name} 
                                                                                               378 \newcommand{\mthpar}
                                                                                                                           {\newmthparsty{\mthsty}}
                    \mthopar ... to do!
                                                                                                               • \mthopar[mathbf]{Name}[sub][sup][Par] = "Name_{sub}^{sup}[Par]"
                                                                                                                • \mthopar[mathtt] {Name} [sub] [sup] [Par] = "Name _{sub}^{sup}[Par]"
                                                                                              380 \newcommand{\mthopar}
                                                                                                                            {\newmthoparsty{\mthsty}}
                           \mthsty ... to do!
                                                                                             382 \newcommand{\mthsty}
                                                                                             383 {}
                                                                                              \cmdmth ... to do!
                                                                                                               \bullet \ \mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mb
                                                                                                                           \verb|\mthNewCmd{Name}[sub][sup][Ext] = \verb|\mame| sub| Ext|
                                                                                               385 \newcommand{\cmdmth}[1]
                                                                                                                         {\csdef{mth#1}{\newmthsty{mthsty#1}}}
      \cmdmtharg ... to do!
                                                                                                                • \cmdmtharg{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
                                                                                                                            \verb|\mathresize | \texttt{Sub} [\texttt{sub}] [\texttt{sup}] [\texttt{Ext1}] \{\texttt{Arg}\} [\texttt{Ext2}] = \texttt{Name}_{sub}^{sup} Ext1(Arg) Ext2
                                                                                               387 \newcommand{\cmdmtharg}[1]
                                                                                                                       {\csdef{mtharg#1}{\newmthargsty{mthsty#1}}}
                                                                                             388
\cmdmthoarg ... to do!
                                                                                                                • \cmdmthoarg{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
                                                                                                                           \verb|\mbox| \verb| [sub] [sup] [Arg] = \verb|\mbox| \verb| [sup] [Arg] = \verb|\mbox| \verb| [sup] [Arg] = \verb|\mbox| \verb| [sub] [sub] [sup] [arg] = \verb|\mbox| \verb| [sub] [sub] [sub] [sub] [sub] [sub] [sub] = \verb|\mbox| \verb| [sub] [sub] [sub] [sub] [sub] = \verb|\mbox| \verb| [sub] [sub] [sub] [sub] [sub] = \verb|\mbox| \verb| [sub] [sub] [sub] [sub] = \verb|\mbox| \verb| [sub] [sub] [sub] [sub] = \verb|\mbox| \verb| [sub] [sub] [sub] = \verb|\mbox| \verb| [sub] = \verb|\mbox| = \verb|\m
                                                                                              389 \newcommand{\cmdmthoarg}[1]
                                                                                                                         {\csdef{mthoarg#1}{\newmthoargsty{mthsty#1}}}
      \cmdmthpar ... to do!
```

```
\cmdmthpar{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
                                 \mathbb{E}[\operatorname{Ext2}] = \operatorname{Name}_{sub}^{sup} Ext1 
                          391 \newcommand{\cmdmthpar}[1]
                                  {\csdef{mthpar#1}{\newmthparsty{mthsty#1}}}
   \cmdmthopar
                        ... to do!
                               • \cmdmthopar{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
                                 \mbox{\continuous} [sub] [sup] [Par] = \mbox{\continuous} [Par]
                          393 \newcommand{\cmdmthopar}[1]
                                 {\csdef{mthopar#1}{\newmthoparsty{mthsty#1}}}
     \cmdmthall ... to do!
                               • \cmdmthall{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
                                  \verb|\mathNewCmd{Name}[sub][sup][Ext]| = \verb|\mathNewCmd{Name}| Ext|
                                  \verb|\mbox| \verb| Sub| [sup] [Arg] = \verb|\mbox| mame|_{sub}^{sup} (Arg)
                                  \verb|\mbox| | [sub] [sup] [Par] = \verb|\mbox| | [Par] = \verb|\mbox| | [Par] |
                          395 \newcommand{\cmdmthall}[1]
                                 {\cmdmth{#1}\cmdmtharg{#1}\cmdmthoarg{#1}\cmdmthpar{#1}\cmdmthopar{#1}}
                          \usrmth ... to do!
                               • \sl = cmdName 
                                 \verb|\usrmth{cmdName}{Suf}{par}[newName]; \verb|\cmdNameSuf}{Par} = newName[Par]
                          398 \newcommandx{\usrmth}[4][4=]
                                  {\csdef{#1#2}{\csname mth#3\endcsname{\defval{#4}{#1}}}}
                          \usrmthlatlow ... to do!
                          401 \newcommandx{\usrmthlatlow}[4][4=]
                                 {\usrmth{#1}{#2}{#3}[#4]\seqoflatlow{#1#2}{mth#3}}
\usrmthlatupp ... to do!
                          403 \verb|\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcommandx{\newcomman
                                 {\usrmth{#1}{#2}{#3}[#4]\seqoflatupp{#1#2}{mth#3}}
\usrmthlatlet ... to do!
                          405 \newcommandx{\usrmthlatlet}[4][4=]
                                 {\usrmth{#1}{#2}{#3}[#4]\seqoflatlet{#1#2}{mth#3}}
\usrmthgrklow ... to do!
                          407 \newcommandx{\usrmthgrklow}[4][4=]
                                  {\usrmth{#1}{#2}{#3}[#4]\seqofgrklow{#1#2}{mth#3}}
\usrmthgrkupp ... to do!
                          409 \newcommandx{\usrmthgrkupp}[4][4=]
                                  {\usrmth{#1}{#2}{#3}[#4]\seqofgrkupp{#1#2}{mth#3}}
\usrmthgrklet ... to do!
                          411 \newcommandx{\usrmthgrklet}[4][4=]
                                  {\usrmth{#1}{#2}{#3}[#4]\seqofgrklet{#1#2}{mth#3}}
     \usrmthlow ... to do!
                          413 \newcommandx{\usrmthlow}[4][4=]
                                 {\usrmth{#1}{#2}{#3}[#4]\seqoflow{#1#2}{mth#3}}
```

```
\usrmthupp ... to do!
                               415 \newcommandx{\usrmthupp}[4][4=]
                               416 {\usrmth{#1}{#2}{#3}[#4]\seqofupp{#1#2}{mth#3}}
       \usrmthlet ... to do!
                               417 \newcommandx{\usrmthlet}[4][4=]
                               418 {\usrmth{#1}{#2}{#3}[#4]\seqoflet{#1#2}{mth#3}}
                                423 \iftxtgen@
   \txtdef, ... to do!
                                    ullet \txtdef{Name}[sub][sup][Ext] = Name_{sub}^{sup}Ext
                                     \qquad \qquad \bullet \  \  \, \texttt{`txtargdef\{Name\}[sub][sup][Ext1]\{Arg\}[Ext2]} = Name_{sub}^{sup}Ext1(Arg)Ext2 
                                     ullet \txtpardef{Name}[sub][sup][Ext1]{Par}[Ext2] = Name_{ext}^{sup}Ext1/Par]Ext2
                                424 %% Style for Definitions
                               425 \verb|\def|\newcommand{\txtstydef}{\normalfont\bfseries\em}|
       \cmdtxtdef ... to do!
                                    • \cmdtxtdef{cmdName};
                                        \verb|\cmdName[sub][sub][ext]| = cmdName_{sub}^{sub}ext
                                     • \cmdtxtdef{cmdName}[newName];
                                        \colon = newName[sub][sub][ext] = newName^{sub}_{sub}ext
                                426 \newcommandx{\cmdtxtdef}[2][2=]
                                       {\usrtxt{#1}{}{def}[#2]}
 \cmdtxtargdef ... to do!
                                    • \cmdtxtargdef{cmdName};
                                        \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                                     • \cmdtxtargdef{cmdName}[newName];
                                        \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = newName_{sub}^{sub}ext1(arg)ext2
                                428 \newcommandx{\cmdtxtargdef}[2][2=]
                               429 {\usrtxt{#1}{}{argdef}[#2]}
\cmdtxtoargdef ... to do!
                                    \cmdtxtoargdef{cmdName};
                                        \colon colon col
                                    • \cmdtxtoargdef{cmdName}[newName];
                                        \colon = newName[sub][sub][arg] = newName^{sub}_{sub}(arg)
                                430 \newcommandx{\cmdtxtoargdef}[2][2=]
                                431 {\usrtxt{#1}{}{oargdef}[#2]}
 \cmdtxtpardef ... to do!
                                    • \cmdtxtpardef{cmdName};
                                        \cmdName[sub][sub][ext1]\{par\}[ext2] = cmdName_{sub}^{sub}ext1/par/ext2
                                     \cmdtxtpardef{cmdName}[newName];
                                        \verb|\cmdName[sub][sub][ext1]{par}[ext2] = newName_{sub}^{sub}ext1[par]ext2
                                432 \newcommandx{\cmdtxtpardef}[2][2=]
                               433 {\usrtxt{#1}{}{pardef}[#2]}
\cmdtxtopardef ... to do!
                                    \cmdtxtopardef{cmdName};
                                        \cmdName[sub][sub][par] = cmdName_{sub}^{sub}[par]
                                     • \cmdtxtopardef{cmdName}[newName];
                                        \verb|\cmdName[sub][sub][par]| = newName_{sub}^{sub}/par|
```

```
434 \newcommandx{\cmdtxtopardef}[2][2=]
                    435 {\usrtxt{#1}{}{opardef}[#2]}
  \txtabr, ... to do!
                       ullet \txtabr{Name}[sub][sup][Ext] = Name_{
m sub}^{
m sup}Ext
                       • \txtargabr{Name} [sub] [sup] [Ext1] {Arg} [Ext2] = Name_{\text{sub}}^{\text{sup}} Ext1(Arg) Ext2
                        • \txtparabr{Name} [sub] [sup] [Ext1] {Par} [Ext2] = Name_{\mathrm{sub}}^{\mathrm{sup}} Ext1[Par]Ext2
                    436 %% Style for Abbreviations
                    437 \cmdtxtall{abr}\newcommand{\txtstyabr}{\em}
    \cmdtxtabr ... to do!
                       \cmdtxtabr{cmdName};
                          \verb|\cmdName[sub][sub][ext]| = cmdName_{\rm sub}^{\rm sub}ext
                        • \cmdtxtabr{cmdName}[newName];
                          \colon dName[sub][sub][ext] = newName_{sub}^{sub}ext
                    438 \verb|\newcommandx{\cmdtxtabr}[2][2=]
                         {\usrtxt{#1}{}{abr}[#2]}
 \cmdtxtargabr ... to do!
                       • \cmdtxtargabr{cmdName};
                          \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = cmdName^{\text{sub}}_{\text{sub}}ext1(arg)ext2
                        • \cmdtxtargabr{cmdName}[newName];
                          \cmdName[sub][sub][ext1]{arg}[ext2] = newName_{sub}^{sub}ext1(arg)ext2
                    440 \newcommandx{\cmdtxtargabr}[2][2=]
                    441 {\usrtxt{#1}{}{argabr}[#2]}
\cmdtxtoargabr ... to do!
                       • \cmdtxtoargabr{cmdName};
                          \cmdName[sub][sub][arg] = cmdName_{sub}^{sub}(arq)
                        • \cmdtxtoargabr{cmdName}[newName];
                          \colon = newName[sub][sub][arg] = newName[sub](arg)
                    442 \newcommandx{\cmdtxtoargabr}[2][2=]
                    443 {\usrtxt{#1}{}{oargabr}[#2]}
 \cmdtxtparabr ... to do!
                       • \cmdtxtparabr{cmdName};
                          \cmdName[sub][sub][ext1][par][ext2] = cmdName_{sub}^{sub}ext1[par]ext2
                        • \cmdtxtparabr{cmdName} [newName];
                          \verb|\cmdName[sub][sub][ext1]{par}[ext2] = newName_{sub}^{sub}ext1[par]ext2|
                    444 \newcommandx{\cmdtxtparabr}[2][2=]
                         {\usrtxt{#1}{}{parabr}[#2]}
\cmdtxtoparabr ... to do!
                       • \cmdtxtoparabr{cmdName};
                          \cmdName[sub] [sub] [par] = cmdName_{\text{sub}}^{\text{sub}}/par
                        • \cmdtxtoparabr{cmdName}[newName];
                          \cmdName[sub][sub][par] = newName_{sub}^{sub}/par]
                    446 \newcommandx{\cmdtxtoparabr}[2][2=]
                         {\usrtxt{#1}{}{oparabr}[#2]}
                    \txtname, ... to do!
                       • \text{txtname}\{\text{Name}\}[\text{sub}][\text{Sup}][\text{Ext}] = \text{Name}_{\text{Sup}}^{\text{SUP}}\text{Ext}
                        • \text{txtargname}\{\text{Name}\}[\text{sub}][\text{sup}][\text{Ext1}]\{\text{Arg}\}[\text{Ext2}] = \text{Name}_{\text{SUB}}^{\text{SUP}}\text{Ext1}(\text{Arg})\text{Ext2}
                        • \text{txtparname}\{\text{Name}\}[\text{sub}][\text{sup}][\text{Ext1}]\{\text{Par}\}[\text{Ext2}] = \text{Name}_{\text{SUB}}^{\text{SUP}}\text{Ext1}[\text{Par}]\text{Ext2}
```

```
449 %% Style for Names
                                                            450 \cmdtxtall{name}\newcommand{\txtstyname}{\normalfont\mdseries\scshape\sffamily}
              \cmdtxtname ... to do!
                                                                     \cmdtxtname{cmdName};
                                                                          \cmdName[sub][sub][ext] = CMDNAME_{SUB}^{SUB}EXT
                                                                     • \cmdtxtname{cmdName}[newName];
                                                                          \c Mame[sub][sub][ext] = NEWNAME_{SUB}^{SUB}EXT
                                                            451 \newcommandx{\cmdtxtname}[2][2=]
                                                            452 {\usrtxt{#1}{}{name}[#2]}
   \cmdtxtargname ... to do!
                                                                    • \cmdtxtargname{cmdName};
                                                                          \label{lem:cmdName} $$ \operatorname{[sub][sub][ext1]}_{arg}[ext2] = \operatorname{CMDNAME}_{SUB}^{SUB} \operatorname{EXT1}(\operatorname{ARG}) \operatorname{EXT2} $$
                                                                    • \cmdtxtargname{cmdName}[newName];
                                                                           \cmdName[sub][sub][ext1]{arg}[ext2] = NEWNAME_{SUB}^{SUB}EXT1(ARG)EXT2
                                                             453 \newcommandx{\cmdtxtargname}[2][2=]
                                                            454 {\usrtxt{#1}{}{argname}[#2]}
\cmdtxtoargname ... to do!
                                                                     \cmdtxtoargname{cmdName};
                                                                           \cmbox{\cmbox{cmdName}[sub][sub][arg]} = \ccmbox{\cmbox{\cmbox{CMDNAME}}}_{SUB}(\ccmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cmbox{\cm
                                                                    • \cmdtxtoargname{cmdName}[newName];
                                                                          \colon = NEWNAME_{SUB}^{SUB}(ARG)
                                                            455 \newcommandx{\cmdtxtoargname}[2][2=]
                                                                          {\usrtxt{#1}{}{oargname}[#2]}
   \cmdtxtparname ... to do!
                                                                     \cmdtxtparname{cmdName};
                                                                          \verb|\cmdName[sub][sub][ext1]{par}[ext2] = \verb|\cmdName[sub]| = \verb|\cmdNam
                                                                    • \cmdtxtparname{cmdName}[newName];
                                                                           457 \newcommandx{\cmdtxtparname}[2][2=]
                                                                          {\usrtxt{#1}{}{parname}[#2]}
\cmdtxtoparname ... to do!
                                                                     \cmdtxtoparname{cmdName};
                                                                          \verb|\cmdName[sub][par]| = CMDNAME_{SUB}^{SUB}[PAR]|
                                                                     \cmdtxtoparname{cmdName}[newName];
                                                                          \verb|\cmdName[sub][sub][par]| = NEWNAME_{SUB}^{SUB}[PAR]|
                                                            459 \newcommandx{\cmdtxtoparname}[2][2=]
                                                            460 {\usrtxt{#1}{}{oparname}[#2]}
          \txtcom, ... to do!
                                                                    • \text{txtcom{Name}[sub][sup][Ext]} = \text{Name}_{\text{SUB}}^{\text{SUP}} \text{Ext}
                                                                    • \t xtargcom{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAME_{SUB}^{SUP}EXT1(ARG)EXT2
                                                                     \bullet \ \texttt{\txtparcom{Name}[sub][sup][Ext1]{Par}[Ext2]} = NAME^{SUP}_{SUB}EXT1[PAR]EXT2
                                                            461 %% Style for Complexities
                                                            462 \cmdtxtall{com}\newcommand{\txtstycom}{\normalfont\mdseries\scshape\rmfamily}
                 \cmdtxtcom ... to do!
                                                                    • \cmdtxtcom{cmdName};
                                                                          \verb|\cmdName[sub][sub][ext]| = \texttt{CMDNAME}^{\texttt{SUB}}_{\texttt{SUB}} \texttt{EXT}
                                                                     • \cmdtxtcom{cmdName} [newName];
                                                                          463 \newcommandx{\cmdtxtcom}[2][2=]
                                                             464 {\usrtxt{#1}{}{com}[#2]}
```

```
\cmdtxtargcom ... to do!
                       • \cmdtxtargcom{cmdName};
                         \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = CMDNAME_{SUB}^{SUB}EXT1(ARG)EXT2
                       • \cmdtxtargcom{cmdName}[newName];
                         465 \newcommandx{\cmdtxtargcom}[2][2=]
                         {\usrtxt{#1}{}{argcom}[#2]}
\cmdtxtoargcom ... to do!
                       • \cmdtxtoargcom{cmdName};
                         \colon = CMDNAME_{SUB}^{SUB}(ARG)
                       \cmdtxtoargcom{cmdName}[newName];
                         \verb|\cmdName[sub][sub][arg]| = NEWNAME_{SUB}^{SUB}(ARG)
                    467 \newcommandx{\cmdtxtoargcom}[2][2=]
                        {\usrtxt{#1}{}{oargcom}[#2]}
 \cmdtxtparcom ... to do!
                       • \cmdtxtparcom{cmdName};
                         \verb|\cmdName[sub][sub][ext1]{par}[ext2] = CMDNAME_{SUB}^{SUB}EXT1[PAR]EXT2|
                       • \cmdtxtparcom{cmdName} [newName];
                         \label{lem:lemma:equation:lemma:equation:ext1} $$ \operatorname{cmdName}[\operatorname{sub}][\operatorname{sub}][\operatorname{ext1}][\operatorname{par}][\operatorname{ext2}] = \operatorname{NEWNAME}_{\operatorname{SUB}}^{\operatorname{SUB}} \operatorname{EXT1}[\operatorname{PAR}] \operatorname{EXT2} $$
                    469 \verb|\newcommandx{\cmdtxtparcom}[2][2=]
                        {\usrtxt{#1}{}{parcom}[#2]}
\cmdtxtoparcom ... to do!
                       • \cmdtxtoparcom{cmdName};
                         \label{eq:cmdName} $$ \operatorname{CMDNAME}_{SUB}^{SUB}[PAR] = \operatorname{CMDNAME}_{SUB}^{SUB}[PAR] $$
                       \cmdtxtoparcom{cmdName}[newName];
                         \verb|\cmdName[sub][sub][par]| = NEWNAME_{SUB}^{SUB}[PAR]|
                    471 \newcommandx{\cmdtxtoparcom}[2][2=]
                        {\usrtxt{#1}{}{oparcom}[#2]}
                    473 \fi
                   478 \ifmthgen@
 \mthname, ... to do!
                       ullet \mthname{NAME}[sub] [sup] [Ext] = \mathcal{NAME}^{sup}_{sub}Ext
                       \bullet \  \, \texttt{\bar{NAME}[sub][sup][Ext1]\{Arg\}[Ext2]} = \mathcal{NAME}^{sup}_{sub}Ext1(Arg)Ext2
                       • \mthparname{NAME}[sub][sup][Ext1]{Par}[Ext2] = \mathcal{NAME}_{sub}^{sup}Ext1[Par]Ext2
                   479 %% Style for Names
                   480 \mbox{ } \mbox{mthall{name}\newcommand{\mbox{mthstyname}{\mbox{mathcal}}}
   \AName, ... 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}
                   481 \seqoflatupp{Name}{mthname}
   \cmdmthname ... to do!
                       • \cmdmthname{CMDNAME};
                         \CMDNAMEName[sub][sub][ext] = \mathcal{CMDNAME}_{sub}^{sub}ext
                       • \cmdmthname{cmdName}[NEWNAME];
                         \colon {\tt CmdNameName[sub][sub][ext]} = \mathcal{NEWNAME}^{sub}_{sub} ext
                    482 \newcommandx{\cmdmthname}[2][2=]
                    483 {\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
                      484 \newcommandx{\cmdmthargname}[2][2=]
                            {\usrmth{#1}{Name}{argname}[#2]}
\cmdmthoargname ... to do!
                         • \cmdmthoargname{CMDNAME};
                            \verb|\CMDNAMEName[sub][sub][arg]| = \mathcal{CMDNAME}_{sub}^{sub}(arg)
                         • \cmdmthoargname{cmdName}[NEWNAME];
                            \colon {\tt CmdNameName[sub][sub][arg]} = \mathcal{NEWNAME}^{sub}_{sub}(arg)
                      486 \newcommandx{\cmdmthoargname}[2][2=]
                            {\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
                      488 \newcommandx{\cmdmthparname}[2][2=]
                           {\usrmth{#1}{Name}{parname}[#2]}
\cmdmthoparname ... to do!
                         • \cmdmthoparname{CMDNAME};
                            \CMDNAMEName[sub][sub][par] = \mathcal{CMDNAME}_{sub}^{sub}[par]
                         • \cmdmthoparname{cmdName}[NEWNAME];
                            \verb|\cmdNameName[sub][sub][par]| = \mathcal{NEWNAME}^{sub}_{sub}[par]
                      490 \newcommandx{\cmdmthoparname}[2][2=]
                            {\usrmth{#1}{Name}{oparname}[#2]}
   \mthfam, ... to do!
                         \bullet \  \, \texttt{\bar{NAME}[sub][sup][Ext1]{Arg}[Ext2]} = \mathcal{NAME}^{sup}_{sub}Ext1(Arg)Ext2
                         \bullet \  \, \texttt{\baselinestable MAME} \  \, \texttt{\baseline Sub} \  \, \texttt{\baseline Ext1} \  \, \texttt{\baseline Par} \  \, \texttt{\baseline Ext2} \  \, = \  \, \mathcal{NAME} \  \, \mathcal{E}^{sup}_{sub} Ext1 [Par] Ext2
                      492 %% Style for Families
                      493 \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{I}, \mathcal{H}, \mathcal{L}, \mathcal{M}, \mathcal{N}, \mathcal{O}, \mathcal{P}, \mathcal{Q}, \mathcal{R}, \mathcal{F}, \mathcal{T}, \mathcal{U}, \mathcal{V}, \mathcal{W}, \mathcal{X}, \mathcal{Y}, \mathcal{Y}
                      494 \seqoflatupp{Fam}{mthfam}
      \cmdmthfam ... to do!
                         \cmdmthfam{CMDNAME};
                            \CMDNAMEFam[sub][sub][ext] = \mathscr{CMDNAMEFam}[sub][sub][ext]
                         • \cmdmthfam{cmdName}[NEWNAME];
                            \cmdNameFam[sub][sub][ext] = \mathcal{NEWNAME}_{sub}^{sub}ext
                      495 \newcommandx{\cmdmthfam}[2][2=]
                           {\usrmth{#1}{Fam}{fam}[#2]}
  \cmdmthargfam ... to do!
                         • \cmdmthargfam{CMDNAME};
                            • \cmdmthargfam{cmdName}[NEWNAME];
                            \verb|\cmdNameFam[sub][sub][ext1]{arg}[ext2] = \mathscr{NEWNAME}^{sub}_{sub}ext1(arg)ext2
```

```
497 \newcommandx{\cmdmthargfam}[2][2=]
                          {\usrmth{#1}{Fam}{argfam}[#2]}
\cmdmthoargfam ... to do!
                        \cmdmthoargfam{CMDNAME};
                           \CMDNAMEFam[sub][sub][arg] = \mathscr{CMDNAMEFam}[sub](arg)
                        \cmdmthoargfam{cmdFam}[NEWNAME];
                           \verb|\cmdFamFam[sub][sub][arg]| = \mathcal{NEWNAME}_{sub}^{sub}(arg)
                     499 \newcommandx{\cmdmthoargfam}[2][2=]
                          {\usrmth{#1}{Fam}{oargfam}[#2]}
 \cmdmthparfam ... to do!
                        • \cmdmthparfam{CMDNAME};
                           \verb|\CMDNAMEFam[sub][sub][ext1]{par}[ext2] = \mathscr{CMDNAMEFam}[sub][sub][ext1][par][ext2]
                        • \cmdmthparfam{cmdName}[NEWNAME];
                           501 \newcommandx{\cmdmthparfam}[2][2=]
                          {\usrmth{#1}{Fam}{parfam}[#2]}
\cmdmthoparfam ... to do!
                        • \cmdmthoparfam{CMDNAME};
                           \CMDNAMEFam[sub][sub][par] = \mathscr{CMDNAMEFam}[sub][par]
                        \cmdmthoparfam{cmdFam}[NEWNAME];
                           \label{eq:cmdFamFam} $$ \operatorname{[sub]}[\operatorname{par}] = \mathcal{NEWNAME}^{sub}_{sub}[\operatorname{par}] $$
                     503 \newcommandx{\cmdmthoparfam}[2][2=]
                          {\usrmth{#1}{Fam}{oparfam}[#2]}
  \mthcls, ... to do!
                        • \mthcls{NAME}[sub][sup][Ext] = \mathcal{NAME}_{sub}^{sup}Ext
                        • \mthargcls{NAME}[sub][sup][Ext1]{Arg}[Ext2] = \mathcal{NAME}_{sub}^{sup}Ext1(Arg)Ext2
                        \bullet \ \texttt{\ \ } \texttt{[Sub] [Sup] [Ext1] \{Par\} [Ext2]} = \mathcal{NAME} sub_{sub}^{sup} Ext1[Par] Ext2
                     505 %% Style for Classes
                     506 \cmdmthall{cls}\newcommand{\mthstycls}{\matheus}
     \ACls, ... 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}
                     507 \seqoflatupp{Cls}{mthcls}
     \cmdmthcls ... to do!
                        • \cmdmthcls{CMDNAME};
                           \CMDNAMEC1s[sub][sub][ext] = \mathcal{CMDNAME}_{sub}^{sub}ext
                        • \cmdmthcls{cmdName}[NEWNAME];
                           \cmdNameCls[sub][sub][ext] = NEWNAME_{sub}^{sub}ext
                     508 \newcommandx{\cmdmthcls}[2][2=]
                          {\usrmth{#1}{Cls}{cls}[#2]}
 \cmdmthargcls ... to do!
                        • \cmdmthargcls{CMDNAME};
                           \CMDNAMECls[sub][sub][ext1]{arg}[ext2] = \mathcal{CMDNAME}_{sub}^{sub}ext1(arg)ext2
                        • \cmdmthargcls{cmdName}[NEWNAME];
                           \label{lem:lemma:energy:ext2} $$ \operatorname{CmdNameCls[sub][sub][ext1]} = \mathcal{NEWNAME}_{sub}^{sub} ext1(arg)ext2$
                     510 \newcommandx{\cmdmthargcls}[2][2=]
                          {\usrmth{#1}{Cls}{argcls}[#2]}
\cmdmthoargcls ... to do!
                        • \cmdmthoargcls{CMDNAME};
```

\CMDNAMECls[sub][sub] [arg] =  $\mathcal{CMDNAME}_{sub}^{sub}(arg)$ 

```
\cmdmthoargcls{cmdCls}[NEWNAME];
                                                   \verb|\cmdClsCls[sub][sub][arg]| = NEWNAME_{sub}^{sub}(arg)
                                        512 \newcommandx{\cmdmthoargcls}[2][2=]
                                                  {\usrmth{#1}{Cls}{oargcls}[#2]}
  \cmdmthparcls ... to do!
                                              \cmdmthparcls{CMDNAME};
                                                   \verb|\CMDNAMECls[sub][sub][ext1]{par}[ext2] = \verb|\CMDNAME| sub| ext1| par| ext2|
                                              • \cmdmthparcls{cmdName}[NEWNAME];
                                                   \verb|\cmdNameCls[sub][sub][ext1]{par}[ext2] = NEWNAME_{sub}^{sub}ext1[par]ext2|
                                        514 \newcommandx{\cmdmthparcls}[2][2=]
                                                  {\usrmth{#1}{Cls}{parcls}[#2]}
\cmdmthoparcls ... to do!
                                              • \cmdmthoparcls{CMDNAME};
                                                  \verb|\CMDNAMECls[sub][sub][par]| = \verb|\CMDNAME|_{sub}^{sub}[par]|
                                              • \cmdmthoparcls{cmdCls}[NEWNAME];
                                                  \cmdClsCls[sub][sub][par] = \mathcal{NEWNAME}_{sub}^{sub}[par]
                                         516 \newcommandx{\cmdmthoparcls}[2][2=]
                                        517 {\usrmth{#1}{Cls}{oparcls}[#2]}
    \mthsig, ... to do!
                                              • \mthsig{Name} [sub] [sup] [Ext] = \mathcal{N}_{sub}Ext
                                              \bullet \ \texttt{\ \ } \texttt{[Sub] [Sup] [Ext1] \{Arg\} [Ext2]} = \mathcal{N}\!\mathit{ame}^{sup}_{sub} Ext1(Arg) Ext2
                                              \bullet \ \texttt{\t Name} \ \texttt{[Sub]} \ \texttt{[Sup]} \ \texttt{\t [Ext1]} \ \texttt{\t Par} \ \texttt{\t [Ext2]} \ = \ \textit{\textbf{\textit{Name}}} \ sub \ \texttt{\t Ext1} \ \texttt{\t [Par]} \ \texttt{\t Ext2}
                                        518 %% Style for Signatures
                                        519 \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, \chi, y, z
                                      \mathcal{A},~\mathcal{B},~\mathcal{C},~\mathcal{D},~\mathcal{E},~\mathcal{F},~\mathcal{G},~\mathcal{H},~I,~\mathcal{I},~\mathcal{K},~\mathcal{L},~\mathcal{M},~\mathcal{N},~\mathcal{O},~\mathcal{P},~Q,~\mathcal{R},~\mathcal{S},~\mathcal{T},~\mathcal{U},~\mathcal{V},~\mathcal{W},~X,~\mathcal{Y},~Z
                                      \alpha, \beta, \gamma, \delta, \epsilon, \varepsilon, \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
                                        520 \seqoflatlet{Sig}{mthsig}\seqofgrklow{Sig}{mthsig}
         \cmdmthsig ... to do!
                                              • \cmdmthsig{cmdName};
                                                  \colon d \cmdNameSig[sub][sub][ext] = cmdName_{sub}^{sub}ext
                                              • \cmdmthsig{cmdName}[NewName];
                                                  \verb|\cmdNameSig[sub][sub][ext]| = \textit{NewName}_{sub}^{sub} ext|
                                         521 \newcommandx{\cmdmthsig}[2][2=]
                                        522 {\usrmth{#1}{Sig}{sig}[#2]}
  \cmdmthargsig ... to do!
                                              • \cmdmthargsig{cmdName};
                                                  \verb|\cmdNameSig[sub][sub][ext1]{arg}[ext2] = cmd Name_{sub}^{sub} ext1(arg) ext2
                                              • \cmdmthargsig{cmdName}[NewName];
                                                  \cmdNameSig[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                                        523 \newcommandx{\cmdmthargsig}[2][2=]
                                        524 {\usrmth{#1}{Sig}{argsig}[#2]}
\cmdmthoargsig ... to do!
                                              • \cmdmthoargsig{cmdName};
                                                  \colon 
                                              • \cmdmthoargsig{cmdSig}[NewName];
                                                  \c ModSigSig[sub][sub][arg] = NewName_{sub}^{sub}(arg)
                                         525 \newcommandx{\cmdmthoargsig}[2][2=]
                                        526 {\usrmth{#1}{Sig}{oargsig}[#2]}
```

```
\cmdmthparsig ... to do!
                                               • \cmdmthparsig{cmdName};
                                                   \verb|\cmdNameSig[sub][sub][ext1]{par}[ext2] = \textit{cmdName}_{sub}^{sub}ext1[par]ext2
                                               • \cmdmthparsig{cmdName}[NewName];
                                                   \verb|\cmdNameSig[sub][sub][ext1]{par}[ext2] = \textit{NewName}_{sub}^{sub}ext1[par]ext2
                                         527 \newcommandx{\cmdmthparsig}[2][2=]
                                                   {\usrmth{#1}{Sig}{parsig}[#2]}
\cmdmthoparsig ... to do!
                                               • \cmdmthoparsig{cmdName};
                                                   \verb|\cmdNameSig[sub][sub][par]| = cmdName_{sub}^{sub}[par]|
                                               • \cmdmthoparsig{cmdSig}[NewName];
                                                   \color{location} \col
                                         529 \newcommandx{\cmdmthoparsig}[2][2=]
                                                   {\usrmth{#1}{Sig}{oparsig}[#2]}
    \mthstr, ... to do!
                                               • \mthstr{Name} [sub] [sup] [Ext] = \mathfrak{Name}_{sub}^{sup} Ext
                                               • \mthargstr{Name}[sub][sup][Ext1]{Arg}[Ext2] = \mathfrak{Name}_{sub}^{sup}Ext1(Arg)Ext2
                                               \bullet \ \texttt{\ \ } \texttt{[Sub] [Sup] [Ext1] \{Par\} [Ext2]} = \mathfrak{Name}^{sup}_{sub} Ext1[Par]Ext2
                                         531 %% Style for Structures
                                         532 \mbox{ \cmdmthall{str}\newcommand{\mbox{\mbox{\cmthstystr}}{\mbox{\cmdmthfrak}}}
         \aStr, ... to do!
                                       a, b, c, d, e, f, g, h, i, j, f, l, m, n, o, p, q, r, s, f, u, v, w, r, h, z
                                       \mathfrak{A}, \mathfrak{B}, \mathfrak{C}, \mathfrak{D}, \mathfrak{E}, \mathfrak{F}, \mathfrak{G}, \mathfrak{H}, \mathfrak{I}, \mathfrak{I}, \mathfrak{K}, \mathfrak{L}, \mathfrak{M}, \mathfrak{N}, \mathfrak{D}, \mathfrak{P}, \mathfrak{Q}, \mathfrak{R}, \mathfrak{S}, \mathfrak{T}, \mathfrak{U}, \mathfrak{W}, \mathfrak{X}, \mathfrak{Y}, \mathfrak{Z}
                                       \alpha, \beta, \gamma, \delta, \epsilon, \varepsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \varkappa, \lambda, \mu, \nu, \xi, \mathfrak{o}, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega
                                        533 \seqoflatlet{Str}{mthstr}\seqofgrklow{Str}{mthstr}
         \cmdmthstr ... to do!
                                               \cmdmthstr{cmdName};
                                                   \verb|\cmdNameStr[sub][sub][ext]| = \mathfrak{cmdName}_{sub}^{sub} ext
                                               • \cmdmthstr{cmdName} [NewName];
                                                   \c MameStr[sub][sub][ext] = \mathfrak{NewName}_{sub}^{sub}ext
                                         534 \newcommandx{\cmdmthstr}[2][2=]
                                        535 {\usrmth{#1}{Str}{str}[#2]}
  \cmdmthargstr ... to do!
                                               \cmdmthargstr{cmdName};
                                                   \cmdNameStr[sub][sub][ext1]{arg}[ext2] = cmdMame_{sub}^{sub}ext1(arg)ext2
                                               • \cmdmthargstr{cmdName}[NewName];
                                                   \cmdNameStr[sub][sub][ext1]{arg}[ext2] = \mathfrak{NewName}_{sub}^{sub}ext1(arg)ext2
                                         536 \mbox{ } \mbox{cmdmthargstr}[2][2=]
                                                  {\usrmth{#1}{Str}{argstr}[#2]}
\cmdmthoargstr ... to do!
                                               • \cmdmthoargstr{cmdName};
                                                   \cmdNameStr[sub] [sub] [arg] = cmdMame_{sub}^{sub}(arg)
                                               • \cmdmthoargstr{cmdStr}[NewName];
                                                   \colon dStrStr[sub][sub][arg] = \mathfrak{NewName}^{sub}_{sub}(arg)
                                         538 \newcommandx{\cmdmthoargstr}[2][2=]
                                                   {\usrmth{#1}{Str}{oargstr}[#2]}
  \cmdmthparstr ... to do!
                                               • \cmdmthparstr{cmdName};
                                                   \verb|\cmdNameStr[sub][sub][ext1]{par}[ext2] = \verb|\cmdName$| subert1[par] ext2|
```

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• \cmdmthparstr{cmdName} [NewName];
                                                \verb|\cmdNameStr[sub][sub][ext1]{par}[ext2] = \mathfrak{NewName}_{sub}^{sub}ext1[par]ext2
                                      540 \newcommandx{\cmdmthparstr}[2][2=]
                                                {\usrmth{#1}{Str}{parstr}[#2]}
\cmdmthoparstr ... to do!
                                            • \cmdmthoparstr{cmdName};
                                                \verb|\cmdNameStr[sub][sub][par]| = \mathfrak{cmdMame}_{sub}^{sub}[par]|
                                            • \cmdmthoparstr{cmdStr}[NewName];
                                                \color{local} 
                                      542 \newcommandx{\cmdmthoparstr}[2][2=]
                                               {\usrmth{#1}{Str}{oparstr}[#2]}
    \mthset, ... to do!
                                            • \mathbb{N} [sub] [sup] [Ext] = \mathbb{N} ame \mathbb{N} \mathbb{N}
                                            • \mthargset{Name}[sub][sup][Ext1]{Arg}[Ext2] = Name_{sub}^{sup}Ext1(Arg)Ext2
                                            \bullet \  \, \texttt{\bar{Name}[sub][sup][Ext1][Par][Ext2]} = \mathrm{Name}_{sub}^{sup} Ext1[Par]Ext2
                                      544 %% Style for Sets
                                      545 \mbox{ \mbox{\mbox{mthall{set}}\newcommand{\mbox{\mbox{\mbox{mthstyset}}{\mbox{\mbox{\mbox{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,\,\varepsilon,\,\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,\,E,\,Z,\,H,\,\Theta,\,\varTheta,\,I,\,K,\,K,\,\Lambda,\,M,\,N,\,\Xi,\,O,\,\Pi,\,\varPi,\,P,\,P,\,\Sigma,\,\varSigma,\,T,\,\Upsilon,\,\Phi,\,\varPhi,\,X,\,\Psi,\,\Omega
                                      546 \seqoflet{Set}{mthset}
         \cmdmthset ... to do!
                                            • \cmdmthset{cmdName};
                                                \colon = cmdNameSet[sub][sub][ext] = cmdName_{sub}^{sub}ext
                                            • \cmdmthset{cmdName}[NewName];
                                                \colon = NewName_{sub}^{sub} = NewName_{sub}^{sub} = xt
                                      547 \newcommandx{\cmdmthset}[2][2=]
                                      548 {\usrmth{#1}{Set}{set}[#2]}
  \cmdmthargset ... to do!
                                            • \cmdmthargset{cmdName};
                                                \cmdNameSet[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                                            • \cmdmthargset{cmdName}[NewName];
                                                \colon = NewName (sub) [sub] [ext1] {arg} [ext2] = NewName (sub) ext1 (arg) ext2
                                      549 \newcommandx{\cmdmthargset}[2][2=]
                                                {\usrmth{#1}{Set}{argset}[#2]}
\cmdmthoargset ... to do!
                                            • \cmdmthoargset{cmdName};
                                                \colon = cmdNameSet[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                                            • \cmdmthoargset{cmdSet}[NewName];
                                                \verb|\cmdSetSet[sub][sub][arg]| = NewName_{sub}^{sub}(arg)
                                      551 \newcommandx{\cmdmthoargset}[2][2=]
                                      552 {\usrmth{#1}{Set}{oargset}[#2]}
  \cmdmthparset ... to do!
                                            • \cmdmthparset{cmdName};
                                                \verb|\cmdNameSet[sub][sub][ext1]{par}[ext2] = cmdName_{sub}^{sub}ext1[par]ext2|
                                            • \cmdmthparset{cmdName}[NewName];
                                                \cmdNameSet[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                                      553 \newcommandx{\cmdmthparset}[2][2=]
                                      554 {\usrmth{#1}{Set}{parset}[#2]}
```

```
\cmdmthoparset ... to do!
                       \cmdmthoparset{cmdName};
                          \colon dNameSet[sub][sub][par] = cmdName_{sub}^{sub}[par]
                       • \cmdmthoparset{cmdSet}[NewName];
                          \colon dSetSet[sub][sub][par] = NewName_{sub}^{sub}[par]
                    555 \newcommandx{\cmdmthoparset}[2][2=]
                          {\usrmth{#1}{Set}{oparset}[#2]}
 \cmdmthsetext ... to do!
                    557 \newcommandx{\cmdmthsetext}[3][2=, 3=]
                    558 {\cmdmthset{#1}[#2]\caselower[q]{#1}%
                          \usrmthlet{\thestring}{Sym}{sym}
                            [\defval{#3}{\defval{\empchk{#2}{\lowercase{#2}}}}{\thestring}}]%
                         \usrmthlet{\thestring}{Elm}{elm}
                    562
                             [\defval{#3}{\defval{\mpchk{#2}}}] 
  \mthrel, ... to do!
                       • \mthrel{Name}[sub][sup][Ext] = Name_{sub}^{sup}Ext
                       \bullet \  \, \texttt{\bar{Name}[Sub][Sub][Ext1][Arg][Ext2]} = Name_{sub}^{sup}Ext1(Arg)Ext2
                       • \mthparrel{Name}[sub][sup][Ext1]{Par}[Ext2] = Name_{sub}^{sup}Ext1[Par]Ext2
                    563 %% Style for Relations
                    564 \mbox{ \label{rel}\newcommand{\mbstyrel}{\mathbb{}}}
    \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
                   \alpha,\,\beta,\,\gamma,\,\delta,\,\epsilon,\,\varepsilon,\,\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,\,E,\,Z,\,H,\,\Theta,\,\Theta,\,I,\,K,\,K,\,\Lambda,\,M,\,N,\,\Xi,\,O,\,\Pi,\,\Pi,\,P,\,P,\,\varSigma,\,\Sigma,\,T,\,\Upsilon,\,\varPhi,\,\varPhi,\,X,\,\Psi,\,\Omega
                    565 \seqoflet{Rel}{mthrel}
    \cmdmthrel ... to do!
                       \cmdmthrel{cmdName};
                         \verb|\cmdNameRel[sub][sub][ext]| = cmdName_{sub}^{sub}ext
                       • \cmdmthrel{cmdName}[NewName];
                         \verb|\cmdNameRel[sub][sub][ext]| = NewName_{sub}^{sub}ext
                    566 \newcommandx{\cmdmthrel}[2][2=]
                    567 {\usrmth{#1}{Rel}{rel}[#2]}
 \verb|\cmdmthargrel| ... to do!
                       \cmdmthargrel{cmdName};
                         \verb|\cmdNameRel[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                       • \cmdmthargrel{cmdName}[NewName];
                         \cmdNameRel[sub][sub][ext1] {arg} [ext2] = NewName_{sub}^{sub} ext1(arg)ext2
                    568 \newcommandx{\cmdmthargrel}[2][2=]
                    569 {\usrmth{#1}{Rel}{argrel}[#2]}
\cmdmthoargrel ... to do!
                       \cmdmthoargrel{cmdName};
                         \cmdNameRel[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                       • \cmdmthoargrel{cmdRel}[NewName];
                          \colon dRelRel[sub][sub][arg] = NewName_{sub}^{sub}(arg)
                    570 \newcommandx{\cmdmthoargrel}[2][2=]
                    571 {\usrmth{#1}{Rel}{oargrel}[#2]}
 \cmdmthparrel ... to do!
                       \cmdmthparrel{cmdName};
                         \verb|\cmdNameRel[sub][sub][ext1][par][ext2]| = cmdName_{sub}^{sub}ext1[par]ext2|
```

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• \cmdmthparrel{cmdName}[NewName];
                                                                       \verb|\cmdNameRel[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2]|
                                                        572 \newcommandx{\cmdmthparrel}[2][2=]
                                                                      {\usrmth{#1}{Rel}{parrel}[#2]}
\cmdmthoparrel ... to do!
                                                                • \cmdmthoparrel{cmdName};
                                                                      \verb|\cmdNameRel[sub][sub][par]| = cmdName_{sub}^{sub}[par]|
                                                                • \cmdmthoparrel{cmdRel}[NewName];
                                                                      \colone{local} \col
                                                         574 \newcommandx{\cmdmthoparrel}[2][2=]
                                                                      {\usrmth{#1}{Rel}{oparrel}[#2]}
      \mthfun, ... to do!
                                                                • \mathbb{N} [sub] [sup] [Ext] = \mathbb{N} = \mathbb{N}
                                                                \bullet \  \, \texttt{\bar{Name}[sub][sup][Ext1][Arg][Ext2]} = \mathsf{\bar{Name}}_{sub}^{sup} Ext1(Arg) Ext2
                                                                 \bullet \  \, \texttt{\bar{Name}[sub][sup][Ext1]{Par}[Ext2]} = \mathsf{Name}^{sup}_{sub}Ext1[Par]Ext2
                                                         576 %% Style for Functions
                                                        577 \mbox{ \mbox{maths1}{fun}\newcommand{\mbox{mthstyfun}{\mbox{mathsf}}}
             \arraycolor{1}{a}Fun, ... 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,\,\varepsilon,\,\zeta,\,\eta,\,\theta,\,\vartheta,\,\iota,\,\kappa,\,\varkappa,\,\lambda,\,\mu,\,\nu,\,\xi,\,\mathsf{o},\,\pi,\,\varpi,\,\rho,\,\varrho,\,\sigma,\,\varsigma,\,\tau,\,\upsilon,\,\phi,\,\varphi,\,\chi,\,\psi,\,\omega
                                                      \mathsf{A},\,\mathsf{B},\,\mathsf{\Gamma},\,\mathsf{\Delta},\,\mathsf{E},\,\mathsf{E},\,\mathsf{Z},\,\mathsf{H},\,\Theta,\,\varTheta,\,\mathsf{I},\,\mathsf{K},\,\mathsf{K},\,\mathsf{K},\,\mathsf{\Lambda},\,\mathsf{M},\,\mathsf{N},\,\Xi,\,\mathsf{O},\,\mathsf{\Pi},\,\varPi,\,\mathsf{P},\,\mathsf{P},\,\mathsf{\Sigma},\,\varSigma,\,\mathsf{T},\,\Upsilon,\,\Phi,\,\varPhi,\,\mathsf{X},\,\Psi,\,\Omega
                                                        578 \seqoflet{Fun}{mthfun}
             \cmdmthfun ... to do!
                                                                • \cmdmthfun{cmdName};
                                                                      \cmdNameFun[sub][sub][ext] = cmdName_{sub}^{sub}ext
                                                                 • \cmdmthfun{cmdName}[NewName];
                                                                      \colon = NewName_{sub}^{sub} = NewName_{sub}^{sub} = xt
                                                         579 \newcommandx{\cmdmthfun}[2][2=]
                                                                     {\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
                                                         581 \newcommandx{\cmdmthargfun}[2][2=]
                                                                      {\usrmth{#1}{Fun}{argfun}[#2]}
\cmdmthoargfun ... to do!
                                                                • \cmdmthoargfun{cmdName};
                                                                      \colon = \
                                                                 • \cmdmthoargfun{cmdFun} [NewName];
                                                                      \verb|\cmdFunFun[sub][sub][arg]| = \verb|\NewName|_{sub}^{sub}(arg)
                                                         583 \newcommandx{\cmdmthoargfun}[2][2=]
                                                        584 {\usrmth{#1}{Fun}{oargfun}[#2]}
   \cmdmthparfun ... to do!
                                                                • \cmdmthparfun{cmdName};
                                                                      \verb|\cmdNameFun[sub][sub][ext1]{par}[ext2] = \verb|\cmdName$| sub| ext1[par]ext2|
                                                                 • \cmdmthparfun{cmdName}[NewName];
                                                                      \cmdNameFun[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                                                         585 \newcommandx{\cmdmthparfun}[2][2=]
                                                                    {\usrmth{#1}{Fun}{parfun}[#2]}
```

```
\cmdmthoparfun ... to do!
                                                                 • \cmdmthoparfun{cmdName};
                                                                        \cmdNameFun[sub][sub][par] = cmdName_{sub}^{sub}[par]
                                                                  • \cmdmthoparfun{cmdFun} [NewName];
                                                                        \verb|\cmdFunFun[sub][sub][par]| = \verb|\NewName|_{sub}^{sub}[par]|
                                                          587 \newcommandx{\cmdmthoparfun}[2][2=]
                                                                        {\usrmth{#1}{Fun}{oparfun}[#2]}
      \mthsym, ... to do!
                                                                 • \mthsym{Name}[sub][sup][Ext] = Name_{sub}^{sup}Ext
                                                                 \bullet \  \, \texttt{\bar{Name}[sub][sup][Ext1]\{Arg\}[Ext2]} = \mathtt{Name}^{sup}_{sub}Ext1(Arg)Ext2
                                                                  • \mathbb{E}_{sub}[Sub][Sup][Ext1][Par][Ext2] = \mathbb{E}_{sub}[Ext1][Par][Ext2]
                                                         589 %% Style for Symbols
                                                         590 \mbox{\mbox{\mbox{$\sim$}}{\mathbf{\mbox{\mbox{$\sim$}}}}{\mathbf{\mbox{\mbox{$\sim$}}}}{\mathbf{\mbox{\mbox{$\sim$}}}}{\mathbf{\mbox{$\sim$}}}{\mathbf{\mbox{$\sim$}}}
             \aggreen \
                                                      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, \varepsilon, \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, 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
                                                         591 \seqoflet{Sym}{mthsym}
             \cmdmthsym ... to do!
                                                                 \cmdmthsym{cmdName};
                                                                        \verb|\cmdNameSym[sub][sub][ext]| = \verb|\cmdName|_{sub}^{sub} ext|
                                                                  • \cmdmthsym{cmdName}[NewName];
                                                                        \verb|\cmdNameSym[sub][sub][ext]| = \verb|\NewName|_{sub}^{sub} ext|
                                                          592 \newcommandx{\cmdmthsym}[2][2=]
                                                         593 {\usrmth{#1}{Sym}{sym}[#2]}
   \cmdmthargsym ... to do!
                                                                  \cmdmthargsym{cmdName};
                                                                        \verb|\cmdNameSym[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1(arg)ext2
                                                                  • \cmdmthargsym{cmdName}[NewName];
                                                                        \cmdNameSym[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                                                         594 \newcommandx{\cmdmthargsym}[2][2=]
                                                                     {\usrmth{#1}{Sym}{argsym}[#2]}
\cmdmthoargsym ... to do!
                                                                  \cmdmthoargsym{cmdName};
                                                                        \colon cond name Sym [sub] [sub] [arg] = cmd Name <math>_{sub}^{sub} (arg)
                                                                  • \cmdmthoargsym{cmdSym}[NewName];
                                                                        \colon 
                                                          596 \newcommandx{\cmdmthoargsym}[2][2=]
                                                                     {\usrmth{#1}{Sym}{oargsym}[#2]}
   \cmdmthparsym ... to do!
                                                                 \cmdmthparsym{cmdName};
                                                                         \c MameSym[sub][sub][ext1]{par}[ext2] = cmdName_{sub}^{sub}ext1[par]ext2
                                                                  • \cmdmthparsym{cmdName}[NewName];
                                                                        \verb|\cmdNameSym[sub][sub][ext1]{par}[ext2] = \verb|\NewName|^{sub}_{sub}ext1[par]ext2|
                                                          598 \newcommandx{\cmdmthparsym}[2][2=]
                                                                           {\usrmth{#1}{Sym}{parsym}[#2]}
\cmdmthoparsym ... to do!
                                                                  \cmdmthoparsym{cmdName};
                                                                        \cmdNameSym[sub][sub][par] = cmdName_{sub}^{sub}[par]
```

```
\cmdmthoparsym{cmdSym}[NewName];
                           \verb|\cmdSymSym[sub][sub][par]| = \verb|\NewName|_{sub}^{sub}[par]|
                      600 \newcommandx{\cmdmthoparsym}[2][2=]
                           {\usrmth{#1}{Sym}{oparsym}[#2]}
  \mbox{\em 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
                         • \mathbb{E}[Sub][Sub][Sub][Ext1][Par][Ext2] = Name_{sub}^{sup}Ext1[Par]Ext2
                      602 %% Style for Elements
                      603 \mbox{ \cmdmthall{elm}\newcommand{\mbox{\mbox{mthstyelm}}{\mbox{\mbox{\cmdmthall}}}}
     \all lm, ... 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, \varepsilon, \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,\,E,\,Z,\,H,\,\Theta,\,\Theta,\,I,\,K,\,K,\,\Lambda,\,M,\,N,\,\Xi,\,O,\,\Pi,\,\Pi,\,P,\,P,\,\Sigma,\,\Sigma,\,T,\,\Upsilon,\,\Phi,\,\Phi,\,X,\,\Psi,\,\Omega
                      604 \seqoflet{Elm}{mthelm}
     \cmdmthelm ... to do!
                         \cmdmthelm{cmdName};
                           \verb|\cmdNameElm[sub][sub][ext]| = cmdName_{sub}^{sub}ext
                         • \cmdmthelm{cmdName}[NewName];
                           \verb|\cmdNameElm[sub][sub][ext]| = NewName_{sub}^{sub}ext
                      605 \newcommandx{\cmdmthelm}[2][2=]
                      606 {\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];
                           \verb|\cmdNameElm[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                      607 \newcommandx{\cmdmthargelm}[2][2=]
                           {\usrmth{#1}{Elm}{argelm}[#2]}
\cmdmthoargelm ... to do!
                         • \cmdmthoargelm{cmdName};
                           \colon = cmdNameElm[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                         • \cmdmthoargelm{cmdElm}[NewName];
                            \cmbox{cmdElmElm[sub] [sub] [arg]} = NewName_{sub}^{sub}(arg)
                      609 \newcommandx{\cmdmthoargelm}[2][2=]
                           {\usrmth{#1}{Elm}{oargelm}[#2]}
 \cmdmthparelm ... to do!
                         • \cmdmthparelm{cmdName};
                           \label{local_cond_norm_sub} $$ \operatorname{Lim}[\operatorname{sub}][\operatorname{sub}][\operatorname{ext1}][\operatorname{par}] = cmdName_{\operatorname{sub}}^{\operatorname{sub}} ext1[par]ext2 $$
                         • \cmdmthparelm{cmdName}[NewName];
                           \verb|\cmdNameElm[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2|
                      611 \newcommandx{\cmdmthparelm}[2][2=]
                      612 {\usrmth{#1}{Elm}{parelm}[#2]}
\cmdmthoparelm ... to do!
                         • \cmdmthoparelm{cmdName};
                           \verb|\cmdNameElm[sub][sub][par]| = cmdName_{sub}^{sub}[par]|
                         • \cmdmthoparelm{cmdElm}[NewName];
                           \colonerge{cmdElmElm[sub][sub][par]} = NewName_{sub}^{sub}[par]
                      613 \newcommandx{\cmdmthoparelm}[2][2=]
                      614 {\usrmth{#1}{Elm}{oparelm}[#2]}
```

```
\cmdmthsymelm ... to do!
                                              \cmdmthsymelm{cmdName};
                                                  \colone{cmdNameSym[sub][sub][ext] = cmdName}_{sub}^{sub}ext}
                                                  {\tt \cmdNameElm[sub][sub][ext]} = cmdName^{sub}_{sub}ext
                                              • \cmdmthsymelm{cmdName}[NewName];
                                                  \verb|\cmdNameSym[sub][sub][ext]| = \verb|\NewName|_{sub}^{sub} ext|
                                                 \colon dNameElm[sub][sub][ext] = NewName^{sub}_{sub}ext
                                        616 \newcommandx{\cmdmthsymelm}[2][2=]
                                                   {\cmdmthsym{#1}[#2]%
                                        618
                                                   \cmdmthelm{#1}[#2]}
 \cmdmthargsymelm ... to do!
                                             • \cmdmthargsymelm{cmdName};
                                                  \verb|\cmdNameSym[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1(arg)ext2|
                                                  \verb|\cmdNameElm[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                                              • \cmdmthargsymelm{cmdName}[NewName];
                                                  \verb|\cmdNameSym[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1(arg)ext2
                                                  \verb|\cmdNameElm[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                                         619 \newcommandx{\cmdmthargsymelm}[2][2=]
                                                   {\cmdmthargsym{#1}[#2]%
                                                   \cmdmthargelm{#1}[#2]}
                                        621
\cmdmthoargsymelm ... to do!
                                              \cmdmthoargsymelm{cmdName};
                                                  \colon dNameElm[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                                              • \cmdmthoargsymelm{cmdName}[NewName];
                                                  \verb|\cmdNameSym[sub][sub][arg]| = \verb|\NewNames|^{sub}(arg)
                                                  \verb|\cmdNameElm[sub][sub][arg]| = NewName_{sub}^{sub}(arg)
                                        622 \mbox{ } [2] [2=]
                                                  {\cmdmthoargsym{#1}[#2]%
                                                   \cmdmthoargelm{#1}[#2]}
                                        624
 \cmdmthparsymelm ... to do!
                                              \cmdmthparsymelm{cmdName};
                                                  \verb|\cmdNameSym[sub][sub][ext1]{par}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1[par]ext2|
                                                  \verb|\cmdNameElm[sub][sub][ext1]{par}[ext2] = cmdName_{sub}^{sub}ext1[par]ext2|
                                              • \cmdmthparsymelm{cmdName}[NewName];
                                                  \verb|\cmdNameSym[sub][sub][ext1]{par}[ext2] = \verb|\cmdNames|^{sub}_{sub}ext1[par]ext2|
                                                  \colone{lm} [sub] [sub] [ext1] [par] [ext2] = NewName_{sub}^{sub} ext1[par] ext2
                                         625 \newcommandx{\cmdmthparsymelm}[2][2=]
                                                   {\cmdmthparsym{#1}[#2]%
                                        627
                                                   \cmdmthparelm{#1}[#2]}
                                     ... to do!
\cmdmthoparsymelm
                                              \cmdmthoparsymelm{cmdName};
                                                  \verb|\cmdNameSym[sub][sub][par]| = \verb|\cmdName|^{sub}_{sub}[par]|
                                                  \colone{locality} \colone{lo
                                              • \cmdmthoparsymelm{cmdName}[NewName];
                                                  \verb|\cmdNameSym[sub][sub][par]| = \verb|\NewName|_{sub}^{sub}[par]|
                                                  628 \newcommandx{\cmdmthoparsymelm}[2][2=]
                                                   {\cmdmthoparsym{#1}[#2]%
                                                   \cmdmthoparelm{#1}[#2]}
                                        \mthluop, ... to do!
```

```
• \mthluop{\oplus}[sub][sup][Ext] = \bigoplus_{sub}^{sup} Ext
                                                  • \mthlbop{\oplus}[sub][sup][Ext] = \bigoplus_{sub}^{sup} Ext
                                             632 %% Style for \LaTex Operators
                                             633 \t {luop}\newcommand{\mthstyluop}[1]{\textstyle\mathop{#1}}
                                            634 \cmdmth{lbop}\newcommand{\mthstylbop}[1]{\textstyle\mathbin{#1}}
\cmdmthluop, ... to do!
                                                  • \cmdmthluop{cmdName};
                                                      \verb|\cmdNameUOp[sub][sub][ext]| = cmdName_{sub}^{sub} ext|
                                                  • \cmdmthluop{cmdName}[\oplus];
                                                      \verb|\cmdNameUOp[sub][sub][ext]| = \oplus_{sub}^{sub} ext
                                                  \cmdmthlbop{cmdName};
                                                       \cmdNameBOp[sub][sub][ext] = cmdName_{sub}^{sub}ext
                                                  • \cmdmthlbop{cmdName}[\oplus];
                                                      \colon = 0 [sub] [sub] [ext] = \oplus_{sub}^{sub} ext
                                             635 \newcommandx{\cmdmthluop}[2][2=]
                                                     {\usrmth{#1}{UOp}{luop}[#2]}
                                             637 \newcommandx{\cmdmthlbop}[2][2=]
                                                     {\usrmth{#1}{BOp}{lbop}[#2]}
                   \mthlrel ... to do!
                                                  • \mthlrel{\preceq}[sub][sup][Ext] = \leq_{sub}^{sup} Ext
                                            639 %% Style for \LaTex Relations
                                            640 \cmdmth{lrel}\newcommand{\mthstylrel}{\mathrel}
            \cmdmthlrel \dots to \operatorname{do}!
                                                  • \cmdmthlrel{cmdName};
                                                       \cmdNameRel[sub][sub][ext] = cmdName_{sub}^{sub} ext
                                                  • \cmdmthlrel{cmdName}[\preceq];
                                                       \verb|\cmdNameRel[sub][sub][ext]| = \preceq_{sub}^{sub} ext
                                             641 \newcommandx{\cmdmthlrel}[2][2=]
                                            642 {\usrmth{#1}{Rel}{lrel}[#2]}
                                            \mthsnt, ... to do!
                                                  • \mathbb{N} [sub] [sup] [Ext] = \mathbb{N} = \mathbb{N}
                                                  \bullet \  \, \texttt{\bar{Name}[sub][sup][Ext1]\{Arg\}[Ext2]} = \mathsf{Name}^{sup}_{sub}Ext1(Arg)Ext2
                                                  • \mathbb{E}_{sub}[Sub][Sub][Ext1][Par][Ext2] = \mathbb{E}_{sub}[Ext1][Par][Ext2]
                                            644 %% Style for Sentences
                                            645 \mbox{ \mbox{$\sim$}} \mbox{\mbox{$\sim$}} \mbox
              \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, \varepsilon, \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, E, Z, H, \Theta, \Theta, I, K, K, \Lambda, M, N, \Xi, O, \Pi, \Pi, P, P, \Sigma, \Sigma, T, \Upsilon, \Phi, \Phi, X, \Psi, \Omega
                                            646 \seqoflet{Snt}{mthsnt}
              \cmdmthsnt ... to do!
                                                  • \cmdmthsnt{cmdName};
                                                      • \cmdmthsnt{cmdName}[NewName];
                                                      \colon = NewName_{sub}^{sub}[sub][ext] = NewName_{sub}^{sub}ext
                                            647 \newcommandx{\cmdmthsnt}[2][2=]
                                            648 {\usrmth{#1}{Snt}{snt}[#2]}
       \c cmdmthargsnt ... to do!
```

```
\cmdmthargsnt{cmdName};
                          \verb|\cmdNameSnt[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1(arg)ext2|
                        \cmdmthargsnt{cmdName}[NewName];
                          \verb|\cmdNameSnt[sub][sub][ext1]{arg}[ext2] = \verb|\NewName|^{sub}_{sub}ext1(arg)ext2|
                     649 \newcommandx{\cmdmthargsnt}[2][2=]
                          {\usrmth{#1}{Snt}{argsnt}[#2]}
\cmdmthoargsnt ... to do!
                        \cmdmthoargsnt{cmdName};
                          \verb|\cmdNameSnt[sub][sub][arg]| = \verb|\cmdNames|^{sub}(arg)
                        • \cmdmthoargsnt{cmdName}[NewName];
                          \colon = NewNameSnt[sub][sub][arg] = NewName_{sub}^{sub}(arg)
                     651 \newcommandx{\cmdmthoargsnt}[2][2=]
                          {\usrmth{#1}{Snt}{oargsnt}[#2]}
 \cmdmthparsnt ... to do!
                        • \cmdmthparsnt{cmdName}:
                          \verb|\cmdNameSnt[sub][sub][ext1]{par}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1[par]ext2|
                        • \cmdmthparsnt{cmdName}[NewName];
                          \verb|\cmdNameSnt[sub][sub][ext1]{par}[ext2] = \verb|\cmdNames|^{sub}ext1[par]ext2|
                     653 \newcommandx{\cmdmthparsnt}[2][2=]
                         {\usrmth{#1}{Snt}{parsnt}[#2]}
\cmdmthoparsnt ... to do!
                        \cmdmthoparsnt{cmdName};
                          \verb|\cmdNameSnt[sub][sub][par]| = \verb|\cmdName|^{sub}_{sub}[par]|
                        • \cmdmthoparsnt{cmdName}[NewName];
                          \colon = NewNameSub[sub][sub][par] = NewNameSub[par]
                     655 \newcommandx{\cmdmthoparsnt}[2][2=]
                         {\usrmth{#1}{Snt}{oparsnt}[#2]}
  \mthfrm, ... to do!
                        • \mthfrm{Name} [sub] [sup] [Ext] = Name_{sub}^{sup}Ext
                        \bullet \  \, \texttt{\bar{Name}[Sub][Sup][Ext1]\{Arg\}[Ext2]} = Name_{sub}^{sup}Ext1(Arg)Ext2
                        • \mthparfrm{Name} [sub] [sup] [Ext1] {Par} [Ext2] = Name_{sub}^{sup} Ext1[Par]Ext2
                     657 %% Style for Formulae
                     658 \mbox{\cmmand{\bf https:/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
                    \alpha, \beta, \gamma, \delta, \epsilon, \varepsilon, \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,\ E,\ Z,\ H,\ \Theta,\ \Theta,\ I,\ K,\ K,\ \Lambda,\ M,\ N,\ \Xi,\ O,\ \Pi,\ \Pi,\ P,\ P,\ \Sigma,\ \Sigma,\ T,\ \varUpsilon,\ \varPhi,\ \varPhi,\ X,\ \Psi,\ \Omega
                     659 \seqoflet{Frm}{mthfrm}
     \cmdmthfrm ... to do!
                        \cmdmthfrm{cmdName};
                          \cmdNameFrm[sub][sub][ext] = cmdName_{sub}^{sub}ext
                        • \cmdmthfrm{cmdName} [NewName];
                          \cmdNameFrm[sub][sub][ext] = NewName_{sub}^{sub}ext
                     660 \newcommandx{\cmdmthfrm}[2][2=]
                         {\usrmth{#1}{Frm}{frm}[#2]}
 \cmdmthargfrm ... to do!
                        • \cmdmthargfrm{cmdName};
                          \verb|\cmdNameFrm[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                        • \cmdmthargfrm{cmdName}[NewName];
                          \cmdNameFrm[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
```

```
662 \newcommandx{\cmdmthargfrm}[2][2=]
                        {\usrmth{#1}{Frm}{argfrm}[#2]}
\cmdmthoargfrm ... to do!
                       • \cmdmthoargfrm{cmdName};
                         \colon dNameFrm[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                       • \cmdmthoargfrm{cmdName}[NewName];
                         \c MameFrm[sub][sub][arg] = NewName_{sub}^{sub}(arg)
                    664 \newcommandx{\cmdmthoargfrm}[2][2=]
                    665 {\usrmth{#1}{Frm}{oargfrm}[#2]}
 \cmdmthparfrm ... to do!
                       • \cmdmthparfrm{cmdName};
                         \verb|\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
                    666 \newcommandx{\cmdmthparfrm}[2][2=]
                    667 {\usrmth{#1}{Frm}{parfrm}[#2]}
\cmdmthoparfrm ... to do!
                       • \cmdmthoparfrm{cmdName};
                         \colon dNameFrm[sub][sub][par] = cmdName_{sub}^{sub}[par]
                       • \cmdmthoparfrm{cmdName}[NewName];
                         \cmdNameFrm[sub][sub][par] = NewName_{sub}^{sub}[par]
                    668 \newcommandx{\cmdmthoparfrm}[2][2=]
                         {\usrmth{#1}{Frm}{oparfrm}[#2]}
                    \mthmat, ... to do!
                       • \mathbb{E}_{sub}[sub][sup][Ext] = \mathbf{Name}_{sub}^{sup}Ext
                       \bullet \  \, \texttt{\bar{Name}[sub][sub][Ext1][Arg][Ext2]} = \mathbf{Name}^{sup}_{sub}Ext1(Arg)Ext2
                       • \mathbb{E}_{sub}[Sub][Sup][Ext1][Par][Ext2] = Name_{sub}^{sup}Ext1[Par]Ext2
                    671 %% Style for Matrices
                    672 \cmdmthall{mat}\newcommand{\mthstymat}[1]{\boldsymbol{\mathsf{#1}}}
    \aMat, ... 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,\,\varepsilon,\,\zeta,\,\eta,\,\theta,\,\vartheta,\,\iota,\,\kappa,\,\varkappa,\,\lambda,\,\mu,\,\nu,\,\xi,\,\mathbf{o},\,\pi,\,\varpi,\,\rho,\,\varrho,\,\sigma,\,\varsigma,\,\tau,\,\upsilon,\,\phi,\,\varphi,\,\chi,\,\psi,\,\omega
                   A, B, \Gamma, \Delta, E, E, Z, H, \Theta, \Theta, I, K, K, \Lambda, M, N, \Xi, O, \Pi, P, P, \Sigma, \Sigma, T, \Upsilon, \Phi, \Phi, X, \Psi, \Omega
                    673 \seqoflet{Mat}{mthmat}
    \cmdmthmat ... to do!
                       • \cmdmthmat{cmdName};
                         \c Mame Mat[sub][sub][ext] = cmd Name _{sub}^{sub} ext
                       • \cmdmthmat{cmdName} [NewName];
                         \verb|\cmdNameMat[sub][sub][ext]| = \verb|NewName|^{sub}_{sub} ext|
                    674 \newcommandx{\cmdmthmat}[2][2=]
                    675 {\usrmth{#1}{Mat}{mat}[#2]}
 \cmdmthargmat ... to do!
                       \cmdmthargmat{cmdName};
                         \verb|\cmdNameMat[sub][sub][ext1]{arg}[ext2] = \mathbf{cmdName}_{sub}^{sub} ext1(arg) ext2
                       • \cmdmthargmat{cmdName}[NewName];
                         \cmdNameMat[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                    676 \newcommandx{\cmdmthargmat}[2][2=]
                    677 {\usrmth{#1}{Mat}{argmat}[#2]}
```

```
\cmdmthoargmat ... to do!
                                                              • \cmdmthoargmat{cmdName};
                                                                    \cmdNameMat[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                                                              • \cmdmthoargmat{cmdName}[NewName];
                                                                   \verb|\cmdNameMat[sub][sub][arg]| = \verb|NewName||_{sub}^{sub}(arg)
                                                      678 \newcommandx{\cmdmthoargmat}[2][2=]
                                                                   {\usrmth{#1}{Mat}{oargmat}[#2]}
   \cmdmthparmat ... to do!
                                                              • \cmdmthparmat{cmdName};
                                                                   \verb|\cmdNameMat[sub][sub][ext1]{par}[ext2] = \mathbf{cmdName}_{sub}^{sub}ext1[par]ext2
                                                              • \cmdmthparmat{cmdName} [NewName];
                                                                   \verb|\cmdNameMat[sub][sub][ext1]{par}[ext2] = \verb|NewName|^{sub}_{sub}ext1[par]ext2|
                                                      680 \newcommandx{\cmdmthparmat}[2][2=]
                                                                   {\usrmth{#1}{Mat}{parmat}[#2]}
\cmdmthoparmat ... to do!
                                                              • \cmdmthoparmat{cmdName};
                                                                   \verb|\cmdNameMat[sub][sub][par]| = \mathbf{cmdName}_{sub}^{sub}[par]|
                                                              • \cmdmthoparmat{cmdName}[NewName];
                                                                    \colone{line} 
                                                      682 \newcommandx{\cmdmthoparmat}[2][2=]
                                                                 {\usrmth{#1}{Mat}{oparmat}[#2]}
      \mthvec, ... to do!
                                                              ullet \mthvec{Name}[sub][sup][Ext] = Name_{sub}^{sup}Ext
                                                              \bullet \  \, \texttt{\bar{Name}[Sub][Sup][Ext1]\{Arg\}[Ext2]} = Name_{sub}^{sup}Ext1(Arg)Ext2
                                                              \bullet \  \, \texttt{\bar{Name}[Sub][Sup][Ext1]{Par}[Ext2]} = Name_{sub}^{sup}Ext1[Par]Ext2
                                                      684 %% Style for Vectors
                                                     685 \label{lem:command} $$685 \cmdmthall{vec}\newcommand{\mathbf \{\mthstyvec}[1]{\cdsymbol{\mathbf {\#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
                                                   \alpha,\,\beta,\,\gamma,\,\delta,\,\epsilon,\,\varepsilon,\,\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,\,E,\,Z,\,H,\,\Theta,\,\Theta,\,I,\,K,\,K,\,\Lambda,\,M,\,N,\,\Xi,\,O,\,\Pi,\,\Pi,\,P,\,P,\,\Sigma,\,\Sigma,\,T,\,\Upsilon,\,\Phi,\Phi,\,X,\,\Psi,\,\Omega
                                                     686 \seqoflet{Vec}{mthvec}
            \cmdmthvec ... to do!
                                                              \cmdmthvec{cmdName};
                                                                   \verb|\cmdNameVec[sub][sub][ext]| = cmdName^{sub}_{sub}ext|
                                                              • \cmdmthvec{cmdName} [NewName];
                                                                    \colon = NewName^{sub}_{sub} = NewName^{sub}_{sub} = t
                                                      687 \newcommandx{\cmdmthvec}[2][2=]
                                                      688 {\usrmth{#1}{Vec}{vec}[#2]}
   \cmdmthargvec ... to do!
                                                              \cmdmthargvec{cmdName};
                                                                    \verb|\cmdNameVec[sub][sub][ext1]{arg}[ext2] = cmdName^{sub}_{sub}ext1(arg)ext2
                                                              • \cmdmthargvec{cmdName}[NewName];
                                                                   \verb|\cmdNameVec[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                                                      689 \newcommandx{\cmdmthargvec}[2][2=]
                                                                    {\usrmth{#1}{Vec}{argvec}[#2]}
\cmdmthoargvec ... to do!
                                                              • \cmdmthoargvec{cmdName};
                                                                    \colon = cmdName \col
```

```
\verb|\cmdNameVec[sub][sub][arg]| = NewName_{sub}^{sub}(arg)
               691 \newcommandx{\cmdmthoargvec}[2][2=]
                  {\usrmth{#1}{Vec}{oargvec}[#2]}
 \cmdmthparvec ... to do!
                 \cmdmthparvec{cmdName};
                  \verb|\cmdNameVec[sub][sub][ext1]{par}[ext2] = cmdName^{sub}_{sub}ext1[par]ext2
                 • \cmdmthparvec{cmdName} [NewName];
                  \verb|\cmdNameVec[sub][sub][ext1]{par}[ext2] = NewName^{sub}_{sub}ext1[par]ext2
               693 \newcommandx{\cmdmthparvec}[2][2=]
                  {\usrmth{#1}{Vec}{parvec}[#2]}
\cmdmthoparvec ... to do!
                 \cmdmthoparvec{cmdName};
                  \verb|\cmdNameVec[sub][sub][par]| = cmdName^{sub}_{sub}[par]|
                 • \cmdmthoparvec{cmdName}[NewName];
                  \cmdNameVec[sub][sub][par] = NewName_{sub}^{sub}[par]
               695 \newcommandx{\cmdmthoparvec}[2][2=]
                  {\usrmth{#1}{Vec}{oparvec}[#2]}
               702 \iftext@
               \adhoc
                 • \adhoc = ad\ hoc
               704 \cmdtxtabr{adhoc}[ad hoc]
    \afortiori
                 • \arrange a fortiori
               705 \cmdtxtabr{afortiori}[a fortiori]
     \apriori
                 • \apriori = a priori
               706 \cmdtxtabr{apriori}[a priori]
                 • \arrowvertaposteriori = a\ posteriori
  \aposteriori
               707 \cmdtxtabr{aposteriori}[a posteriori]
          \cf
                 • \backslash cf = cf.
               708 \cmdtxtabr{cf}[cf.]
      \dedicto
                 • \del{dedicto} = de \ dicto
               709 \cmdtxtabr{dedicto}[de dicto]
      \defacto
                 • \del{defacto} = de \ facto
               710 \cmdtxtabr{defacto}[de facto]
        \dere
                 • \forall dere = de re
               711 \cmdtxtabr{dere}[de re]
\divideetimpera
                 • \divideetimpera = divide et impera
               712 \cmdtxtabr{divideetimpera}[divide et impera]
          \eg
                 • \backslash eg = e.g.
               713 \cmdtxtabr{eg}[e.g.]
```

\cmdmthoargvec{cmdName} [NewName];

```
\ergo
                       ◆ \ergo = ergo
                    714 \cmdtxtabr{ergo}
                       • \errata = errata
         \errata
                    715 \cmdtxtabr{errata}
                       • \erratum = erratum
        \erratum
                    716 \cmdtxtabr{erratum}
           \etal
                      • \ensuremath{\backslash} \mathtt{etal} = et \ al.
                    717 \cmdtxtabr{etal}[et al.]
            \etc
                      • \backslashetc = etc.
                    718 \cmdtxtabr{etc}[etc.]
                      • \forallie = i.e.
              \ie
                    719 \cmdtxtabr{ie}[i.e.]
                       \bullet \mutatismutandis = mutatis\ mutandis
\mutatismutandis
                    720 \cmdtxtabr{mutatismutandis}[mutatis mutandis]
      \percontra
                      • \percontra = per contra
                    721 \cmdtxtabr{percontra}[per contra]
     \primafacie
                       ullet \primafacie = prima\ facie
                    722 \cmdtxtabr{primafacie}[prima facie]
      \viceversa
                       • \viceversa = vice versa
                    723 \cmdtxtabr{viceversa}[vice versa]
                      • \vert vs = vs.
              \vs
                    724 \cmdtxtabr{vs}[vs.]
            \viz
                      • \viz = viz.
                    725 \cmdtxtabr{viz}[viz.]
                    \Afortiori
                      • \Afortiori = A fortiori
                    727 \cmdtxtabr{Afortiori}[A fortiori]
        \Apriori
                       • \Apriori = A \ priori
                    728 \cmdtxtabr{Apriori}[A priori]
    \Aposteriori
                       • \Aposteriori = A posteriori
                    729 \cmdtxtabr{Aposteriori}[A posteriori]
                       • \Dedicto = De \ dicto
        \Dedicto
                    730 \cmdtxtabr{Dedicto}[De dicto]
        \Defacto
                      \bullet \ \ \texttt{\ } \texttt{Defacto} = \textit{De facto}
                    731 \cmdtxtabr{Defacto} [De facto]
           \Dere
                       • \Dere = De re
                    732 \cmdtxtabr{Dere}[De re]
\Divideetimpera
                       • \Divideetimpera = Divide \ et \ impera
```

733 \cmdtxtabr{Divideetimpera}[Divide et impera]

```
\Eg
                • \Eg = E.g.
              734 \cmdtxtabr{Eg}[E.g.]
                • \Errata = Errata
      \Errata
              735 \cmdtxtabr{Errata}
      \Erratum
                • \Erratum = Erratum
              736 \cmdtxtabr{Erratum}
                • \Mutatismutandis = Mutatis mutandis
\Mutatismutandis
              737 \cmdtxtabr{Mutatismutandis}[Mutatis mutandis]
    \Percontra
                • \ensuremath{\backslash} \mathtt{Percontra} = Per\ contra
              738 \cmdtxtabr{Percontra}[Per contra]
   \Primafacie
                \bullet \ \ \verb|\Primafacie| = Prima\ facie
              739 \cmdtxtabr{Primafacie}[Prima facie]
    \Viceversa
                • \forall Viceversa = Vice versa
              740 \cmdtxtabr{Viceversa}[Vice versa]
              • \n naif = naif
        \n
              744 \mbox{cmdtxtabr{naif}[na\"{i}f]}
       \naive
                • \naive = naive
              745 \cmdtxtabr{naive}[na\"{i}ve]
        \role
                • \role = r\hat{o}le
              746 \cmdtxtabr{role}[r\^{o}le]
              \Role
                • \label{eq:Role} \operatorname{Role} = R \hat{o} l e
              748 \cmdtxtabr{Role}[R\^{o}le]
              \aka
                750 \cmdtxtabr{aka}[a.k.a.]
       \contd
                • \contd = contd.
              751 \cmdtxtabr{contd}[contd.]
         \iff
                • \iff = iff
              752 \cmdtxtabr{iff}
                • \ \ \ \ stx = s.t.
         \stx
              753 \cmdtxtabr{stx}[s.t.]
        \resp
                • \resp = resp.
              754 \cmdtxtabr{resp}[resp.]
```

```
\wrt
            755 \cmdtxtabr{wrt}[w.r.t.]
     \wlogx
            • \wdots w.l.o.g.
           756 \cmdtxtabr{wlogx}[w.l.o.g.]
           \Contd
            • \c Contd = Contd.
           758 \cmdtxtabr{Contd}[Contd.]
            • \Wlogx = W.l.o.q.
     \Wlogx
           759 \cmdtxtabr{Wlogx}[W.l.o.g.]
           765 \ifmath@
           \defeq, \seteq ...
           767 \DeclareRobustCommand{\defeq}
           768 {\mthlbop{\triangleq}}
           769 \DeclareRobustCommand{\seteq}
           770 {\mthlbop{:=}}
           \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 \verb|\DeclareRobustCommand{\notcoimplies}|
           783 {\mthlrel{\not\!\Leftrightarrow}}
           \cmodels, ... ...
           785 \DeclareRobustCommand{\cmodels}
           786 {\mthlrel{\models}}
           787 \DeclareRobustCommand{\notcmodels}
           788 {\mthlrel{\not\models}}
 \landcequiv, ... ...
           789 \DeclareRobustCommand{\cequiv}
           790 {\mthlrel{\equiv}}
           791 \DeclareRobustCommand{\notcequiv}
           792 {\mthlrel{\not\equiv}}
```

```
\dual, \adj, ... ...
                                       794 \DeclareRobustCommand{\dual}[1]
                                                {\mth{\overline{#1}}}
                                       796 \DeclareRobustCommand{\adj}[1]
                                                {\mth{\mathring{#1}}}
                                        798 \DeclareRobustCommand{\der}[1]
                                                 {\mth{\widehat{#1}}}
                                       800 \DeclareRobustCommand{\trn}[1]
                                       801 \quad \{\mathbf{mth}\{\mathbf{41}\}\}
                         \vec ...
                                       802 \DeclareRobustCommand{\vec}[1]
                                        803 {\mth{\mathaccent"017E{#1}}}
                                       \enumeration, ... ...
                                       805 \\ \end{enumeration}_{\hf}_{\hf}_{\hf}
                                       806 \operatorname{denumerationx}{\mathbf{}}{;}{}{}
     \sequence, ... ...
                                       807 \varcmd{sequence}{\mth}{\left[}{,}{\right]}{}
                                       808 \\ \varcmd{sequencel}{\mth}{\left[}{,}{\right.}{}
                                       809 \varcmd{sequencer}{\mth}{\left.}{,}{\right]}{}
                                       810 \varcmd{sequencex}{\mth}{\left[}{;}{\right]}{}
                                       811 \varcmd{sequencexl}{\mth}{\left[}{;}{\right.}{}
                                       812 \end{sequencexr} {\bf \{} \end{sequencexr}
           \tuple, ... ...
                                       813 \varcmd{tuple}{\mth}{\left\langle}{,}{\right\rangle}{}
                                       814 \varcmd{tuplel}{\mth}{\left\langle}{,}{\right.}{}
                                       815 \varcmd{tupler}{\mth}{\left.}{,}{\right\rangle}{}
                                       816 \varcmd{tuplex}{\mth}{\left\langle}{;}{\right\rangle}{}
                                       817 \varcmd{tuplexl}{\mth}{\left\langle}{;}{\right.}{}
                                       818 \varcmd{tuplexr}{\mth}{\left.}{;}{\right\rangle}{}
                                       \set, ... ...
                                       820 \DeclareRobustCommand{\set}[2]
                                                {\argmid{\left\lbrace}{\argsep{#1}{\,\middle\vert\,}{#2}}{\right\rbrace}}
                                       822 \DeclareRobustCommand{\set1}[1]
                                       823 \quad {\argmid{\left\{ \left( \frac{\#1}{\,\right\} }\right\} }}
                                       824 \DeclareRobustCommand{\setr}[1]
                                                {\argmid{\left.}{#1}{\right\rbrace}}
                        \card ...
                                       826 \DeclareRobustCommand{\card}[1]
                                               {\mth{\argmid{\lvert}{#1}{\rvert}}}
                         ... woa/
                                       828 \DeclareRobustCommand{\pow}[1]
                                                {\bf 2^{\hat 1}}{\cdot}}
                      \denot ...
                                       830 \DeclareRobustCommand{\denot}[1]
                                                {\mth{\argmid{\llbracket}{#1}{\rrbracket}}}
```

```
\emptyrel ...
             833 \DeclareRobustCommand{\emptyrel}
             834 {\mth{\varnothing}}
             \dom, \cod, ... ...
             836 \DeclareRobustCommand{\dom}
             837 {\mthargfun{dom}}
             838 \DeclareRobustCommand{\cod}
             839 {\mthargfun{cod}}
             840 \DeclareRobustCommand{\rng}
             841 {\mthargfun{rng}}
             842 \DeclareRobustCommand{\img}
             843 \quad \{\mathbf{mthargfun\{img}\}\}\
             \prj ...
             845 \DeclareRobustCommand{\prj}
             846 {\mthargfun{prj}}
        \rst ...
             847 \DeclareRobustCommand{\rst}
             848 {\mthlbop{\upharpoonright}}
        \cmp ...
             849 \DeclareRobustCommand{\cmp}
             850 {\mthlbop{\circ}}
             \emptyfun ...
             852 \verb|\DeclareRobustCommand{\emptyfun}|
             853 {\mth{\varnothing}}
             \pto, \pmapsto
             855 \DeclareMathOperator{\pto}
             856 {\ensuremath{\rightharpoonup}}
             857 \DeclareMathOperator{\pmapsto}
             858 \qquad {\tt \{\notemath{\nathrel{\naisebox\{0.5ex\}{\notemathsize$\{\llcorner\}$\}\%}}}
                  \kern-1.5ex\rightharpoonup}}}
             \fix, \ifp, ... ...
             861 \DeclareRobustCommand{\fix}
             862 {\mthfun{fix}}
             863 \DeclareRobustCommand{\ifp}
             864 {\mthfun{ifp}}
             865 \DeclareRobustCommand{\lfp}
             866 {\mthfun{lfp}}
             867 \DeclareRobustCommand{\gfp}
                {\mthfun{gfp}}
             \Aomega, \AOmega
             870 \DeclareRobustCommand{\Aomega}
                {\mthargset{\omega}}
             872 \DeclareRobustCommand{\AOmega}
             873 {\mthargset{\Omega}}
```

```
\Atheta, \ATheta ...
                  874 \DeclareRobustCommand{\Atheta}
                  875 {\mthargset{\theta}}
                  876 \DeclareRobustCommand{\ATheta}
                  877 {\mthargset{\Theta}}
 \Aomicron, ... ...
                  878 \DeclareRobustCommand{\Aomicron}
                  879 {\mthargset{\omicron}}
                  880 \label{lem:bustCommand} $$80 \label{lem:bustCommand} \AOmicron $$
                  881 {\mthargset{\Omicron}}
                  \SetB ...
                  883 \DeclareRobustCommand{\SetB}
                  884 {\mthset[mathbb]{B}}
          \SetF ...
                  885 \DeclareRobustCommand{\SetF}
                  886 {\mthset[mathbb]{F}}
     \SetN, ... ...
                  887 \DeclareRobustCommand{\SetN}
                  888 {\mthset[mathbb]{N}}
                  889 \DeclareRobustCommand{\SetNI}[1][]
                  890 {\SetN[\infty #1]}
     \SetZ, ... ...
                  891 \DeclareRobustCommand{\SetZ}
                  892 {\mthset[mathbb]{Z}}
                  893 \DeclareRobustCommand{\SetZI}[1][]
                  894 {\SetZ[\pm\infty #1]}
                  895 \DeclareRobustCommand{\SetZPI}[1][]
                  896 {\SetZ[+\infty #1]}
                  897 \DeclareRobustCommand{\SetZNI}[1][]
                  898 {\SetZ[-\infty #1]}
     \SetQ, ... ...
                  899 \DeclareRobustCommand{\SetQ}
                  900 {\mthset[mathbb]{Q}}
                  901 \DeclareRobustCommand{\SetQI}[1][]
                  902 {\SetQ[\pm\infty #1]}
                  903 \DeclareRobustCommand{\SetQPI}[1][]
                  904 {\SetQ[+\infty #1]}
                  905 \DeclareRobustCommand{\SetQNI}[1][]
                  906 {\SetQ[-\infty #1]}
     \SetR, ... ...
                  907 \DeclareRobustCommand{\SetR}
                  908 {\mthset[mathbb]{R}}
                  909 \DeclareRobustCommand{\SetRI}[1][]
                  910 {\SetR[\pm\infty #1]}
                  911 \DeclareRobustCommand{\SetRPI}[1][]
                  912 {\SetR[+\infty #1]}
                  913 \DeclareRobustCommand{\SetRNI}[1][]
                  914 {\SetR[-\infty #1]}
     \SetC, ... ...
                  915 \DeclareRobustCommand{\SetC}
                  916 {\mthset[mathbb]{C}}
                  917 \DeclareRobustCommand{\SetCI}[1][]
                  918 {\SetC[\infty #1]}
```

```
\num, ... ...
              920 \DeclareRobustCommand{\num}[1]
              921
                 {\mth{[#1]}}
              922 \DeclareRobustCommand{\numcc}[2]
              923 {\mth{[\argsep{#1}{,}{#2}]}}
              924 \DeclareRobustCommand{\numco}[2]
                 {\mth{[\argsep{#1}{,}{#2})}}
              926 \DeclareRobustCommand{\numoc}[2]
              927 {\mth{(\argsep{#1}{,}{#2}]}}
              928 \DeclareRobustCommand{\numoo}[2]
                  {\mth{(\argsep{#1}{,}{#2}))}}
              \floor, \ceil
              931 \DeclareRobustCommand{\floor}[1]
              932 {\mth{\argmid{\left\lfloor}{#1}{\right\rfloor}}}
              933 \DeclareRobustCommand{\ceil}[1]
                 {\mth{\argmid{\left\lceil}{#1}{\right\rceil}}}
              \arg ...
              936 \DeclareRobustCommand{\arg}
              937 {\mthfun{arg}}
    \evn, \odd ...
              938 \DeclareRobustCommand{\evn}
              939 {\mthfun{evn}}
              940 \DeclareRobustCommand{\odd}
              941 {\mthfun{odd}}
    \bst, ... ...
              942 \DeclareRobustCommand{\bst}
              943 {\mthfun{bst}}
              944 \DeclareRobustCommand{\argbst}
              945 {\mthfun{arg bst}}
\min, \max, ... ...
              946 \DeclareRobustCommand{\min}
              947 {\bf min}
              948 \DeclareRobustCommand{\max}
              949 {\bf mthfun\{max\}}
              950 \DeclareRobustCommand{\argmin}
                 {\mthfun{arg min}}
              952 \DeclareRobustCommand{\argmax}
                 {\mthfun{arg max}}
    \inf, \sup
              954 \DeclareRobustCommand{\inf}
              955 {\bf \{mthfun\{inf\}}
              956 \DeclareRobustCommand{\sup}
              957 {\bf \{mthfun\{sup\}}\}
              \emptyseq ...
              959 \DeclareRobustCommand{\emptyseq}
              960 {\bf \{nth\{varepsilon\}}\}
```

```
\fst, \lst ...
              961 \verb|\DeclareRobustCommand{\fst}|
              962 {\mthargfun{fst}}
              963 \DeclareRobustCommand{\lst}
              964 {\mathbf{t}}
              965 \fi
              970 \ifcom@
\defcomcls ... to do!
                • \defcomcls{CompClass};
                   \CompClass[sub][sup][ext] = COMPCLASS_{SUB}^{SUP}EXT
                   \CoCompClass[sub][sup][ext] = CoCompClass_{SUB}^{SUP}EXT
                   \CompClassE[sub][sup][ext] = COMPCLASS-EASY_{SUB}^{SUP}EXT
                   \verb|\CoCompClassE[sub][sup][ext]| = CoCompClass-Easy_{SUB}^{SUP}EXT|
                   \CompClassH[sub][sup][ext] = COMPCLASS-HARD_{SUB}^{SUP}EXT
                   \verb|\CoCompClassH[sub][sup][ext]| = CoCompClass-Hard_{Sup}^{SUP}EXT
                   \verb|\CompClassC[sub][sup][ext]| = CompClass-complete_{SUB}^{SUP}EXT
                   \CoCompClassC[sub][sup][ext] = CoCompClass-CompLete_{SUB}^{SUP}EXT
                  \verb|\NCompClass[sub][sup][ext]| = NCOMPCLASS^{SUP}_{SUB}EXT
                  \verb|\ConCompClass[sub][sup][ext]| = ConCompClass_{SUB}^{SUP}EXT
                  \verb|\NCompClassE[sub][sup][ext]| = NCompClass-Easy_{SUB}^{SUP}EXT|
                  \verb|\ConCompClassE[sub][sup][ext]| = ConCompClass-Easy_{SUB}^{SUP}EXT
                  \verb|\NCompClassH[sub][sup][ext]| = NCompClass-Hard_{SUB}^{SUP}EXT
                   \ConCompClassH[sub][sup][ext] = ConCompClass-Hard_{SUB}^{SUP}EXT
                   \label{eq:ncompClassC} $$\N{\compClassC[sub][sup][ext]} = N{\ccompClass-compLete}_{SUB}^{SUP}{\ccompClassC[sub][sup][ext]} = N{\ccompClassC[sub][sup][ext]} 
                   \verb|\ConCompClassC[sub][sup][ext]| = ConCompClass-complete_{sur}^{SUP}EXT
                  \UCompClass[sub][sup][ext] = UCompClass_{SUB}^{SUP}EXT
                  \texttt{CoUCompClass[sub][sup][ext]} = \texttt{CoUCompClass}^{\texttt{SUP}}_{\texttt{SUB}} \texttt{EXT}
                  \UCompClassE[sub][sup][ext] = UCompClass-Easy_{SUB}^{SUP}EXT
                  \Coulomb Class E[sub][sup][ext] = Coulomb Class-Easy_{SUB}^{SUP}EXT
                  \verb|VCompClassH[sub][sup][ext]| = UCOMPCLASS-HARD_{SUB}^{SUP}EXT
                  \verb|\CoUCompClassH[sub][sup][ext]| = CoUCompClass-Hard_{SUB}^{SUP}EXT
                   \label{eq:UCompClassC} $$\UCompClassC[sub][sup][ext] = UCompClass-Complete_{SUB}^{SUP}EXT$
                  \verb|\CoUCompClassC[sub][sup][ext]| = CoUCOMPCLASS-COMPLETE_{SUB}^{SUP}EXT
                  \triangle CompClass[sub][sup][ext] = ACOMPCLASS_{SUB}^{SUP}EXT
                   \verb|\CoACompClass[sub][sup][ext]| = CoACompClass_{SUB}^{SUP}EXT
                   \verb|\ACompClassE[sub][sup][ext]| = ACOMPCLASS-EASY_{SUB}^{SUP}EXT
                   \verb|\CoACompClassE[sub][sup][ext]| = CoACompClass-Easy_{SUB}^{SUP}EXT
                   \ACompClassH[sub][sup][ext] = ACOMPCLASS-HARD_{SUB}^{SUP}EXT
                   \CoACompClassH[sub][sup][ext] = CoACompClass-Hard_{SUB}^{SUP}EXT
                   \triangle CompClassC[sub][sup][ext] = ACOMPCLASS-COMPLETE_{SUB}^{SUP}EXT
                   \verb|\CoACompClassC[sub][sup][ext]| = CoACompClass-complete_{SUB}^{SUP}EXT
                 \defcomcls{CompClass}[NewClass];
                   \CompClass[sub][sup][ext] = NewClass_{Sub}^{SUP}EXT
                   \verb|\CoCompClass[sub][sup][ext]| = CoNewClass_{SUB}^{SUP}EXT
                   \CompClassE[sub][sup][ext] = NewClass-easy_{Sub}^{SUP}EXT
                   \CoCompClassE[sub][sup][ext] = CoNewClass-Easy_{SUB}^{SUP}EXT
                   \CompClassH[sub][sup][ext] = NewClass-Hard_{SUB}^{SUP}EXT
                   \verb|\CoCompClassH[sub][sup][ext]| = CoNewClass-Hard_{Sur}^{SUP}EXT
                   \verb|\CompClassC[sub][sup][ext]| = NewClass-complete_{SUB}^{SUP}EXT
                   \verb|\CoCompClassC[sub][sup][ext]| = CoNewClass-complete_{SUB}^{SUP}EXT
                   \N{\c CompClass[sub][sup][ext]} = NN{\c EWCLASS}_{SUB}^{SUP}{\c EXT}
                   \verb|\CoNCompClass[sub][sup][ext]| = CoNNewClass_{SUB}^{SUP}EXT
```

```
\verb|\CoNCompClassE[sub][sup][ext]| = CoNNewClass-Easy_{SUB}^{SUP}EXT|
                          \verb|\NCompClassH[sub][sup][ext]| = NNEWCLASS-HARD_{SUB}^{SUP}EXT
                          \verb|\ConCompClassH[sub][sup][ext]| = ConNewClass-Hard_{SUB}^{SUP}EXT
                          \verb|\NCompClassC[sub][sup][ext]| = NNEWCLASS-COMPLETE_{SUB}^{SUP}EXT
                          \ConCompClassC[sub][sup][ext] = ConNewClass-CompLete_{Sub}^{SUP}Ext
                          \verb|\UCompClass[sub][sup][ext]| = UNEWCLASS^{SUP}_{SUB}EXT
                          \verb|\CoUCompClass[sub][sup][ext]| = CoUNEWCLASS_{SUB}^{SUP}EXT
                          \verb|\UCompClassE[sub][sup][ext]| = UNEWCLASS-EASY_{SUB}^{SUP}EXT
                          \verb|\CoUCompClassE[sub][sup][ext]| = CoUNEWCLASS-EASY_{SUB}^{SUP}EXT
                          \verb|\UCompClassH[sub][sup][ext]| = UNEWCLASS-HARD_{SUB}^{SUP}EXT
                          \Coulomb ClassH[sub][sup][ext] = CoUNEW CLASS-HARD_{SUR}^{SUP}EXT
                          \UCompClassC[sub][sup][ext] = UNEWCLASS-COMPLETE_{SUB}^{SUP}EXT
                          \verb|\CoUCompClassC[sub][sup][ext]| = CoUNewClass-Complete_{SUB}^{SUP}EXT
                          \triangle CompClass[sub][sup][ext] = ANEWCLASS_{SUB}^{SUP}EXT
                          \CoACompClass[sub][sup][ext] = CoANEWCLASS_{SUB}^{SUP}EXT
                          \triangle CompClassE[sub][sup][ext] = ANEWCLASS-EASY_{SUB}^{SUP}EXT
                          \verb|\CoACompClassE[sub][sup][ext]| = CoANewClass-easy_{sup}^{SUP}EXT
                          \Lambda CompClassH[sub][sup][ext] = ANEWCLASS-HARD_{SUB}^{SUP}EXT
                          \verb|\CoACompClassH[sub][sup][ext]| = CoANewClass-Hard_{SUB}^{SUP}EXT
                          \verb|\ACompClassC[sub][sup][ext]| = ANEWCLASS-COMPLETE_{SUB}^{SUP}EXT
                          \CoACompClassC[sub][sup][ext] = CoANewClass-CompLete_{Sup}^{SUP}EXT
                     971 \newcommandx{\defcomcls}[2][2=]
                          {\defcomclssem{#1}{\defval{#2}{#1}}%
                           \displaystyle \operatorname{defcomclssem}\{\#1\}\{\operatorname{defval}\{\#2\}\{\#1\}\}[Co]\}
                     973
                     974 \newcommandx{\defcomclssem}[3][3=]
                     975
                         {\defcomclsred{#3#1}{#2}[#3]%
                          \defcomclsred{#3N#1}{#2}[#3N]%
                          \defcomclsred{#3U#1}{#2}[#3U]%
                          \defcomclsred{#3A#1}{#2}[#3A]}
                     979 \newcommandx{\defcomclsred}[3][3=]
                          {\defcomclscmd{#1}{#2}[#3]%
                          \defcomclscmd{#1E}{#2}[#3][-easy]%
                     981
                          \defcomclscmd{#1H}{#2}[#3][-hard]%
                     982
                          \defcomclscmd{#1C}{#2}[#3][-complete]}%
                     984 \newcommandx{\defcomclscmd}[4][3=, 4=]
                          {\csdef{#1}{\txtcom{#3#2#4}}}
       \defcomhrc ... to do!
                        • \defcomhrc{CompHierarchy};
                          CompHierarchy[sub][sup][ext] = COMPHIERARCHY<sup>SUP</sup><sub>SUB</sub>EXT
                        • \defcomhrc{CompHierarchy} [NewHierarchy];
                          CompHierarchy[sub][sup][ext] = NEWHIERARCHY_{SUB}^{SUP}EXT
                     986 \newcommandx{\defcomhrc}[2][2=]
                          {\csdef{#1}{\txtcom{\defval{#2}{#1}}}}
                     \Easy, \Hard, ...
                     989 \cmdtxtcom{Easy}
                     990 \cmdtxtcom{Hard}
                     991 \cmdtxtcom{Complete}
                     • Time[sub][sup][ext] = TIME_{SUB}^{SUP}EXT
       \Time, ...
                          \verb|\TimeE[sub][sup][ext]| = TIME-EASY_{SUR}^{SUP}EXT
                          TimeH[sub][sup][ext] = TIME-HARD_{SUB}^{SUP}EXT
                          TimeC[sub][sup][ext] = TIME-COMPLETE_{SUB}^{SUP}EXT
```

 $\NCompClassE[sub][sup][ext] = NNEWCLASS-EASY_{SUB}^{SUP}EXT$ 

```
\verb| NTimeC[sub][sup][ext] = NTime-complete | Sup | Su
                                       \UTimeE[sub][sup][ext] = UTIME-EASY_{SUB}^{SUP}EXT
                                          \verb|\UTimeH[sub][sup][ext]| = UTime-Hard_{SUB}^{SUP}EXT
                                          \verb| UTimeC[sub][sup][ext] = UTime-complete_{sub}^{sup}Ext
                                       • ATime[sub][sup][ext] = ATIME_{SUB}^{SUP}EXT
                                           \verb| ATimeE[sub][sup][ext]| = ATime-EASY_{SUB}^{SUP}EXT|
                                           \Delta TimeH[sub][sup][ext] = ATIME-HARD_{SUB}^{SUP}EXT
                                          \verb| ATimeC[sub][sup][ext] = ATIME-COMPLETE_{SUB}^{SUP}EXT|
                                  993 \defcomcls{Time}
      \Space, ...
                                       \verb|\SpaceE[sub][sup][ext]| = SPACE-EASY_{SUB}^{SUP}EXT
                                           \SpaceH[sub][sup][ext] = SPACE-HARD_{SUB}^{SUP}EXT
                                           \SpaceC[sub][sup][ext] = SPACE-COMPLETE_{SUB}^{SUP}EXT
                                       • \NSpace[sub][sup][ext] = NSPACE_{SUB}^{SUP}EXT
                                          \verb|\NSpaceE[sub][sup][ext]| = NSPACE-EASY_{SUB}^{SUP}EXT
                                           \NSpaceH[sub][sup][ext] = NSPACE-HARD_{SUB}^{SUP}EXT
                                           \NSpaceC[sub][sup][ext] = NSPACE-COMPLETE_{SUB}^{SUP}EXT
                                       • USpace[sub][sup][ext] = USPACE_{SUB}^{SUP}EXT
                                           \USpaceE[sub][sup][ext] = USPACE-EASY_{SUB}^{SUP}EXT
                                           \verb|\USpaceH[sub][sup][ext]| = USpace-Hard_{Sub}^{SUP}EXT
                                           \USpaceC[sub][sup][ext] = USPACE-COMPLETE_{SUB}^{SUP}EXT
                                       • ASpace[sub][sup][ext] = ASPACE_{SUB}^{SUP}EXT
                                           \verb|\ASpaceE[sub][sup][ext]| = ASPACE-EASY_{SUB}^{SUP}EXT
                                           \verb|\ASpaceH[sub][sup][ext]| = ASPACE-HARD_{SUB}^{SUP}EXT
                                          ASpaceC[sub][sup][ext] = ASPACE-COMPLETE_{SUB}^{SUP}EXT
                                  994 \defcomcls{Space}
 \LogTime, ...
                                       • \lfloor LogTime[sub][sup][ext] = LogTime_{Sub}^{Sup}EXT
                                          \lceil LogTimeE[sub][sup][ext] = LogTime-Easy_{Sub}^{SUP}EXT
                                          LogTimeH[sub][sup][ext] = LogTime-Hard_{Sub}^{Sup}EXT
                                          \verb|\LogTimeC[sub][sup][ext]| = LogTime-complete_{sup}^{SUP}EXT|
                                       • NLogTime[sub][sup][ext] = NLogTime_{SUP}^{SUP}EXT
                                           \NLogTimeE[sub][sup][ext] = NLogTime-EASY_{SUB}^{SUP}EXT
                                           \NLogTimeH[sub][sup][ext] = NLogTime-HARD_{SUB}^{SUP}EXT
                                          \label{eq:NLogTimeC} $$\NLogTimeC[sub][sup][ext] = NLogTime-COMPLETE_{SUB}^{SUP}EXT$
                                       • \ULogTime[sub][sup][ext] = ULogTime_{SUB}^{SUP}EXT
                                          \ULogTimeE[sub][sup][ext] = ULogTime-EASY_{SUB}^{SUP}EXT
                                           \ULogTimeH[sub][sup][ext] = ULogTime-Hard_{Sub}^{SUP}EXT
                                          \ULogTimeC[sub][sup][ext] = ULogTIME-COMPLETE_{SUB}^{SUP}EXT
                                       • ALogTime[sub][sup][ext] = ALogTime_{SUB}^{SUP}EXT
                                          \verb|\ALogTimeE[sub][sup][ext]| = ALogTime-Easy_{SUB}^{SUP}EXT
                                          \Lambda = ALogTimeH[sub][sup][ext] = ALogTime-Hard_{Sup}^{SUP}EXT
                                          ALogTimeC[sub][sup][ext] = ALogTime-Complete_{Sub}^{SUP}EXT
                                 995 \defcomcls{LogTime}
                                        \bullet \  \  \, \texttt{LogSpace[sub][sup][ext]} = \mathrm{LogSpace}^{SUP}_{SUB} EXT \\
\LogSpace, ...
                                          \verb|\LogSpaceE[sub][sup][ext]| = LogSpace-Easy_{SUB}^{SUP}EXT
                                          LogSpaceH[sub][sup][ext] = LogSpace-Hard_{Sub}^{SUP}EXT
                                          LogSpaceC[sub][sup][ext] = LogSpace-Complete_{Sub}^{SUP}EXT
                                       \NLogSpaceE[sub][sup][ext] = NLogSpace-Easy_{SUB}^{SUP}EXT
                                           \verb|\NLogSpaceH[sub][sup][ext]| = NLogSpace-hard_{SUB}^{SUP}EXT
                                          \NLogSpaceC[sub][sup][ext] = NLogSpace-Complete_{SUB}^{SUP}EXT
```

•  $\NTime[sub][sup][ext] = NTIME_{SUB}^{SUP}EXT$ 

 $\label{eq:NTimeEsub} $$ [\sup] [ext] = NTIME-EASY_{SUB}^{SUP} EXT $$ NTIMEH[sub] [sup] [ext] = NTIME-HARD_{SUB}^{SUB} EXT $$ Extra $$ NT$ 

• \ALogSpace[sub][sup][ext] = ALogSpace\_Sup\_EXT  $\verb|\ALogSpaceE[sub][sup][ext]| = ALogSpace-easy_{\text{\tiny SUP}}^{\text{SUP}} EXT$  $\verb|\ALogSpaceH[sub][sup][ext]| = ALogSpace-hard_{SUB}^{SUP}EXT$  $\verb|\ALogSpaceC[sub][sup][ext]| = ALogSpace-complete_{SUB}^{SUP}EXT$ 996 \defcomcls{LogSpace} \PTime, ... •  $\P$  [sub] [sup] [ext] =  $PTIME_{SUB}^{SUP}EXT$ \PTimeE[sub][sup][ext] = PTIME-EASY\_SUP\_EXT  $\P$  \PTimeH[sub][sup][ext] = \PTIME-HARD\_SUP\_SUP\_EXT \PTimeC[sub][sup][ext] = PTIME-COMPLETE\_SUP\_EXT  $\verb|\NPTimeE[sub][sup][ext]| = NPTIME-EASY_{SUB}^{SUP}EXT$  $\verb|\NPTimeH[sub][sup][ext]| = NPTIME-HARD_{SUB}^{SUP}EXT$  $\NPTimeC[sub][sup][ext] = NPTIME-COMPLETE_{SUB}^{SUP}EXT$ •  $\UPTime[sub][sup][ext] = UPTIME_{SUB}^{SUP}EXT$  $\UPTimeE[sub][sup][ext] = UPTIME-EASY_{SUP}^{SUP}EXT$  $\label{eq:uptimeH} $$ \UPTimeH[sub][sup][ext] = UPTIME-HARD_{SUB}^{SUP}EXT $$$  $\UPTimeC[sub][sup][ext] = UPTIME-COMPLETE_{SUB}^{SUP}EXT$  $\bullet \ \ \texttt{APTime[sub][sup][ext]} = APTIME^{SUP}_{SUB}EXT$  $\label{eq:aptimeEsub} $$ \Delta PTimeE[sub][sup][ext] = APTIME-EASY_{SUB}^{SUP}EXT $$$  $\verb| APTimeH[sub][sup][ext] = APTIME-HARD_{SUB}^{SUP}EXT$  $\APTimeC[sub][sup][ext] = APTIME-COMPLETE_{SUB}^{SUP}EXT$ 997 \defcomcls{PTime} •  $\PSpace[sub][sup][ext] = PSPACE_{SUB}^{SUP}EXT$ \PSpace, ...  $\verb|\PSpaceE[sub][sup][ext]| = PSPACE-EASY_{SUB}^{SUP}EXT$  $\label{eq:pspaceH} $$ \PSpaceH[sub][sup][ext] = PSpace-Hard_{Sub}^{SUP}EXT$  $\label{eq:pspaceC} $$ \PSpaceC[sub][sup][ext] = PSpace-Complete_{SUB}^{SUP}EXT $$ •  $\NPSpace[sub][sup][ext] = NPSPACE_{SUB}^{SUP}EXT$  $\verb|NPSpaceE[sub][sup][ext]| = NPSPACE-EASY_{SUB}^{SUP}EXT|$  $\NPSpaceH[sub][sup][ext] = NPSPACE-HARD_{SUB}^{SUP}EXT$  $\verb|\NPSpaceC[sub][sup][ext]| = NPSPACE-COMPLETE_{SUB}^{SUP}EXT$ • \UPSpace[sub][sup][ext] = UPSPACE\_SUP\_EXT  $\verb|VPSpaceE[sub][sup][ext]| = UPSPACE-EASY_{SUB}^{SUP}EXT|$  $\UPSpaceH[sub][sup][ext] = UPSpace-HARD_{SUB}^{SUP}EXT$  $\verb|VPSpaceC[sub][sup][ext]| = UPSPACE-COMPLETE^{SUP}_{SUB}EXT$ •  $APSpace[sub][sup][ext] = APSPACE_{SUB}^{SUP}EXT$  $\verb|\APSpaceE[sub][sup][ext]| = APSPACE-EASY_{SUB}^{SUP}EXT$  $APSpaceH[sub][sup][ext] = APSPACE-HARD_{SUB}^{SUP}EXT$  $APSpaceC[sub][sup][ext] = APSPACE-COMPLETE_{SUB}^{SUP}EXT$ 998 \defcomcls{PSpace} •  $\QPTime[sub][sup][ext] = QPTIME_{SUB}^{SUP}EXT$ \QPTime, ...  $\label{eq:QPTimeEsub} $$ \PTIME-EASY_{SUB}^{SUP} = QPTIME-EASY_{SUB}^{SUP} = QPTIME-EASY_{SUB}^{SUB}^{SUP} = QPTIME-EASY_{SUB}^{SUP} = QPTIME-EASY_{SUB}^{SUP} = QPTIME-EASY_{SUB}^{SUP} = QPTIME-EASY_{SUB}^{SUP} = QPTIME-EASY_$  $\verb|\QPTimeH[sub][sup][ext]| = \mathrm{QPTIME-HARD}^{SUP}_{SUB}\mathrm{EXT}|$  $\QPTimeC[sub][sup][ext] = QPTIME-COMPLETE_{SUB}^{SUP}EXT$ •  $\NQPTime[sub][sup][ext] = NQPTIME_{SUB}^{SUP}EXT$  $\verb|\NQPTimeE[sub][sup][ext]| = NQPTIME-EASY_{SUB}^{SUP}EXT|$  $\verb|\NQPTimeH[sub][sup][ext]| = NQPTIME-HARD_{SUB}^{SUP}EXT$  $\verb|\NQPTimeC[sub][sup][ext]| = NQPTIME-COMPLETE_{SUB}^{SUP}EXT|$ •  $\UQPTime[sub][sup][ext] = UQPTIME_{SUB}^{SUP}EXT$  $\verb|VQPTimeE[sub][sup][ext]| = UQPTIME-EASY_{SUB}^{SUP}EXT$  $\verb|VQPTimeH[sub][sup][ext]| = \mathrm{UQPTIME-HARD}^{SUP}_{SUB}\mathrm{EXT}$  $\label{eq:uqptimec} $$ \UQPTimeC[sub][sup][ext] = UQPTIME-COMPLETE_{SUB}^{SUP}EXT $$$ 

• \ULogSpace[sub][sup][ext] = ULogSpace\_Sup\_EXT

 $\label{eq:logspace} $$ \U\log PACE-EASY_{SUB}^{SUP} = ULOGSPACE-EASY_{SUB}^{SUP} = ULOGSPACE-HARD_{SUB}^{SUP} = ULOGSPACE-HARD_{SUB}^{SUP} = ULOGSPACE-COMPLETE_{SUB}^{SUP} = ULOGSPACE-COMPLETE_{SUB}^$ 

```
\verb|\AQPTimeE[sub][sup][ext]| = \mathrm{AQPTIME\text{-}EASY}^{SUP}_{SUB}\mathrm{EXT}|
                           \verb| AQPTimeH[sub][sup][ext] = AQPTIME-HARD_{SUB}^{SUP}EXT
                           \verb| AQPTimeC[sub][sup][ext] = AQPTIME-COMPLETE_{SUB}^{SUP}EXT
                      999 \defcomcls{QPTime}
 \QPSpace, ...
                         • \QPSpace[sub][sup][ext] = QPSPACE_{SUB}^{SUP}EXT
                           \verb|\QPSpaceE[sub][sup][ext]| = QPSpace-easy_{Sub}^{Sup}ext|
                           \verb|\QPSpaceH[sub][sup][ext]| = QPSPACE-HARD_{SUB}^{SUP}EXT|
                           \label{eq:QPSpaceCsub} $$ \QPSpaceC[sub][sup][ext] = QPSpace-COMPLETE_{SUB}^{SUP}EXT $$
                         • \NQPSpace[sub][sup][ext] = NQPSPACE_{SUB}^{SUP}EXT
                           \NQPSpaceE[sub][sup][ext] = NQPSPACE-EASY_{SUB}^{SUP}EXT
                           \NQPSpaceH[sub][sup][ext] = NQPSPACE-HARD_{SUP}^{SUP}EXT
                           \NQPSpaceC[sub][sup][ext] = NQPSPACE-COMPLETE_{SUB}^{SUP}EXT
                         \verb|VQPSpaceE[sub][sup][ext]| = UQPSPACE-EASY_{SUB}^{SUP}EXT|
                           \verb|VQPSpaceH[sub][sup][ext]| = UQPSPACE-HARD_{SUB}^{SUP}EXT
                           \UQPSpaceC[sub][sup][ext] = UQPSPACE-COMPLETE_{SUB}^{SUP}EXT
                         • AQPSpace[sub][sup][ext] = AQPSPACE_{SUB}^{SUP}EXT
                           \verb|\AQPSpaceE[sub][sup][ext]| = AQPSPACE-EASY_{SUB}^{SUP}EXT
                           \verb|\AQPSpaceH[sub][sup][ext]| = AQPSPACE-HARD_{SUB}^{SUP}EXT
                           \verb|\AQPSpaceC[sub][sup][ext]| = \mathrm{AQPSPACE\text{-}COMPLETE}^{SUP}_{SUB}\mathrm{EXT}|
                     1000 \defcomcls{QPSpace}
 \ExpTime, ...
                         • \text{ExpTime[sub][sup][ext]} = \text{EXPTIME}_{\text{SUB}}^{\text{SUP}} \text{EXT}
                           \verb|\ExpTimeE[sub][sup][ext]| = EXPTIME-EASY_{SUB}^{SUP}EXT
                           \texttt{ExpTimeH[sub][sup][ext]} = \texttt{ExpTime-HARD}^{\texttt{SUP}}_{\texttt{SUB}} \texttt{Ext}
                           \texttt{ExpTimeC[sub][sup][ext]} = \texttt{ExpTime-complete}^{\texttt{SUP}}_{\texttt{SUB}} \texttt{Ext}
                         • NExpTime[sub][sup][ext] = NEXPTIME_{SUB}^{SUP}EXT
                           \verb|\NExpTimeE[sub][sup][ext]| = NEXPTIME-EASY_{SUB}^{SUP}EXT
                           \NExpTimeH[sub][sup][ext] = NEXPTIME-HARD_{SUB}^{SUP}EXT
                           \NExpTimeC[sub][sup][ext] = NEXPTIME-COMPLETE_{SUB}^{SUP}EXT
                         • \UExpTime[sub][sup][ext] = UEXpTIME_{SUB}^{SUP}EXT
                           \UExpTimeE[sub][sup][ext] = UEXPTIME-EASY_{SUB}^{SUP}EXT
                           \UExpTimeH[sub][sup][ext] = UExpTIME-HARD_{SUB}^{SUP}EXT
                           \verb|\UExpTimeC[sub][sup][ext]| = UEXPTIME-COMPLETE^{SUP}_{SUR}EXT|
                         • \AExpTime[sub][sup][ext] = AExpTime_SUP_EXT
                           \texttt{AExpTimeE[sub][sup][ext]} = AEXPTIME-EASY_{SUB}^{SUP}EXT
                           \Delta ExpTimeH[sub][sup][ext] = AEXPTIME-HARD_{SUB}^{SUP}EXT
                           \verb|\AExpTimeC[sub][sup][ext]| = AEXPTIME-COMPLETE_{SUB}^{SUP}EXT
                     1001 \defcomcls{ExpTime}
                         • \ExpSpace[sub][sup][ext] = ExpSpace_{SUB}^{SUP}EXT
\ExpSpace, ...
                           \verb|\ExpSpaceE[sub][sup][ext]| = EXPSPACE-EASY_{SUB}^{SUP}EXT
                           \verb|\ExpSpaceH[sub][sup][ext]| = ExpSpace-Hard_{SUB}^{SUP}EXT
                           \ExpSpaceC[sub][sup][ext] = ExpSpace-CompleteSup_Ext
                         • \NExpSpace[sub][sup][ext] = NEXPSPACE_{SUB}^{SUP}EXT
                           \NExpSpaceE[sub][sup][ext] = NEXPSPACE-EASY_{SUB}^{SUP}EXT
                           \verb|\NExpSpaceH[sub][sup][ext]| = NEXPSPACE-HARD_{SUB}^{SUP}EXT
                           \NExpSpaceC[sub][sup][ext] = NEXpSpace-COMPLETE_{SUB}^{SUP}EXT
                         • \UExpSpace[sub][sup][ext] = UExpSpace_{SUB}^{SUP}EXT
                           \verb|\UExpSpaceE[sub][sup][ext]| = UEXPSPACE-EASY_{SUB}^{SUP}EXT
                           \verb|\UExpSpaceH[sub][sup][ext]| = UEXPSPACE-HARD_{SUB}^{SUP}EXT
                           \UExpSpaceC[sub][sup][ext] = UExpSpace-Complete_{SUB}^{SUP}EXT
                         \bullet \ \texttt{\AExpSpace[sub][sup][ext]} = AExpSpace[sub][sup][ext] = AExpSpace[sub][sup][ext]
                           \texttt{AExpSpaceE[sub][sup][ext]} = \text{AExpSpace-Easy}^{\text{SUP}}_{\text{SUB}} \text{EXT}
                           \verb|\AExpSpaceH[sub][sup][ext]| = AEXPSPACE-HARD_{SUB}^{SUP}EXT
                           \texttt{AExpSpaceC[sub][sup][ext]} = \text{AExpSpace-complete}_{\text{SUB}}^{\text{SUP}} \text{Ext}
```

1002 \defcomcls{ExpSpace}

•  $AQPTime[sub][sup][ext] = AQPTIME_{SUB}^{SUP}EXT$ 

```
\PH
                                       • \PH[sub][sup][ext] = PH_{SUB}^{SUP}EXT
                                 1004 \defcomhrc{PH}
                                 1005 \fi
                                 1010 \ifgam@
                                 \SATG, ...
                                 1012 %% Satisfiability Games
                                 1013 \cmdtxtoparname{SATG}[Sat]
                                 1014
                                 1015 %% Validity Games
                                 1016 \cmdtxtoparname{VALG}[Val]
                                 1017
                                 1018 % Evaluation Games
                                 1019 \cmdtxtoparname{EVLG}[Evl]
                                 1020
                                 1021 %% Synthesis Games
                                 1022 \cmdtxtoparname{SYNG}[Syn]
                                 1023
                                 1024 %% Model-Checking Games
                                 1025 \cmdtxtoparname{MCG} [MC]
                                 1026
                                 1027 %% Ehrenfeucht-Fraisse Games
                                 1028 \cmdtxtoparname{EFG}[EF]
                                 \PlrSym, \OppSym
                                 1030 \newcommand{\plrsym}{E}
                                 1031 \cmdmthsym{Plr}[\plrsym]
                                 1032 \newcommand{\oppsym}{A}
                                 1033 \cmdmthsym{Opp}[\oppsym]
 \ArenaName, ... ...
                                 1034 \newcommand{\arenaname}{A}
                                 1035 \usrmthlatupp{Arena}{Name}{name} [\arenaname]
       \PosSet, ... ...
                                 1036 \newcommand{\possym}{v}
                                 1037 \newcommand{\posset}{Ps}
                                 1038 \cmdmthsetext{Pos}[\posset][\possym]
                                 1039 \cmdmthsymelm{ipos}[\possym_{I}]
                                 1040 \cmdmthsymelm{fpos}[\possym_{F}]
                                 1041 \cmdmthset{PPos}[\posset_{\PlrSym}]
                                 1042 \verb|\cmdmthsymelm{ppos}[\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\possym_{\
                                 1043 \verb|\cmdmthset{OPos}[\posset_{\norm{NPSym}}]|
                                 1044 \cmdmthsymelm{opos}[\possym_{\0ppSym}]
                \PlrFun ...
                                 1045 \newcommand{\plrfun}{pl}
                                 1046 \cmdmthfun{plr}[\plrfun]
                \MovRel
                                 1047 \newcommand{\movrel}{Mv}
                                 1048 \cmdmthrel{Mov}[\movrel]
```

```
\GameName, ... ...
                                               1049 \mbox{ \newcommand{\gamename}{\Game}}
                                               1050 \ \tt [Name] \{name] [name] \ \tt [Name] [name] [name] \ \tt 
                        \WinSet
                                               1051 \newcommand{\winset}{Wn}
                                               1052 \mbox{ \cmdmthset{Win}[\winset]}
  \ObsSet, \obsFun
                                               1053 \newcommand{\obsset}{Ob}
                                               1054 \cmdmthset{Obs}[\obsset]
                                               1055 \cmdmthfun{obs}
                                               \PthSet, \pthFun
                                               1057 \newcommand{\pthsym}{\pi}
                                               1058 \newcommand{\pthset}{Pth}
                                               1059 \cmdmthsetext{Pth}[\pthset][\pthsym]
                                               1060 \cmdmthfun{pth}
            \HstSet, ...
                                              1061 \newcommand{\hstsym}{\rho}
                                               1062 \mbox{ \newcommand{\hstset}{Hst}}
                                               1063 \cmdmthsetext{Hst}[\hstset][\hstsym]
                                               1064 \cmdmthset{PHst}[\hstset_{\PlrSym}]
                                               1065 \cmdmthsymelm{phst}[\hstsym_{\PlrSym}]
                                               1066 \cmdmthset{OHst}[\hstset_{\OppSym}]
                                               1067 \verb|\cmdmthsymelm{ohst}[\hstsym_{\coloredge m}]
                                               1068 \cmdmthfun{hst}
\PlaySet,\playFun
                                               1069 \newcommand{\playsym}{\pi}
                                               1070 \newcommand{\playset}{Play}
                                               1071 \cmdmthsetext{Play}[\playset][\playsym]
                                               1072 \cmdmthfun{play}
            \StrSet, ...
                                              1073 \newcommand{\strsym}{\sigma}
                                              1074 \newcommand{\strset}{Str}
                                               1075 \verb|\cmdmthsetext{Str}| [\verb|\strset|] [\|\strsym|]
                                               1076 \cmdmthset{PStr}[\strset_{\PlrSym}]
                                               1077 \cmdmthsymelm{pstr}[\strsym_{\PlrSym}]
                                               1078 \verb|\cmdmthset{OStr}[\strset_{\oppSym}]|
                                               1079 \verb|\cmdmthsymelm{ostr}[\strsym_{\colored{OppSym}}]
  \PrfSet, \prfFun
                                               1080 \newcommand{\prfsym}{\xi}
                                               1081 \newcommand{\prfset}{Prf}
                                               1082 \cmdmthsetext{Prf}[\prfset][\prfsym]
  \preFun, \sucFun
                                               1083 \newcommand{\prefun}{pre}
                                               1084 \cmdmthoargfun{pre}[\prefun]
                                               1085 \newcommand{\sucfun}{suc}
                                               1086 \cmdmthoargfun{suc}[\sucfun]
  \entFun, \escFun
                                               1087 \newcommand{\entfun}{ent}
                                               1088 \cmdmthoargfun{ent}[\entfun]
                                               1089 \mbox{ \newcommand{\escfun}{esc}}
                                               1090 \cmdmthoargfun{esc}[\escfun]
```

```
\intFun, \outFun ...
               1091 \newcommand{\left\{ \inf \right\}}
               1092 \cmdmthoargfun{int}[\intfun]
               1093 \mbox{ \newcommand{\outfun}{out}}
               1094 \verb|\cmdmthoargfun{out}| [\verb|\outfun|]|
\atrFun, \rchFun ...
               1095 \newcommand{\atrfun}{atr}
               1096 \cmdmthoargfun{atr}[\atrfun]
               1097 \newcommand{\rchfun}{rch}
               1098 \cmdmthoargfun{rch}[\rchfun]
      \liftFun ...
               1099 \newcommand{\liftfun}{lift}
               1100 \cmdmthoargfun{lift}[\liftfun]
       \solFun ...
              1101 \newcommand{\solfun}{sol}
               1102 \cmdmthoargfun{sol}[\solfun]
               \BG, ... ...
              1104 %% Buchi Games
              1105 \cmdtxtoparname{BG}
               1106
               1107 %% Co-Buchi Games
               1108 \cmdtxtoparname{CG}
               1110 %% Parity Games
               1111 \cmdtxtoparname{PG}
               1112
               1113 %% Rabin Games
               1114 \cmdtxtoparname{RG}
               1116 %% Streett Games
               1117 \cmdtxtoparname{SG}
               1118
               1119 %% Muller Games
               1120 \cmdtxtoparname{MG}
               \EvnSym, \OddSym
               1122 \mbox{ } \mbox{newcommand{\evnsym}{0}}
               1123 \cmdmthsym{Evn} [\evnsym]
               1124 \mbox{ } \mbox{newcommand{\oddsym}{1}}
               1125 \cmdmthsym{Odd}[\oddsym]
\PrtSet, \prtFun ...
               1126 \newcommand{\prtsym}{p}
               1127 \newcommand{\prtset}{Pr}
               1128 \cmdmthsetext{Prt}[\prtset][\prtsym]
               1129 \cmdmthfun{prt}[pr]
               \EG, ... ...
               1132 %% Energy Games
```

1133 \cmdtxtoparname{EG}

```
1134
                                 1135 %% Mean-Payoff Games
                                 1136 \cmdtxtoparname{MPG}
                                 1138 %% Discounted-Payoff Games
                                 1139 \cmdtxtoparname{DPG}
                                 \MaxSym, \MinSym
                                 1141 \newcommand{\maxsym}{\oplus}
                                 1142 \cmdmthsym{Max}[\maxsym]
                                 1143 \newcommand{\minsym}{\boxminus}
                                 1144 \cmdmthsym{Min}[\minsym]
\WghSet, \wghFun
                                1145 \mbox{ } \mbox{newcommand{\wghsym}{w}}
                                 1146 \newcommand{\wghset}{Wg}
                                 1147 \cmdmthsetext{Wgh} [\wghset] [\wghsym]
                                 1148 \cmdmthfun{wgh} [wg]
                                 1150 \fi
                                 1155 \iflog@
                                 \BF, \QBF, ... ...
                                1157 % Boolean Formulae
                                1158 \cmdtxtoparname{BF}
                                1160 % Quantified Boolean Formulae
                                1161 \DeclareRobustCommand{\QBF}
                                          {\{\text{txtname}\{Q\}\}\setminus BF\}}
                                 1163 \DeclareRobustCommand{\EBF}
                                          {\ensuremath{\exists}\BF}
                                 1165 \DeclareRobustCommand{\UBF}
                                          {\ensuremath{\forall}\BF}
                                 \LogSig, ... ...
                                 1168 \mbox{ \newcommand{\logsig}{L}}
                                1169 \usrmthlatupp{Log}{Sig}{sig}[\logsig]
              \Tt, \Ff ...
                                 1170 \mbox{ } \mbox
                                 1171 \usrmth{Tt}{}{sym}[\ttsym]
                                 1172 \mbox{newcommand{\ffsym}{\bot}}
                                1173 \usrmth{Ff}{}{sym}[\ffsym]
       \LNeg, \LNot ...
                                 1174 \newcommand{\lnegsym}{\neg}
                                 1175 \usrmth{LNeg}{}{luop}[\lnegsym]
                                 1176 \newcommand{\lnotsym}{\sim}
                                 1177 \usrmth{LNot}{}{luop}[\lnotsym]
```

```
\LCon, \LDis ...
                                            1178 \mbox{newcommand{\lconsym}{\land}}
                                            1179 \usrmth{LCon}{}{lbop}[\lconsym]
                                            1180 \mbox{ }\mbox{\command{\ldissym}{\lor}}
                                            1181 \usrmth{LDis}{}{lbop}[\ldissym]
         \LImp, \LCoi
                                            1182 \newcommand{\limpsym}{\rightarrow}
                                            1183 \usrmth{LImp}{}{lbop}[\limpsym]
                                            1184 \newcommand{\lcoisym}{\leftrightarrow}
                                            1185 \usrmth{LCoi}{}{lbop}[\lcoisym]
         \LExs, \LAll ...
                                           1186 \newcommand{\lexssym}{\exists}
                                            1187 \usrmth{LExs}{}{luop}[\lexssym]
                                            1188 \newcommand{\lallsym}{\forall}
                                            1189 \usrmth{LAll}{}{luop}[\lallsym]
            \APSet, ... ...
                                           1190 \newcommand{\apsym}{p}
                                            1191 \newcommand{\apset}{AP}
                                            1192 \cmdmthsetext{AP}[\apset][\apsym]
                                            1193 \cmdmthfun{ap}\usrmth{ap}{}{argfun}
                             \sub ...
                                            1194 \usrmth{sub}{}{argfun}
\Cnt, \Qnt, \Sym ...
                                            1195 \usrmth{Cnt}{}{sym}[C]
                                            1196 \usrmth{Qnt}{}{sym}[Q]
                                            1197 \space{2mm} 1197 \space{2mm} {\rm Sym} {\rm sym} [\odot]
               \QAE, \QEA ...
                                            1198 \usrmth{QAE}{}{sym}[\forall\exists]
                                            1199 \usrmth{QEA}{}{sym}[\exists\forall]
         \QntSet, ... ...
                                            1200 \mbox{ } \mbox{newcommand{\qntsym}{\wp}}
                                            1201 \newcommand{\qntset}{Qn}
                                            1202 \cmdmthsetext{Qnt} [\qntset] [\qntsym]
       \free, \bound ...
                                            1204 \mbox{ \normalfooth bound}{{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfooth}{\normalfo
               \dep, \alt ...
                                            1205 \usrmth{dep}{}{argfun}
                                            1206 \usrmth{alt}{}{argfun}
  \cnf, \dnf, ... ...
                                           1207 \cmdtxtabr{cnf}
                                            1208 \cmdtxtabr{dnf}
                                            1209 \cmdtxtabr{pnf}
                                            1210 \cmdtxtabr{nnf}
                                            \LogStr, ... ...
                                            1212 \neq \{L\}
                                            1213 \verb|\usrmth|| a tupp{Log}{Str}{str}[\logstr]
```

```
\ValSet, ... ...
            1214 \newcommand{\valsym}{\xi}
            1215 \newcommand{\valset}{Val}
            1216 \cmdmthsetext{Val}[\valset][\valsym]
\AsgSet, ... ...
            1217 \newcommand{\asgsym}{\chi}
            1218 \newcommand{\asgset}{Asg}
            1219 \cmdmthsetext{Asg}[\asgset][\asgsym]
            \FOL, ... ...
            1221 % First-Order Logic
            1222 \cmdtxtoparname{FOL}[Fol]
            1223 \cmdtxtoparname{F0}[F0]
            1224
            1225 % Monadic First-Order Logic
            1226 \DeclareRobustCommand{\MFOL}
            1227 \{\{\text{txtname}\{M\}\}\}\
            1228 \DeclareRobustCommand{\MFO}
            1229 {{\txtname{M}}\FO}
            \VarSig, ... ...
            1231 \newcommand{\varsig}{V}
            1232 \usrmthlatupp{Var}{Sig}{sig}[\varsig]
            1233 \newcommand{\varsym}{x}
            1234 \newcommand{\varset}{Vr}
            1235 \cmdmthsetext{Var}[\varset][\varsym]
            1236 \usrmth{var}{}{argfun}[vr]
            \ConSig, ... ...
            1238 \newcommand{\consig}{C}
            1239 \usrmthlatupp{Con}{Sig}{sig}[\consig]
            1240 \newcommand{\consym}{c}
            1241 \newcommand{\conset}{Cn}
            1242 \cmdmthsetext{Con}[\conset][\consym]
            1243 \usrmth{con}{}{argfun}[cn]
\FunSig, ... ...
            1244 \newcommand{\funsig}{F}
            1245 \usrmthlatupp{Fun}{Sig}{sig}[\funsig]
            1246 \newcommand{\funsym}{f}
            1247 \newcommand{\funset}{Fn}
            1248 \cmdmthsetext{Fun}[\funset][\funsym]
            1249 \usrmth{fun}{}{argfun}[fn]
            1250 \cmdmthfun{art}[ar]\usrmth{art}{}{argfun}[ar]
\TerSig, ... ...
            1251 \newcommand{\tersig}{T}
            1252 \usrmthlatupp{Ter}{Sig}{sig}[\tersig]
            1253 \newcommand{\tersym}{t}
            1254 \newcommand{\terset}{Tr}
            1255 \cmdmthsetext{Ter}[\terset][\tersym]
            1256 \usrmth{ter}{}{argfun}
\RelSig, ... ...
            1257 \mbox{ } \mbox{newcommand{\relsig}{R}}
            1258 \usrmthlatupp{Rel}{Sig}{sig}[\relsig]
            1259 \mbox{ } \mbox{relsym}{r}
```

```
1260 \newcommand{\relset}{Rl}
                                  1261 \cmdmthsetext{Rel}[\relset][\relsym]
                                  1262 \operatorname{lgr}[r1]
                     \skm ...
                                  1263 \usrmth{skm}{}{argfun}
                                  \ConStr, ... ...
                                  1265 \mbox{ } \mbox{constr}{C}
                                  1266 \usrmthlatupp{Con}{Str}{str}[\constr]
    \FunStr, ... ...
                                  1267 \mbox{ } \mbox
                                  1268 \usrmthlatupp{Fun}{Str}{str}[\funstr]
    \TerStr, ... ...
                                  1269 \newcommand{\terstr}{T}
                                  1270 \usrmthlatupp{Ter}{Str}{str}[\terstr]
    \RelStr, ... ...
                                  1271 \newcommand{\relstr}{R}
                                  1272 \usrmthlatupp{Rel}{Str}{str}[\relstr]
                                  \DF, \IF, ... ...
                                  1274 % Dependence-Friendly Logic
                                  1275 \cmdtxtoparname{DF}
                                  1276
                                  1277 % Independence-Friendly Logic
                                  1278 \cmdtxtoparname{IF}
                                  1280 % Dependence/Independence-Friendly Logic
                                  1281 \cmdtxtoparname{DIF}
                                  1282
                                  1283 % Dependence Logic
                                  1284 \cmdtxtoparname{DL}
                                  1286 % Team Logic
                                  1287 \cmdtxtoparname{TL}
                                  1289 % Alternating Dependence-Friendly Logic
                                  1290 \cmdtxtoparname{ADF}
                                  1292 % Alternating Independence-Friendly Logic
                                  1293 \cmdtxtoparname{AIF}
                                  1294
                                  1295 % Alternating Dependence/Independence-Friendly Logic
                                  1296 \cmdtxtoparname{ADIF}
                                  \LEExs, \LAA11 ...
                                  1298 \newcommand{\leexssym}{\Sigma}
                                  1299 \usrmth{LEExs}{}{luop}[\leexssym]
                                  1300 \newcommand{\laallsym}{\Pi}
                                  1301 \usrmth{LAAll}{}{luop}[\laallsym]
```

```
\SOL, ... ...
            1304 % Second-Order Logic
            1305 \cmdtxtoparname{SOL}[Sol]
            1306 \cmdtxtoparname{SO}
            1307
            1308 % Weak Second-Order Logic
            1309 \DeclareRobustCommand{\WSOL}
            1310 \{\{\text{txtname}\{W\}\}\SOL\}
            1311 \DeclareRobustCommand{\WSO}
            1312 {{\txtname{W}}\SO}
            1314 % coWeak Second-Order Logic
            1315 \DeclareRobustCommand{\coWSOL}
            1316 {{\txtname{coW}}\SOL}
            1317 \DeclareRobustCommand{\coWSO}
            1318 \{\{\text{txtname}\{\text{coW}\}\}\
            1319
            1320 % Monadic Second-Order Logic
            1321 \DeclareRobustCommand{\MSOL}
            1322 \quad \{\{\text{txtname}\{M\}\}\}\
            1323 \DeclareRobustCommand{\MSO}
            1324 {{\txtname{M}}\SO}
            1326 % Weak Monadic Second-Order Logic
            1327 \DeclareRobustCommand{\WMSOL}
            1328 \{\{\text{txtname}\{W\}\}\}\
            1329 \DeclareRobustCommand{\WMSO}
            1330 \{\{\text{txtname}\{W\}\}\}\
            1332 % coWeak Monadic Second-Order Logic
            1333 \DeclareRobustCommand{\coWMSOL}
            1334 {{\txtname{coW}}\MSOL}
            1335 \DeclareRobustCommand{\coWMSO}
                {{\txtname{coW}}\MSO}
            \FVarSet, ... ...
            1338 \neq \{x\}
            1339 \newcommand{\fvarset}{FVr}
            1340 \cmdmthsetext{FVar}[\fvarset][\fvarsym]
\SVarSet, ... ...
            1341 \newcommand{\svarsym}{X}
            1342 \newcommand{\svarset}{SVr}
            1343 \cmdmthsetext{SVar}[\svarset][\svarsym]
            \TL, \PL, ... ...
            1346 % Tree Logic
            1347 \cmdtxtoparname{TL}
            1348
            1349 % Weak Tree Logic
            1350 \DeclareRobustCommand{\WTL}
                 {\{\text{txtname}\{W\}}\TL\}
            1351
            1352
```

```
1353 % coWeak Tree Logic
             1354 \verb|\DeclareRobustCommand{\coWTL}|
                 {\{\texttxtname\{coW\}}\TL\}
             1356
             1357 % Monadic Tree Logic
             1358 \DeclareRobustCommand{\MTL}
                 {\{\text{txtname}\{M\}}\}\
             1361 % Weak Monadic Tree Logic
             1362 \DeclareRobustCommand{\WMTL}
                  {{\txtname{W}}\MTL}
             1365\;\text{\%} coWeak Monadic Tree Logic
             1366 \DeclareRobustCommand{\coWMTL}
                  {{\txtname{coW}}\MTL}
             1367
             1368
             1369 % Path Logic
             1370 \cmdtxtoparname{PL}
             1371
             1372 % Weak Path Logic
             1373 \DeclareRobustCommand{\WPL}
                  {\{\text{txtname}\{W\}}\PL\}
             1375
             1376 % coWeak Path Logic
             1377 \DeclareRobustCommand{\coWPL}
                  {\{\text{coW}}\
             1378
             1379
             1380 % Monadic Path Logic
             1381 \DeclareRobustCommand{\MPL}
                  {{\txtname{M}}\PL}
             1383
             1384 % Weak Monadic Path Logic
             1385 \DeclareRobustCommand{\WMPL}
                  {\{\text{\txtname}\{W\}}\MPL\}
             1386
             1387
             1388 % coWeak Monadic Path Logic
             1389 \DeclareRobustCommand{\coWMPL}
                 {{\txtname{coW}}\MPL}
             \ML, \QML, ... ...
             1394 % Modal Logic
             1395 \cmdtxtoparname{ML}
             1396
             1397 % Quantified Modal Logic
             1398 \DeclareRobustCommand{\QML}
                  {\{\text{txtname}\{Q\}\}\setminus ML\}}
             1400 \DeclareRobustCommand{\EML}
                 {\ensuremath{\exists}\ML}
             1402 \DeclareRobustCommand{\UML}
                 {\ensuremath{\forall}\ML}
             \Opr ...
             1405 \usrmth{Opr}{}{sym}[Op]
```

```
\DMod, \BMod ...
              1406 \usrmth{DMod}{}{sym}[\Diamond]
              1407 \verb|\usrmth{BMod}{{}} sym} [\Box]
    \Exs, \All ...
              1408 \DeclareRobustCommand{\Exs}[1]
                  {\mth{\defval{\argmid{\langle}{#1}{\rangle}}}\DMod}}}
              1410 \DeclareRobustCommand{\All}[1]
              1411 \quad \{\mth{\defval{\argmid{\left[}{\#1}{\left[\right]}}}{\BMod}}\}
              \KrpStr, ... ...
              1413 \newcommand{\krpstr}{K}
              1414 \usrmthlatupp{Krp}{Str}{str}[\krpstr]
   \WrlSet, ... ...
             1415 \newcommand{\wrlsym}{w}
             1416 \newcommand{\wrlset}{W}
              1417 \cmdmthsetext{Wrl}[\wrlset][\wrlsym]
              1418 \cmdmthsymelm{iwrl}[\wrlsym_{I}]
\AccRel, \TrnRel
              1419 \mbox{ } \mbox{newcommand{\accsym}{R}}
              1420 \cmdmthrel{Acc} [\accsym]
              1421 \cmdmthrel{Trn}[\accsym]
       \labFun ...
             1422 \mbox{labsym}{\lambda}
              1423 \cmdmthfun{lab}[\labsym]
\PthSet, \pthFun
              1424 \providecommand{\phi}{\phi}
              1425 \providecommand{\pthset}{Pth}
              1426 \mbox{ \cmdmthsetext{Pth} [\pthset] [\pthsym]}
              1427 \cmdmthfun{pth}
              \MC, \QMC, ...
             1429 % Mu Calculus
             1430 \cmdtxtoparname{MC}[\ensuremath{\mu}-Calculus]
              1432 % Quantified Modal Logic
              1433 \DeclareRobustCommand{\QMC}
                  \{\{\text{txtname}\{Q\}\}\}\
              1435 \DeclareRobustCommand{\EMC}
              1436 {\ensuremath{\exists}\MC}
              1437 \DeclareRobustCommand{\UMC}
                  {\ensuremath{\forall}\MC}
```

```
\PTL, \LTL, ... ...
               1442 % Propositional Temporal Logic
               1443 \cmdtxtoparname{PTL}
               1445 % Quantified Propositional Temporal Logic
               1446 \verb|\DeclareRobustCommand{\QPTL}|
                    {\{\text{txtname}\{Q\}}\
               1448 \DeclareRobustCommand{\EPTL}
                    {\ensuremath{\exists}\PTL}
               1450 \DeclareRobustCommand{\UPTL}
                    {\ensuremath{\forall}\PTL}
               1453 \% Linear Temporal Logic
               1454 \verb|\cmdtxtoparname{LTL}|
               1456\ \% Quantified Linear Temporal Logic
               1457 \DeclareRobustCommand{\QLTL}
               1458 \{\{\text{txtname}\{Q\}\}\}\
               1459 \DeclareRobustCommand{\ELTL}
               1460 {\ensuremath{\exists}\LTL}
               1461 \DeclareRobustCommand{\ULTL}
               1462 {\ensuremath{\forall}\LTL}
               \X, ... ...
               1464 \operatorname{X}{{\sym}[X\,]}
               1465 \operatorname{f}{f}{sym}[F\,]
               1466 \usrmth{G}{}{sym}[G\,]
               1467 \operatorname{U}{sym}[\,U\,]
               1468 \operatorname{k}{R}{sym}[\,R\,]
       \Y, ... ...
               1469 \usrmth{Y}{}{sym}[G\,]
               1470 \usrmth{P}{}{sym}[P\,]\left(\usrmth{P}\)
               1471 \usrmth{H}{}{sym}[H\,]\let\SaveDoubleAcute\H
               1472 \space{1472 \operatorname{S}}{sym}[\,S\,]\left\c\\SaveSectionSymbol\S
               1473 \usrmth{B}{}{sym}[\,B\,]
               \PDL, \CTL, ... ...
               1477 % Propositional Dynamic Logic
               1478 \cmdtxtoparname{PDL}
               1480 % Computation Tree Logic
               1481 \cmdtxtoparname{CTL}
               1483 % Weak Computation Tree Logic
               1484 \DeclareRobustCommand{\WCTL}
                    {\{\text{txtname}\{W\}}\CTL\}
               1485
               1487 % Quantified Computation Tree Logic
               1488 \DeclareRobustCommand{\QCTL}
                    {{\txtname{Q}}\CTL}
               1490 \DeclareRobustCommand{\ECTL}
                    {\ensuremath{\exists}\CTL}
               1492 \DeclareRobustCommand{\UCTL}
               1493 {\ensuremath{\forall}\CTL}
```

```
1495 % Improved Computation Tree Logic
          1496 \cmdtxtoparname{CTLP}[CTL$^{+}$]
          1498 % Weak Improved Computation Tree Logic
          1499 \DeclareRobustCommand{\WCTLP}
              {\{\text{txtname}\{W\}}\CTLP\}
          1502 % Quantified Improved Computation Tree Logic
          1503 \DeclareRobustCommand{\QCTLP}
              {\{\text{txtname}\{Q\}\}\CTLP\}}
          1505 \DeclareRobustCommand{\ECTLP}
               {\ensuremath{\exists}\CTLP}
          1507 \DeclareRobustCommand{\UCTLP}
               {\ensuremath{\forall}\CTLP}
          1508
          1510 % Full Computation Tree Logic
          1511 \cmdtxtoparname{CTLS}[CTL*]
          1512
          1513 % Weak Full Computation Tree Logic
          1514 \DeclareRobustCommand{\WCTLS}
               {{\txtname{W}}\CTLS}
          1516
          1517 % Quantified Full Computation Tree Logic
          1518 \DeclareRobustCommand{\QCTLS}
              {\{\text{txtname}\{Q\}\}\}\
          1520 \DeclareRobustCommand{\ECTLS}
              {\ensuremath{\exists}\CTLS}
          1522 \DeclareRobustCommand{\UCTLS}
              {\ensuremath{\forall}\CTLS}
          \E, \A ...
          1525 \operatorname{Lsrmth}{E}{sym}
          1526 \usrmth{A}{}{sym}
          \ATL, ...
          1529 % Alternating Temporal Logic
          1530 \cmdtxtoparname{ATL}
          1531
          1532 % Weak Alternating Tree Logic
          1533 \DeclareRobustCommand{\WATL}
          1534
               {{\txtname{W}}\ATL}
          1535
          1536 % Quantified Alternating Temporal Logic
          1537 \DeclareRobustCommand{\QATL}
               {\{\text{txtname}\{Q\}\}\setminus ATL\}}
          1539 \DeclareRobustCommand{\EATL}
              {\ensuremath{\exists}\ATL}
          1541 \DeclareRobustCommand{\UATL}
               {\ensuremath{\forall}\ATL}
          1542
          1543
          1544 % Improved Alternating Temporal Logic
          1545 \cmdtxtoparname{ATLP}[ATL$^{+}$]
          1547 % Weak Improved Alternating Tree Logic
          1548 \DeclareRobustCommand{\WATLP}
              {\{\text{txtname}\{W\}}\ATLP\}
```

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```
1551 % Quantified Improved Alternating Temporal Logic
             1552 \DeclareRobustCommand{\QATLP}
             1553 \{\{\text{txtname}\{Q\}\}\} ATLP\}
             1554 \DeclareRobustCommand{\EATLP}
             1555 {\ensuremath{\exists}\ATLP}
             1556 \DeclareRobustCommand{\UATLP}
                  {\ensuremath{\forall}\ATLP}
             1558
             1559 % Full Alternating Temporal Logic
             1560 \cmdtxtoparname{ATLS}[ATL*]
             1562 % Weak Full Alternating Tree Logic
             1563 \DeclareRobustCommand{\WATLS}
             1564
                  {{\txtname{W}}\ATLS}
             1565
             1566 % Quantified Full Alternating Temporal Logic
             1567 \DeclareRobustCommand{\QATLS}
                  {{\txtname{Q}}\ATLS}
             1569 \DeclareRobustCommand{\EATLS}
             1570 {\ensuremath{\exists}\ATLS}
             1571 \DeclareRobustCommand{\UATLS}
             1572 {\ensuremath{\forall}\ATLS}
             \EExs, \AAll
             1574 \DeclareRobustCommand{\EExs}[1]
             1575 {\mth{\argmid{\langle\!\langle}{\defval{#1}{\emptyset}}{\rangle\!\rangle}}}
             1576 \DeclareRobustCommand{\AAll}[1]
                  {\mth{\argmid{\left[\left[}{\defval{#1}{\emptyset}}{\right]\right]}}}
             \CGS ...
             1579 \cmdtxtname{CGS}
\CGSStr, ...
             1580 \mbox{ \newcommand{\cgsstr}{G}}
             1581 \usrmthlatupp{CGS}{Str}{str}[\cgsstr]
\AgnSet, ... ...
             1582 \mbox{newcommand{\agnsym}{a}}
             1583 \newcommand{\agnset}{Ag}
             1584 \cmdmthsetext{Agn}[\agnset][\agnsym]
\PosSet, ... ...
             1585 \providecommand{\possym}{v}
             1586 \providecommand{\posset}{Ps}
             1587 \cmdmthsetext{Pos}[\posset][\possym]
             1588 \cmdmthsymelm{ipos}[\possym_{I}]
             1589 \cmdmthsymelm{fpos}[\possym_{F}]
             1590 \cmdmthset{PPos}[\posset_{\PlrSym}]
             1591 \cmdmthsymelm{ppos}[\possym_{\PlrSym}]
             1592 \cmdmthset{OPos} [\posset_{\OppSym}]
             1593 \cmdmthsymelm{opos}[\possym_{\OppSym}]
\SttSet, ...
             1594 \newcommand{\sttsym}{s}
             1595 \newcommand{\sttset}{St}
             1596 \cmdmthsetext{Stt}[\sttset][\sttsym]
             1597 \cmdmthset{IStt}[\sttset_{I}]
             1598 \cmdmthsymelm{istt}[\sttsym_{I}]
             1599 \cmdmthset{FStt}[\sttset_{F}]
             1600 \cmdmthsymelm{fstt}[\sttsym_{F}]
```

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```
\ActSet, ... ...
                   1601 \newcommand{\actsym}{c}
                   1602 \mbox{ \newcommand{\actset}{Ac}}
                   1603 \cmdmthsetext{Act}[\actset][\actsym]
    \DecSet, ...
                   1604 \mbox{ \newcommand{\decsym}{d}}
                   1605 \mbox{ \newcommand{\decset}{Dc}}
                   1606 \cmdmthsetext{Dec}[\decset][\decsym]
         \mbox{movFun}
                   1607 \newcommand{\movsym}{\tau}
                   1608 \cmdmthfun{mov}[\movsym]
    \HstSet, ...
                   1609 \providecommand{\hstsym}{\rho}
                   1610 \providecommand{\hstset}{Hst}
                   1611 \cmdmthsetext{Hst}[\hstset][\hstsym]
                   1612 \cmdmthset{PHst}[\hstset_{\PlrSym}]
                   1613 \cmdmthsymelm{phst}[\hstsym_{\PlrSym}]
                   1614 \cmdmthset{OHst}[\hstset_{\OppSym}]
                   1615 \cmdmthsymelm{ohst}[\hstsym_{\OppSym}]
                   1616 \cmdmthfun{hst}
\PlaySet,\playFun
                   1617 \displaystyle \frac{\pi}{\pi}
                   1618 \providecommand{\playset}{Play}
                   1619 \cmdmthsetext{Play}[\playset][\playsym]
                   1620 \cmdmthfun{play}
    \StrSet, ... ...
                   1621 \providecommand{\strsym}{\sigma}
                   1622 \verb|\providecommand{\strset}{Str}|
                   1623 \cmdmthsetext{Str}[\strset][\strsym]
                   1624 \cmdmthset{PStr}[\strset_{\PlrSym}]
                   1625 \cmdmthsymelm{pstr}[\strsym_{\PlrSym}]
                   1626 \cmdmthset{OStr}[\strset_{\OppSym}]
                   1627 \mbox{ } [\mbox{strsym_{\normalfont}[}]
\PrfSet, \prfFun
                   1628 \providecommand{\prfsym}{\xi}
                   1629 \providecommand{\prfset}{Prf}
                   1630 \cmdmthsetext{Prf}[\prfset][\prfsym]
                   \SL, ... ...
                   1632 % Strategy Logic
                   1633 \cmdtxtoparname{SL}
                   1634
                   1635 \DeclareRobustCommand{\ESL}
                       {\ensuremath{\exists}\SL}
                   1637 \DeclareRobustCommand{\USL}
                   1638
                        {\ensuremath{\forall}\SL}
                   1639
                   1640 \DeclareRobustCommand{\FSL}
                        {\{\text{txtname}\{F\}\}\SL\}}
                   1641
                   1642
                   1643 \DeclareRobustCommand{\EFSL}
                        {\ensuremath{\exists}\FSL}
                   1645 \DeclareRobustCommand{\UFSL}
                   1646
                        {\ensuremath{\forall}\FSL}
                   1647
```

```
1648 % One-Goal Strategy Logic
1649 \DeclareRobustCommandx{\OGSL}[3][1=, 2=, 3=]
     {\SL[#1][#2][1g\arglef{,}{#3}]}
1651
1652 \DeclareRobustCommand{\EOGSL}
     {\ensuremath{\exists}\OGSL}
1653
1654 \DeclareRobustCommand{\UOGSL}
      {\ensuremath{\forall}\OGSL}
1655
1656
1657 \DeclareRobustCommand{\FOGSL}
      {{\txtname{F}}\OGSL}
1659
1660 \DeclareRobustCommand{\EFOGSL}
      {\ensuremath{\exists}\FOGSL}
1661
1662 \DeclareRobustCommand{\UFOGSL}
1663
      {\ensuremath{\forall}\FOGSL}
1664
1665 % Conjunctive-Goal Strategy Logic
1666 \DeclareRobustCommandx{\CGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][cg\arglef{,}{#3}]}
1668
1669 \DeclareRobustCommand{\ECGSL}
     {\ensuremath{\exists}\CGSL}
1671 \DeclareRobustCommand{\UCGSL}
      {\ensuremath{\forall}\CGSL}
1672
1673
1674 \DeclareRobustCommand{\FCGSL}
1675
      {\{ \text{xtname}\{F\} \} \times GSL \}}
1676
1677 \DeclareRobustCommand{\EFCGSL}
      {\ensuremath{\exists}\FCGSL}
1679 \DeclareRobustCommand{\UFCGSL}
1680
      {\ensuremath{\forall}\FCGSL}
1681
1682 % Disjunctive-Goal Strategy Logic
1683 \verb|\DGSL|[3][1=, 2=, 3=]|
      {\SL[#1][#2][dg\arglef{,}{#3}]}
1684
1685
1686 \DeclareRobustCommand{\EDGSL}
      {\ensuremath{\exists}\DGSL}
1688 \DeclareRobustCommand{\UDGSL}
      {\ensuremath{\forall}\DGSL}
1691 \DeclareRobustCommand{\FDGSL}
1692
     {\{\text{xtname}\{F\}\}\times GSL\}}
1693
1694 \DeclareRobustCommand{\EFDGSL}
     {\ensuremath{\exists}\FDGSL}
1696 \DeclareRobustCommand{\UFDGSL}
      {\ensuremath{\forall}\FDGSL}
1699 % Alternating-Goal Strategy Logic
1700 \DeclareRobustCommandx{\AGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][ag\arglef{,}{#3}]}
1702
1703 \DeclareRobustCommand{\EAGSL}
      {\ensuremath{\exists}\AGSL}
1705 \DeclareRobustCommand{\UAGSL}
      {\ensuremath{\forall}\AGSL}
1706
1707
1708 \DeclareRobustCommand{\FAGSL}
      {\{\text{xtname}\{F\}\}\times GSL\}}
1709
1710
```

```
1711 \DeclareRobustCommand{\EFAGSL}
     {\ensuremath{\exists}\FAGSL}
1713 \DeclareRobustCommand{\UFAGSL}
1714
     {\ensuremath{\forall}\FAGSL}
1715
1716 % Extended-Goal Strategy Logic
1717 \DeclareRobustCommandx{\EGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][eg\arglef{,}{#3}]}
1719
1720 \DeclareRobustCommand{\EEGSL}
      {\ensuremath{\exists}\EGSL}
1722 \DeclareRobustCommand{\UEGSL}
      {\ensuremath{\forall}\EGSL}
1724
1725 \DeclareRobustCommand{\FEGSL}
      {\{\text{xtname}\{F\}\}\}\}
1726
1727
1728 \DeclareRobustCommand{\EFEGSL}
      {\ensuremath{\exists}\FEGSL}
1730 \DeclareRobustCommand{\UFEGSL}
      {\ensuremath{\forall}\FEGSL}
1733 % Boolean-Goal Strategy Logic
1734 \DeclareRobustCommandx{\BGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][bg\arglef{,}{#3}]}
1735
1736
1737 \DeclareRobustCommand{\EBGSL}
     {\ensuremath{\exists}\BGSL}
1739 \DeclareRobustCommand{\UBGSL}
      {\ensuremath{\forall}\BGSL}
1741
1742 \DeclareRobustCommand{\FBGSL}
      {\{\text{txtname}\{F\}\}\setminus xGSL\}}
1743
1745 \DeclareRobustCommand{\EFBGSL}
     {\ensuremath{\exists}\FBGSL}
1747 \DeclareRobustCommand{\UFBGSL}
     {\ensuremath{\forall}\FBGSL}
1749
1750 % Nested-Goal Strategy Logic
1751 \DeclareRobustCommandx{\NGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][ng\arglef{,}{#3}]}
1754 \DeclareRobustCommand{\ENGSL}
     {\ensuremath{\exists}\NGSL}
1756 \verb|\DeclareRobustCommand{\UNGSL}|
1757
      {\ensuremath{\forall}\NGSL}
1758
1759 \DeclareRobustCommand{\FNGSL}
     {\{\text{txtname}\{F\}\}\setminus xGSL\}}
1760
1761
1762 \DeclareRobustCommand{\EFNGSL}
     {\ensuremath{\exists}\FNGSL}
1764 \DeclareRobustCommand{\UFNGSL}
1765
      {\ensuremath{\forall}\FNGSL}
1766
1767 % Undefined-Goal Strategy Logic
1768 \DeclareRobustCommandx{\XGSL}[3][1=, 2=, 3=]
1769
      {\SL[#1][#2][xg\arglef{,}{#3}]}
1770
1771 \DeclareRobustCommand{\EXGSL}
      {\ensuremath{\exists}\XGSL}
1773 \DeclareRobustCommand{\UXGSL}
```

```
{\ensuremath{\forall}\XGSL}
                                                                                    1775
                                                                                    1776 \DeclareRobustCommand{\FXGSL}
                                                                                    1777
                                                                                                                 {\{\text{txtname}\{F\}\}\setminus xGSL\}}
                                                                                    1778
                                                                                   1779 \DeclareRobustCommand{\EFXGSL}
                                                                                    1780 {\ensuremath{\exists}\FXGSL}
                                                                                    1781 \DeclareRobustCommand{\UFXGSL}
                                                                                                                {\ensuremath{\forall}\FXGSL}
                                                                                    \BndSet, ... ...
                                                                                   1784 \newcommand{\bndsym}{\flat}
                                                                                   1785 \newcommand{\bndset}{Bn}
                                                                                   1786 \cmdmthsetext{Bnd}[\bndset][\bndsym]
                                                                                   1787 \usrmth{bnd}{}{argfun}
                                                     \psn ...
                                                                                   1788 \usrmth{psn}{}{argfun}
                                                                                    \nxtFun
                                                                                    1790 \newcommand{\nxtfun}{nxt}
                                                                                    1791 \cmdmthfun{nxt} [\nxtfun]
                                                                                    1792 \fi
                                                                                    1797 \ifaut@
                                                                                    \DWA, ...
                                                                                  1799 \verb|\cmdtxtoparname{DWA}\cmdtxtoparname{WMA}\cmdtxtoparname{AWA}|
                                                                                    1801 \verb|\cmdtxtoparname{DFW}\cmdtxtoparname{AFW}| cmdtxtoparname{AFW}| 
                                                                                    1802 \verb|\cmdtxtoparname{DBW}\cmdtxtoparname{ABW}| $$ 1802 \verb|\cmdtxtoparname{BW}\cmdtxtoparname{ABW}| $$ 1802 \verb|\cmdtxtoparname{BW}\cmdtxtoparname{ABW}| $$ 1802 \verb|\cmdtxtoparname{BW}\cmdtxtoparname{BW}| $$ 1802 \verb|\cmdtxtoparname{BW}\cmdtxtoparname{BW}| $$ 1802 \verb|\cmdtxtoparname{BW}\cmdtxtoparname{BW}| $$ 1802 \verb|\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}| $$ 1802 \verb|\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtoparname{BW}\cmdtxtopar
                                                                                    1803 \verb|\cmdtxtoparname{DCW}\cmdtxtoparname{MCW}\cmdtxtoparname{ACW}|
                                                                                    1804 \verb|\cmdtxtoparname{DPW}\cmdtxtoparname{MPW}\cmdtxtoparname{APW}|
                                                                                    1805 \verb|\cmdtxtoparname{DRW}\cmdtxtoparname{ARW}| $$ \cmdtxtoparname{ARW}$ $$ $$ \cmdtxtoparname{ARW}$ $$ \cmdtxtoparnam
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                                                                                    1807 \verb|\cmdtxtoparname{DMW}\cmdtxtoparname{MW}| cmdtxtoparname{AMW}| c
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                                                                                    1808 \cmdtxtoparname{GFG}
                                                                                    1810 \cmdtxtoparname{PD}
                                                                                    1811
                                                                                    1812 %% ...
                                                                                    \AutName, ... ...
                                                                                    1814 \newcommand{\autname}{A}
                                                                                    1815 \usrmthlatupp{Aut}{Name}{name}[\autname]
                                                                                    1816 \mbox{ } \mbox{newcommand{\autset}{Aut}}
                                                                                    1817 \cmdmthset{Aut}[\autset]
                                \WAutSet ...
                                                                                     1818 \newcommand{\wautset}{WAut}
                                                                                    1819 \cmdmthset{WAut}[\wautset]
```

```
\SttSet, ... ...
                                        1820 \left( \frac{1}{2} \right)
                                         1821 \def\sttset{Q}
                                         1822 \cmdmthsetext{Stt}[\sttset][\sttsym]
                                         1823 \verb|\cmdmthset{IStt}[\sttset_{I}]|
                                         1824 \cmdmthsymelm{istt}[\sttsym_{I}]
                                         1825 \cmdmthset{FStt}[\sttset_{F}]
                                         1826 \cmdmthsymelm{fstt}[\sttsym_{F}]
  \SymSet, ...
                                         1827 \newcommand{\symsym}{\sigma}
                                         1828 \newcommand{\symset}{\Sigma}
                                         1829 \cmdmthsetext{Sym}[\symset][\symsym]
                \trnFun ...
                                         1830 \newcommand{\trnsym}{\delta}
                                         1831 \cmdmthfun{trn}[\trnsym]
                                         \LangFun
                                         1833 \newcommand{\langfun}{L}
                                         1834 \cmdmthfun{Lang}[\langfun]
  \WrdSet, ... ...
                                         1835 \newcommand{\wrdsym}{w}
                                         1836 \newcommand{\wrdset}{Wr}
                                         1837 \cmdmthsetext{Wrd}[\wrdset][\wrdsym]
                                         \DTA, ... ...
                                         1839 \verb|\cmdtxtoparname{DTA}\cmdtxtoparname{UTA}\cmdtxtoparname{ATA}|
                                         1840
                                         1841 \verb|\cmdtxtoparname{DFT}\cmdtxtoparname{AFT}| \\
                                         1842 \cmdtxtoparname{DBT}\cmdtxtoparname{MBT}\cmdtxtoparname{MBT}\cmdtxtoparname{ABT}
                                         1843 \cmdtxtoparname{DCT}\cmdtxtoparname{UCT}\cmdtxtoparname{UCT}\cmdtxtoparname{ACT}
                                         1844 \verb|\cmdtxtoparname{NPT}\cmdtxtoparname{UPT}\cmdtxtoparname{APT}|
                                         1845 \verb|\cmdtxtoparname{NRT}| cmdtxtoparname{URT}| cmdtxtoparname{ART}| cmdtxtoparname{ART}|
                                         1846 \verb|\cmdtxtoparname{NST}| cmdtxtoparname{UST}| cmdtxtoparname{AST}| cmdtxtoparname{AST}|
                                         1847 \verb|\cmdtxtoparname{NMT}\cmdtxtoparname{UMT}\cmdtxtoparname{AMT}| \\
                                         \TAutSet ...
                                         1849 \newcommand{\tautset}{TAut}
                                         1850 \cmdmthset{TAut}[\tautset]
  \DirSet, ... ...
                                         1851 \newcommand{\dirsym}{d}
                                         1852 \newcommand{\dirset}{\Lambda}
                                         1853 \cmdmthsetext{Dir}[\dirset][\dirsym]
                                         \TreeSet, ... ...
                                         1855 \newcommand{\treesym}{T}
                                         1856 \newcommand{\treeset}{Tr}
                                         1857 \verb|\cmdmthsetext{Tree}| [\verb|\treeset|] [\treesym]|
                \wotFun ...
                                          1858 \newcommand{\wotfun}{wot}
                                         1859 \cmdmthfun{wot}[\wotfun]
```

```
1860 \fi
     1865 \iffrm@
   1866 %%...
     1867 \fi
     1872 \iffig@
     1873 \RequirePackage{tikz}
     1874 \usetikzlibrary{arrows,graphs,matrix,patterns,shapes}
     1875 \tikzstyle{every node} =
       [draw = none, fill = none, black, thin]
     1877 \tikzstyle{every edge} +=
     1878 [black, thick]
     1879 \tikzstyle{noall} =
     1880 [draw = none, fill = none]
     1881 \tikzstyle{nodraw} =
     1882 [draw = none, fill = white]
     1883 \tikzstyle{nofill} =
     1884 [draw = black, fill = none]
     1885 \ifwrpfig@
     1886 % Wrapfig Package
     1887
       \RequirePackage{wrapfig}
     1888 \fi
     1889 \fi
     1894 \iftab@
     1895 %%...
     1896 \fi
     1901 \ifalg@
     1902 \RequirePackage[ruled,vlined]{algorithm2e}
     1903 \setlength{\algomargin}{1.25em}
     1904 \DontPrintSemicolon
     1905 \SetInd{0.25em}{0.5em}
\Signature ...
     1906 \SetKw{Signature}{signature}
\Macro, ... ...
     1907 \SetKwFor{Macro}{macro}{}}
     1908 \SetKwFor{Function}{function}{}}
     1909 \SetKwFor{Procedure}{procedure}{}{}
```

```
\Let ...
                                                         1910 \SetKwFor{Let}{let}{in}{}
\True, \False ...
                                                         1911 \SetKw{True}{true}
                                                         1912 \SetKw{False}{false}
           \From, \To ...
                                                         1913 \SetKw{From}{from}
                                                          1914 \SetKw{To}{to}
                                                         1915 \SetKw{DownTo}{downto}
           \GoTo, ... ...
                                                         1916 \SetKw{GoTo}{goto}
                                                         1917 \SetKw{Break}{break}
                                                         1918 \SetKw{Continue}{continue}
               \MIf, ... ...
                                                         1919 \texttt{\MElseIf}{\texttt{MElse}{\wif}{\welse \wif}{\welse}{\welse} \
                                   \nlr ...
                                                          1920 \label{localized} $$1920 \label{localiz
                                                                              {\addtocounter{AlgoLine}{1}%
                                                          1921
                                                                                1923 \fi
                                                          1925 \endinput
                                                          1926 (/package)
```

## 2 Change History

v0.0	extensions
General: First public release 1	v0.5
v0.1	General: Figure tricks
General: Small refinements	General: Small refinements
v0.11	v0.7
General: Few additions and corrections $\dots$ 1	General: Refinements, corrections, and
v0.2	extensions
General: Changes in auxiliary tricks 1	v0.8
v0.3	
General: Few problems solved 1	General: Few refinements and corrections
v0.4	v0.9
General: Refactoring, corrections, and	General: Small addition to 'Algorithm tricks'

## 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.

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	\Aomega,_\\AOmega \\\\870	\ATLP 1549, 1553, 1555, 1557
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\expandafter	\GFG, <sub>□</sub> \PD, <sub>□</sub>	\lanlsym 1300, 1301
	\GFG, <sub>□</sub> \PD, <sub>□</sub>	\labFun <u>1422</u>
\expandafter 249, 251, 254, 259, 263	\GFG, <sub>□</sub> \PD, <sub>□</sub>	$\label{labsym} \begin{array}{llllllllllllllllllllllllllllllllllll$
\expandafter	\GFG,_\ \PD,_\  $\frac{1808}{867}$ \gfp $\frac{1916}{867}$	\labsym
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\labFun 1422 \labsym 1422, 1423 \lallsym 1188, 1189 \Lambda 1852
\expandafter	\GFG, □\PD, □	\labFun \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\GFG, _ \PD,	\labFun \ \ \frac{1422}{1423} \labFun \ 1422, 1423 \labFun \ 1188, 1189 \lambda \ 1852 \lambda \ 1422 \land \ 1178
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\labFun \ \ \frac{1422}{1423} \labFun \ 1422, 1423 \labFun \ 1188, 1189 \lambda \ 1852 \lambda \ 1422 \lambda \ 1178 \langFun \ \ \frac{1833}{183}
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\GFG, _ \PD,	\labFun \ \ \frac{1422}{1428} \labSym \ 1422, 1423 \labSym \ 1188, 1189 \lambda \ 1852 \lambda \ 1422 \lambda \ 1178 \lambda \ 1178 \langFun \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
\expandafter	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\labFun \ \ \frac{1422}{1423} \ \labFun \ 1422, 1423 \ \lallsym \ 1188, 1189 \ \Lambda \ 1852 \ \lambda \ 1422 \ \land \ 178 \ \LangFun \ \ \frac{1833}{1834} \ \langle \ 813, \ \langle \ 813, \ \langle \ \ \ \langle \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
\expandafter	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\labFun \ \ \frac{1422}{1428} \labFun \ 1422, 1423 \labFun \ 1188, 1189 \lambda \ 1852 \lambda \ 1422 \lambda \ 1178 \lambda \ 123 \lambda \ 1333 \lambda \ 1833, 1834
\expandafter	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\labFun \ \ \frac{1422}{1423} \ \labFun \ 1422, 1423 \ \lallsym \ 1188, 1189 \ \Lambda \ 1852 \ \lambda \ 1422 \ \land \ 178 \ \LangFun \ \ \frac{1833}{1834} \ \langle \ 813, \ \langle \ 813, \ \langle \ \ \ \langle \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
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$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	\\gfG, \_\PD, \_\\\ 867 \\gfp \\ \\ 867 \\\GoTo, \_\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\labFun
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	\\gfg,_\ \PD,_\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\labFun
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\expandafter	\\ \text{GFG,}_\ \text{PD,}_\ \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	\labFun
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	\QCTL 1488	\seqoflet
\Opr <u>1405</u>	\QCTL	\seqoflet
\Opr	\QCTL	\seqoflet
\Opr	\QCTL 1488 \QCTLP 1503 \QCTLS 1518 \QLTL 1457	\seqoflet
\Opr	\QCTL	\seqoflet
\Opr \ \frac{1405}{1094} \text{outfun} \ \ 1093, \frac{1094}{795} \text{P} \ \P \ \ 1470	\QCTL 1488 \QCTLP 1503 \QCTLS 1518 \QLTL 1457	\seqoflet
\Opr \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\QCTL 1488 \QCTLP 1503 \QCTLS 1518 \QLTL 1457 \qntset 1201, 1202 \QntSet, \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \) \( \	\seqoflet
\Opr\1405 \outfun\1093, 1094 \overline	\QCTL 1488 \QCTLP 1503 \QCTLS 1518 \QLTL 1457 \qntset 1201, 1202 \QntSet, □ 1200 \qntsym 1200, 1202	\seqoflet
\Opr \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\QCTL	\seqoflet
\Opr\1405 \outfun\1093, 1094 \overline	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\seqoflet
\Opr	\QCTL	\seqoflet
\Opr	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	288, 418, 546, 565, 578,         591, 604, 646, 659, 673, 686         \seqoflow       284, 289, 414         \seqoftag       257, 267, 269         \seqofupp       286, 289, 416         \sequence,       807         \set,_       820         \SetB       883         \SetCI       915         \SetF       885         \SetInd       1905
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	288, 418, 546, 565, 578,         591, 604, 646, 659, 673, 686         \seqoflow       284, 289, 414         \seqoftag       257, 267, 269         \seqofupp       286, 289, 416         \sequence,       807         \set,_       820         \SetB       883         \SetCI       915         \SetF       885         \SetInd       1905
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet
\Opr 1405 \outfun 1093, 1094 \overline 795  P \P 1470 \PackageWarning 126 \PDL, \(\)\CTL, \(\) 1476 \Percontra 738 \percontra 721 \PH 1004 \Pi 1300 \pi 1057, 1069, 1424, 1617 \playset 1070, 1071, 1618, 1619 \PlaySet, \playFun 1069, 1617	\QCTL	\seqoflet
\Opr 1405 \outfun 1093, 1094 \overline 795  P \P 1470 \PackageWarning 126 \PDL,_\CTL,_\ 1476 \Percontra 738 \percontra 721 \PH 1004 \Pi 1300 \pi 1057, 1069, 1424, 1617 \playset 1070, 1071, 1618, 1619 \PlaySet,\playFun 1069, 1617 \playsym 1069, 1071, 1617, 1619 \PlrFun 1045	\QCTL	\seqoflet
\Opr 1405 \outfun 1093, 1094 \overline 795  P \P 1470 \PackageWarning 126 \PDL,_\CTL,_\ 1476 \Percontra 738 \percontra 721 \PH 1004 \Pi 1300 \pi 1057, 1069, 1424, 1617 \playset 1070, 1071, 1618, 1619 \PlaySet,\playFun 1069, 1617 \playsym 1069, 1071, 1617, 1619 \PlrFun 1045 \plrfun 1045 \plrfun 1045	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
\Opr 1405 \outfun 1093, 1094 \overline 795  P \P 1470 \PackageWarning 126 \PDL, \( \)\CTL, \( \) 1476 \Percontra 738 \percontra 721 \PH 1004 \Pi 1300 \pi 1057, 1069, 1424, 1617 \playset 1070, 1071, 1618, 1619 \PlaySet, \playFun 1069, 1617 \playsym 1069, 1071, 1617, 1619 \PlrFun 1045, 1046 \PlrSym 1041, 1042, 1064, 1065, 1076, 1077, 1590, 1591, 1612, 1613, 1624, 1625	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
\Opr 1405 \outfun 1093, 1094 \overline 795  P \P 1470 \PackageWarning 126 \PDL, \( \)\CTL, \( \) 1476 \Percontra 738 \percontra 721 \PH 1004 \Pi 1300 \pi 1057, 1069, 1424, 1617 \playset 1070, 1071, 1618, 1619 \PlaySet, \playFun 1069, 1617 \playsym 1069, 1071, 1617, 1619 \PlrFun 1045, 1046 \PlrSym 1041, 1042, 1064, 1065, 1076, 1077, 1590, 1591, 1612, 1613, 1624, 1625	\QCTL	Seqoflet   288, 418, 546, 565, 578, 591, 604, 646, 659, 673, 686     Seqoflow   284, 289, 414     Seqoftag   257, 267, 269     Seqofupp   286, 289, 416     Sequence,
\Opr 1405 \outfun 1093, 1094 \overline 795  P \P 1470 \PackageWarning 126 \PDL, \( \)\CTL, \( \) 1476 \Percontra 738 \percontra 721 \PH 1004 \Pi 1300 \pi 1057, 1069, 1424, 1617 \playset 1070, 1071, 1618, 1619 \PlaySet, \( \)\playFun 1069, 1617 \playsym 1069, 1071, 1617, 1619 \PlrFun 1045, 1046 \PlrSym 1041, 1042, 1064, 1065, 1076, 1077, 1590, 1591, 1612, 1613, 1624, 1625 \plrsym 1030, 1031	\QCTL	\seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	Seqoflet
\Opr 1405 \outfun 1093, 1094 \overline 795  P \P 1470 \PackageWarning 126 \PDL, \( \)\CTL, \( \) 1476 \Percontra 738 \percontra 721 \PH 1004 \Pi 1300 \pi 1057, 1069, 1424, 1617 \playset 1070, 1071, 1618, 1619 \PlaySet, \playFun 1069, 1617 \playsym 1069, 1071, 1617, 1619 \PlrFun 1045, 1046 \PlrSym 1041, 1042, 1064, 1065, 1076, 1077, 1590, 1591, 1612, 1613, 1624, 1625 \plrsym 1030, 1031 \PlrSym, \( \)\OppSym 1030 \pm 894, 902, 910 \posset	\QCTL	Seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet \\ \\ \\ \\ \\ \ \ \ \ \ \ \ \ \ \ \
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet \\ \\ \\ \\ \\ \ \ \ \ \ \ \ \ \ \ \
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	Seqoflet
\Opr \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\QCTL	\seqoflet \\ \\ \\ \\ \\ \ \ \ \ \ \ \ \ \ \ \

\SetZ, <sub>□</sub> <u>891</u>	\TL,_\PL,_\ <u>1346</u>	\UFEGSL 1730
\SetZI 893	\top 1170	\UFNGSL 1764
\SetZNI 897	\treeset 1856, 1857	\UFOGSL 1662
\SetZPI 895	\TreeSet,	\UFSL 1645
\sffamily 450	\treesym 1855, 1857	\UFXGSL 1781
\Sigma 1298, 1828	\triangleq 768	\ULTL 1461
\sigma 1073, 1621, 1827	\trn 800	\UMC 1437
\Signature <u>1906</u>	\trnFun 1830	
\sim	\trnsym 1830, 1831	\UML 1402
	,	\UNGSL 1756
\skm	\True,_\False <u>1911</u>	\UOGSL 1654
\SL,	\Tt, <sub>□</sub> \Ff	\upharpoonright 848
\SO 1312, 1318, 1324	\ttsym 1170, 1171	\upshape 328
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\strsym	\txtgen@true	502, 504, 509, 511, 513,
1073, 1075, 1077, 1079,	54, 67, 78, 84, 89, 94	515, 517, 522, 524, 526,
		528, 530, 535, 537, 539,
1621, 1623, 1625, 1627		541, 543, 548, 550, 552,
\sttset	1162, 1227, 1229, 1310,	554, 556, 567, 569, 571,
1595, 1596, 1597, 1599,	1312, 1316, 1318, 1322,	573, 575, 580, 582, 584,
1821, 1822, 1823, 1825	1324, 1328, 1330, 1334,	, , , , , , , , ,
\SttSet, <u>1594</u> , <u>1820</u>	1336, 1351, 1355, 1359,	586, 588, 593, 595, 597,
\sttsym	1363, 1367, 1374, 1378,	599, 601, 606, 608, 610,
1594, 1596, 1598, 1600,	1382, 1386, 1390, 1399,	612, 614, 636, 638, 642,
1820, 1822, 1824, 1826	1434, 1447, 1458, 1485,	648, 650, 652, 654, 656,
		661, 663, 665, 667, 669,
\stx	1489, 1500, 1504, 1515,	675, 677, 679, 681, 683,
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\sucfun 1085, 1086	1553, 1564, 1568, 1641,	1171, 1173, 1175, 1177,
\svarset 1342, 1343	1658, 1675, 1692, 1709,	
\SVarSet,	1726, 1743, 1760, 1777	1179, 1181, 1183, 1185,
\svarsym 1341, 1343	\txtname, 449	1187, 1189, 1193, 1194,
\symset 1828, 1829	\txtoarg 321	1195, 1196, 1197, 1198,
(bymbcc 1020, 1020		1100 1009 1004 1005
\ CrmCo+ 1997		1199, 1203, 1204, 1205,
\SymSet,	\txtopar <u>325</u>	1199, 1203, 1204, 1205, 1206, 1236, 1237, 1243,
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	\txtopar	1206, 1236, 1237, 1243,
\symsym 1827, 1829	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262,
\symsym 1827, 1829 T	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405,
\symsym 1827, 1829  T \tab@false 115, 117	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465,
\symsym 1827, 1829 T	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469,
\symsym 1827, 1829  T \tab@false 115, 117 \tab@true 116	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473,
T \tab@false 115, 117 \tab@true 116 \tau 1607	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788
T \tab@false 115, 117 \tab@true 116 \tau 1607 \TAutSet 1849	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473,
T \tab@false 115, 117 \tab@true 116 \tau 1607 \TAutSet 1849 \tautset 1849, 1850	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788  \usrmthgrklet
T \tab@false 115, 117 \tab@true 116 \tau 1607 \TAutSet 1849 \tautset 1849, 1850 \terset 1254, 1255	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet
T \tab@false 115, 117 \tab@true 116 \tau 1607 \TAutSet 1849, 1850 \terset 1254, 1255 \tersig 1251, 1252	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet
T \tab@false 115, 117 \tab@true 116 \tau 1607 \TAutSet 1849 \tautset 1849, 1850 \terset 1254, 1255	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthgrkupp 409 \usrmthlatlet
T \tab@false 115, 117 \tab@true 116 \tau 1607 \TAutSet 1849, 1850 \terset 1254, 1255 \tersig 1251, 1252	\txtopar	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet
T \tab@false	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthgrkupp 409 \usrmthlatlet
T \tab@false	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
T \tab@false	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthgrkupp 409 \usrmthlatlet 405 \usrmthlatlow 401 \usrmthlatupp 403, 1035, 1050, 1169, 1213,
T \tab@false	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	$\begin{array}{c} 1206,\ 1236,\ 1237,\ 1243,\\ 1249,\ 1250,\ 1256,\ 1262,\\ 1263,\ 1299,\ 1301,\ 1405,\\ 1406,\ 1407,\ 1464,\ 1465,\\ 1466,\ 1467,\ 1468,\ 1469,\\ 1470,\ 1471,\ 1472,\ 1473,\\ 1525,\ 1526,\ 1787,\ 1788\\ \verb \usrmthgrklet                                    $
T \tab@false	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthgrkupp 405 \usrmthlatlet 405 \usrmthlatlow 401 \usrmthlatlow 401 \usrmthlatlop 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270,
T \tab@false	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthgrkupp 405 \usrmthlatlet 405 \usrmthlatlow 401 \usrmthlatlow 401 \usrmthlatlop 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270, 1272, 1414, 1581, 1815
T  \tab@false	\txtopar 325 \txtpar 323 \txtsty 323 \txtsty 437 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtsubsup 295, 314  U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1671 \UCGSL 1671 \UCTL 1492	$\begin{array}{c} 1206,\ 1236,\ 1237,\ 1243,\\ 1249,\ 1250,\ 1256,\ 1262,\\ 1263,\ 1299,\ 1301,\ 1405,\\ 1406,\ 1407,\ 1464,\ 1465,\\ 1466,\ 1467,\ 1468,\ 1469,\\ 1470,\ 1471,\ 1472,\ 1473,\\ 1525,\ 1526,\ 1787,\ 1788\\ \\ \verb vsrmthgrklet                                     $
T \tab@false	\txtopar \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	$\begin{array}{c} 1206,\ 1236,\ 1237,\ 1243,\\ 1249,\ 1250,\ 1256,\ 1262,\\ 1263,\ 1299,\ 1301,\ 1405,\\ 1406,\ 1407,\ 1464,\ 1465,\\ 1466,\ 1467,\ 1468,\ 1469,\\ 1470,\ 1471,\ 1472,\ 1473,\\ 1525,\ 1526,\ 1787,\ 1788\\ \\ \verb  usrmthgrklet                                    $
T  \tab@false	\txtopar 325 \txtpar 323 \txtsty 323 \txtsty 437 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtsubsup 295, 314  U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1671 \UCGSL 1671 \UCTL 1492	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthgrklow 405 \usrmthlatlet 405 \usrmthlatlow 401 \usrmthlatupp 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270, 1272, 1414, 1581, 1815 \usrmthlow 417, 559, 561 \usrmthlow 413 \usrmthlow 415
T \tab@false	\txtopar 325 \txtpar 323 \txtsty 323 \txtsty 437 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtstyname 295, 314  \U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1671 \UCTL 1492 \UCTLP 1507	$\begin{array}{c} 1206,\ 1236,\ 1237,\ 1243,\\ 1249,\ 1250,\ 1256,\ 1262,\\ 1263,\ 1299,\ 1301,\ 1405,\\ 1406,\ 1407,\ 1464,\ 1465,\\ 1466,\ 1467,\ 1468,\ 1469,\\ 1470,\ 1471,\ 1472,\ 1473,\\ 1525,\ 1526,\ 1787,\ 1788\\ \\ \verb  usrmthgrklet                                    $
T \tab@false	\txtopar 325 \txtpar 323 \txtsty 318, 320, 322, 324, 326, 327 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtsubsup 295, 314  U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1671 \UBGSL 1671 \UBGSL 1671 \UBGSL 1671 \UBGSL 1688	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthlatlet 405 \usrmthlatlow 401 \usrmthlatlop 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270, 1272, 1414, 1581, 1815 \usrmthlow
T \tab@false	\txtopar 325 \txtpar 323 \txtsty  318, 320, 322, 324, 326, 327 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtsubsup 295, 314  U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1739 \UCGSL 1671 \UCTL 1492 \UCTLP 1507 \UCTLS 1522 \UDGSL 1688 \UEGSL 1722	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthlatlet 405 \usrmthlatlow 401 \usrmthlatlop 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270, 1272, 1414, 1581, 1815 \usrmthlow 413 \usrmthupp
T \tab@false	\txtopar 325 \txtpar 323 \txtsty  318, 320, 322, 324, 326, 327 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtsubsup 295, 314  U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1739 \UCGSL 1671 \UCTL 1492 \UCTLP 1507 \UCTLS 1522 \UDGSL 1688 \UEGSL 1722 \UDGSL 1688 \UEGSL 1733	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthlatlet 405 \usrmthlatlet 401 \usrmthlatlow 401 \usrmthlatlow 401 \usrmthlatlop 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270, 1272, 1414, 1581, 1815 \usrmthlet 417, 559, 561 \usrmthlow 413 \usrmthup 415 \usrmthup 415 \usrmthusrtxt
T \tab@false	\txtopar 325 \txtpar 323 \txtsty  318, 320, 322, 324, 326, 327 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtsubsup 295, 314  U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1739 \UCGSL 1671 \UCTL 1492 \UCTLP 1507 \UCTLS 1522 \UDGSL 1688 \UEGSL 1722 \UFAGSL 1733 \UFBGSL 1733 \UFBGSL 1733	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthlatlet 405 \usrmthlatlow 401 \usrmthlatlow 401 \usrmthlatlop 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270, 1272, 1414, 1581, 1815 \usrmthlow 417, 559, 561 \usrmthlow 413 \usrmthlow 415 \usrmthlow 415 \usrmthlow 415 \usrmthlow
T \tab@false	\txtopar 325 \txtpar 323 \txtsty  318, 320, 322, 324, 326, 327 \txtstyabr 437 \txtstycom 462 \txtstydef 425 \txtstyname 450 \txtsubsup 295, 314  U \UAGSL 1705 \UATL 1541 \UATLP 1556 \UATLS 1571 \UBF 1165 \UBGSL 1739 \UCGSL 1739 \UCGSL 1671 \UCTL 1492 \UCTLP 1507 \UCTLS 1522 \UDGSL 1688 \UEGSL 1722 \UDGSL 1688 \UEGSL 1733	1206, 1236, 1237, 1243, 1249, 1250, 1256, 1262, 1263, 1299, 1301, 1405, 1406, 1407, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1525, 1526, 1787, 1788 \usrmthgrklet 411 \usrmthgrklow 407 \usrmthlatlet 405 \usrmthlatlet 401 \usrmthlatlow 401 \usrmthlatlow 401 \usrmthlatlop 403, 1035, 1050, 1169, 1213, 1232, 1239, 1245, 1252, 1258, 1266, 1268, 1270, 1272, 1414, 1581, 1815 \usrmthlet 417, 559, 561 \usrmthlow 413 \usrmthup 415 \usrmthup 415 \usrmthusrtxt

$\mathbf{V}$	\WATLS 1563	\wrdset 1836, 1837
\valset 1215, 1216	\WAutSet <u>1818</u>	\WrdSet, <u>1835</u>
\ValSet, <sub>□</sub> <u>1214</u>	\wautset 1818, 1819	\wrdsym 1835, 1837
\valsym 1214, 1216	\WCTL 1484	\wrlset 1416, 1417
$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	\WCTLP 1499	\WrlSet, <sub>□</sub> <u>1415</u>
808, 809, 810, 811, 812,	\WCTLS 1514	\wrlsym 1415, 1417, 1418
813, 814, 815, 816, 817, 818	\wghset 1146, 1147	\wrpfig@false 111
\varepsilon 960	\WghSet, $_{\sqcup}$ \wghFun $\underline{1145}$	\wrpfig@true 110
\varnothing 834, 853	\wghsym 1145, 1147	\wrt <u>755</u>
\varset 1234, 1235	\widehat 799	\WSO 1311
\varsig 1231, 1232	\widetilde 801	\WSOL 1309
\VarSig, <sub>□</sub> <u>1231</u>	\WinSet <u>1051</u>	\WTL 1350
\varsym 1233, 1235	\winset 1051, 1052	
\vec <u>802</u>	\Wlogx	$\mathbf{X}$
\vert 821, 823	\wlogx <u>756</u>	\X, <sub>\(\omega\)</sub> 1464
\Viceversa <u>740</u>	\WMPL 1385	\XGSL 1768, 1772, 1774
\viceversa <u>723</u>	\WMSO 1329	$\xspace{$\setminus$xGSL}$ $1675$ , $1692$ , $1709$ ,
\viz	\WMSOL 1327	1726, 1743, 1760, 1777
\vs	\WMTL 1362	\xi 1080, 1214, 1628
	\wotFun <u>1858</u>	\xspace 295
$\mathbf{W}$	\wotfun 1858, 1859	
\WATL 1533	\wp 1200	$\mathbf{Y}$
\WATLP 1548	\WPL 1373	\Y, <sub>□</sub> <u>1469</u>