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

```
2
3 \RequirePackage{etoolbox}
4
5 \RequirePackage{xargs}
6 \RequirePackage{xspace}
7 \RequirePackage{stringstrings}
8
9 \RequirePackage{loops}
10
```

Required external packages:

11 \RequirePackage{amsmath}

12 \RequirePackage{amssymb}

13 \interdisplaylinepenalty=2500

36 \DeclareOption{nomath}{\math@false}

14

1 (*package)

```
Package options:
16 %% Text macro generation
17 \newif\iftxtgen@ \txtgen@false
18 \DeclareOption{txtgen}{\txtgen@true}
19 \DeclareOption{notxtgen}
    {\txtgen@false\text@false\com@false\log@false\aut@false}
22 %% Math macro generation
23 \newif\ifmthgen@ \mthgen@false
24 \DeclareOption{mthgen}{\mthgen@true}
25 \DeclareOption{nomthgen}
    {\mthgen@false\math@false\gam@false\log@false\aut@false}
27
28 %% Elementary macros for text
29 \newif\iftext@ \text@false
30 \DeclareOption{text}{\text@true\txtgen@true}
31 \DeclareOption{notext}{\text@false}
33 %% Elementary macros for math
34 \newif\ifmath@ \math@false
35 \DeclareOption{math}{\math@true\mthgen@true}
```

^{*}This document describes version v0.0 of the fmocdmac package, last revised 2020/12/31.

```
37
38 %% Macros for computational-complexity classes
39 \newif\ifcom@ \com@false
40 \DeclareOption{com}{\com@true\txtgen@true}
41 \DeclareOption{nocom}{\com@false}
43 %% Macros for games
44 \newif\ifgam@ \gam@false
45 \DeclareOption{gam}{\gam@true\txtgen@true\mthgen@true}
46 \DeclareOption{nogam}{\gam@false}
47
48 %% Macros for logics
49 \newif\iflog@ \log@false
50 \DeclareOption{log}{\log@true\txtgen@true\mthgen@true}
51 \DeclareOption{nolog}{\log@false}
53 %% Macros for automata
54 \newif\ifaut@ \aut@false
55 \DeclareOption{aut}{\aut@true\txtgen@true\mthgen@true}
56 \DeclareOption{noaut}{\aut@false}
57
58 %% Format-related tricks
59 \newif\iffrm@ \frm@false
60 \DeclareOption{frm}{\frm@true}
61 \DeclareOption{nofrm}{\frm@false}
63 %% Figure-related tricks
64 \newif\iffig@ \fig@false
65 \DeclareOption{fig}{\fig@true}
66 \DeclareOption{nofig}{\fig@false}
68 %% Table-related tricks
69 \newif\iftab@ \tab@false
70 \DeclareOption{tab}{\tab@true}
71 \DeclareOption{notab}{\tab@false}
73 %% Algorithm-related tricks
74 \newif\ifalg@ \alg@false
75 \DeclareOption{alg}{\alg@true}
76 \DeclareOption{noalg}{\alg@false}
78 %% Auxiliary tricks
79 \newif\ifaux@ \aux@false
80 \DeclareOption{aux}{\aux@true}
81 \DeclareOption{noaux}{\aux@false}
83 %% Camera-ready version
84 \newif\ifcrv@ \crv@false
85 \DeclareOption{crv}{\crv@true}
 Option-processing code:
88 \DeclareOption*{\PackageWarning{fmocdmac}{Unknown~\CurrentOption}}%
90 \ExecuteOptions{txtgen,mthgen,text,math,com,gam,log,aut,aux}%
92 \ProcessOptions\relax%
```

\matheus Eus Math Font: ... to do!

```
97 \ifdef{\matheus}{}{\DeclareMathAlphabet{\matheus}{U}{eus}{m}{n}}
    \mathpzc Pzc Math Font: ... to do!
                       98 \ifdef{\mathpzc}{}{\DeclareMathAlphabet{\mathpzc}{T1}{pzc}{m}{it}}
    \mathscr Scr Math Font: ... to do!
                       99 \ifdef{\mathscr}{}{\DeclareMathAlphabet{\mathscr}{U}{rsfs}{m}{n}}
                      \omicron Auxiliary Greek lowercase letter: ... to do!
                     104 \csdef{omicron}{o}
\Alpha, ... Auxiliary Greek uppercase letters: ... to do!
                      105 \csdef{Alpha}{A} \csdef{Beta}{B} \csdef{Epsilon}{E} \csdef{varEpsilon}{E}
                      106 \texttt{\Zeta}{Z} \texttt{\Csdef}{Eta}{H} \texttt{\Csdef}{Iota}{I} \texttt{\Csdef}{Kappa}{K}
                      107 \csdef{varKappa}{K} \csdef{Mu}{M} \csdef{Nu}{N} \csdef{Omicron}{O}
                      108 \end{P} \csdef{Rho}{P} \csdef{Tau}{T} \csdef{Chi}{X}
                      \empthempth Emptiness check: \empchk{\langle A\rangle} {\langle B\rangle} 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"
                      113 \newcommand{\empchk}[2]
                             {\left\{ if \&#1\& else#2\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"
                      115 \newcommand{\defval}[2]
                             {\left\{ if & 1 & 2 \leq 1 \leq 1 \right\}}
                      \arglef Left extension: \arglef{\langle}\langle} \equiv \langle \lang
                    Argument \langle B \rangle is non-empty, and to the empty string, otherwise.
                          • \arglef{A}{} = ""
                          • \arglef{A}{B} = "AB"
                      118 \newcommand{\arglef}[2]
                             {\empchk{#2}{#1\allowbreak#2}}
      \argrig
                   Right extension: \operatorname{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"
                      120 \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"
               122 \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
     \argsep
               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"
                124 \newcommand{\argsep}[3]
                    {\left \frac{1}{k}1\&\#3\right }
                Variadic commands: \operatorname{Varcmd}\{\langle A \rangle\}\{\langle B \rangle\}\{\langle C \rangle\}\{\langle E \rangle\}\{\langle F \rangle\} \dots to do!
               127 \newcommand{\varcmd}[6]
                     {\expandafter\newcommand\csname gobble#1arg\endcsname[2]
               129
                       {\csname check#1arg\endcsname{\argsep{##1}{#4}{##2}}}%
               130
                     \expandafter\newcommand\csname check#1arg\endcsname[1]
               131
                       {\csname @ifnextchar\endcsname%
                         \bgroup{\csname gobble#1arg\endcsname{##1}}{#2{##1#5}#6}}%
               132
                     \expandafter\newcommand\csname#1\endcsname[1]
               133
                       {\csname check#1arg\endcsname{#3##1}}}
               134
               \seqoftag Sequence of tags: \seqoftag\{\langle A \rangle\}\{\langle B \rangle\}\{\langle C \rangle\} ... to do!
               136 \newcommand{\seqoftag}[3]
               137
                     {\newforeach \itr in {#1}%
               138
                       {\expandafter\csedef{\itr#2}%
               139
                         {\noexpand\csname #3\endcsname{\itr}}}
              Sequence of commands: \sqoign{A}{\langle A \rangle} {\langle A \rangle} {\langle C \rangle} \dots \text{ to do!}
               140 \newcommand{\seqofcmd}[3]
                     {\newforeach \itr in {#1}%
               142
                       {\expandafter\csedef{\itr#2}%
               143
                         {\noexpand\csname #3\endcsname{\csname \itr\endcsname}}}}
               \seqoflatlow
              Sequence of Latin lowercase letters: \seqoflatlow{\langle A \rangle}{\langle B \rangle} ... to do!
               145 \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!
               147 \newcommand{\seqoflatupp}
                     \label{eq:local_continuity} $$\{A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z\}\}$
\seqoflatlet Sequence of Latin letters: \seqoflatlet\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
               149 \newcommand{\seqoflatlet}[2]
                     {\seqoflatlow{#1}{\#2}\seqoflatupp{#1}{\#2}}
               Sequence of Greek lowercase letters: \seqofgrklow{\langle A \rangle}{\langle B \rangle} ... to do!
\seqofgrklow
               152 \newcommand{\seqofgrklow}
                     {\seqofcmd{alpha,beta,gamma,delta,epsilon,varepsilon,zeta,eta,theta,vartheta,%
               153
                     iota, kappa, varkappa, lambda, mu, nu, xi, omicron, pi, varpi, rho, varrho, sigma, %
                155
                     varsigma,tau,upsilon,phi,varphi,chi,psi,omega}}
```

```
\seqofgrkupp Sequence of Greek uppercase letters: \seqofgrkupp\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
               156 \newcommand{\seqofgrkupp}
                    Iota, Kappa, varKappa, Lambda, Mu, Nu, Xi, Omicron, Pi, varPi, Rho, varRho, Sigma, %
                    varSigma,Tau,Upsilon,Phi,varPhi,Chi,Psi,Omega}}
\seqofgrklet Sequence of Greek letters: \seqofgrklet\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
               160 \newcommand{\seqofgrklet}[2]
                   {\seqofgrklow{#1}{#2}\seqofgrkupp{#1}{#2}}
               \seqoflow Sequence of lowercase letters: \seqoflow{\langle A \rangle}{\langle B \rangle} ... to do!
               163 \newcommand{\seqoflow}[2]
               164 {\seqoflatlow{#1}{#2}\seqofgrklow{#1}{#2}}
   \seqofupp Sequence of uppercase letters: \seqofupp\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
               165 \newcommand{\seqofupp}[2]
                   {\seqoflatupp{#1}{#2}\seqofgrkupp{#1}{#2}}
   \seqoflet Sequence of all letters: \seqoflet\{\langle A \rangle\}\{\langle B \rangle\} ... to do!
               167 \newcommand{\seqoflet}[2]
                   {\seqoflow{#1}{#2}\seqofupp{#1}{#2}}
               \newtxt ... to do!
                 • \newtxt[\rmfamily]{Name}[sub][sup][Ext] = "Name_sup_Ext"
                 • \newtxt[\sffamily]{Name}[sub][sup][Ext] = "Name_sup_Ext"
                 • \newtxt[\ttfamily]{Name}[sub][sup][Ext] = "Name_sub_Ext"
               173 \newcommandx{\newtxt}[5][1=, 3=, 4=, 5=]
                   {\texttt{\{1#2\txtsubsup[#1]{#3}{#4}$$}\xspace}
  \newtxtsty ... to do!
                 • \newtxtsty{\rmfamily}{Name}[sub][sup][Ext] = "Name_sub_Ext"
                 • \newtxtsty{\rmfamily}[\sffamily]{Name}[sub][sup][Ext] = "Name_sub_Ext"
                 • \newtxtsty{\rmfamily}[\ttfamily]{Name}[sub][sup][Ext] = "Name_sub_Ext"
               175 \newcommandx{\newtxtsty}[2][2=]
                   {\newtxt[\defval{#2}{#1}]}
  \newtxtarg ... to do!
                 • \newtxtarg[\rmfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_sup_Ext1(Arg)Ext2"
                 • \mbox{\ensuremath{\texttt{Name}}[sub][sup][Ext1]_{Arg}[Ext2] = "Name_{sub}^{sup}Ext1(Arg)Ext2"}
                 • \newtxtarg[\ttfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_sub_Ext1(Arg)Ext2"
               177 \newcommandx{\newtxtarg}[7][1=, 3=, 4=, 5=, 7=]
                   {\newtxt[#1]{#2}[#3][#4][#5\argmid{(}{#6}{)}#7]}
\newtxtargsty ... to do!
                 • \newtxtargsty{\rmfamily}{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_sup_Ext1(Arg)Ext2"
                 • \newtxtargsty{\rmfamily}[\sffamily]{\Name}[sub][sup][Ext1]{Arg}[Ext2] = "Namesup Ext1(Arg)Ext2"
                 • \newtxtargsty{\rmfamily}[\ttfamily]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name_sub_ext1(Arg)Ext2"
               179 \newcommandx{\newtxtargsty}[2][2=]
                   {\newtxtarg[\defval{#2}{#1}]}
  \newtxtoarg \dots to \operatorname{do}!
```

```
• \newtxtoarg[\mbox{\sc Name}] {\newtxtoarg[\mbox{\sc Name}] [\mbox{\sc Sub}] [\mbox{\sc Sub}] [\mbox{\sc Arg}] = "Name}_{sub}^{sup} (\mbox{\sc Arg})"
                                                                   • \newtxtoarg[\sffamily]{Name}[sub][sup][Arg] = "Name_sup(Arg)"
                                                                   • \newtxtoarg[\ttfamily]{Name}[sub][sup][Arg] = "Name sub (Arg)"
                                                          181 \newcommandx{\newtxtoarg}[5][1=, 3=, 4=, 5=]
                                                                            {\newtxtarg[#1]{#2}[#3][#4][]{#5}[]}
\newtxtoargsty ... to do!
                                                                  • \new txtoargsty{\mbox{\mbox{\mbox{$Name$} [sub] [sup] [Arg] = "Name}_{sub}^{sup}(Arg)"}
                                                                  • \newtxtoargsty{\rmfamily}[\sffamily]{Name}[sub][sup][Arg] = "Name_sub_(Arg)"
                                                                   • \newtxtoargsty{\rmfamily}[\ttfamily]{Name}[sub][sup][Arg] = "Name_sup_(Arg)"
                                                          183 \newcommandx{\newtxtoargsty}[2][2=]
                                                                            {\newtxtoarg[\defval{#2}{#1}]}
             \newtxtpar ... to do!
                                                                  • \newtxtpar[\rmfamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name_{\text{sub}}^{\text{sup}}Ext1[Par]Ext2"
                                                                  • \newtxtpar[\sffamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name_sub_Ext1[Par]Ext2"
                                                                   • \newtxtpar[\ttfamily]{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name_sup_Ext1[Par]Ext2"
                                                          185 \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_{\rm sub}^{\rm sup}Ext1[Par]Ext2"
                                                                    \bullet \texttt{\newtxtparsty}(\texttt{\normally}[\texttt{\normally}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\normall}][\texttt{\norma
                                                                  • \newtxtparsty{\rmfamily}[\ttfamily]{\Name}[sub][sup][Ext1]{\Par}[Ext2] = "\Name\sub_Sub_Ext1[\Par]Ext2"
                                                           187 \newcommandx{\newtxtparsty}[2][2=]
                                                                        {\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]"
                                                          189 \newcommandx{\newtxtopar}[5][1=, 3=, 4=, 5=]
                                                                           {\newtxtpar[#1]{#2}[#3][#4][]{#5}[]}
\newtxtoparsty ... to do!
                                                                  • \newtxtoparsty{\rmfamily}{Name}[sub][sup][Par] = "Name_sub_[Par]"
                                                                  \bullet \ \texttt{\newtxtoparsty}\{\texttt{\normaliy}[\texttt{\normaliy}]\{\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\normaliy}][\texttt{\norm
                                                                   • \newtxtoparsty{\rmfamily}[\ttfamily]{Name}[sub][sup][Par] = "Name_sub_[Par]"
                                                          191 \newcommandx{\newtxtoparsty}[2][2=]
                                                                         {\newtxtopar[\defval{#2}{#1}]}
             \txtsubsup ... to do!
                                                                  • \txtsubsup{sub}{} = "_{\text{sub}}"; \txtsubsup{}{\sup} = "_{\text{sup}}"; \txtsubsup{sub}{\sup} = "_{\text{sub}}"
                                                                   • \t \ (Bb) = "Bb" Aa (Bb) = "Aa"
                                                                   • \txtsubsup[\ttfamily]{Aa}{Bb} = "Bb" Aa
                                                          193 \newcommand{\txtsubsup}[3][]
                                                                        \txt ... to do!
                                                                  • \txt{Name}[sub][sup][Ext] = "Name_sub_Ext"
                                                                   • \txt[\scshape]{Name}[sub][sup][Ext] = "NAME_SUB_EXT"
```

• \txt[\bfseries]{Name}[sub][sup][Ext] = "Name_sub_Ext"

```
196 \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[\schape]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "NAME_{SUB}^{SUP}EXT1(ARG)EXT2"
                   \qquad \qquad \text{`txtarg[\bfseries] \{Name\}[sub] [sup] [Ext1] \{Arg\}[Ext2] = "Name_{sub}^{sup}Ext1(Arg)Ext2" } 
                198 \newcommand{\txtarg}
                    {\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^{\sup}_{sub}(Arg)"
                200 \newcommand{\txtoarg}
                     {\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_EXT1[PAR]EXT2"
                   \bullet \texttt{ \txtpar[\bfseries] \{Name\}[sub] [sup] [Ext1] \{Par\} [Ext2] = "Name_{sub}^{sup} Ext1[Par] Ext2" } 
                202 \newcommand{\txtpar}
                   {\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]"
               204 \newcommand{\txtopar}
                   {\newtxtoparsty{\txtsty}}
    \txtsty ... to do!
               206 \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}]
                209 \newcommand{\cmdtxt}[1]
                   {\csdef{txt#1}{\newtxtsty{\csname txtsty#1\endcsname}}}
 \cmdtxtarg ... to do!
                  • \cmdtxtarg{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                    \verb|\txtargNewCmd{Name}[sub][sup][Ext1]{Arg}[Ext2] = \verb|\Name| Sup Ext1(Arg)Ext2|
                211 \newcommand{\cmdtxtarg}[1]
               212 {\csdef{txtarg#1}{\newtxtargsty{\csname txtsty#1\endcsname}}}
\cmdtxtoarg ... to do!
                  • \cmdtxtoarg{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                    \t \sum_{SUB} [Sub] [Sup] [Arg] = NAME_{SUB} (Arg)
                213 \newcommand{\cmdtxtoarg}[1]
               214 {\csdef{txtoarg#1}{\newtxtoargsty{\csname txtsty#1\endcsname}}}
 \cmdtxtpar ... to do!
```

```
• \cmdtxtpar{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                                                       215 \newcommand{\cmdtxtpar}[1]
                                                        {\csdef{txtpar#1}{\newtxtparsty{\csname txtsty#1\endcsname}}}
\cmdtxtopar ... to do!
                                                  • \cmdtxtopar{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                                                       \verb|\txtoparNewCmd{Name}[sub][sup][Par] = \verb|\NAME_{SUB}^{SUP}[PAR]|
                                          217 \newcommand{\cmdtxtopar}[1]
                                                      {\csdef{txtopar#1}{\newtxtoparsty{\csname txtsty#1\endcsname}}}
  \cmdtxtall ... to do!
                                                  • \cmdtxtall{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
                                                       \txtNewCmd{Name}[sub][sup][Ext] = Name_{SUB}^{SUP}Ext
                                                       \verb|\txtoargNewCmd{Name}[sub][sup][Arg] = \verb|\NAME_{SUB}^{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}
                                                       \verb|\txtoparNewCmd{Name}[sub][sup][Par]| = \verb|\NAME_{SUB}^{SUP}[PAR]|
                                          219 \newcommand{\cmdtxtall}[1]
                                          220 {\cmdtxt{#1}\cmdtxtarg{#1}\cmdtxtoarg{#1}\cmdtxtpar{#1}\cmdtxtopar{#1}}
                                          \usrtxt ... to do!
                                                  • \usrtxt{cmdName}{Suf}{}; \cmdNameSuf = cmdName
                                                       \t CmdName {Suf}{arg}; \t Arg} = cmdName (Arg)
                                                        \t {cmdName} {Suf} {par}; \t {Par} = cmdName [Par]
                                                  • \usrtxt{cmdName}{Suf}{}[newName]; \cmdNameSuf = newName
                                                        \t {cmdName} {Suf} {arg} [newName]; \t {Arg} = newName(Arg)
                                                        \t {cmdName} {Suf} {par} [newName]; \t {Par} = newName [Par]
                                          222 \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"
                                           228 \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"
                                           230 \newcommandx{\newmthsty}[2][2=]
                                                       {\text{\newmth}[\defval{#2}{#1}]}
  \newmtharg ... to do!
                                                   \bullet \texttt{ \  \  } \texttt{ \  \  \  } \texttt{ \  \  \  } \texttt{ \  \  } 
                                                   \bullet \verb| \newmtharg[mathsf]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name|_{sub}^{sup}Ext1(Arg)Ext2" 
                                                   \bullet \texttt{ \  \  } \texttt{ \  \  \  } \texttt{ \  \  \  } \texttt{ \  \  \  } \texttt{ \  \  } \texttt{ \  \  } \texttt{ \  \  \  } \texttt{ \  \  } \texttt{ \  \  \  } \texttt{ \  \  } \texttt{ \  \  \  }
                                           232 \newcommandx{\newmtharg}[7][1=, 3=, 4=, 5=, 7=]
                                           233 {\newmth[#1]{#2}[#3][#4][#5\argmid{\!\left(}{#6}{\right)\!}#7]}
```

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\newmthargsty ... to do!
                                                                                                      \bullet \verb| \normal| with the property of the least of the le
                                                                                                     \bullet \ \texttt{\normalfine} \ 
                                                                                                       \bullet \verb| \newmthargsty{mathrm}[mathtt]{Name}[sub][sup][Ext1]{Arg}[Ext2] = "Name $^{sup}_{sub}Ext1(Arg)Ext2" | The substitution of the substitution 
                                                                                          234 \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)"
                                                                                          236 \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)"
                                                                                                      • \newmthoargsty{mathrm} [mathtt] {Name} [sub] [sup] [Arg] = "Name_{sub}^{sup}(Arg)"
                                                                                          238 \newcommandx{\newmthoargsty}[2][2=]
                                                                                                            {\text{\newmthoarg[\defval{#2}{#1}]}}
                     \newmthpar ... to do!
                                                                                                     • \newmthpar[mathrm] {Name} [sub] [sup] [Ext1] {Par} [Ext2] = "Name_{sub}^{sup} Ext1[Par] Ext2"
                                                                                                      \bullet \verb| \newmthpar[mathtt]{Name}[sub][sup][Ext1]{Par}[Ext2] = \verb| "Name| | sub| Ext1[Par] Ext2" | sub| Ext1[Par] Ext2[Par] Ext2[Par
                                                                                          240 \newcommandx{\newmthpar}[7][1=, 3=, 4=, 5=, 7=]
                                                                                                               {\newmth[#1]{#2}[#3][#4][#5\argmid{\!\left[}{#6}{\right]\!}#7]}
     \newmthparsty ... to do!
                                                                                                     • \newmthparsty{mathrm}{Name} [sub] [sup] [Ext1] {Par} [Ext2] = "Name_{sub}^{sup} Ext1[Par] Ext2"
                                                                                                       \bullet \verb| \newmthparsty{mathrm}| [mathsf]{Name}[sub][sup][Ext1]{Par}[Ext2] = "Name|_{sub}^{sup}Ext1[Par]Ext2" | \newmthparsty{mathrm}| [mathsf]{Name}[sub][sup][ext1][Par][ext2] | \newmthparsty{mathrm}| [mathsf][ext2][ext2] | \newmthparsty{mathrm}| [mathsf][ext2][ext2][ext2][ext2] | \newmthparsty{mathrm}| [mathsf][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2]
                                                                                                      242 \newcommandx{\newmthparsty}[2][2=]
                                                                                                                 {\newmthpar[\defval{#2}{#1}]}
                \newmthopar ... to do!
                                                                                                     • \newmthopar[mathrm] {Name} [sub] [sup] [Par] = "Name_{sub}^{sup}[Par]"
                                                                                                      • \newmthopar[mathsf]{Name}[sub][sup][Par] = "Name_{sub}^{sup}[Par]"
                                                                                                      • \newmthopar[mathtt]{Name}[sub][sup][Par] = "Name_{sub}^{sup}[Par]"
                                                                                          244 \newcommandx{\newmthopar}[5][1=, 3=, 4=, 5=]
                                                                                                                     {\newmthpar[#1]{#2}[#3][#4][]{#5}[]}
\newmthoparsty ... to do!
                                                                                                     • \newmthoparsty{mathrm}{Name}[sub][sup][Par] = "Name_{sub}^{sup}[Par]"
                                                                                                     246 \newcommandx{\newmthoparsty}[2][2=]
                                                                                                                   {\newmthopar[\defval{#2}{#1}]}
                     \mthsubsup ... to do!
                                                                                         248 \newcommand{\mthsubsup}[2]
                                                                                                               {\empchk{#1}{_{#1}}\empchk{#2}{^{#2}}}
```

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\mth ... to do!
                                                                                           \bullet \ \  \  \, \texttt{\bar{Name}} \  \  \, \texttt{\bar{[sub]}} \  \  \, \texttt{\bar{Ext]}} = "Name^{sup}_{sub} Ext"
                                                                                           • \mth[mathbf]{Name}[sub][sup][Ext] = "Name_{sub}^{sup}Ext"
                                                                                            251 \neq 0
                                                                             252 {\newmthsty{\mthsty}}
                     \mtharg ... to do!
                                                                                           \bullet \  \, \texttt{\bar{Name}[Sub][Sup][Ext1]\{Arg\}[Ext2]} = "Name^{sup}_{sub}Ext1(Arg)Ext2"
                                                                                           \bullet \ \texttt{\ \ } \texttt{[Ext1] \{Arg\}[Ext2]} = \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ } \texttt{Ext1}(Arg) \texttt{\ \ } \texttt{Ext2} \texttt{\ \ } \texttt{\ \ \ } \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ \ } \texttt{\ \ \ } \texttt{\ \ \ } \texttt{\ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ \ \ \ } \texttt{\ \ \ } \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ \ } \texttt{\ \ \ \ }} \texttt{\ \ \ \ \ \ } \texttt{\ \ \ \ \ } \texttt{\ \ \ \ }} \texttt{\ \ \ \ \ } \texttt{\ \ \ \ \ }} \texttt{\ \ \ \ \ \ } \texttt{\ 
                                                                                            \bullet \ \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ \ } \texttt{\ \ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ \ \ }} \texttt{\ \ \ \ }} \texttt{\ \ \
                                                                              253 \newcommand{\mtharg}
                                                                             254 {\text{mthsty}}
                 \mthoarg ... to do!
                                                                                           • \mthoarg{Name}[sub][sup] [Arg] = "Name_{sub}^{sup}(Arg)"
                                                                                             \bullet \verb| \t thoarg[mathbf]{Name}[sub][sup][Arg] = "Name_{sub}^{sup}(Arg)" \\
                                                                                            255 \newcommand{\mthoarg}
                                                                             256 {\newmthoargsty{\mthsty}}
                     \mthpar ... to do!
                                                                                           \bullet \  \  \, \texttt{\bare}[\mathtt{Sub}] \  \, \texttt{\bare}[\mathtt{Ext1}] \  \, \texttt{\bare}[\mathtt{Ext2}] \  \, = \  \, "Name^{sup}_{sub} Ext1[Par] Ext2"
                                                                                            • \mthpar[mathbf] {Name} [sub] [sup] [Ext1] {Par} [Ext2] = "Name _{sub}^{sup} Ext1[Par]Ext2"
                                                                                            \bullet \ \texttt{\mbox{\tt } mthpar[mathtt]{\tt } Name}[sub][sup][Ext1]{\tt Par}[Ext2] = \ \mbox{\tt } Name \\ sub \\ Ext1[Par]Ext2"
                                                                             257 \newcommand{\mthpar}
                                                                             258 {\newmthparsty{\mthsty}}
                 \mthopar ... to do!
                                                                                           • \mthopar{Name}[sub][sup][Par] = "Name_{sub}^{sup}[Par]"
                                                                                           • \mthopar[mathbf] {Name} [sub] [sup] [Par] = "Name_{sub}^{sup}[Par]"
                                                                                            \bullet \  \, \texttt{\bar}[mathtt] \, \{\texttt{Name}\} \, [\texttt{sub}] \, [\texttt{Sup}] \, [\texttt{Par}] \, = \, \text{\bar}[Par]"
                                                                             259 \newcommand{\mthopar}
                                                                                                   {\newmthoparsty{\mthsty}}
                     \mthsty ... to do!
                                                                             261 \newcommand{\mthsty}
                                                                             \cmdmth ... to do!
                                                                                           • \cmdmth{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
                                                                                                     \verb|\mthNewCmd{Name}[sub][sup][Ext] = \verb|\mame| sub| Ext|
                                                                              264 \newcommand{\cmdmth}[1]
                                                                                                   {\csdef{mth#1}{\newmthsty{mthsty#1}}}
     \cmdmtharg ... 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
                                                                                                     266 \newcommand{\cmdmtharg}[1]
                                                                                                 {\csdef{mtharg#1}{\newmthargsty{mthsty#1}}}
\cmdmthoarg ... to do!
                                                                                            \cmdmthoarg{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
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268 \newcommand{\cmdmthoarg}[1]
                                     {\csdef{mthoarg#1}{\newmthoargsty{mthsty#1}}}
     \cmdmthpar ... to do!
                                 \bullet \verb| \cmdmthpar{NewCmd}; \verb| \cmmand{mthstyNewCmd}{\cmdhtt};
                                     \verb|\mbox| \verb| Sub| [sub] [sub] [Ext1] \{Par\} [Ext2] = \verb|\mbox| ame | sub | Ext1 [Par] Ext2 |
                             270 \newcommand{\cmdmthpar}[1]
                                      {\csdef{mthpar#1}{\newmthparsty{mthsty#1}}}
    \cmdmthopar ... to do!
                                 • \cmdmthopar{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
                                     \mbox{\t hoparNewCmd{Name}[sub][sup][Par]} = \mbox{\t Name}_{sub}[Par]
                             272 \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|
                                     \mathsf{Imp}[\mathsf{Ext1}] = \mathsf{Imp}[\mathsf{Ext2}] = \mathsf{Imp}[\mathsf{Ext2}] = \mathsf{Imp}[\mathsf{Ext2}]
                                     \verb|\mbox| Mame| [sub] [sup] [Arg] = \verb|\mbox| Mame| Ma
                                     \verb| mthparNewCmd{Name}[sub][sup][Ext1]{Par}[Ext2] = \verb| Name| sub | Ext1[Par]Ext2|
                                     \verb|\mbox| {\tt Sub} [\tt Sub] [\tt Sup] [\tt Par] = \verb|\mbox| {\tt Name}_{sub}^{sup} [Par]
                             274 \mbox{newcommand{\cmdmthall}[1]}
                             \usrmth ... to do!
                                  • \mbox{\sc \undergauge} \{Suf\} \{\}; \mbox{\sc \undergauge} = cmdName \}
                                     \verb|\usrmth{cmdName}{Suf}{arg}; \verb|\cmdNameSuf{Arg}{} = cmdName(Arg)
                                     • \mbox{\sc \underline} \{Suf\}\{\}[\mbox{\sc \underline}]; \mbox{\sc \underline} = newName]
                                     \verb|\usrmth{cmdName}{Suf}{arg}[newName]; \verb|\cmdNameSuf}{Arg} = newName(Arg)
                                     277 \newcommandx{\usrmth}[4][4=]
                                     {\csdef{#1#2}{\csname mth#3\endcsname{\defval{#4}{#1}}}}
                             \usrmthlatlow ... to do!
                             280 \newcommandx{\usrmthlatlow}[4][4=]
                                     {\usrmth{#1}{#2}{#3}[#4]\seqoflatlow{#1#2}{mth#3}}
\usrmthlatupp ... to do!
                             282 \newcommandx{\usrmthlatupp}[4][4=]
                                     {\usrmth{#1}{#2}{#3}[#4]\seqoflatupp{#1#2}{mth#3}}
\usrmthlatlet ... to do!
                             284 \newcommandx{\usrmthlatlet}[4][4=]
                                     {\usrmth{#1}{#2}{#3}[#4]\seqoflatlet{#1#2}{mth#3}}
\usrmthgrklow ... to do!
                             286 \newcommandx{\usrmthgrklow}[4][4=]
                                     {\usrmth{#1}{#2}{#3}[#4]\seqofgrklow{#1#2}{mth#3}}
\usrmthgrkupp ... to do!
                             288 \newcommandx{\usrmthgrkupp}[4][4=]
                                      {\usrmth{#1}{#2}{#3}[#4]\seqofgrkupp{#1#2}{mth#3}}
\usrmthgrklet ... to do!
                             290 \newcommandx{\usrmthgrklet}[4][4=]
                                     {\usrmth{#1}{#2}{#3}[#4]\seqofgrklet{#1#2}{mth#3}}
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\usrmthlow ... to do!
                292 \newcommandx{\usrmthlow}[4][4=]
                293 {\usrmth{#1}{#2}{#3}[#4]\seqoflow{#1#2}{mth#3}}
   \usrmthupp ... to do!
                294 \newcommandx{\usrmthupp}[4][4=]
                295 \quad \{ \text{\t wsrmth} \{\#1\} \{\#2\} \{\#3\} [\#4] \setminus \{\#1\} \{\#1\} \} \}
   \usrmthlet ... to do!
                296 \newcommandx{\usrmthlet}[4][4=]
                297 {\usrmth{#1}{#2}{#3}[#4]\seqoflet{#1#2}{mth#3}}
                302 \iftxtgen@
 \txtdef, ... to do!
                  ullet \txtdef{Name}[sub][sup][Ext] = Name_{
m sub}^{
m sup}Ext
                  ullet \txtargdef{Name} [sub] [sup] [Ext1] {Arg} [Ext2] = Name_{
m sub}^{
m sup} Ext1(Arg)Ext2
                   \qquad \qquad \texttt{ \txtpardef \{Name\} [sub] [sup] [Ext1] \{Par\} [Ext2]} = Name^{\sup}_{\sup} Ext1[Par]Ext2 
                303 %% Style for Definitions
                304 \verb|\cmdtxtall{def}\\| wcommand{\verb|\txtstydef|{\bfseries}em}|
   \cmdtxtdef ... to do!
                  \cmdtxtdef{cmdName};
                    \verb|\cmdName[sub][sub][ext]| = cmdName_{\mathbf{sub}}^{\mathbf{sub}}ext|
                  • \cmdtxtdef{cmdName}[newName];
                    \colon = newName[sub][sub][ext] = newName[sub][sub][ext]
                305 \newcommandx{\cmdtxtdef}[2][2=]
                   {\usrtxt{#1}{}{def}[#2]}
\cmdtxtargdef ... to do!
                  \cmdtxtargdef{cmdName};
                    \colon = cmdName[sub][sub][ext1][arg][ext2] = cmdName[sub][ext1][arg][ext2]
                  • \cmdtxtargdef{cmdName}[newName];
                    \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = newName^{\text{sub}}_{\text{sub}}ext1(arg)ext2
                307 \newcommandx{\cmdtxtargdef}[2][2=]
                   {\usrtxt{#1}{}{argdef}[#2]}
\cmdtxtoargdef ... to do!
                  • \cmdtxtoargdef{cmdName};
                    \colon dName[sub][sub][arg] = cmdName^{sub}_{sub}(arg)
                  \cmdtxtoargdef{cmdName}[newName];
                    \colon = newName[sub][sub][arg] = newName[sub](arg)
                309 \newcommandx{\cmdtxtoargdef}[2][2=]
                310 {\usrtxt{#1}{}{oargdef}[#2]}
\cmdtxtpardef ... to do!
                  • \cmdtxtpardef{cmdName};
                    \cmdName[sub][sub][ext1][par][ext2] = cmdName[sub][ext1][par]ext2
                  • \cmdtxtpardef{cmdName}[newName];
                    \cmdName[sub][sub][ext1]par[ext2] = newName^{sub}_{sub}ext1/parext2
                311 \newcommandx{\cmdtxtpardef}[2][2=]
                312 {\usrtxt{#1}{}{pardef}[#2]}
\cmdtxtopardef ... to do!
```

```
\cmdtxtopardef{cmdName};
                       \verb|\cmdName[sub][sub][par]| = cmdName_{\rm sub}^{\rm sub}/par|
                     \cmdtxtopardef{cmdName}[newName];
                       \cmdName[sub][sub][par] = newName_{
m sub}^{
m sub}/par
                   313 \newcommandx{\cmdtxtopardef}[2][2=]
                  314 {\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_{sub}^{sup} Ext1(Arg)Ext2
                     • \txtparabr{Name} [sub] [sup] [Ext1] {Par} [Ext2] = Name_{\mathrm{sub}}^{\mathrm{sup}} Ext1[Par]Ext2
                   315 %% Style for Abbreviations
                   {\tt 316 \cmdtxtall{abr}\newcommand{\tt txtstyabr}{\tt em}}
    \cmdtxtabr ... to do!
                     • \cmdtxtabr{cmdName};
                       \verb|\cmdName[sub][sub][ext]| = cmdName_{\rm sub}^{\rm sub}ext
                     • \cmdtxtabr{cmdName}[newName];
                       \verb|\cmdName[sub][sub][ext]| = newName_{\rm sub}^{\rm sub}ext
                   317 \newcommandx{\cmdtxtabr}[2][2=]
                  318 {\usrtxt{#1}{}{abr}[#2]}
 \c to do!
                     • \cmdtxtargabr{cmdName};
                       \cmdName[sub][sub][ext1]{arg}[ext2] = cmdName[sub]ext1(arg)ext2
                     • \cmdtxtargabr{cmdName} [newName];
                       \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = newName^{\text{sub}}_{\text{sub}}ext1(arg)ext2
                   319 \newcommandx{\cmdtxtargabr}[2][2=]
                       {\usrtxt{#1}{}{argabr}[#2]}
\cmdtxtoargabr ... to do!
                     \cmdtxtoargabr{cmdName};
                       \colon dName[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                     • \cmdtxtoargabr{cmdName}[newName];
                       \cmdName[sub] [sub] [arg] = newName_{\text{sub}}^{\text{sub}}(arg)
                   321 \newcommandx{\cmdtxtoargabr}[2][2=]
                       {\usrtxt{#1}{}{oargabr}[#2]}
 \cmdtxtparabr ... to do!
                     • \cmdtxtparabr{cmdName};
                       \verb|\cmdName[sub][sub][ext1]{par}[ext2] = cmdName^{\text{sub}}_{\text{sub}}ext1/par/ext2
                     \cmdtxtparabr{cmdName} [newName];
                       \verb|\cmdName[sub][sub][ext1]{par}[ext2] = newName_{sub}^{sub}ext1/par|ext2
                   323 \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_{\text{sub}}^{\text{sub}}/par
                   325 \newcommandx{\cmdtxtoparabr}[2][2=]
                       {\usrtxt{#1}{}{oparabr}[#2]}
                   \txtname, ... to do!
```

```
• \txtname{Name}[sub][sup][Ext] = NAME_SUBEXT
                       • \txtargname{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAME_{SUB}^{SUP}EXT1(ARG)EXT2
                       • \text{txtparname}\{\text{Name}\}[\text{sub}][\text{sup}][\text{Ext1}]\{\text{Par}\}[\text{Ext2}] = \text{Name}_{\text{SUP}}^{\text{SUP}}\text{Ext1}[\text{Par}]\text{Ext2}
                    328 %% Style for Names
                    329 \cmdtxtall{name}\newcommand{\txtstyname}{\mdseries\scshape\sffamily}
     \cmdtxtname ... to do!
                       • \cmdtxtname{cmdName};
                         \verb|\cmdName[sub][sub][ext]| = CMDNAME_{SUB}^{SUB}EXT
                       • \cmdtxtname{cmdName}[newName];
                         330 \newcommandx{\cmdtxtname}[2][2=]
                         {\usrtxt{#1}{}{name}[#2]}
 \cmdtxtargname ... to do!
                       \cmdtxtargname{cmdName};
                         \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = CMDNAME_{SUB}^{SUB}EXT1(ARG)EXT2
                       • \cmdtxtargname{cmdName}[newName];
                         \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = \verb|\newName| Sub| Ext1(ARG) Ext2|
                    332 \newcommandx{\cmdtxtargname}[2][2=]
                    333 {\usrtxt{#1}{}{argname}[#2]}
\verb|\cmdtxtoargname| ... to do!
                       • \cmdtxtoargname{cmdName};
                         \colon = CMDNAME_{SUB}^{SUB}(ARG)
                       \cmdtxtoargname{cmdName} [newName];
                         \colon = NEWNAME_{SUB}^{SUB}(ARG)
                    334 \newcommandx{\cmdtxtoargname}[2][2=]
                         {\usrtxt{#1}{}{oargname}[#2]}
 \cmdtxtparname ... to do!
                       \cmdtxtparname{cmdName};
                         \label{lem:cmdName} $$ \operatorname{[sub][sub][ext1][par][ext2]} = \operatorname{CMDNAME}_{\operatorname{SUB}}^{\operatorname{SUB}} \operatorname{EXT1[par]EXT2} $$
                       • \cmdtxtparname{cmdName}[newName];
                         336 \newcommandx{\cmdtxtparname}[2][2=]
                         {\usrtxt{#1}{}{parname}[#2]}
\cmdtxtoparname ... to do!
                       • \cmdtxtoparname{cmdName};
                         \cmdName[sub][sub][par] = CMDNAME_{SUB}^{SUB}[PAR]
                       \cmdtxtoparname{cmdName} [newName];
                         \colon = NEWNAME_{SUB}^{SUB}[PAR]
                    338 \newcommandx{\cmdtxtoparname}[2][2=]
                         {\usrtxt{#1}{}{oparname}[#2]}
   \txtcom, ... to do!
                       • \text{txtcom{Name}[sub][sup][Ext]} = \text{Name}_{\text{Sup}}^{\text{SUP}} \text{Ext}
                       • \t xtargcom{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAME_{SUB}^{SUP}EXT1(ARG)EXT2
                       • \text{txtparcom{Name}[sub][sup][Ext1]{Par}[Ext2]} = \text{Name}_{\text{SUB}}^{\text{SUP}} \text{Ext1}[Par] \text{Ext2}
                    340 %% Style for Complexities
                    341 \cmdtxtall{com}\newcommand{\txtstycom}{\mdseries\scshape\rmfamily}
     \cmdtxtcom ... to do!
                       • \cmdtxtcom{cmdName};
                         \verb|\cmdName[sub][sub][ext]| = \texttt{CMDNAME}^{\texttt{SUB}}_{\texttt{SUB}} \texttt{EXT}
```

```
\cmdtxtcom{cmdName} [newName];
                                                                \colon 
                                                   342 \newcommandx{\cmdtxtcom}[2][2=]
                                                               {\usrtxt{#1}{}{com}[#2]}
  \cmdtxtargcom ... to do!
                                                          \cmdtxtargcom{cmdName};
                                                                \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName[sub][sub][ext1][ext2] = \verb|\cmdName[sub][ext1][ext2] = \verb|\cmdName[sub][ext1][ext2] = \verb|\cmdName[sub][ext1][ext2] = \verb|\cmdName[sub][ext1][ext2] = \verb|\cmdName[sub][ext1][ext2] = \verb|\cmdName[sub][ext1][ext2] = \verb|\cmdName[sub][ext1][ext2][ext2] = \verb|\cmdName[sub][ext1][ext2][ext2][ext2][ext2][ext2] = \verb|\cmdName[sub][ext1][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2]
                                                          • \cmdtxtargcom{cmdName}[newName];
                                                                \verb|\cmdName[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName[sub][sub][ext1](ARG)EXT2|
                                                   344 \newcommandx{\cmdtxtargcom}[2][2=]
                                                                {\usrtxt{#1}{}{argcom}[#2]}
\cmdtxtoargcom ... to do!
                                                          \cmdtxtoargcom{cmdName};
                                                                \colon = CMDNAME_{SUB}^{SUB}(ARG)
                                                           • \cmdtxtoargcom{cmdName}[newName];
                                                                \colon = NEWNAME_{SUB}^{SUB}(ARG)
                                                   346 \newcommandx{\cmdtxtoargcom}[2][2=]
                                                  347 {\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];
                                                                \verb|\cmdName[sub][sub][ext1]{par}[ext2] = \verb|\newName[sub][sub][ext1]{par}[ext2]
                                                   348 \newcommandx{\cmdtxtparcom}[2][2=]
                                                                {\usrtxt{#1}{}{parcom}[#2]}
\cmdtxtoparcom ... to do!
                                                          • \cmdtxtoparcom{cmdName};
                                                                \cmdName[sub][sub][par] = CMDNAME_{SUB}^{SUB}[PAR]
                                                          • \cmdtxtoparcom{cmdName}[newName];
                                                                \verb|\cmdName[sub][par]| = NEWNAME_{SUB}^{SUB}[PAR]|
                                                   350 \newcommandx{\cmdtxtoparcom}[2][2=]
                                                               {\usrtxt{#1}{}{oparcom}[#2]}
                                                   357 \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
                                                           \bullet \  \, \texttt{\baselinestate{NAME}[sub][sup][Ext1]{Par}[Ext2]} = \mathcal{NAME}^{sup}_{sub}Ext1[Par]Ext2
                                                   358 %% Style for Names
                                                  359 \cmdmthall{name}\newcommand{\mthstyname}{\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}
                                                   360 \seqoflatupp{Name}{mthname}
         \cmdmthname ... to do!
                                                           \cmdmthname{CMDNAME};
                                                                \CMDNAMEName[sub][sub][ext] = \mathcal{CMDNAME}^{sub}_{sub}ext
```

```
• \cmdmthname{cmdName}[NEWNAME];
                             \cmdNameName[sub] [sub] [ext] = \mathcal{NEWNAME}_{sub}^{sub}ext
                       361 \newcommandx{\cmdmthname}[2][2=]
                             {\usrmth{#1}{Name}{name}[#2]}
 \cmdmthargname ... to do!
                          \cmdmthargname{CMDNAME};
                             \verb|\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
                       363 \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];
                             \cmdNameName[sub] [sub] [arg] = \mathcal{NEWNAME}_{sub}^{sub}(arg)
                       365 \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];
                             \verb|\cmdNameName[sub][sub][ext1]{par}[ext2] = \mathcal{NEWNAME}_{sub}^{sub}ext1[par]ext2
                       367 \newcommandx{\cmdmthparname}[2][2=]
                            {\usrmth{#1}{Name}{parname}[#2]}
\cmdmthoparname ... to do!
                          • \cmdmthoparname{CMDNAME};
                             \verb|\CMDNAMEName[sub][sub][par]| = \mathcal{CMDNAME}_{sub}^{sub}[par]
                          • \cmdmthoparname{cmdName}[NEWNAME];
                             \cmdNameName[sub] [sub] [par] = \mathcal{NEWNAME}_{sub}^{sub}[par]
                       369 \newcommandx{\cmdmthoparname}[2][2=]
                            {\usrmth{#1}{Name}{oparname}[#2]}
   \mthfam, ... to do!
                          • \mthfam{NAME} [sub] [sup] [Ext] = \mathcal{N} \mathcal{A} \mathcal{M} \mathcal{E}^{sup}_{sub} Ext
                          \bullet \  \, \texttt{\bar{NAME}[sub][sup][Ext1]{Arg}[Ext2]} = \mathcal{NAME}^{sup}_{sub} Ext1(Arg)Ext2
                          • \mthparfam{NAME}[sub] [sup] [Ext1] {Par} [Ext2] = \mathcal{NAME}^{sup}_{sub}Ext1[Par]Ext2
                       371 %% Style for Families
                       372 \cmdmthall{fam}\newcommand{\mthstyfam}{\mathscr}
                      \mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}, \mathcal{E}, \mathcal{F}, \mathcal{G}, \mathcal{H}, \mathcal{J}, \mathcal{J}, \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}
                       373 \seqoflatupp{Fam}{mthfam}
      \cmdmthfam ... to do!
                          \cmdmthfam{CMDNAME};
                             \verb|\CMDNAMEFam[sub][sub][ext]| = \mathscr{CMDNAMEFam}[sub][sub][ext]| = \mathscr{CMDNAMEFam}[sub][sub][ext]|
                          • \cmdmthfam{cmdName}[NEWNAME];
                             \cmdNameFam[sub][sub][ext] = \mathcal{NEWNAME}_{sub}^{sub}ext
                       374 \newcommandx{\cmdmthfam}[2][2=]
                       375 {\usrmth{#1}{Fam}{fam}[#2]}
  \cmdmthargfam ... to do!
```

```
\cmdmthargfam{CMDNAME};
                                                 \verb|\CMDNAMEFam[sub][sub][ext1]{arg}[ext2] = \mathscr{CMDNAMEFam}[sub][ext1]{arg}[ext2] = \mathscr{CMDNAMEFam}[sub][ext1][ext2] = \mathscr{CMDNAMEFam}[sub][ext2][ext2] = \mathscr{CMDNAMEFam}[sub][ext2][ext2][ext2] = \mathscr{CMDNAMEFam}[sub][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][
                                             • \cmdmthargfam{cmdName}[NEWNAME];
                                                 \label{lem:cmdNameFam} $$ \operatorname{[sub][sub][ext1]} = \mathcal{NEWNAME}_{sub}^{sub} ext1(arg)ext2 $$
                                       376 \newcommandx{\cmdmthargfam}[2][2=]
                                      377 {\usrmth{#1}{Fam}{argfam}[#2]}
\cmdmthoargfam ... to do!
                                            \cmdmthoargfam{CMDNAME};
                                                 \verb|\CMDNAMEFam[sub][sub][arg]| = \mathscr{CMDNAMEFam}[sub][sub][arg]| = \mathscr{CMDNAMEFam}[sub][sub][sub][arg]|
                                             \cmdmthoargfam{cmdFam}[NEWNAME];
                                                 \cmdFamFam[sub] [sub] [arg] = \mathcal{NEWNAME}_{sub}^{sub}(arg)
                                       378 \newcommandx{\cmdmthoargfam}[2][2=]
                                      379 {\usrmth{#1}{Fam}{oargfam}[#2]}
  \cmdmthparfam ... to do!
                                            • \cmdmthparfam{CMDNAME};
                                                 \CMDNAMEFam[sub][sub][ext1]{par}[ext2] = \mathscr{CMDNAMEFam}[sub][sub][ext1][par]ext2
                                             • \cmdmthparfam{cmdName}[NEWNAME];
                                                 \verb|\cmdNameFam[sub][sub][ext1]{par}[ext2] = \mathscr{NEWNMME}^{sub}_{sub}ext1[par]ext2
                                       380 \mbox{ } \mbox{cmdmthparfam} \mbox{ [2] [2=]}
                                                {\usrmth{#1}{Fam}{parfam}[#2]}
\cmdmthoparfam ... to do!
                                            \cmdmthoparfam{CMDNAME};
                                                 \verb|\CMDNAMEFam[sub][sub][par]| = \mathscr{CMDNAMEFam}[sub][par]|
                                             \cmdmthoparfam{cmdFam}[NEWNAME];
                                                 \verb|\cmdFamFam[sub][sub][par]| = \mathscr{NEWNAME}^{sub}_{sub}[par]
                                       382 \newcommandx{\cmdmthoparfam}[2][2=]
                                      383 {\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
                                            • \mthparcls{NAME}[sub][sup][Ext1]{Par}[Ext2] = \mathcal{NAME}_{sub}^{sup}Ext1[Par]Ext2
                                       384 %% Style for Classes
                                       385 \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}
                                       386 \seqoflatupp{Cls}{mthcls}
         \cmdmthcls ... to do!
                                             \cmdmthcls{CMDNAME};
                                                 \CMDNAMECls[sub][sub][ext] = \mathcal{CMDNAME}_{sub}^{sub}ext
                                             • \cmdmthcls{cmdName}[NEWNAME];
                                                 \cmdNameCls[sub][sub][ext] = \mathcal{NEWNAME}_{sub}^{sub}ext
                                       387 \newcommandx{\cmdmthcls}[2][2=]
                                      388 {\usrmth{#1}{Cls}{cls}[#2]}
  \cmdmthargcls ... to do!
                                            • \cmdmthargcls{CMDNAME};
                                                 \CMDNAMEC1s[sub][sub][ext1]{arg}[ext2] = \mathcal{CMDNAME}_{sub}^{sub}ext1(arg)ext2
                                            • \cmdmthargcls{cmdName}[NEWNAME]:
                                                 \cmdNameCls[sub][sub][ext1]{arg}[ext2] = \mathcal{NEWNAME}_{sub}^{sub}ext1(arg)ext2
                                       389 \newcommandx{\cmdmthargcls}[2][2=]
                                       390 {\usrmth{#1}{Cls}{argcls}[#2]}
```

```
\cmdmthoargcls ... to do!
                                                    • \cmdmthoargcls{CMDNAME};
                                                         \CMDNAMECls[sub][sub][arg] = \mathcal{CMDNAME}_{sub}^{sub}(arg)
                                                    • \cmdmthoargcls{cmdCls}[NEWNAME];
                                                         \cmdClsCls[sub][sub] [arg] = NEWNAME_{sub}^{sub}(arg)
                                              391 \newcommandx{\cmdmthoargcls}[2][2=]
                                                       {\usrmth{#1}{Cls}{oargcls}[#2]}
  \cmdmthparcls ... to do!
                                                    • \cmdmthparcls{CMDNAME};
                                                         \verb|\CMDNAMECls[sub][sub][ext1]{par}[ext2] = \verb|\CMDNAME|^{sub}_{sub}ext1[par]ext2|
                                                    • \cmdmthparcls{cmdName}[NEWNAME];
                                                         \verb|\cmdNameCls[sub][sub][ext1]{par}[ext2] = NEWNAME_{sub}^{sub}ext1[par]ext2
                                             393 \newcommandx{\cmdmthparcls}[2][2=]
                                                         {\usrmth{#1}{Cls}{parcls}[#2]}
\cmdmthoparcls ... to do!
                                                    • \cmdmthoparcls{CMDNAME};
                                                         \CMDNAMECls[sub][sub][par] = \mathcal{CMDNAME}_{sub}^{sub}[par]
                                                    • \cmdmthoparcls{cmdCls}[NEWNAME];
                                                         \cmdClsCls[sub][sub][par] = \mathcal{NEWNAME}_{sub}^{sub}[par]
                                              395 \newcommandx{\cmdmthoparcls}[2][2=]
                                                       {\usrmth{#1}{Cls}{oparcls}[#2]}
     \mthsig, ... to do!
                                                   • \mthsig{Name}[sub][sup][Ext] = \mathcal{N}ame_{sub}^{sup}Ext
                                                    \bullet \ \texttt{\ \ } \texttt{[Ext1] \{Arg\} [Ext2]} = \mathcal{N} ame_{sub}^{sup} Ext1(Arg) Ext2
                                                    \bullet \  \, \texttt{\baselinestath} \  \, \texttt{\baselinest
                                              397 %% Style for Signatures
                                             398 \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}, \mathcal{I}, \mathcal{I}, \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}
                                           \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, v, \phi, \varphi, \chi, \psi, \omega
                                             399 \seqoflatlet{Sig}{mthsig}\seqofgrklow{Sig}{mthsig}
          \cmdmthsig ... to do!
                                                    \cmdmthsig{cmdName};
                                                         \colon d [sub] [sub] [ext] = cmdName_{sub}^{sub}ext
                                                    • \cmdmthsig{cmdName}[NewName];
                                                         \colon dNameSig[sub][sub][ext] = NewName_{sub}^{sub}ext
                                              400 \newcommandx{\cmdmthsig}[2][2=]
                                                        {\usrmth{#1}{Sig}{sig}[#2]}
  \cmdmthargsig ... to do!
                                                    • \cmdmthargsig{cmdName};
                                                         \verb|\cmdNameSig[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                                                    • \cmdmthargsig{cmdName}[NewName];
                                                         \verb|\cmdNameSig[sub][sub][ext1]{arg}[ext2] = \textit{NewName}_{sub}^{sub}ext1(arg)ext2
                                              402 \newcommandx{\cmdmthargsig}[2][2=]
                                                        {\usrmth{#1}{Sig}{argsig}[#2]}
\cmdmthoargsig ... to do!
                                                    • \cmdmthoargsig{cmdName};
                                                         \verb|\cmdNameSig[sub][sub][arg]| = \textit{cmdName}_{sub}^{sub}(arg)
```

```
\cmdmthoargsig{cmdSig}[NewName];
                                                                      \colored{cmdSigSig[sub][sub][arg]} = \mathcal{N}ew\mathcal{N}ame_{sub}^{sub}(arg)
                                                        404 \newcommandx{\cmdmthoargsig}[2][2=]
                                                                      {\usrmth{#1}{Sig}{oargsig}[#2]}
   \cmdmthparsig ... to do!
                                                                 \cmdmthparsig{cmdName};
                                                                      \verb|\cmdNameSig[sub][sub][ext1]{par}[ext2] = cmdName_{sub}^{sub}ext1[par]ext2|
                                                                 • \cmdmthparsig{cmdName}[NewName];
                                                                       \verb|\cmdNameSig[sub][sub][ext1]{par}[ext2] = \textit{NewName}_{sub}^{sub}ext1[par]ext2
                                                        406 \newcommandx{\cmdmthparsig}[2][2=]
                                                                      {\usrmth{#1}{Sig}{parsig}[#2]}
\cmdmthoparsig ... to do!
                                                                 \cmdmthoparsig{cmdName};
                                                                      \colon dNameSig[sub][sub][par] = cmdName_{sub}^{sub}[par]
                                                                 \cmdmthoparsig{cmdSig}[NewName];
                                                                      \colored{cmdSigSig[sub][sub][par]} = \mathcal{N}ew\mathcal{N}ame_{sub}^{sub}[par]
                                                         408 \newcommandx{\cmdmthoparsig}[2][2=]
                                                                    {\usrmth{#1}{Sig}{oparsig}[#2]}
      \mthstr, ... to do!
                                                                • \mthstr{Name} [sub] [sup] [Ext] = \mathfrak{Name}_{sub}^{sup}Ext
                                                                 \bullet \ \texttt{\ \ } \texttt{[Sub] [Sub] [Sup] [Ext1] \{Arg\} [Ext2]} = \mathfrak{Name}^{sup}_{sub} Ext1(Arg) Ext2
                                                                 \bullet \ \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ } \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ \ }} \texttt{\ \ \ \ } \texttt{\ \ }} \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ \ }} \texttt{\ \ \ } \texttt{\ \ }} \texttt{\ \ \ }} \texttt{\ \ 
                                                        410 %% Style for Structures
                                                        411 \cmdmthall{str}\newcommand{\mthstystr}{\mathfrak}
             \aStr, ... to do!
                                                     \mathfrak{a}, \mathfrak{b}, \mathfrak{c}, \mathfrak{d}, \mathfrak{e}, \mathfrak{f}, \mathfrak{g}, \mathfrak{h}, \mathfrak{i}, \mathfrak{j}, \mathfrak{k}, \mathfrak{l}, \mathfrak{m}, \mathfrak{n}, \mathfrak{o}, \mathfrak{p}, \mathfrak{q}, \mathfrak{r}, \mathfrak{s}, \mathfrak{t}, \mathfrak{u}, \mathfrak{v}, \mathfrak{w}, \mathfrak{r}, \mathfrak{g}, \mathfrak{g}
                                                     \mathfrak{A}, \mathfrak{B}, \mathfrak{C}, \mathfrak{D}, \mathfrak{E}, \mathfrak{F}, \mathfrak{G}, \mathfrak{H}, \mathfrak{I}, \mathfrak{H}, \mathfrak{L}, \mathfrak{M}, \mathfrak{N}, \mathfrak{D}, \mathfrak{P}, \mathfrak{Q}, \mathfrak{R}, \mathfrak{E}, \mathfrak{I}, \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
                                                        412 \sqoflatlet{Str}{mthstr}\sqofgrklow{Str}{mthstr}
             \cmdmthstr ... to do!
                                                                • \cmdmthstr{cmdName};
                                                                      \colon d \cmdNameStr[sub] [sub] [ext] = cmd \cmdNames_{sub}^{sub}ext
                                                                 • \cmdmthstr{cmdName}[NewName];
                                                                      \verb|\cmdNameStr[sub][sub][ext]| = \mathfrak{NewName}_{sub}^{sub} ext
                                                        413 \newcommandx{\cmdmthstr}[2][2=]
                                                        414 {\usrmth{#1}{Str}{str}[#2]}
   \cmdmthargstr ... to do!
                                                                 \cmdmthargstr{cmdName};
                                                                      \verb|\cmdNameStr[sub][sub][ext1]{arg}[ext2] = \verb|\cmdName$subext1(arg)ext2|
                                                                 • \cmdmthargstr{cmdName} [NewName];
                                                                      \label{lem:lemma:sub} $$ \operatorname{CmdNameStr}[\operatorname{Sub}][\operatorname{Sub}][\operatorname{ext1}] = \mathfrak{NewName}_{\operatorname{Sub}}^{\operatorname{Sub}} ext1(\operatorname{arg})ext2
                                                        415 \newcommandx{\cmdmthargstr}[2][2=]
                                                        416 {\usrmth{#1}{Str}{argstr}[#2]}
\cmdmthoargstr ... to do!
                                                                 \cmdmthoargstr{cmdName};
                                                                      \verb|\cmdNameStr[sub][sub][arg]| = \mathfrak{cmdName}_{sub}^{sub}(arg)
                                                                 • \cmdmthoargstr{cmdStr}[NewName];
                                                                      \cmdStrStr[sub] [sub] [arg] = \mathfrak{NewName}_{sub}^{sub}(arg)
                                                        417 \newcommandx{\cmdmthoargstr}[2][2=]
                                                        418 {\usrmth{#1}{Str}{oargstr}[#2]}
```

```
\cmdmthparstr ... to do!
                                                                • \cmdmthparstr{cmdName};
                                                                      \verb|\cmdNameStr[sub][sub][ext1]{par}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1[par]ext2|
                                                                • \cmdmthparstr{cmdName}[NewName];
                                                                     \label{lem:cmdNameStr} $$ \operatorname{Sub}[\operatorname{sub}][\operatorname{ext1}] = \mathfrak{NewName}_{\operatorname{sub}}^{\operatorname{sub}} ext1[\operatorname{par}] ext2 $$
                                                        419 \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];
                                                                     \colored \
                                                        421 \newcommandx{\cmdmthoparstr}[2][2=]
                                                                     {\usrmth{#1}{Str}{oparstr}[#2]}
      \mthset, ... to do!
                                                                \bullet \ \texttt{\ Name} \texttt{\ [sub] [sup] [Ext]} = \mathtt{Name}^{sup}_{sub} Ext
                                                                \bullet \  \, \texttt{\bar{Name}[sub][sub][sup][Ext1]\{Arg\}[Ext2]} = \mathrm{Name}_{sub}^{sup}Ext1(Arg)Ext2
                                                                • \mthparset{Name}[sub][sup][Ext1]{Par}[Ext2] = Name_{sub}^{sup}Ext1[Par]Ext2
                                                        423 %% Style for Sets
                                                        424 \cmdmthall{set}\newcommand{\mthstyset}{\mathrm}
             \aSet, ... to do!
                                                    a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
                                                     A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
                                                     \alpha,\,\beta,\,\gamma,\,\delta,\,\epsilon,\,\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
                                                       425 \seqoflet{Set}{mthset}
             \cmdmthset ... to do!
                                                                \cmdmthset{cmdName};
                                                                     \verb|\cmdNameSet[sub][sub][ext]| = cmdName_{sub}^{sub}ext
                                                                • \cmdmthset{cmdName}[NewName];
                                                                     \colon = NewName_{sub}^{sub} = NewName_{sub}^{sub} = xt
                                                        426 \newcommandx{\cmdmthset}[2][2=]
                                                       427 {\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 
                                                        428 \newcommandx{\cmdmthargset}[2][2=]
                                                                   {\usrmth{#1}{Set}{argset}[#2]}
                                                        429
\cmdmthoargset ... to do!
                                                                • \cmdmthoargset{cmdName};
                                                                      \colon dNameSet[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                                                                • \cmdmthoargset{cmdSet}[NewName];
                                                                     \colon = NewName_{sub}^{sub}(arg) = NewName_{sub}^{sub}(arg)
                                                        430 \newcommandx{\cmdmthoargset}[2][2=]
                                                                         {\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];
                          \colored NameSet[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                     432 \newcommandx{\cmdmthparset}[2][2=]
                          {\usrmth{#1}{Set}{parset}[#2]}
\cmdmthoparset ... to do!
                        \cmdmthoparset{cmdName};
                          \verb|\cmdNameSet[sub][sub][par]| = cmdName_{sub}^{sub}[par]|
                        \cmdmthoparset{cmdSet}[NewName];
                          \colon dSetSet[sub][sub][par] = NewName_{sub}^{sub}[par]
                     434 \newcommandx{\cmdmthoparset}[2][2=]
                          {\usrmth{#1}{Set}{oparset}[#2]}
 \cmdmthsetext ... to do!
                     436 \newcommandx{\cmdmthsetext}[3][2=, 3=]
                           {\cmdmthset{#1}[#2]\caselower[q]{#1}%}
                           \usrmthlet{\thestring}{Sym}{sym}[\defval{#3}{\lowercase{#2}}]%
                     438
                          \usrmthlet{\thestring}{Elm}{elm}[\defval{#3}{\lowercase{#2}}]}
                     439
  \mthrel, ... to do!
                        ullet \mthrel{Name}[sub][sup][Ext] = Name_{sub}^{sup}Ext
                         \bullet \verb| \t targrel{Name}[sub][sup][Ext1]{Arg}[Ext2] = Name_{sub}^{sup}Ext1(Arg)Ext2 \\
                        • \mathbb{E}[Sub][Sub][Sub][Ext1][Par][Ext2] = Name_{sub}^{sub}Ext1[Par]Ext2
                     440 %% Style for Relations
                     441 \mbox{ \mbox{mthall{rel}\newcommand{\mbox{mthstyrel}{\mbox{mthit}}}}
     \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, 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
                     442 \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
                     443 \newcommandx{\cmdmthrel}[2][2=]
                          {\usrmth{#1}{Rel}{rel}[#2]}
 \cmdmthargrel ... to do!
                        • \cmdmthargrel{cmdName};
                          \verb|\cmdNameRel[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                        • \cmdmthargrel{cmdName}[NewName];
                          \verb|\cmdNameRel[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                     445 \newcommandx{\cmdmthargrel}[2][2=]
                     446 {\usrmth{#1}{Rel}{argrel}[#2]}
\cmdmthoargrel ... to do!
                        \cmdmthoargrel{cmdName};
                          \colon dNameRel[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                        • \cmdmthoargrel{cmdRel}[NewName];
                          \verb|\cmdRelRel[sub][sub][arg]| = NewName_{sub}^{sub}(arg)
                     447 \newcommandx{\cmdmthoargrel}[2][2=]
                     448 {\usrmth{#1}{Rel}{oargrel}[#2]}
 \cmdmthparrel ... to do!
```

```
\cmdmthparrel{cmdName};
                           \verb|\cmdNameRel[sub][sub][ext1]{par}[ext2] = cmdName_{sub}^{sub}ext1[par]ext2|
                         \cmdmthparrel{cmdName}[NewName];
                           \verb|\cmdNameRel[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2|
                     449 \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];
                           \cmdRelRel[sub][sub][par] = NewName_{sub}^{sub}[par]
                     451 \newcommandx{\cmdmthoparrel}[2][2=]
                          {\usrmth{#1}{Rel}{oparrel}[#2]}
  \mthfun, ... to do!
                        • \mathbb{E}_{sub}[sub][sup][Ext] = Name_{sub}^{sup}Ext
                        \bullet \  \, \texttt{\bar{Name}[sub][sup][Ext1]\{Arg\}[Ext2]} = \mathsf{\bar{Name}}^{sup}_{sub}Ext1(Arg)Ext2
                         • \mathbb{E}[Sub][Sub][Sub][Ext1][Par][Ext2] = \mathbb{E}[Sub][Sub][Ext1][Par][Ext2]
                     453 %% Style for Functions
                     454 \mbox{\mbox{\mbox{$\sim$}}}{\mbox{\mbox{$\sim$}}}{\mbox{\mbox{\mbox{$\sim$}}}}{\mbox{\mbox{$\sim$}}}
     \aFun, ... to do!
                    a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
                    A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
                    \alpha, \beta, \gamma, \delta, \epsilon, \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, P, P, \Sigma, \Sigma, T, \Upsilon, \Phi, \Phi, X, \Psi, \Omega
                     455 \seqoflet{Fun}{mthfun}
     \cmdmthfun ... to do!
                        \cmdmthfun{cmdName};
                           \verb|\cmdNameFun[sub][sub][ext]| = \verb|\cmdName|^{sub}_{sub} ext|
                         • \cmdmthfun{cmdName}[NewName];
                           \verb|\cmdNameFun[sub][sub][ext]| = \verb|\NewName|_{sub}^{sub} ext|
                     456 \newcommandx{\cmdmthfun}[2][2=]
                          {\usrmth{#1}{Fun}{fun}[#2]}
 \cmdmthargfun ... to do!
                        • \cmdmthargfun{cmdName};
                           \label{lem:cmdNameFun} $$ \operatorname{sub}[\operatorname{sub}][\operatorname{ext1}] = \operatorname{cmdName}_{sub}^{sub} ext1(arg)ext2 $$
                         • \cmdmthargfun{cmdName}[NewName];
                           \verb|\cmdNameFun[sub][sub][ext1]{arg}[ext2] = \verb|\NewName|^{sub}_{sub}ext1(arg)ext2
                     458 \newcommandx{\cmdmthargfun}[2][2=]
                          {\usrmth{#1}{Fun}{argfun}[#2]}
\cmdmthoargfun ... to do!
                        • \cmdmthoargfun{cmdName};
                           \cmdNameFun[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                         • \cmdmthoargfun{cmdFun}[NewName];
                           \cmdFunFun[sub] [sub] [arg] = NewName_{sub}^{sub}(arg)
                     460 \newcommandx{\cmdmthoargfun}[2][2=]
                           {\usrmth{#1}{Fun}{oargfun}[#2]}
 \cmdmthparfun ... to do!
                        \cmdmthparfun{cmdName};
                           \verb|\cmdNameFun[sub][sub][ext1]{par}[ext2] = \verb|\cmdName|^{sub}_{sub}ext1[par]ext2|
                         • \cmdmthparfun{cmdName} [NewName];
```

```
462 \newcommandx{\cmdmthparfun}[2][2=]
                                                                                                       {\usrmth{#1}{Fun}{parfun}[#2]}
\cmdmthoparfun ... to do!
                                                                                              • \cmdmthoparfun{cmdName};
                                                                                                       \verb|\cmdNameFun[sub][sub][par]| = \verb|\cmdNameFun[sub][par]|
                                                                                               • \cmdmthoparfun{cmdFun}[NewName]:
                                                                                                       \cmdFunFun[sub][sub][par] = NewName_{sub}^{sub}[par]
                                                                                  464 \newcommandx{\cmdmthoparfun}[2][2=]
                                                                                                      {\usrmth{#1}{Fun}{oparfun}[#2]}
         \mthsym, ... to do!
                                                                                              • \mathbb{E}_{sub}[Sub][Sup][Ext] = \mathbb{E}_{sub}[Ext]
                                                                                              • \mathbb{E}_{sub}[Sub][Sub][Ext1][Arg][Ext2] = \mathbb{E}_{sub}[Ext1][Arg][Ext2]
                                                                                               \bullet \ \texttt{\t Name} \ \texttt{\t [Sub]} \ \texttt{\t [Ext1]} \ \texttt{\t [Ext2]} \ = \ \texttt{\t Name} \ sub \ \texttt{\t Ext1} \ \texttt{\t [Par]} \ \texttt{\t Ext2} \ = \ \texttt{\t Name} \ sub \ \texttt{\t Ext2} \ \texttt{\t [Par]} 
                                                                                  466 %% Style for Symbols
                                                                                 467 \mbox{\mbox{$\mbox{mthstysym}}{\mathbb{\mbox{$\mbox{mthtt}$}}}
                   \aggreen \
                                                                              \mathtt{a},\,\mathtt{b},\,\mathtt{c},\,\mathtt{d},\,\mathtt{e},\,\mathtt{f},\,\mathtt{g},\,\mathtt{h},\,\mathtt{i},\,\mathtt{j},\,\mathtt{k},\,\mathtt{l},\,\mathtt{m},\,\mathtt{n},\,\mathtt{o},\,\mathtt{p},\,\mathtt{q},\,\mathtt{r},\,\mathtt{s},\,\mathtt{t},\,\mathtt{u},\,\mathtt{v},\,\mathtt{w},\,\mathtt{x},\,\mathtt{y},\,\mathtt{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, 0, \Pi, P, P, \Sigma, \Sigma, T, T, \Phi, \Phi, X, \Psi, \Omega
                                                                                 468 \seqoflet{Sym}{mthsym}
                   \cmdmthsym ... to do!
                                                                                              • \cmdmthsym{cmdName};
                                                                                                       \colon dNameSym[sub][sub][ext] = cmdName_{sub}^{sub}ext
                                                                                               • \cmdmthsym{cmdName}[NewName];
                                                                                                       \c MameSym[sub][sub][ext] = NewName_{sub}^{sub}ext
                                                                                   469 \newcommandx{\cmdmthsym}[2][2=]
                                                                                                      {\usrmth{#1}{Sym}{sym}[#2]}
    \cmdmthargsym ... to do!
                                                                                              • \cmdmthargsym{cmdName}:
                                                                                                        \cmdNameSym[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arq)ext2
                                                                                               • \cmdmthargsym{cmdName}[NewName];
                                                                                                        \verb|\cmdNameSym[sub][sub][ext1]{arg}[ext2] = \verb|\cmdNameSym[sub][ext1]{arg}[ext2] = \verb|\cmdNameSym[sub][ext1]{arg}[ext2] = \verb|\cmdNameSym[sub][ext1]{arg}[ext2] = \verb|\cmdNameSym[sub][ext1][ext2] = \verb|\cmdNameSym[sub][ext1][ext2] = \verb|\cmdNameSym[sub][ext1][ext2] = \verb|\cmdNameSym[sub][ext1][ext2] = \verb|\cmdNameSym[sub][ext1][ext2] = \verb|\cmdNameSym[sub][ext1][ext2] = \verb|\cmdNameSym[sub][ext1][ext2][ext2] = \verb|\cmdNameSym[sub][ext1][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2][ext2]
                                                                                  471 \newcommandx{\cmdmthargsym}[2][2=]
                                                                                                       {\usrmth{#1}{Sym}{argsym}[#2]}
\cmbox{cmdmthoargsym} \quad ... \ 	ext{to do!}
                                                                                              • \cmdmthoargsym{cmdName};
                                                                                                       • \cmdmthoargsym{cmdSym}[NewName];
                                                                                                       \c mdSymSym[sub][sub][arg] = NewName_{sub}^{sub}(arg)
                                                                                   473 \newcommandx{\cmdmthoargsym}[2][2=]
                                                                                                    {\usrmth{#1}{Sym}{oargsym}[#2]}
    \cmdmthparsym ... to do!
                                                                                              • \cmdmthparsym{cmdName}:
                                                                                                       \verb|\cmdNameSym[sub][sub][ext1]{par}[ext2] = \verb|\cmdName|| sub| ext1|| par|| ext2||
                                                                                               • \cmdmthparsym{cmdName}[NewName];
                                                                                                        \cmdNameSym[sub][sub][ext1]\{par\}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                                                                                  475 \newcommandx{\cmdmthparsym}[2][2=]
                                                                                 476 {\usrmth{#1}{Sym}{parsym}[#2]}
\cmdmthoparsym ... to do!
```

```
\cmdmthoparsym{cmdName};
                          \c MameSym[sub][sub][par] = cmdName_{sub}^{sub}[par]
                         \cmdmthoparsym{cmdSym}[NewName];
                          \verb|\cmdSymSym[sub][sub][par]| = \verb|\NewName|_{sub}^{sub}[par]|
                     477 \newcommandx{\cmdmthoparsym}[2][2=]
                          {\usrmth{#1}{Sym}{oparsym}[#2]}
  \mthelm, ... to do!
                        • \mthelm{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{\mbox{\tt hthparelm{Name}[Sub][Sub][Ext1]{Par}[Ext2]} = Name_{sub}^{sup}Ext1[Par]Ext2 
                     479 %% Style for Elements
                     480 \verb|\cmdmthall{elm}\newcommand{\verb|\mthstyelm|}{\verb|\mthnormal|}|
     \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
                     481 \seqoflet{Elm}{mthelm}
     \cmdmthelm ... to do!
                        • \cmdmthelm{cmdName};
                           \verb|\cmdNameElm[sub][sub][ext]| = cmdName_{sub}^{sub}ext
                        • \cmdmthelm{cmdName}[NewName];
                          \colon = NewName_{sub}^{sub}[sub][ext] = NewName_{sub}^{sub}ext
                     {\usrmth{#1}{Elm}{elm}[#2]}
 \cmdmthargelm ... to do!
                        \cmdmthargelm{cmdName};
                           \verb|\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
                     484 \newcommandx{\cmdmthargelm}[2][2=]
                     485 {\usrmth{#1}{Elm}{argelm}[#2]}
\cmdmthoargelm ... to do!
                        \cmdmthoargelm{cmdName};
                          \verb|\cmdNameElm[sub][sub][arg]| = cmdName_{sub}^{sub}(arg)
                        • \cmdmthoargelm{cmdElm}[NewName];
                          \verb|\cmdElmElm[sub][sub][arg]| = NewName_{sub}^{sub}(arg)
                     486 \newcommandx{\cmdmthoargelm}[2][2=]
                          {\usrmth{#1}{Elm}{oargelm}[#2]}
 \cmdmthparelm ... to do!
                        • \cmdmthparelm{cmdName};
                           \cmdNameElm[sub] [sub] [ext1] {par} [ext2] = cmdName_{sub}^{sub}ext1[par]ext2
                        • \cmdmthparelm{cmdName}[NewName];
                           \cmdNameElm[sub] [sub] [ext1] {par} [ext2] = NewName_{sub}^{sub}ext1[par]ext2
                     488 \newcommandx{\cmdmthparelm}[2][2=]
                           {\usrmth{#1}{Elm}{parelm}[#2]}
\cmdmthoparelm ... to do!
                        • \cmdmthoparelm{cmdName};
                           \verb|\cmdNameElm[sub][sub][par]| = cmdName_{sub}^{sub}[par]|
                        • \cmdmthoparelm{cmdElm}[NewName];
                          \verb|\cmdElmElm[sub][sub][par]| = NewName_{sub}^{sub}[par]|
```

```
490 \newcommandx{\cmdmthoparelm}[2][2=]
                                                                         {\usrmth{#1}{Elm}{oparelm}[#2]}
                                                          \cmdmthsymelm ... to do!
                                                                  \cmdmthsymelm{cmdName};
                                                                       \verb|\cmdNameSym[sub][sub][ext]| = \verb|\cmdName|_{sub}^{sub} ext|
                                                                       \colonerge{cmdNameElm[sub][sub][ext]} = cmdName^{sub}_{sub}ext
                                                                  • \cmdmthsymelm{cmdName}[NewName];
                                                                       \c MameSym[sub][sub][ext] = MewName_{sub}^{sub}ext
                                                                       \cmdNameElm[sub][sub][ext] = NewName_{sub}^{sub}ext
                                                           493 \newcommandx{\cmdmthsymelm}[2][2=]
                                                                         {\cmdmthsym{#1}[#2]%
                                                                         \cmdmthelm{#1}[#2]}
                                                           495
  \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
                                                           496 \newcommandx{\cmdmthargsymelm}[2][2=]
                                                                          {\cmdmthargsym{#1}[#2]%
                                                                         \cmdmthargelm{#1}[#2]}
                                                          498
\cmdmthoargsymelm ... to do!
                                                                  \cmdmthoargsymelm{cmdName};
                                                                       \colon 
                                                                       \cmdNameElm[sub][sub][arg] = cmdName^{sub}_{sub}(arg)
                                                                  • \cmdmthoargsymelm{cmdName}[NewName];
                                                                       \cmdNameSym[sub][sub][arg] = NewName_{sub}^{sub}(arg)
                                                                       \colonergian [sub] [sub] [arg] = NewName_{sub}^{sub} (arg)
                                                           499 \newcommandx{\cmdmthoargsymelm}[2][2=]
                                                                         {\cmdmthoargsym{#1}[#2]%
                                                                         \cmdmthoargelm{#1}[#2]}
  \cmdmthparsymelm ... to do!
                                                                  \cmdmthparsymelm{cmdName};
                                                                       \verb|\cmdNameElm[sub][sub][ext1]{par}[ext2] = cmdName_{sub}^{sub}ext1[par]ext2
                                                                  • \cmdmthparsymelm{cmdName}[NewName];
                                                                       \cmdNameSym[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                                                                       \verb|\cmdNameElm[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                                                           502 \newcommandx{\cmdmthparsymelm}[2][2=]
                                                                          {\cmdmthparsym{#1}[#2]%
                                                           503
                                                          504
                                                                          \cmdmthparelm{#1}[#2]}
\c do!
                                                                  \cmdmthoparsymelm{cmdName};
                                                                       \cmbox{\cmdNameSym[sub][sub][par]} = \cmdName_{sub}^{sub}[par]
                                                                       \colonerge{cmdNameSub[par]} = cmdName_{sub}^{sub[par]}
                                                                       \cmdmthoparsymelm{cmdName}[NewName];
                                                                       \colon = \
                                                                       \cmdNameElm[sub][sub][par] = NewName^{sub}_{sub}[par]
                                                          505 \newcommandx{\cmdmthoparsymelm}[2][2=]
                                                                        {\cmdmthoparsym{#1}[#2]%
                                                           506
                                                          507
                                                                          \cmdmthoparelm{#1}[#2]}
```

```
\mthsnt, ... to do!
                          • \mthsnt{Name} [sub] [sup] [Ext] = Name_{sub}^{sup} Ext
                           \bullet \texttt{ \  \  } \texttt{[Sub] [sup] [Ext1] \{Arg\} [Ext2]} = \texttt{Name}^{sup}_{sub} Ext1(Arg) Ext2 
                          • \mathbb{E}_{sub}[Sub][Sub][Ext1][Par][Ext2] = \mathbb{E}_{sub}[Ext1][Par][Ext2]
                       509 %% Style for Sentences
                       510 \mbox{ \cmdmthall{snt}\newcommand{\mbstysnt}{\mbox{\cmthsf}}}
     \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,\,\mathsf{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
                      511 \seqoflet{Snt}{mthsnt}
     \cmdmthsnt ... to do!
                          \cmdmthsnt{cmdName};
                            \verb|\cmdNameSnt[sub][sub][ext]| = \verb|\cmdName|_{sub}^{sub} ext|
                          • \cmdmthsnt{cmdName} [NewName];
                            \verb|\cmdNameSnt[sub][sub][ext]| = \verb|\NewName|_{sub}^{sub} ext|
                       512 \newcommandx{\cmdmthsnt}[2][2=]
                      513 {\usrmth{#1}{Snt}{snt}[#2]}
 \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|
                       514 \newcommandx{\cmdmthargsnt}[2][2=]
                      515 {\usrmth{#1}{Snt}{argsnt}[#2]}
\cmdmthoargsnt ... to do!
                          • \cmdmthoargsnt{cmdName};
                            \colon = cmdNameSnt[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                          • \cmdmthoargsnt{cmdName}[NewName];
                            \colon = NewNameSnt[sub][sub][arg] = NewName_{sub}^{sub}(arg)
                       516 \newcommandx{\cmdmthoargsnt}[2][2=]
                           {\usrmth{#1}{Snt}{oargsnt}[#2]}
 \cmdmthparsnt ... to do!
                          • \cmdmthparsnt{cmdName};
                            \label{lem:lemma:sub} $$ \operatorname{Snt}[\operatorname{sub}][\operatorname{sub}][\operatorname{ext1}] = \operatorname{cmdName}_{\operatorname{sub}}^{\operatorname{sub}} ext1[\operatorname{par}] ext2 $$
                          • \cmdmthparsnt{cmdName} [NewName];
                            \cmdNameSnt[sub][sub][ext1]{par}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                       518 \newcommandx{\cmdmthparsnt}[2][2=]
                      519 {\usrmth{#1}{Snt}{parsnt}[#2]}
\cmdmthoparsnt ... to do!
                          \cmdmthoparsnt{cmdName};
                            \colon = cmdNameSnt[sub][sub][par] = cmdName_{sub}^{sub}[par]
                          • \cmdmthoparsnt{cmdName}[NewName];
                             \colon = NewNameSub[sub][sub][par] = NewNameSub[par]
                       520 \newcommandx{\cmdmthoparsnt}[2][2=]
                      521 {\usrmth{#1}{Snt}{oparsnt}[#2]}
  \mthfrm, ... to do!
                          • \mthfrm{Name} [sub] [sup] [Ext] = Name_{sub}^{sup}Ext
```

```
\bullet \  \, \texttt{\bar{Name}[sub][sub][Ext1][Arg][Ext2]} = Name_{sub}^{sup}Ext1(Arg)Ext2
                        \bullet \ \texttt{\normalfrm{Name}[sub][sup][Ext1]{Par}[Ext2]} = Name_{sub}^{sup}Ext1[Par]Ext2 
                    522 %% Style for Formulae
                   523 \cmdmthall{frm}\newcommand{\mthstyfrm}{\mathit}
    \aFrm, ... to do!
                   a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
                   A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
                   \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
                   524 \seqoflet{Frm}{mthfrm}
    \cmdmthfrm ... to do!
                       • \cmdmthfrm{cmdName};
                         \verb|\cmdNameFrm[sub][sub][ext]| = cmdName_{sub}^{sub}ext
                       • \cmdmthfrm{cmdName}[NewName];
                         \colon dNameFrm[sub][sub][ext] = NewName_{sub}^{sub}ext
                    525 \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];
                         \verb|\cmdNameFrm[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                    527 \newcommandx{\cmdmthargfrm}[2][2=]
                    528 \quad \{\usrmth{\#1}{Frm}{argfrm}[\#2]\}
\cmdmthoargfrm ... to do!
                       \cmdmthoargfrm{cmdName};
                         \colon dNameFrm[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                       • \cmdmthoargfrm{cmdName}[NewName];
                         \colon = NewName_{sub}^{sub}[arg] = NewName_{sub}^{sub}(arg)
                    529 \newcommandx{\cmdmthoargfrm}[2][2=]
                    530 {\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
                    531 \mbox{ \cmdmthparfrm} [2] [2=]
                        {\usrmth{#1}{Frm}{parfrm}[#2]}
\cmdmthoparfrm ... to do!
                       \cmdmthoparfrm{cmdName};
                         \verb|\cmdNameFrm[sub][sub][par]| = cmdName_{sub}^{sub}[par]|
                       • \cmdmthoparfrm{cmdName}[NewName];
                         \colon dNameFrm[sub][sub][par] = NewName^{sub}_{sub}[par]
                    533 \newcommandx{\cmdmthoparfrm}[2][2=]
                        {\usrmth{#1}{Frm}{oparfrm}[#2]}
  \mthmat, ... to do!
                       • \mthmat{Name}[sub][sup][Ext] = \mathbf{Name}_{sub}^{sup}Ext
                       \bullet \  \, \texttt{\bar{Name}[sub][sub][Ext1][Arg][Ext2]} = \mathbf{Name}^{sup}_{sub}Ext1(Arg)Ext2
```

```
536 %% Style for Matrices
                     537 \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
                     538 \seqoflet{Mat}{mthmat}
     \cmdmthmat ... to do!
                         \cmdmthmat{cmdName};
                           \verb|\cmdNameMat[sub][sub][ext]| = \mathbf{cmdName}_{sub}^{sub} ext
                         • \cmdmthmat{cmdName}[NewName];
                           \c New Name Mat[sub][sub][ext] = New Name <math>_{sub}^{sub} ext
                      539 \newcommandx{\cmdmthmat}[2][2=]
                     540 {\usrmth{#1}{Mat}{mat}[#2]}
 \cmdmthargmat ... to do!
                         \cmdmthargmat{cmdName};
                           \cmdNameMat[sub][sub][ext1]{arg}[ext2] = cmdName_{sub}^{sub}ext1(arg)ext2
                        • \cmdmthargmat{cmdName}[NewName];
                           \cmdNameMat[sub][sub][ext1]{arg}[ext2] = NewName_{sub}^{sub}ext1(arg)ext2
                     541 \newcommandx{\cmdmthargmat}[2][2=]
                          {\usrmth{#1}{Mat}{argmat}[#2]}
\cmdmthoargmat ... to do!
                        • \cmdmthoargmat{cmdName};
                           \cmdNameMat[sub][sub][arg] = cmdName_{sub}^{sub}(arg)
                         • \cmdmthoargmat{cmdName}[NewName];
                           \colon = NewName_{sub}^{sub}(arg) = NewName_{sub}^{sub}(arg)
                     543 \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];
                           \cmdNameMat[sub][sub][ext1]\{par\}[ext2] = NewName_{sub}^{sub}ext1[par]ext2
                      545 \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];
                           \verb|\cmdNameMat[sub][sub][par]| = \verb|NewName|^{sub}_{sub}[par]|
                      547 \newcommandx{\cmdmthoparmat}[2][2=]
                          {\usrmth{#1}{Mat}{oparmat}[#2]}
  \mthvec, ... to do!
                        ullet \mthvec{Name}[sub][sup][Ext] = {\it Name}^{sup}_{sub}Ext
                          \bullet \ \texttt{\normalfont{MangVec(Name)[sub][sup][Ext1]{Arg}[Ext2]} = \textit{Name}^{sup}_{sub} Ext1(Arg) Ext2 
                         \bullet \texttt{ \ \ } \texttt{[Sub] [Sup] [Ext1] \{Par\} [Ext2]} = \textit{Name}_{sub}^{sup} Ext1[Par] Ext2 
                      549 %% Style for Vectors
                     550 \cmdmthall{vec}\newcommand{\mthstyvec}[1]{\boldsymbol{\mathit{#1}}}
```

```
\aVec, ... to do!
                a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z
                A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
                \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,\,A,\,M,\,N,\,\Xi,\,O,\,\Pi,\,\Pi,\,P,\,P,\,\Sigma,\,\Sigma,\,T,\,\Upsilon,\,\varPhi,\,\varPhi,\,X,\,\Psi,\,\Omega
                551 \seqoflet{Vec}{mthvec}
    \cmdmthvec ... to do!
                   • \cmdmthvec{cmdName};
                     \verb|\cmdNameVec[sub][sub][ext]| = cmdName^{sub}_{sub}ext|
                   • \cmdmthvec{cmdName} [NewName];
                     \colon dNameVec[sub][sub][ext] = NewName^{sub}_{sub}ext
                 552 \newcommandx{\cmdmthvec}[2][2=]
                 553 {\usrmth{#1}{Vec}{vec}[#2]}
\cmdmthargvec ... to do!
                   • \cmdmthargvec{cmdName};
                     \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
                 554 \newcommandx{\cmdmthargvec}[2][2=]
                 555 {\usrmth{#1}{Vec}{argvec}[#2]}
\cmdmthoargvec ... to do!
                   • \cmdmthoargvec{cmdName};
                     \verb|\cmdNameVec[sub][sub][arg]| = cmdName_{sub}^{sub}(arg)
                   • \cmdmthoargvec{cmdName}[NewName];
                     \cmdNameVec[sub][sub] [arg] = NewName_{sub}^{sub}(arg)
                 556 \newcommandx{\cmdmthoargvec}[2][2=]
                    {\usrmth{#1}{Vec}{oargvec}[#2]}
\cmdmthparvec ... to do!
                   • \cmdmthparvec{cmdName};
                     \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
                 558 \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];
                     \colon = NewName_{sub}^{sub}[par] = NewName_{sub}^{sub}[par]
                 560 \newcommandx{\cmdmthoparvec}[2][2=]
                     {\usrmth{#1}{Vec}{oparvec}[#2]}
                 562\fi
                 567 \iftext@
                 • \ adhoc = ad\ hoc
        \adhoc
```

569 \cmdtxtabr{adhoc}[ad hoc]

```
\afortiori
                         • \arrange a fortiori
                      570 \cmdtxtabr{afortiori}[a fortiori]
                         • \arrange a priori
         \apriori
                      571 \cmdtxtabr{apriori}[a priori]
               \cf
                         • \backslash cf = cf.
                      572 \cmdtxtabr{cf}[cf.]
         \dedicto
                         • \del{dedicto} = de \ dicto
                      573 \cmdtxtabr{dedicto}[de dicto]
                         • \del{defacto} = de \ facto
         \defacto
                      574 \cmdtxtabr{defacto}[de facto]
                         • \dere = de re
             \dere
                      575 \cmdtxtabr{dere}[de re]
                         ullet \divideetimpera = divide\ et\ impera
\divideetimpera
                      576 \cmdtxtabr{divideetimpera}[divide et impera]
               \eg
                         • \backslash eg = e.g.
                      577 \cmdtxtabr{eg}[e.g.]
             \ergo
                         • \ensuremath{\backslash} \text{ergo} = ergo
                      578 \cmdtxtabr{ergo}
          \errata
                         • \errata = errata
                      579 \cmdtxtabr{errata}
                         • \erratum = erratum
         \erratum
                      580 \cmdtxtabr{erratum}
             \etal
                         • \ensuremath{\backslash} \mathtt{etal} = et \ al.
                      581 \cmdtxtabr{etal}[et al.]
              \etc
                         • \ensuremath{\backslash} \mathsf{etc} = \mathit{etc}.
                      582 \cmdtxtabr{etc}[etc.]
               \ie
                         • \ie = i.e.
                      583 \cmdtxtabr{ie}[i.e.]
                         ullet \mutatismutandis = mutatis\ mutandis
\mutatismutandis
                      584 \cmdtxtabr{mutatismutandis} [mutatis mutandis]
       \percontra
                         • \protect\ per contra = per contra
                      585 \cmdtxtabr{percontra}[per contra]
                         • \viceversa = vice versa
       \viceversa
                       586 \cmdtxtabr{viceversa}[vice versa]
               \vs
                         • \vert vs = vs.
                       587 \cmdtxtabr{vs}[vs.]
              \viz
                         • \forall viz = viz.
                      588 \cmdtxtabr{viz}[viz.]
```

```
\Dedicto
              590 \cmdtxtabr{Dedicto}[De dicto]
    \Defacto
              ullet \Defacto = De\ facto
            591 \cmdtxtabr{Defacto}[De facto]
              • \Dere = De re
       \Dere
            592 \cmdtxtabr{Dere}[De re]
              • \Divideetimpera = Divide \ et \ impera
\Divideetimpera
            593 \cmdtxtabr{Divideetimpera}[Divide et impera]
        \Eg
              • \backslash Eg = E.g.
            594 \cmdtxtabr{Eg}[E.g.]
              • \Errata = Errata
     \Errata
            595 \cmdtxtabr{Errata}
              • \Erratum = Erratum
    \Erratum
            596 \cmdtxtabr{Erratum}
              • \Percontra = Per\ contra
   \Percontra
            597 \cmdtxtabr{Percontra}[Per contra]
   \Viceversa
              • \forall iceversa = Vice \ versa
            598 \cmdtxtabr{Viceversa}[Vice versa]
            \role
              • \role = r\hat{o}le
            602 \cmdtxtabr{role}[r\^{o}le]
            \Role
              604 \mbox{cmdtxtabr{Role}[R\^{o}le]}
            \aka
              606 \cmdtxtabr{aka}[a.k.a.]
      \contd
              • \contd = contd.
            607 \cmdtxtabr{contd}[contd.]
       \iff
              • \iff = iff
            608 \cmdtxtabr{iff}
              • \ \ \ \ stx = s.t.
       \stx
            609 \cmdtxtabr{stx}[s.t.]
       \resp
              • \resp = resp.
            610 \cmdtxtabr{resp}[resp.]
```

```
\wrt
             • \wrt = w.r.t.
           611 \cmdtxtabr{wrt}[w.r.t.]
      \wlogx
             • \wdots w.l.o.g.
           612 \cmdtxtabr{wlogx}[w.l.o.g.]
           \Contd
             • \contd = Contd.
           614 \cmdtxtabr{Contd}[Contd.]
             • \Wlogx = W.l.o.q.
      \Wlogx
           615 \cmdtxtabr{Wlogx}[W.l.o.g.]
           621 \ifmath@
           \implies, ... ...
           623 \DeclareRobustCommand{\implies}
           624 {\ensuremath{\Rightarrow}}
           625 \DeclareRobustCommand{\coimplies}
           626 {\ensuremath{\Leftrightarrow}}}
           \defeq, \seteq
           628 \DeclareMathOperator{\defeq}
           629 {\ensuremath{\triangleq}}
           630 \DeclareMathOperator{\seteq}
           631 {\ensuremath{:\!=\,}}
           \cmodels, ... ...
           633 \DeclareRobustCommand{\cmodels}
           634 \quad \{\mathbf , \mathbf \}
           635 \DeclareRobustCommand{\notcmodels}
           636 {\mth{\,\not\models}}
  \cequiv, ... ...
           637 \DeclareRobustCommand{\cequiv}
           638 \quad \{\mth{\,\equiv}\}
           639 \DeclareRobustCommand{\notcequiv}
           640 \quad \{\mth{\,\not\equiv}\}
           \dual, \adj, ... ...
           642 \DeclareRobustCommand{\dual}[1]
           643 {\mth{\overline{#1}}}
           644 \DeclareRobustCommand{\adj}[1]
           645 {\mth{\mathring{#1}}}
           646 \DeclareRobustCommand{\der}[1]
           647 \quad \{\mathbf{t}_{1}\}\
           648 \DeclareRobustCommand{\trn}[1]
           649 \quad {\bf \{\widetilde{\#1}\}}
```

```
\vec ...
                                       650 \left| \text{let}\right| 
                                       651 \DeclareRobustCommand{\vec}[1]
                                                {\bf \{\mbox{\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{}\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{}\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbo
                                       \enumeration, ... ...
                                       654 \operatorname{denumeration}{\mathbf{1}}{\mathbf{1}}{\mathbf{1}}
                                       655 \operatorname{denumerationx}{\mathbf{\S};}{}}
      \sequence, ... ...
                                       656 \varcmd{sequence}{\tt hth}{\tt [}{,}{\tt ht]}{}
                                       657 \varcmd{sequencex}{\mth}{\left[}{;}{\right]}{}
            \tuple, ... ...
                                       658 \t {tuple}{\bf \{\{\{\{\},\}\{\{right\}\}\}}\}
                                       659 \t {tuplex}{\bf {tuplex}{\bf {tuplex}{\bf {tuplex}{\bf {tuplex}{\bf {tuplex}{\bf {tuplex}}}}} }
                                       \set ...
                                        661 \DeclareRobustCommand{\set}[2]
                                                \label{lowbreak} $$ {\mathbf {\xr}}{\xr}{\xr}{\xr}}{\xr}}
                        \card ...
                                        663 \DeclareRobustCommand{\card}[1]
                                               {\mth{\argmid{\lvert}{#1}{\rvert}}}
                      \denot ...
                                        665 \DeclareRobustCommand{\denot}[1]
                                                {\mth{\argmid{\lVert}{#1}{\rVert}}}
                          \pow ...
                                        667 \DeclareRobustCommand{\pow}[1]
                                                {\ensuremath{2^{\defval{#1}{\cdot}}}}
                                        \emptyrel
                                        670 \DeclareRobustCommand{\emptyrel}
                                                {\mth{\varnothing}}
                                        \dom, \cod, ... ...
                                        673 \DeclareRobustCommand{\dom}
                                       674 {\mthargfun{dom}}
                                       675 \DeclareRobustCommand{\cod}
                                       676 {\mthargfun{cod}}
                                       677 \DeclareRobustCommand{\rng}
                                        678 {\mthargfun{rng}}
                                        679 \DeclareRobustCommand{\img}
                                                 {\mthargfun{img}}
                                        \prj ...
                                        682 \DeclareRobustCommand{\prj}
                                       683 {\mthargfun{prj}}
                          \rst ...
                                        684 \DeclareMathOperator{\rst}
                                        685 {\ensuremath{\upharpoonright}}
```

```
\cmp ...
              686 \DeclareMathOperator{\cmp}
                  {\ensuremath{\circ}}
              \emptyfun
              689 \DeclareRobustCommand{\emptyfun}
                  {\mth{\varnothing}}
              \pto, \pmapsto
              692 \DeclareMathOperator{\pto}
                  {\ensuremath{\rightharpoonup}}
              694 \DeclareMathOperator{\pmapsto}
                   {\ensuremath{\mathrel{\raisebox{0.5ex}{\footnotesize${\llcorner}$}%
                    \kern-1.5ex\rightharpoonup}}}
              \Aomega, \AOmega
              698 \DeclareRobustCommand{\Aomega}
                  {\mthargset{\omega}}
              700 \DeclareRobustCommand{\AOmega}
                  {\mthargset{\Omega}}
\Atheta, \ATheta ...
              702 \DeclareRobustCommand{\Atheta}
                  {\mthargset{\theta}}
               704 \DeclareRobustCommand{\ATheta}
                  {\mthargset{\Theta}}
 \Aomicron, ... ...
              706 \DeclareRobustCommand{\Aomicron}
                  {\mthargset{\omicron}}
              708 \DeclareRobustCommand{\AOmicron}
                  {\mthargset{\Omicron}}
              \SetB ...
              711 \DeclareRobustCommand{\SetB}
              712 {\mthset[mathbb]{B}}
        \SetF ...
              713 \DeclareRobustCommand{\SetF}
              714 {\mthset[mathbb]{F}}
    \SetN, ... ...
              715 \DeclareRobustCommand{\SetN}
              716 {\mthset[mathbb]{N}}
              717 \DeclareRobustCommand{\SetNI}[1][]
              718 {\SetN[\infty #1]}
    \SetZ, ... ...
              719 \DeclareRobustCommand{\SetZ}
              720 {\mthset[mathbb]{Z}}
              721 \DeclareRobustCommand{\SetZI}[1][]
              722 {\SetZ[\pm\infty #1]}
              723 \DeclareRobustCommand{\SetZPI}[1][]
                  {\SetZ[+\infty #1]}
              725 \DeclareRobustCommand{\SetZNI}[1][]
                 {\SetZ[-\infty #1]}
```

```
\SetQ, ... ...
             727 \DeclareRobustCommand{\SetQ}
             728 {\bf Q}
             729 \DeclareRobustCommand{\SetQI}[1][]
             730 {\SetQ[\pm\infty #1]}
             731 \DeclareRobustCommand{\SetQPI}[1][]
             732 {\SetQ[+\infty #1]}
             733 \DeclareRobustCommand{\SetQNI}[1][]
             734 {\SetQ[-\infty #1]}
  \SetR, ... ...
             735 \DeclareRobustCommand{\SetR}
             736 {\mthset[mathbb] {R}}
             737 \DeclareRobustCommand{\SetRI}[1][]
             738 {\SetR[\pm\infty #1]}
             739 \DeclareRobustCommand{\SetRPI}[1][]
             740 {\SetR[+\infty #1]}
             741 \DeclareRobustCommand{\SetRNI}[1][]
             742 {\SetR[-\infty #1]}
  \SetC, ... ...
             743 \DeclareRobustCommand{\SetC}
             744 {\mthset[mathbb]{C}}
             745 \DeclareRobustCommand{\SetCI}[1][]
             746 {\SetC[\infty #1]}
             \num, ...
             748 \DeclareRobustCommand{\num}[1]
             749 {\mth{[#1]}}
             750 \DeclareRobustCommand{\numcc}[2]
                 {\mth{[\argsep{#1}{,}{#2}]}}
             752 \DeclareRobustCommand{\numco}[2]
             753 {\mth{[\argsep{#1}{,}{#2})}}
             754 \DeclareRobustCommand{\numoc}[2]
             755 {\mth{(\argsep{#1}{,}{#2}]}}
             756 \DeclareRobustCommand{\numoo}[2]
                 {\mth{(\argsep{#1}{,}{#2})}}
             \floor, \ceil
             759 \DeclareRobustCommand{\floor}[1]
             760 \quad \{\mth{\arg id} \left\{ \left\| f \right\|_{\#1} \right\} \}
             761 \DeclareRobustCommand{\ceil}[1]
             762 {\mth{\argmid{\left\lceil}{#1}{\right\rceil}}}
             \arg ...
             764 \DeclareRobustCommand{\arg}
             765 {\mthfun{arg}}
  \evn, \odd ...
             766 \DeclareRobustCommand{\evn}
             767 {\mthfun{evn}}
             768 \DeclareRobustCommand{\odd}
             769 {\mthfun{odd}}
   \bst, ... ...
             770 \DeclareRobustCommand{\bst}
             771 {\mthfun{bst}}
             772 \DeclareRobustCommand{\argbst}
             773 {\mthfun{arg bst}}
```

```
\min, \max, ... ...
                  774 \DeclareRobustCommand{\min}
                  775 {\mthfun{min}}
                  776 \DeclareRobustCommand{\max}
                  777 {\mthfun{max}}
                   778 \DeclareRobustCommand{\argmin}
                   779 {\mthfun{arg min}}
                   780 \DeclareRobustCommand{\argmax}
                   781 {\mthfun{arg max}}
     \inf, \sup ...
                   782 \DeclareRobustCommand{\inf}
                   783 {\bf \{nthfun\{inf\}}
                   784 \DeclareRobustCommand{\sup}
                   785 {\mthfun{sup}}
                   \fst, \lst ...
                  787 \DeclareRobustCommand{\fst}
                   788 {\mthargfun{fst}}
                   789 \DeclareRobustCommand{\lst}
                   790 {\bf 1st}
                   791 \fi
                   796 \ifcom@
     \defcomcls ... to do!
                     • \defcomcls{CompClass};
                       \CompClass[sub][sup][ext] = COMPCLASS_{SUB}^{SUP}EXT;
                       \verb|\CoCompClass[sub][sup][ext]| = CoCompClass[sub][sup][ext]|
                       \label{eq:compClassEsub} $$ \operatorname{[sub][ext]} = \operatorname{COMPCLASS-EASY}^{\operatorname{SUP}}_{\operatorname{SUB}} \operatorname{EXT}; 
                       \verb|\CoCompClassE[sub][sup][ext]| = CoCompClass-Easy_{SUB}^{SUP}EXT
                       \CompClassH[sub][sup][ext] = COMPCLASS-HARD_{SUB}^{SUP}EXT;
                       \verb|\CoCompClassH[sub][sup][ext]| = CoCompClass-Hard_{SUB}^{SUP}EXT
                       \CompClassC[sub][sup][ext] = COMPCLASS-COMPLETE_{SUB}^{SUP}EXT;
                       \verb|\CoCompClassC[sub][sup][ext]| = CoCompClass-complete_{SUB}^{SUP}EXT
                       \N{CompClass[sub][sup][ext]} = N{CompCLass_{Sub}^{SUP}} EXT;
                       \ConCompClass[sub][sup][ext] = ConCompClass[Sub]EXT
                       \NCompClassE[sub][sup][ext] = NCompClass-Easy_{SUB}^{SUP}EXT;
                       \verb|\CoNCompClassE[sub][sup][ext]| = CoNCompClass-Easy_{SUB}^{SUP}EXT
                       \label{eq:ncompClassHsub} $$ \compClassH[sub][sup][ext] = NCOMPCLASS-HARD_{SUB}^{SUP}EXT; $$
                       \verb|\CoNCompClassH[sub][sup][ext]| = CoNCompClass-Hard_{SUB}^{SUP}EXT
                       \label{eq:NCompClassC} $$\NCompClassC[sub][sup][ext] = NCompClass-Complete_{SUB}^{SUP}EXT;
                       \verb|\ConCompClassC[sub][sup][ext]| = ConCompClass-Complete_{SUB}^{SUP}EXT
                       \label{eq:UCompClass} $$ [\sup] [ext] = UCOMPCLASS^{SUP}_{SUB} EXT; $$
                       \verb|\CoUCompClass[sub][sup][ext]| = CoUCompClass_{SUB}^{SUP}EXT
                       \label{eq:ucompClassEsub} $$ \operatorname{[sub][ext]} = \operatorname{UCOMPCLASS-EASY}^{\operatorname{SUP}}_{\operatorname{SUB}} \operatorname{EXT};
                       \verb|\CoUCompClassE[sub][sup][ext]| = CoUCompClass-Easy_{SUB}^{SUP}EXT
                       \label{eq:UCompClassH} $$ \UCompClassH[sub][sup][ext] = UCompClass-Hard_{SUB}^{SUP}EXT; $$
                       \CoUCompClassH[sub][sup][ext] = CoUCompClass-Hard_{SUB}^{SUP}EXT
                       \UCompClassC[sub][sup][ext] = UCompClass-Complete_{SUB}^{SUP}EXT;
                       \texttt{CoUCompClassC[sub][sup][ext]} = \texttt{CoUCompClass-complete}_{\texttt{SUB}}^{\texttt{SUP}} \texttt{EXT}
                       \triangle CompClass[sub][sup][ext] = ACOMPCLASS_{SUB}^{SUP}EXT;
                       \verb|\CoACompClass[sub][sup][ext]| = CoACompClass[sup]EXT|
                       \ACompClassE[sub][sup][ext] = ACompClass-Easy_{Sub}^{SUP}EXT;
```

```
\label{eq:acompClassHsub} $$ \Delta CompClassH[sub] [sup] [ext] = ACompClass-Hard_{SUB}^{SUP} EXT; 
                                                                          \verb|\CoACompClassH[sub][sup][ext]| = CoACompClass-Hard_{Sub}^{SUP}EXT
                                                                          \ACompClassC[sub][sup][ext] = ACompClass-CompLete_{Sub}^{SUP}EXT;
                                                                           \verb|\CoACompClassC[sub][sup][ext]| = CoACompClass-complete_{SUB}^{SUP}EXT
                                                                   \defcomcls{CompClass}[NewClass];
                                                                          \compClass[sub][sup][ext] = NewClass_{Sub}^{SUP}EXT;
                                                                          \verb|\CoCompClass[sub][sup][ext]| = \mathrm{CoNewClass}^{\mathrm{SUP}}_{\mathrm{SUB}}\mathrm{EXT}
                                                                           \label{loss_ext} $$\operatorname{CompClassE[sub][sup][ext]} = \operatorname{NewClass-Easy}_{\operatorname{SUB}}^{\operatorname{SUP}} = \operatorname{X}_{\operatorname{SUB}} = \operatorname{NewClass-Easy}_{\operatorname{SUB}}^{\operatorname{SUP}} = \operatorname{X}_{\operatorname{SUB}} = 
                                                                          \CoCompClassE[sub][sup][ext] = CoNEWCLASS-EASY_{SUB}^{SUP}EXT
                                                                          \label{lower_loss} $$\operatorname{CompClassH[sub][sup][ext]} = \operatorname{NewClass-HARD}^{\operatorname{SUP}}_{\operatorname{SUB}} = \operatorname{NewClass-HARD}^{\operatorname{SUP}}_{\operatorname{SU
                                                                          \verb|\CoCompClassH[sub][sup][ext]| = CoNewClass-Hard_{SUB}^{SUP}EXT
                                                                          \label{eq:compClassC} $$\operatorname{Sup}[\sup][\operatorname{ext}] = \operatorname{NewClass-COMPLETE}^{\operatorname{SUP}}_{\operatorname{SUB}} = XT;
                                                                           \CoCompClassC[sub][sup][ext] = CoNEWCLASS-COMPLETE_{SUB}^{SUP}EXT
                                                                          \label{eq:ncompclass} $$\NEWCLASS^{SUP}_{SUB}EXT;$
                                                                          \verb|\CoNCompClass[sub][sup][ext]| = CoNNewClass_{SUB}^{SUP}EXT
                                                                          \label{eq:NCompClassE} $$ \[\sup] [\sup] = NNEWCLASS-EASY_{SUB}^{SUP} EXT; 
                                                                          \verb|\ConCompClassE[sub][sup][ext]| = ConNewClass-easy_{Sub}^{SUP}Ext
                                                                          \label{eq:NCompClassH} $$ \[ \] [\] = NNEWCLASS-HARD^{SUP}_{SUB} EXT; 
                                                                          \ConCompClassH[sub][sup][ext] = ConNewClass-Hard_{Sub}^{SUP}Ext
                                                                          \NCompClassC[sub][sup][ext] = NNEWCLASS-COMPLETE_{SUB}^{SUP}EXT;
                                                                          \verb|\ConCompClassC[sub][sup][ext]| = ConNewClass-Complete_{sup}^{SUP}EXT
                                                                          \UCompClass[sub][sup][ext] = UNEWCLASS_{SUB}^{SUP}EXT;
                                                                          \texttt{CoUCompClass[sub][sup][ext]} = CoUNEWCLASS_{SUB}^{SUP}EXT
                                                                          \label{eq:UCompClassEsub} $$ \[\sup] [ext] = UNEWCLASS-EASY_{SUB}^{SUP}EXT; $$
                                                                          \CoUCompClassE[sub][sup][ext] = CoUNEWCLASS-EASY_{SUB}^{SUP}EXT
                                                                          \UCompClassH[sub][sup][ext] = UNEWCLASS-HARD_{SUB}^{SUP}EXT;
                                                                          \verb|\CoUCompClassH[sub][sup][ext]| = CoUNEWCLASS-HARD_{SUB}^{SUP}EXT
                                                                          \UCompClassC[sub][sup][ext] = UNEWCLASS-COMPLETE_{SUB}^{SUP}EXT;
                                                                          \texttt{CoUCompClassC[sub][sup][ext]} = \texttt{CoUNEwCLASS-COMPLETE}^{SUP}_{SUB} \texttt{EXT}
                                                                          \Delta CompClass[sub][sup][ext] = ANEWCLASS_{SUB}^{SUP}EXT;
                                                                          \verb|\CoACompClass[sub][sup][ext]| = CoANewClass_{SUB}^{SUP}EXT
                                                                          \label{eq:accompClassE} $$ \Delta CompClassE[sub][sup][ext] = ANEWCLASS-EASY_{SUB}^{SUP}EXT; 
                                                                          \CoACompClassE[sub][sup][ext] = CoANEWCLASS-EASY_{SUB}^{SUP}EXT
                                                                          \ACompClassH[sub][sup][ext] = ANEWCLASS-HARD_{SUB}^{SUP}EXT;
                                                                           \CoACompClassH[sub][sup][ext] = CoANEWCLASS-HARD_{SUR}^{SUP}EXT
                                                                           \Lambda CompClassC[sub][sup][ext] = ANEWCLASS-COMPLETE_{SUB}^{SUP}EXT;
                                                                           \CoACompClassC[sub][sup][ext] = CoANewClass-Complete_{Sub}^{SUP}EXT
                                                        797 \newcommandx{\defcomcls}[2][2=]
                                                                           {\defcomclssem{#1}{\defval{#2}{#1}}}%
                                                                              800 \newcommandx{\defcomclssem}[3][3=]
                                                                             {\defcomclsred{#3#1}{#2}[#3]%
                                                                              \defcomclsred{#3N#1}{#2}[#3N]%
                                                                              \label{lem:lemonth} $$ \end{#3U#1}{#2}[#3U]%
                                                                              \displaystyle \defcomclsred{#3A#1}{#2}[#3A]}
                                                        805 \newcommandx{\defcomclsred}[3][3=]
                                                                           {\defcomclscmd{#1}{#2}[#3]%
                                                                             \defcomclscmd{#1E}{#2}[#3][-easy]%
                                                                             \defcomclscmd{#1H}{#2}[#3][-hard]%
                                                                             810 \newcommandx{\defcomclscmd}[4][3=, 4=]
                                                                             {\csdef{#1}{\txtcom{#3#2#4}}}
                                                        \Time, ...
                                                                          TimeE[sub][sup][ext] = TIME-EASY_{SUB}^{SUP}EXT
                                                                          TimeH[sub][sup][ext] = TIME-HARD_{SUB}^{SUP}EXT
                                                                          TimeC[sub][sup][ext] = TIME-COMPLETE_{SUB}^{SUP}EXT
```

 $\CoACompClassE[sub][sup][ext] = CoACompClass-Easy_{SUB}^{SUP}EXT$

```
\label{eq:ntimeEsub} $$\operatorname{Isup}[\operatorname{ext}] = \operatorname{NTIME-EASY}^{\operatorname{SUP}}_{\operatorname{SUB}} \operatorname{EXT}$
                                           \NTimeH[sub][sup][ext] = NTIME-HARD_{SUB}^{SUP}EXT
                                           \verb| NTimeC[sub][sup][ext] = NTime-complete | Sup | Su
                                       \verb| UTimeE[sub][sup][ext] = UTIME-EASY_{SUR}^{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|
                                  813 \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
                                           \verb|\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
                                  814 \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_Sup_EXT
                                           \verb|\ALogTimeE[sub][sup][ext]| = ALogTime-Easy_{SUB}^{SUP}EXT
                                           \Lambda LogTimeH[sub][sup][ext] = ALogTime-Hard_{Sur}^{SUP}EXT
                                           ALogTimeC[sub][sup][ext] = ALogTime-Complete_{Sub}^{SUP}EXT
                                  815 \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
```

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

```
\ULogSpaceH[sub][sup][ext] = ULogSpace-Hard_{SUB}^{SUP}EXT
                                                                                        \verb| ULogSpaceC[sub][sup][ext] = ULogSpace-complete_{sub}^{SUP}EXT
                                                                                • ALogSpace[sub][sup][ext] = ALogSpace_{SUB}^{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
                                                                     816 \defcomcls{LogSpace}
         \PTime, ...
                                                                                • \PTime[sub][sup][ext] = PTIME_SUBEXT
                                                                                        \PTimeE[sub][sup][ext] = PTIME-EASY_SUP_EXT
                                                                                       \P \PTimeH[sub] [sup] [ext] = PTIME-HARD SUP EXT
                                                                                       \PTimeC[sub][sup][ext] = PTIME-COMPLETE_SUP_EXT
                                                                                \verb|\NPTimeE[sub][sup][ext]| = NPTIME-EASY_{SUB}^{SUP}EXT
                                                                                        \label{eq:nptimeH} $$ \DTIME-HARD_{SUB}^{SUP} = NPTIME-HARD_{SUB}^{SUP} = NPTIME-HARD_{SUB}^{S
                                                                                        \NPTimeC[sub][sup][ext] = NPTIME-COMPLETE_{SUB}^{SUP}EXT
                                                                                • \UPTime[sub][sup][ext] = UPTIME_{SUB}^{SUP}EXT
                                                                                        \label{eq:uptimeEsub} $$ \operatorname{UPTIME-EASY}^{SUP}_{SUR}EXT $$
                                                                                        \label{eq:uptimeH} $$ \operatorname{UPTIME-HARD}_{SUB}^{SUP} = \operatorname{UPTIME-HARD}_{SUB}^
                                                                                        \label{eq:uptimeC} $$ \operatorname{UPTIME-COMPLETE}^{SUP}_{SUB} = \operatorname{UPTIME-COMPLETE}^{SUB}_{SUB} = \operatorname{UPTIME-
                                                                                 \bullet \ \texttt{APTime[sub][sup][ext]} = \mathrm{APTIME}^{\mathrm{SUP}}_{\mathrm{SUB}} \mathrm{EXT} 
                                                                                        \label{eq:aptimeEsub} $$ \Delta PTimeE[sub][sup][ext] = APTIME-EASY_{SUB}^{SUP}EXT $$
                                                                                        \verb| APTimeH[sub][sup][ext] = APTIME-HARD_{SUB}^{SUP}EXT
                                                                                        \APTimeC[sub][sup][ext] = APTIME-COMPLETE_{SUB}^{SUP}EXT
                                                                      817 \defcomcls{PTime}
                                                                                • \PSpace[sub][sup][ext] = PSPACE_{SUB}^{SUP}EXT
    \PSpace, ...
                                                                                        \verb|\PSpaceE[sub][sup][ext]| = PSPACE-EASY_{SUB}^{SUP}EXT
                                                                                         \label{eq:pspaceH} $$ \PSpaceH[sub][sup][ext] = PSpace-HARD_{SUB}^{SUP}EXT 
                                                                                        \label{eq:pspaceC} $$ \PSpaceC[sub][sup][ext] = PSpace-Complete_{SUB}^{SUP}EXT $
                                                                                • \NPSpace[sub][sup][ext] = NPSPACE_{SUB}^{SUP}EXT
                                                                                        \label{eq:NPSpaceEsub} $$ \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| UPSpaceC[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
                                                                     818 \defcomcls{PSpace}
                                                                                • \ExpTime[sub][sup][ext] = EXPTIME_{SUB}^{SUP}EXT
\ExpTime, ...
                                                                                        \verb|\ExpTimeE[sub][sup][ext]| = EXPTIME-EASY_{SUB}^{SUP}EXT
                                                                                         \verb|\ExpTimeH[sub][sup][ext]| = \text{EXPTIME-HARD}^{\text{SUP}}_{\text{SUB}} \text{EXT}
                                                                                         \texttt{ExpTimeC[sub][sup][ext]} = \texttt{ExpTime-complete}^{\texttt{SUP}}_{\texttt{SUB}}
                                                                                • \NExpTime[sub][sup][ext] = NEXPTIME_{SUB}^{SUP}EXT
                                                                                        \verb|\NExpTimeE[sub][sup][ext]| = NEXPTIME-EASY_{SUB}^{SUP}EXT
                                                                                        \verb|\NExpTimeH[sub][sup][ext]| = NEXPTIME-HARD_{SUB}^{SUP}EXT
                                                                                        \label{eq:nexptimeC} $$ \NEXPTIME-COMPLETE_{SUB}^{SUP} = NEXPTIME-COMPLETE_{SUB}^{SUP} EXT $$
                                                                                \UExpTimeE[sub][sup][ext] = UEXPTIME-EASY_{SUB}^{SUP}EXT
                                                                                         \verb|\UExpTimeH[sub][sup][ext]| = UEXPTIME-HARD^{SUP}_{SUB}EXT
                                                                                        \UExpTimeC[sub][sup][ext] = UEXPTIME-COMPLETE_{SUB}^{SUP}EXT
```

• \ULogSpace[sub][sup][ext] = ULogSpace_Sup_EXT

 $\verb|\ULogSpaceE[sub][sup][ext]| = ULogSpace-easy_{sub}^{SUP}ext|$

```
• \AExpTime[sub][sup][ext] = AExpTIME_SUB_EXT
                      \verb|\AExpTimeE[sub][sup][ext]| = AEXPTIME-EASY_{SUB}^{SUP}EXT
                      \texttt{AExpTimeH[sub][sup][ext]} = \text{AExpTime-HARD}^{\text{SUP}}_{\text{SUB}} \text{EXT}
                      \verb|\AExpTimeC[sub][sup][ext]| = AEXPTIME-COMPLETE_{SUB}^{SUP}EXT
                 819 \defcomcls{ExpTime}
                     \bullet \ \texttt{\xpSpace[sub][sup][ext]} = \mathrm{ExpSpace}^{\mathrm{SUP}}_{\mathrm{SUB}} \mathrm{Ext} \\
 \ExpSpace, ...
                      \verb|\ExpSpaceE[sub][sup][ext]| = ExpSpace-easy_{sub}^{SUP}Ext
                      \verb|\ExpSpaceH[sub][sup][ext]| = ExpSpace-Hard_{Sub}^{SUP}EXT
                      \verb|\ExpSpaceC[sub][sup][ext]| = EXPSPACE-COMPLETE_{SUB}^{SUP}EXT
                    • \NExpSpace[sub][sup][ext] = NEXpSpace_{SUB}^{SUP}EXT
                      \NExpSpaceE[sub][sup][ext] = NEXPSPACE-EASY_{SUR}^{SUP}EXT
                      \NExpSpaceH[sub][sup][ext] = NEXpSpace-Hard_{Sup}^{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
                    • \Delta ExpSpace[sub][sup][ext] = AExpSpace_{SUB}^{SUP}EXT
                      \verb|\AExpSpaceE[sub][sup][ext]| = AEXPSPACE-EASY_{SUB}^{SUP}EXT
                      \verb|\AExpSpaceH[sub][sup][ext]| = AEXPSPACE-HARD_{SUB}^{SUP}EXT
                      \texttt{AExpSpaceC[sub][sup][ext]} = \text{AExpSpace-complete}_{	ext{Sup}}^{	ext{Sup}} 	ext{Ext}
                 820 \defcomcls{ExpSpace}
                  822 \fi
                 827 \ifgam@
                 \SATG, ... ...
                 829 %% Satisfiability Games
                 830 \cmdtxtoparname{SATG}[Sat]
                 832 %% Validity Games
                 833 \cmdtxtoparname{VALG}[Val]
                 834
                 835 %% Evaluation Games
                 836 \cmdtxtoparname{EVLG}[Ev1]
                 837
                 838 %% Synthesis Games
                 839 \cmdtxtoparname{SYNG}[Syn]
                 841 %% Model-Checking Games
                 842 \cmdtxtoparname{MCG} [MC]
                 843
                 844 % Ehrenfeucht-Fraisse Games
                 845 \cmdtxtoparname{EFG}[EF]
                 \PlrSym, \OppSym
                 847 \newcommand{\plrsym}{E}
                 848 \cmdmthsym{Plr}[\plrsym]
                 849 \newcommand{\operatorname{Oppsym}}{A}
                 850 \cmdmthsym{Opp}[\oppsym]
```

```
\ArenaName, ... ...
                   851 \newcommand{\arenaname}{A}
                   852 \usrmthlatupp{Arena}{Name}{name} [\arenaname]
    \PosSet, ... ...
                   853 \newcommand{\possym}{v}
                   854 \newcommand{\posset}{Ps}
                   855 \cmdmthsetext{Pos}[\posset][\possym]
                    856 \cmdmthsymelm{ipos}[\possym_{I}]
                    857 \cmdmthsymelm{fpos}[\possym_{F}]
                   858 \cmdmthset{PPos}[\posset_{\PlrSym}]
                   859 \cmdmthsymelm{ppos}[\possym_{\PlrSym}]
                   860 \cmdmthset{OPos}[\posset_{\OppSym}]
                   861 \cmdmthsymelm{opos}[\possym_{\OppSym}]
         \MovRel
                   862 \newcommand{\movrel}{Mv}
                   863 \cmdmthrel{Mov}[\movrel]
   \GameName, ... ...
                   864 \newcommand{\gamename}{\Game}
                   865 \usrmthlatupp{Game}{Name}{name}[\gamename]
          \WinSet ...
                   866 \mbox{ \newcommand{\winset}{Wn}}
                   867 \cmdmthset{Win}[\winset]
\ObsSet, \obsFun ...
                   868 \newcommand{\obsset}{Ob}
                    869 \cmdmthset{Obs}[\obsset]
                    870 \cmdmthfun{obs}
                   \PthSet, \pthFun
                   872 \mbox{newcommand{\pthsym}{\pi}}
                    873 \newcommand{\pthset}{Pth}
                   874 \cmdmthsetext{Pth} [\pthset] [\pthsym]
                   875 \cmdmthfun{pth}
    \HstSet, ... ...
                   876 \newcommand{\hstsym}{\rho}
                   877 \newcommand{\hstset}{Hst}
                   878 \cmdmthsetext{Hst}[\hstset][\hstsym]
                   879 \cmdmthset{PHst}[\hstset_{\PlrSym}]
                   880 \cmdmthsymelm{phst}[\hstsym_{\PlrSym}]
                   881 \texttt{\Cmdmthset{OHst}[\hstset_{\OppSym}]}
                   882 \cmdmthsymelm{ohst}[\hstsym_{\OppSym}]
                   883 \cmdmthfun{hst}
\PlaySet,\playFun
                   884 \newcommand{\playsym}{\pi}
                    885 \newcommand{\playset}{Play}
                   886 \cmdmthsetext{Play}[\playset][\playsym]
                   887 \cmdmthfun{play}
    \StrSet, ...
                   888 \newcommand{\strsym}{\sigma}
                   889 \newcommand{\strset}{Str}
                    890 \cmdmthsetext{Str}[\strset][\strsym]
                    891 \cmdmthset{PStr}[\strset_{\PlrSym}]
                    892 \cmdmthsymelm{pstr}[\strsym_{\PlrSym}]
                    893 \cmdmthset{OStr}[\strset_{\OppSym}]
                   894 \cmdmthsymelm{ostr}[\strsym_{\OppSym}]
```

```
\PrfSet, \prfFun ...
             895 \mbox{ newcommand{\prfsym}{\xi}}
             896 \mbox{ } \mbox{prfset}{Prf}
             897 \cmdmthsetext{Prf}[\prfset][\prfsym]
\prdFun, \sucFun ...
             898 \cmdmthfun{prd}
             899 \cmdmthfun{suc}
\atrFun, \rchFun ...
             900 \cmdmthfun{atr}
             901 \cmdmthfun{rch}
      \solFun ...
             902 \cmdmthfun{sol}
             \BG, ... ...
             904 %% Buchi Games
             905 \cmdtxtoparname{BG}
             907 %% Co-Buchi Games
             908 \cmdtxtoparname{CG}
             910 %% Parity Games
             911 \cmdtxtoparname{PG}
             912
             913 %% Rabin Games
             914 \cmdtxtoparname{RG}
             916 %% Streett Games
             917 \cmdtxtoparname{SG}
             919 %% Muller Games
             920 \cmdtxtoparname{MG}
             \PrtSet, \prtFun
             922 \newcommand{\prtsym}{p}
             923 \newcommand{\prtset}{Pr}
             924 \cmdmthsetext{Prt} [\prtset] [\prtsym]
             925 \cmdmthfun{prt}[pr]
             \EG, ... ...
             928 %% Energy Games
             929 \cmdtxtoparname{EG}
             931 %% Mean-Payoff Games
             932 \cmdtxtoparname{MPG}
             933
             934 %% Discounted-Payoff Games
             935 \cmdtxtoparname{DPG}
```

```
\WghSet, \wghFun ...
             937 \mbox{newcommand{\wghsym}{w}}
             938 \mbox{newcommand{\wghset}{Wg}}
             939 \cmdmthsetext{Wgh} [\wghset] [\wghsym]
             940 \cmdmthfun{wgh} [wg]
             942 \fi
             947 \iflog@
             \BF, \QBF, ... ...
             949 % Boolean Formulae
             950 \cmdtxtoparname{BF}
             951
             952 % Quantified Boolean Formulae
             953 \DeclareRobustCommand{\QBF}
             954 {\{\text{xtname}\{Q\}\}\setminus BF\}}
             955 \DeclareRobustCommand{\EBF}
             956 {\ensuremath{\exists}\BF}
             957 \DeclareRobustCommand{\UBF}
                {\ensuremath{\forall}\BF}
             \LogSig, ... ...
             960 \newcommand{\logsig}{L}
             961 \usrmthlatupp{Log}{Sig}{sig}[\logsig]
      \Tt, \Ff ...
             962 \newcommand{\ttsym}{\top}
             963 \mbox{usrmth{Tt}{sym}[\ttsym]}
             964 \mbox{ \newcommand{\ffsym}{\bot}}
             965 \usrmth{Ff}{}{sym}[\ffsym]
    \APSet, ... ...
             966 \newcommand{\apsym}{p}
             967 \mbox{newcommand{\apset}{AP}}
             968 \cmdmthsetext{AP}[\apset][\apsym]
             969 \cmdmthfun{ap}\usrmth{ap}{}{argfun}
         \Cnt ...
             970 \usrmth{Cnt}{}{sym}[Cn]
         \sub ...
             971 \usrmth{sub}{}{argfun}
\Qnt,\QntSet, ... ...
             972 \usrmth{Qnt}{}{sym}[Qn]
             974 \newcommand{\qntsym}{\wp}
             975 \newcommand{\qntset}{Qn}
             976 \cmdmthsetext{Qnt} [\qntset] [\qntsym]
        \free
             977 \usrmth{free}{}{argfun}
```

```
\dep, \alt ...
             978 \usrmth{dep}{}{argfun}
             979 \usrmth{alt}{}{argfun}
             \LogStr, ... ...
             981 \newcommand{\logstr}{L}
             982 \usrmthlatupp{Log}{Str}{str}[\logstr]
\ValSet, ... ...
             983 \newcommand{\valsym}{\xi}
             984 \newcommand{\valset}{Val}
             985 \cmdmthsetext{Val}[\valset][\valsym]
\AsgSet, ... ...
             986 \newcommand{\asgsym}{\chi}
             987 \newcommand{\asgset}{Asg}
             988 \cmdmthsetext{Asg}[\asgset][\asgsym]
             \FOL, ... ...
             990 % First-Order Logic
             991 \cmdtxtoparname{FOL}[Fol]
             993 % Monadic First-Order Logic
             994 \DeclareRobustCommand{\MFOL}
                 {{\txtname{M}}\FOL}
             \VarSig, ... ...
             997 \newcommand{\varsig}{V}
             998 \usrmthlatupp{Var}{Sig}{sig}[\varsig]
             999 \newcommand{\varsym}{x}
             1000 \newcommand{\varset}{Vr}
             1001 \cmdmthsetext{Var}[\varset][\varsym]
            1002 \usrmth{var}{}{argfun}[vr]
            1003 \cmdmthfun{dim}[dm]\usrmth{dim}{}{argfun}[dm]
\ConSig, ... ...
            1004 \newcommand{\consig}{C}
            1005 \usrmthlatupp{Con}{Sig}{sig}[\consig]
            1006 \mbox{ } \mbox{command{\consym}{c}}
            1007 \newcommand{\conset}{Cn}
            1008 \cmdmthsetext{Con}[\conset][\consym]
            1009 \usrmth{con}{}{argfun}[cn]
\FunSig, ... ...
            1010 \newcommand{\funsig}{F}
            1011 \usrmthlatupp{Fun}{Sig}{sig}[\funsig]
            1012 \mbox{ } \mbox{newcommand{\hrunsym}{f}}
            1013 \newcommand{\funset}{Fn}
            1014 \cmdmthsetext{Fun}[\funset][\funsym]
            1015 \usrmth{fun}{}{argfun}[fn]
            1016 \cmdmthfun{art}[ar]\usrmth{art}{}{argfun}[ar]
\TerSig, ... ...
            1017 \newcommand{\tersig}{T}
            1018 \usrmthlatupp{Ter}{Sig}{sig}[\tersig]
            1019 \mbox{ } \mbox{newcommand{\tersym}{t}}
            1020 \newcommand{\terset}{Tr}
            1021 \cmdmthsetext{Ter}[\terset][\tersym]
            1022 \usrmth{ter}{}{argfun}
```

```
\RelSig, ... ...
         1023 \mbox{ } \mbox{relsig}{R}
         1024 \usrmthlatupp{Rel}{Sig}{sig}[\relsig]
         1025 \newcommand{\relsym}{r}
         1026 \mbox{ \newcommand{\relset}{R1}}
         1027 \verb|\cmdmthsetext{Rel}|[\relsym]|
         1028 \usrmth{rel}{}{argfun}[rl]
     \skm ...
         1029 \usrmth{skm}{}{argfun}
         \ConStr, ... ...
         1031 \newcommand{\constr}{C}
         1032 \usrmthlatupp{Con}{Str}{str}[\constr]
\FunStr, ... ...
         1033 \mbox{ \newcommand{\funstr}{F}}
         1034 \usrmthlatupp{Fun}{Str}{str}[\funstr]
\TerStr, ... ...
         1035 \mbox{ } \mbox{newcommand{\terstr}{T}}
         1036 \usrmthlatupp{Ter}{Str}{str}[\terstr]
\RelStr, ... ...
         1037 \newcommand{\relstr}{R}
         1038 \usrmthlatupp{Rel}{Str}{str}[\relstr]
         \SOL, ... ...
         1043 % Second-Order Logic
         1044 \cmdtxtoparname{SOL}[Sol]
         1046\,\% Monadic Second-Order Logic
         1047 \DeclareRobustCommand{\MSOL}
         1048 \quad \{\{\text{txtname}\{M\}\}\SOL\}
         \FVarSet, ... ...
         1050 \newcommand{\fvarsym}{x}
         1051 \newcommand{\fvarset}{FVr}
         1052 \cmdmthsetext{FVar} [\fvarset] [\fvarsym]
\SVarSet, ... ...
         1053 \mbox{ \newcommand{\svarsym}{X}}
         1054 \newcommand{\svarset}{SVr}
         1055 \cmdmthsetext{SVar}[\svarset][\svarsym]
```

```
\TL, \PL, ... ...
            1058 % Tree Logic
            1059 \cmdtxtoparname{TL}
            1060
             1061 % Monadic Tree Logic
             1062 \verb|\DeclareRobustCommand{\MTL}|
             1063
                 {\{\text{txtname}\{M\}}\TL\}
             1064
             1065 % Path Logic
             1066 \cmdtxtoparname{PL}
             1068 % Monadic Path Logic
             1069 \verb|\DeclareRobustCommand{\MPL}|
             1070 \quad \{\{\text{txtname}\{M\}\}\}\
             \ML, \QML, ...
            1074 % Modal Logic
            1075 \cmdtxtoparname{ML}
            1076
             1077 % Quantified Modal Logic
             1078 \DeclareRobustCommand{\QML}
                 {\{\text{txtname}\{Q\}\}\setminus ML\}}
             1080 \DeclareRobustCommand{\EML}
                 {\ensuremath{\exists}\ML}
             1082 \verb|\DeclareRobustCommand{\UML}|
             1083 \quad \{\texttt{\forall}\ML\}
             \Opr ...
             1085 \usrmth{Opr}{}{sym}[Op]
 \DMod, \BMod
             1086 \verb|\usrmth{DMod}{{}} sym{[\Diamond]}
             1087 \usrmth{BMod}{}{sym}[\Box]
   \Exs, \All ...
             1088 \DeclareRobustCommand{\Exs}[1]
                 {\mth{\defval{\argmid{\langle}{#1}{\rangle}}}{\DMod}}}
             1090 \DeclareRobustCommand{\All}[1]
                 {\mth{\defval{\argmid{\left[}{#1}{\right]}}}{\BMod}}}
             \KrpStr, ... ...
            1093 \newcommand{\krpstr}{K}
             1094 \usrmthlatupp{Krp}{Str}{str}[\krpstr]
 \WrlSet, ... ...
            1095 \newcommand{\wrlsym}{w}
             1096 \mbox{ } \mbox{newcommand{\wrlset}{W}}
             1097 \cmdmthsetext{Wrl} [\wrlset] [\wrlsym]
             1098 \cmdmthsymelm{iwrl}[\wrlsym_{I}]
```

```
\AccRel, \TrnRel
              1099 \newcommand{\accsym}{R}
              1100 \cmdmthrel{Acc}[\accsym]
             1101 \cmdmthrel{Trn}[\accsym]
      \labFun ...
             1102 \mbox{ \newcommand{\labsym}{\labsym}{\labsym}} \
             1103 \cmdmthfun{lab}[\labsym]
\PthSet, \pthFun
              1104 \providecommand{\pthsym}{\pi}
              1105 \providecommand{\phithset}{Pth}
              1106 \cmdmthsetext{Pth}[\pthset][\pthsym]
              1107 \cmdmthfun{pth}
              \MC, \QMC, ...
             1109 % Mu Calculus
             1110 \cmdtxtoparname{MC}[\ensuremath{\mu}-Calculus]
             1112 % Quantified Modal Logic
             1113 \DeclareRobustCommand{\QMC}
                  {{\txtname{Q}}\MC}
              1115 \DeclareRobustCommand{\EMC}
                 {\ensuremath{\exists}\MC}
              1117 \DeclareRobustCommand{\UMC}
                 {\ensuremath{\forall}\MC}
              \PTL, \LTL, ...
             1122\,\% Propositional Temporal Logic
             1123 \cmdtxtoparname{PTL}
             1124
             1125 % Quantified Propositional Temporal Logic
              1126 \DeclareRobustCommand{\QPTL}
                  {{\txtname{Q}}\PTL}
              1128 \DeclareRobustCommand{\EPTL}
                  {\ensuremath{\exists}\PTL}
              1130 \DeclareRobustCommand{\UPTL}
              1131
                  {\ensuremath{\forall}\PTL}
              1132
              1133 % Linear Temporal Logic
             1134 \cmdtxtoparname{LTL}
             1136 % Quantified Linear Temporal Logic
             1137 \DeclareRobustCommand{\QLTL}
                 {\{\text{txtname}\{Q\}\}\setminus LTL\}}
             1139 \DeclareRobustCommand{\ELTL}
                 {\ensuremath{\exists}\LTL}
              1141 \DeclareRobustCommand{\ULTL}
                 {\ensuremath{\forall}\LTL}
```

```
\X, ... ...
        1144 \usrmth{X}{}{sym}
        1145 \usrmth{F}{}{sym}
        1146 \usrmth{G}{}{sym}
        1147 \usrmth{U}{}{sym}
        1148 \usrmth{R}{}{sym}
 \Y, ... ...
        1149 \usrmth{Y}{}{sym}
        1150 \usrmth{P}{}{sym}\let\SavePilcrow\P
        1151 \mbox{usrmth}{H}{\sym}\left(\mbox{let}\
        1152 \mbox{usrmth{S}{}}{sym}\left(\mbox{saveSectionSymbol}\mbox{S}\right)
        1153 \usrmth{B}{}{sym}
        \CTL, ... ...
        1156 % Computation Tree Logic
        1157 \cmdtxtoparname{CTL}
        1158
        1159 % Quantified Computation Tree Logic
        1160 \DeclareRobustCommand{\QCTL}
        1161 \{\{\text{txtname}\{Q\}\}\CTL\}
        1162 \DeclareRobustCommand{\ECTL}
        1163 {\ensuremath{\exists}\CTL}
        1164 \DeclareRobustCommand{\UCTL}
             {\ensuremath{\forall}\CTL}
        1166
        1167\;\text{\%} Improved Computation Tree Logic
        1168 \cmdtxtoparname{CTLP}[CTL$^{+}$]
        1170\ \% Quantified Improved Computation Tree Logic
        1171 \DeclareRobustCommand{\QCTLP}
             {{\txtname{Q}}\CTLP}
        1173 \DeclareRobustCommand{\ECTLP}
             {\ensuremath{\exists}\CTLP}
        1175 \DeclareRobustCommand{\UCTLP}
            {\ensuremath{\forall}\CTLP}
        1176
        1178 % Full Computation Tree Logic
        1179 \cmdtxtoparname{CTLS}[CTL*]
        1180
        1181 % Quantified Full Computation Tree Logic
        1182 \DeclareRobustCommand{\QCTLS}
        1183 \{\{\text{txtname}\{Q\}\}\
        1184 \DeclareRobustCommand{\ECTLS}
        1185 {\ensuremath{\exists}\CTLS}
        1186 \DeclareRobustCommand{\UCTLS}
        1187 {\ensuremath{\forall}\CTLS}
        \E, \A ...
        1189 \usrmth{E}{}{sym}
        1190 \usrmth{A}{}{svm}
```

```
\ATL, ... ...
             1193 % Alternating Temporal Logic
             1194 \cmdtxtoparname{ATL}
             1196 % Quantified Alternating Temporal Logic
             1197 \DeclareRobustCommand{\QATL}
             1198 \{\{\text{txtname}\{Q\}\}\} ATL\}
             1199 \DeclareRobustCommand{\EATL}
                  {\ensuremath{\exists}\ATL}
             1201 \DeclareRobustCommand{\UATL}
                  {\ensuremath{\forall}\ATL}
             1204 \% Improved Alternating Temporal Logic
             1205 \cmdtxtoparname{ATLP}[ATL$^{+}$]
             1207 % Quantified Improved Alternating Temporal Logic
             1208 \verb|\DeclareRobustCommand{QATLP}|
             1209 \{\{\text{txtname}\{Q\}\}\}\
             1210 \DeclareRobustCommand{\EATLP}
             1211 {\ensuremath{\exists}\ATLP}
             1212 \DeclareRobustCommand{\UATLP}
             1213 {\ensuremath{\forall}\ATLP}
             1215 % Full Alternating Temporal Logic
             1216 \cmdtxtoparname{ATLS}[ATL*]
             1218\;\text{\%} Quantified Full Alternating Temporal Logic
             1219 \DeclareRobustCommand{\QATLS}
                  {\{\text{txtname}\{Q\}\}\setminus ATLS\}}
             1221 \DeclareRobustCommand{\EATLS}
                  {\ensuremath{\exists}\ATLS}
             1223 \DeclareRobustCommand{\UATLS}
             1224 {\ensuremath{\forall}\ATLS}
             \EExs, \AAll ...
             1226 \DeclareRobustCommand{\EExs}[1]
             \label{langle} $$1227  \{\mathbf^{\argmid}\langle \ell^{\argmid}(\argmid^{\argmid})_{\argmid}^{\argmid}\
             1228 \DeclareRobustCommand{\AAll}[1]
                  {\mth{\argmid{\left[\left[}{\defval{#1}{\emptyset}}{\right]\right]}}}
             \CGS ...
             1231 \cmdtxtname{CGS}
\CGSStr, ... ...
             1232 \mbox{ } \mbox{cgsstr}{G}
             1233 \usrmthlatupp{CGS}{Str}{str}[\cgsstr]
\AgnSet, ... ...
             1234 \newcommand{\agnsym}{a}
             1235 \newcommand{\agnset}{Ag}
             1236 \cmdmthsetext{Agn}[\agnset][\agnsym]
\PosSet, ... ...
             1237 \providecommand{\possym}{v}
             1238 \providecommand{\posset}{Ps}
             1239 \cmdmthsetext{Pos}[\posset][\possym]
             1240 \cmdmthsymelm{ipos}[\possym_{I}]
             1241 \cmdmthsymelm{fpos}[\possym_{F}]
             1242 \cmdmthset{PPos} [\posset_{\PlrSym}]
```

```
1243 \cmdmthsymelm{ppos}[\possym_{\PlrSym}]
                   1244 \cmdmthset{OPos}[\posset_{\OppSym}]
                   1245 \cmdmthsymelm{opos}[\possym_{\OppSym}]
     \SttSet, ... ...
                   1246 \newcommand{\sttsym}{s}
                   1247 \newcommand{\sttset}{St}
                   1248 \cmdmthsetext{Stt}[\sttset][\sttsym]
                   1249 \cmdmthset{IStt}[\sttset_{I}]
                   1250 \cmdmthsymelm{istt}[\sttsym_{I}]
                   1251 \cmdmthset{FStt}[\sttset_{F}]
                   1252 \cmdmthsymelm{fstt}[\sttsym_{F}]
     \ActSet, ... ...
                   1253 \mbox{ \newcommand{\actsym}{c}}
                   1254 \mbox{ }\mbox{\command{\actset}{Ac}}
                   1255 \cmdmthsetext{Act}[\actset][\actsym]
     \DecSet, ... ...
                   1256 \mbox{ \newcommand{\decsym}{d}}
                   1257 \mbox{ \newcommand{\decset}{Dc}}
                   1258 \cmdmthsetext{Dec} [\decset] [\decsym]
          \movFun ...
                   1259 \mbox{ } \mbox{wovsym}{\tau}
                   1260 \cmdmthfun{mov} [\movsym]
     \HstSet, ... ...
                   1261 \providecommand{\hstsym}{\rho}
                   1262 \providecommand{\hstset}{Hst}
                   1263 \cmdmthsetext{Hst}[\hstset][\hstsym]
                   1264 \cmdmthset{PHst}[\hstset_{\PlrSym}]
                   1265 \mbox{ \cmdmthsymelm{phst}[\hstsym_{\prox m}]}
                   1266 \cmdmthset{OHst}[\hstset_{\OppSym}]
                   1267 \mbox{ \cmdmthsymelm{ohst}[\hstsym_{\colored}]}
                   1268 \cmdmthfun{hst}
\PlaySet,\playFun
                   1269 \verb|\providecommand{\playsym}{\pi}
                   1270 \providecommand{\playset}{Play}
                   1271 \cmdmthsetext{Play}[\playset][\playsym]
                   1272 \cmdmthfun{play}
    \StrSet, ... ...
                   1273 \providecommand{\strsym}{\sigma}
                   1274 \providecommand{\strset}{Str}
                   1275 \cmdmthsetext{Str}[\strset][\strsym]
                   1276 \cmdmthset{PStr}[\strset_{\PlrSym}]
                   1277 \cmdmthsymelm{pstr}[\strsym_{\PlrSym}]
                   1278 \cmdmthset{OStr}[\strset_{\OppSym}]
                   1279 \cmdmthsymelm{ostr}[\strsym_{\OppSym}]
 \PrfSet, \prfFun
                   1280 \providecommand{\prfsym}{\xi}
                   1281 \providecommand{\prfset}{Prf}
                   1282 \cmdmthsetext{Prf}[\prfset][\prfsym]
                   \SL, ... ...
                   1284 % Strategy Logic
                   1285 \cmdtxtoparname{SL}
                   1286
```

```
1287 \DeclareRobustCommand{\ESL}
      {\ensuremath{\exists}\SL}
1289 \verb|\DeclareRobustCommand{\USL}|
1290
     {\ensuremath{\forall}\SL}
1291
1292 \DeclareRobustCommand{\FSL}
     {\{\text{txtname}\{F\}\}\SL\}}
1293
1294
1295 \DeclareRobustCommand{\EFSL}
      {\ensuremath{\exists}\FSL}
1297 \DeclareRobustCommand{\UFSL}
      {\ensuremath{\forall}\FSL}
1299
1300\ \% One-Goal Strategy Logic
1301 \DeclareRobustCommandx{\OGSL}[3][1=, 2=, 3=]
1302
      {\SL[#1][#2][1g\arglef{,}{#3}]}
1303
1304 \DeclareRobustCommand{\EOGSL}
      {\ensuremath{\exists}\OGSL}
1306 \DeclareRobustCommand{\UOGSL}
      {\ensuremath{\forall}\OGSL}
1307
1309 \DeclareRobustCommand{\FOGSL}
      {{\txtname{F}}\OGSL}
1310
1311
1312 \DeclareRobustCommand{\EFOGSL}
      {\ensuremath{\exists}\FOGSL}
1314 \DeclareRobustCommand{\UFOGSL}
1315
      {\ensuremath{\forall}\FOGSL}
1317 % Conjunctive-Goal Strategy Logic
1318 \DeclareRobustCommandx{\CGSL}[3][1=, 2=, 3=]
1319
      {\SL[#1][#2][cg\arglef{,}{#3}]}
1320
1321 \verb|\DeclareRobustCommand{\ECGSL}|
      {\ensuremath{\exists}\CGSL}
1322
1323 \DeclareRobustCommand{\UCGSL}
      {\ensuremath{\forall}\CGSL}
1324
1325
1326 \DeclareRobustCommand{\FCGSL}
1327
      {\{\text{txtname}\{F\}\}\setminus xGSL\}}
1329 \DeclareRobustCommand{\EFCGSL}
     {\ensuremath{\exists}\FCGSL}
1331 \DeclareRobustCommand{\UFCGSL}
     {\ensuremath{\forall}\FCGSL}
1332
1333
1334 \% Disjunctive-Goal Strategy Logic
1335 \DeclareRobustCommandx{\DGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][dg\arglef{,}{#3}]}
1337
1338 \DeclareRobustCommand{\EDGSL}
      {\ensuremath{\exists}\DGSL}
1340 \DeclareRobustCommand{\UDGSL}
1341
      {\ensuremath{\forall}\DGSL}
1342
1343 \DeclareRobustCommand{\FDGSL}
      {\{\text{txtname}\{F\}\}\setminus xGSL\}}
1344
1345
1346 \DeclareRobustCommand{\EFDGSL}
      {\ensuremath{\exists}\FDGSL}
1347
1348 \DeclareRobustCommand{\UFDGSL}
      {\ensuremath{\forall}\FDGSL}
```

```
1350
1351 % Alternating-Goal Strategy Logic
1352 \DeclareRobustCommandx{\AGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][ag\arglef{,}{#3}]}
1354
1355 \DeclareRobustCommand{\EAGSL}
     {\ensuremath{\exists}\AGSL}
1357 \DeclareRobustCommand{\UAGSL}
      {\ensuremath{\forall}\AGSL}
1358
1360 \DeclareRobustCommand{\FAGSL}
1361
      {{\txtname{F}}\xGSL}
1362
1363 \DeclareRobustCommand{\EFAGSL}
      {\ensuremath{\exists}\FAGSL}
1365 \DeclareRobustCommand{\UFAGSL}
      {\ensuremath{\forall}\FAGSL}
1366
1367
1368 % Extended-Goal Strategy Logic
1369 \DeclareRobustCommandx{\EGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][eg\arglef{,}{#3}]}
1372 \DeclareRobustCommand{\EEGSL}
1373
      {\ensuremath{\exists}\EGSL}
1374 \DeclareRobustCommand{\UEGSL}
      {\ensuremath{\forall}\EGSL}
1375
1376
1377 \DeclareRobustCommand{\FEGSL}
1378
      {\{ \text{xtname}\{F\} \} \times GSL \}}
1380 \DeclareRobustCommand{\EFEGSL}
      {\ensuremath{\exists}\FEGSL}
1382 \DeclareRobustCommand{\UFEGSL}
1383
      {\ensuremath{\forall}\FEGSL}
1384
1385 % Boolean-Goal Strategy Logic
1386 \DeclareRobustCommandx{\BGSL}[3][1=, 2=, 3=]
      {\SL[#1][#2][bg\arglef{,}{#3}]}
1388
1389 \DeclareRobustCommand{\EBGSL}
      {\ensuremath{\exists}\BGSL}
1391 \DeclareRobustCommand{\UBGSL}
      {\ensuremath{\forall}\BGSL}
1394 \DeclareRobustCommand{\FBGSL}
     {\{\text{txtname}\{F\}\}\setminus xGSL\}}
1395
1396
1397 \DeclareRobustCommand{\EFBGSL}
     {\ensuremath{\exists}\FBGSL}
1399 \DeclareRobustCommand{\UFBGSL}
1400
      {\ensuremath{\forall}\FBGSL}
1402 % Nested-Goal Strategy Logic
1403 \DeclareRobustCommandx{\NGSL}[3][1=, 2=, 3=]
1404
      {\SL[#1][#2][ng\arglef{,}{#3}]}
1405
1406 \DeclareRobustCommand{\ENGSL}
      {\ensuremath{\exists}\NGSL}
1408 \DeclareRobustCommand{\UNGSL}
1409
      {\ensuremath{\forall}\NGSL}
1410
1411 \DeclareRobustCommand{\FNGSL}
     {\{\text{txtname}\{F\}\}\setminus xGSL\}}
```

```
1413
                                       1414 \DeclareRobustCommand{\EFNGSL}
                                       1415 {\ensuremath{\exists}\FNGSL}
                                       1416 \DeclareRobustCommand{\UFNGSL}
                                       1417
                                                    {\ensuremath{\forall}\FNGSL}
                                       1419 % Undefined-Goal Strategy Logic
                                       1420 \DeclareRobustCommandx{\XGSL}[3][1=, 2=, 3=]
                                                      {\SL[#1][#2][xg\arglef{,}{#3}]}
                                       1423 \DeclareRobustCommand{\EXGSL}
                                                      {\ensuremath{\exists}\XGSL}
                                       1425 \DeclareRobustCommand{\UXGSL}
                                                     {\ensuremath{\forall}\XGSL}
                                       1427
                                       1428 \DeclareRobustCommand{\FXGSL}
                                                     {\{\text{xtname}\{F\}\}\times GSL\}}
                                       1429
                                       1430
                                       1431 \DeclareRobustCommand{\EFXGSL}
                                                      {\ensuremath{\exists}\FXGSL}
                                       1433 \DeclareRobustCommand{\UFXGSL}
                                                   {\ensuremath{\forall}\FXGSL}
                                       \BndSet, ... ...
                                       1436 \mbox{ \newcommand{\bndsym}{\flat}}
                                       1437 \newcommand{\bndset}{Bn}
                                       1438 \cmdmthsetext{Bnd}[\bndset][\bndsym]
                                       1439 \usrmth{bnd}{}{argfun}
                        \psn ...
                                       1440 \usrmth{psn}{}{argfun}
                                       \nxtFun ...
                                       1442 \cmdmthfun{nxt}
                                       1443 \fi
                                       \DWA, ... ...
                                       1450 \verb|\cmdtxtoparname{NWA}\cmdtxtoparname{WMA}\cmdtxtoparname{AWA}|
                                       1453 \verb|\cmdtxtoparname{DBW}\cmdtxtoparname{MBW}\cmdtxtoparname{ABW}|
                                       1454 \verb|\cmdtxtoparname{DCW}\cmdtxtoparname{UCW}\cmdtxtoparname{ACW}|
                                       1455 \cmdtxtoparname{DPW}\cmdtxtoparname{APW}
                                       1456 \verb|\cmdtxtoparname{DRW}\cmdtxtoparname{URW}\cmdtxtoparname{ARW}|
                                       1457 \verb|\cmdtxtoparname{DSW}\cmdtxtoparname{USW}\cmdtxtoparname{ASW}| A for the constant of t
                                       1458 \verb|\cmdtxtoparname{DMW}\cmdtxtoparname{MW}| cmdtxtoparname{MW}| cmdtxtoparname{AMW}| cm
\GFG, \PD, ... ...
                                       1459 \cmdtxtoparname{GFG}
                                       1460
                                       1461 \cmdtxtoparname{PD}
                                       1462
                                       1463 %% ...
```

```
\AutName, ... ...
                                                                      1465 \mbox{ } \mbox{newcommand{\autname}{A}}
                                                                       1466 \usrmthlatupp{Aut}{Name}{name}[\autname]
                                                                       1467 \newcommand{\autset}{Aut}
                                                                       1468 \cmdmthset{Aut}[\autset]
                       \WAutSet ...
                                                                       1469 \newcommand{\wautset}{WAut}
                                                                       1470 \cmdmthset{WAut}[\wautset]
    \SttSet, ... ...
                                                                     1471 \def\sttsym{q}
                                                                     1472 \def\sttset{Q}
                                                                      1473 \cmdmthsetext{Stt}[\sttset][\sttsym]
                                                                       1474 \cmdmthset{IStt}[\sttset_{I}]
                                                                       1475 \cmdmthsymelm{istt}[\sttsym_{I}]
                                                                       1476 \cmdmthset{FStt}[\sttset_{F}]
                                                                       1477 \cmdmthsymelm{fstt}[\sttsym_{F}]
    \SymSet, ... ...
                                                                      1478 \newcommand{\symsym}{\sigma}
                                                                       1479 \newcommand{\symset}{\Sigma}
                                                                       1480 \cmdmthsetext{Sym}[\symset][\symsym]
                           \trnFun ...
                                                                       1481 \mbox{ }\mbox{\command{\trnsym}{\delta}
                                                                       1482 \cmdmthfun{trn}[\trnsym]
                                                                       \LangFun ...
                                                                     1484 \cmdmthfun{Lang}[L]
    \WrdSet, ... ...
                                                                      1485 \newcommand{\wrdsym}{w}
                                                                       1486 \newcommand{\wrdset}{Wr}
                                                                       1487 \cmdmthsetext{Wrd} [\wrdset] [\wrdsym]
                                                                       \DTA, ... ...
                                                                      1489 \verb|\cmdtxtoparname{DTA}\cmdtxtoparname{ATA}| cmdtxtoparname{ATA} cmdtxtoparname{
                                                                       1491 \verb|\cmdtxtoparname{NFT}| cmdtxtoparname{VFT}| cmdtxtoparname{VFT}|
                                                                       1492 \verb|\cmdtxtoparname{DBT}\cmdtxtoparname{ABT}| \\
                                                                       1493 \verb|\cmdtxtoparname{DCT}\cmdtxtoparname{ACT}| \\
                                                                       1494 \verb|\cmdtxtoparname{DPT}\cmdtxtoparname{MPT}| Cmdtxtoparname{MPT}| 
                                                                       1495 \verb|\cmdtxtoparname{URT}\cmdtxtoparname{ART}| \\
                                                                       1496 \verb|\cmdtxtoparname{UST}\cmdtxtoparname{UST}\cmdtxtoparname{AST}|
                                                                       1497 \verb|\cmdtxtoparname{DMT}\cmdtxtoparname{MMT}| cmdtxtoparname{MMT}| 
                                                                      \TAutSet ...
                                                                      1499 \newcommand{\tautset}{TAut}
                                                                     1500 \cmdmthset{TAut}[\tautset]
    \DirSet, ... ...
                                                                       1501 \newcommand{\dirsym}{d}
                                                                       1502 \newcommand{\dirset}{\Lambda}
                                                                       1503 \verb|\cmdmthsetext{Dir}| [\verb|\dirset|] [\verb|\dirsym|]
```

```
\TreeSet, ... ...
  1505 \newcommand{\treesym}{T}
  1506 \newcommand{\treeset}{Tr}
  1507 \cmdmthsetext{Tree} [\treeset] [\treesym]
\wotFun ...
  1508 \cmdmthfun{wot}
  1509 \fi
  1514 \iffrm@
 1515 %%...
  1516 \fi
  1521 \iffig@
 1522 %%...
  1523 \fi
  1528 \iftab@
 1529 %%...
  1535 \ifalg@
  1536 \RequirePackage[ruled,vlined]{algorithm2e}
 1537 %%...
  1538 \fi
  1543 \ifaux@
 1544 %%...
```

2 Change History

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