

fmocdmac — FM's OCD L^AT_EX Macro*

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Abstract

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

1 Implementation & Usage

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

*This document describes version v0.14 of the fmocdmac package, last revised 2023/02/05.

```

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

```

```

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

```

Option-processing code:

```

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

```

```

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

```

\mathbbo Bbo Math Font: ... to do!

```
215 \ifdef{\mathbbo}{-}{\DeclareMathAlphabet{\mathbbo}{U}{bbold}{m}{n}}
```

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

```
216 \ifdef{\matheus}{-}{\DeclareMathAlphabet{\matheus}{U}{eus}{m}{n}}
```

\mathpzc Pzc Math Font: ... to do!

```
217 \ifdef{\mathpzc}{-}{\DeclareMathAlphabet{\mathpzc}{T1}{pzc}{m}{it}}
```

```

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

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

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

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

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

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


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


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

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


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


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

236 %*****%

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


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


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

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


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


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

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


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


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

```

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

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

```

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

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

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

```

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

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

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

```

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

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

```

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

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

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

```

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

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

```

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

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

```

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

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

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

```

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

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

```

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

```

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

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

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

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

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

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

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

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

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

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

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

```

```

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

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

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

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

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

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

314 %%*****%

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

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

```



```

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

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

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

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

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

327 %*****%

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

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

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

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

\cmdtxtopar ... to do!

```

```

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

\cmdtxtall ... to do!
    • \cmdtxtall{NewCmd}; \newcommand{txtstyNewCmd}{\scshape\ttfamily};
    \txtNewCmd{Name}[sub][sup][Ext] = NAMESUBEXT
    \txtargNewCmd{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAMESUBEXT1(ARG)EXT2
    \txtoargNewCmd{Name}[sub][sup][Arg] = NAMESUB(ARG)
    \txtparNewCmd{Name}[sub][sup][Ext1]{Par}[Ext2] = NAMESUBEXT1[PAR]EXT2
    \txtoparNewCmd{Name}[sub][sup][Par] = NAMESUB[PAR]
338 \newcommand{\cmdtxtall}[1]
339 {\cmdtxt{#1}\cmdtxtarg{#1}\cmdtxtoarg{#1}\cmdtxtpar{#1}\cmdtxtopar{#1}}

340 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

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

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

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

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

\newmtharg ... to do!
    • \newmtharg[mathrm]{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = "NamesubExt1(ArgExEx)Ext2"
    • \newmtharg[mathsf]{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = "NamesubExt1(ArgExEx)Ext2"
    • \newmtharg[mathtt]{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = "NamesubExt1(ArgExEx)Ext2"
    • \newmtharg*[mathrm]{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = "NamesubExt1(ArgExEx)Ext2"
    • \newmtharg*[mathsf]{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = "NamesubExt1(ArgExEx)Ext2"
    • \newmtharg*[mathtt]{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = "NamesubExt1(ArgExEx)Ext2"

```

```

351 \newcommand{\newmtharg}
352   {\@ifstar{\@snewmtharg}{\@newmtharg}}
353 \newcommandx{\@newmtharg}[7][1=, 3=, 4=, 5=, 7=]
354   {\newmth{#1}{#2}{#3}{#4}[\argmid{#5}\left\{\right\}\arglef{!}{#7}]}
355 \newcommandx{\@snewmtharg}[7][1=, 3=, 4=, 5=, 7=]
356   {\newmth{#1}{#2}{#3}{#4}[\argmid{#5}(\right\}{#6}){#7}]}

```

\newmthargsty ... to do!

- $\newmthargsty{\mathrm}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Ext1]{Arg^{Ex^{Ex}}}{Ext2} = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2\text{”}$
- $\newmthargsty{\mathrm}{mathsf}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Ext1]{Arg^{Ex^{Ex}}}{Ext2} = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2\text{”}$
- $\newmthargsty{\mathrm}{mathtt}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Ext1]{Arg^{Ex^{Ex}}}{Ext2} = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2\text{”}$
- $\newmthargsty*{\mathrm}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Ext1]{Arg^{Ex^{Ex}}}{Ext2} = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2\text{”}$
- $\newmthargsty*{\mathrm}{mathsf}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Ext1]{Arg^{Ex^{Ex}}}{Ext2} = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2\text{”}$
- $\newmthargsty*{\mathrm}{mathtt}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Ext1]{Arg^{Ex^{Ex}}}{Ext2} = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2\text{”}$

```

357 \newcommand{\newmthargsty}
358   {\@ifstar{\@snewmthargsty}{\@newmthargsty}}
359 \newcommandx{\@newmthargsty}[2][2=]
360   {\newmtharg[\defval{#2}{#1}]}
361 \newcommandx{\@snewmthargsty}[2][2=]
362   {\newmtharg*[\defval{#2}{#1}]}

```

\newmthoarg ... to do!

- $\newmthoarg{\mathrm}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoarg{\mathrm}{mathsf}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoarg{\mathrm}{mathtt}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoarg*{\mathrm}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoarg*{\mathrm}{mathsf}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoarg*{\mathrm}{mathtt}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$

```

363 \newcommand{\newmthoarg}
364   {\@ifstar{\@snewmthoarg}{\@newmthoarg}}
365 \newcommandx{\@newmthoarg}[5][1=, 3=, 4=, 5=]
366   {\newmtharg{#1}{#2}{#3}{#4}[\right\}{#5}]}
367 \newcommandx{\@snewmthoarg}[5][1=, 3=, 4=, 5=]
368   {\newmtharg*{#1}{#2}{#3}{#4}[\right\}{#5}]}

```

\newmthoargsty ... to do!

- $\newmthoargsty{\mathrm}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoargsty{\mathrm}{mathsf}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoargsty{\mathrm}{mathtt}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoargsty*{\mathrm}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoargsty*{\mathrm}{mathsf}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$
- $\newmthoargsty*{\mathrm}{mathtt}{Name}_{\mathrm{sub}}^{\mathrm{sup}}[Arg^{Ex^{Ex}}] = \text{“Name}_{\mathrm{sub}}^{\mathrm{sup}}\left(Arg^{Ex^{Ex}}\right)\text{”}$

```

369 \newcommand{\newmthoargsty}
370   {\@ifstar{\@snewmthoargsty}{\@newmthoargsty}}
371 \newcommandx{\@newmthoargsty}[2][2=]
372   {\newmthoarg[\defval{#2}{#1}]}
373 \newcommandx{\@snewmthoargsty}[2][2=]
374   {\newmthoarg*[\defval{#2}{#1}]}

```

\newmthpar ... to do!

- $\backslash\mathrm{newmthpar}[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthpar}[\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthpar}[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthpar}^*[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthpar}^*[\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthpar}^*[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$

```

375 \newcommand{\newmthpar}
376   {\@ifstar{\@snewmthpar}{\@newmthpar}}
377 \newcommandx{\@newmthpar}[7][1=, 3=, 4=, 5=, 7=]
378   {\newmth[#1]{#2}[#3][#4][\argmid{#5}\left[\right]{\right}\arglef{\!}{#7}]}
379 \newcommandx{\@snewmthpar}[7][1=, 3=, 4=, 5=, 7=]
380   {\newmth[#1]{#2}[#3][#4][\argmid{#5}{#6}{#7}]}

```

$\backslash\mathrm{newmthparsty}$... to do!

- $\backslash\mathrm{newmthparsty}[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthparsty}[\mathrm{mathrm}][\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthparsty}[\mathrm{mathrm}][\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthparsty}^*[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthparsty}^*[\mathrm{mathrm}][\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$
- $\backslash\mathrm{newmthparsty}^*[\mathrm{mathrm}][\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2\text{”}$

```

381 \newcommand{\newmthparsty}
382   {\@ifstar{\@snewmthparsty}{\@newmthparsty}}
383 \newcommandx{\@newmthparsty}[2][2=]
384   {\newmthpar[\defval{#2}]{#1}}
385 \newcommandx{\@snewmthparsty}[2][2=]
386   {\newmthpar^*[\defval{#2}]{#1}}

```

$\backslash\mathrm{newmthopar}$... to do!

- $\backslash\mathrm{newmthopar}[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthopar}[\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthopar}[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthopar}^*[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthopar}^*[\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthopar}^*[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$

```

387 \newcommand{\newmthopar}
388   {\@ifstar{\@snewmthopar}{\@newmthopar}}
389 \newcommandx{\@newmthopar}[5][1=, 3=, 4=, 5=]
390   {\newmthpar[#1]{#2}[#3][#4][\right]{#5}}
391 \newcommandx{\@snewmthopar}[5][1=, 3=, 4=, 5=]
392   {\newmthpar^*[#1]{#2}[#3][#4][\right]{#5}}

```

$\backslash\mathrm{newmthoparsty}$... to do!

- $\backslash\mathrm{newmthoparsty}[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthoparsty}[\mathrm{mathrm}][\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthoparsty}[\mathrm{mathrm}][\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$
- $\backslash\mathrm{newmthoparsty}^*[\mathrm{mathrm}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}}^{\mathrm{Ex}}{\mathrm{Ex}}] = \text{“Name}_{sub}^{sup}\left[Par^{Ex^{Ex}}\right]\text{”}$

- $\backslash\mathrm{newmthoparsty}\{\mathrm{mathrm}\}[\mathrm{mathsf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}[Par^{Ex^{Ex}}]”}$
- $\backslash\mathrm{newmthoparsty}\{\mathrm{mathrm}\}[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}[Par^{Ex^{Ex}}]”}$

```

393 \newcommand{\newmthoparsty}
394   {\@ifstar{\@snewmthoparsty}{\@newmthoparsty}}
395 \newcommandx{\@newmthoparsty}[2][2=]
396   {\newmthopar[\defval{#2}{#1}]}
397 \newcommandx{\@snewmthoparsty}[2][2=]
398   {\newmthopar*[\defval{#2}{#1}]}

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

401 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\mth ... to do!


- $\backslash\mathrm{mth}{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \text{“Name}_{sub}^{sup}Ext”}$
- $\backslash\mathrm{mth}[\mathrm{mathbf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \text{“Name}_{sub}^{sup}Ext”}$
- $\backslash\mathrm{mth}[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \text{“Name}_{sub}^{sup}Ext”}$


402 \newcommand{\mth}
403   {\newmthsty{\mthsty}}

\mtharg ... to do!


- $\backslash\mathrm{mtharg}{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\right)Ext2”}$
- $\backslash\mathrm{mtharg}[\mathrm{mathbf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\right)Ext2”}$
- $\backslash\mathrm{mtharg}[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\right)Ext2”}$
- $\backslash\mathrm{mtharg}^*\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})Ext2”}$
- $\backslash\mathrm{mtharg}^*[\mathrm{mathbf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})Ext2”}$
- $\backslash\mathrm{mtharg}^*[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})Ext2”}$


404 \newcommand{\mtharg}
405   {\@ifstar{\newmthargsty*{\mthsty}}{\newmthargsty{\mthsty}}}

\mthoarg ... to do!


- $\backslash\mathrm{mthoarg}{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}\left(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\right)”}$
- $\backslash\mathrm{mthoarg}[\mathrm{mathbf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}\left(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\right)”}$
- $\backslash\mathrm{mthoarg}[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}\left(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\right)”}$
- $\backslash\mathrm{mthoarg}^*\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})”}$
- $\backslash\mathrm{mthoarg}^*[\mathrm{mathbf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})”}$
- $\backslash\mathrm{mthoarg}^*[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}] = \text{“Name}_{sub}^{sup}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})”}$


406 \newcommand{\mthoarg}
407   {\@ifstar{\newmthoargsty*{\mthsty}}{\newmthoargsty{\mthsty}}}

\mthpar ... to do!


- $\backslash\mathrm{mthpar}{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\right]Ext2”}$
- $\backslash\mathrm{mthpar}[\mathrm{mathbf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\right]Ext2”}$
- $\backslash\mathrm{mthpar}[\mathrm{mathtt}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1\left[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\right]Ext2”}$
- $\backslash\mathrm{mthpar}^*\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}]Ext2”}$
- $\backslash\mathrm{mthpar}^*[\mathrm{mathbf}]{\mathrm{Name}}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}}[\mathrm{Ext2}] = \text{“Name}_{sub}^{sup}Ext1[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}]Ext2”}$

```

```

    • \mthpar*[\mathtt]{Name}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] = "Name_{sub}^{sup}Ext1[Par^{Ex^{Ex}}]Ext2"
408 \newcommand{\mthpar}
409   {\@ifstar{\newmthparsty*{\mthsty}}{\newmthparsty{\mthsty}}}

\mthopar ... to do!

    • \mthopar{Name}[sub][sup][Par^{Ex^{Ex}}] = "Name_{sub}^{sup}[Par^{Ex^{Ex}}]"
    • \mthopar[\mathbf]{Name}[sub][sup][Par^{Ex^{Ex}}] = "\mathbf{Name}_{sub}^{sup}[Par^{Ex^{Ex}}]"
    • \mthopar[\mathtt]{Name}[sub][sup][Par^{Ex^{Ex}}] = "Name_{sub}^{sup}[Par^{Ex^{Ex}}]"
    • \mthopar*{Name}[sub][sup][Par^{Ex^{Ex}}] = "Name_{sub}^{sup}[Par^{Ex^{Ex}}]"
    • \mthopar*[\mathbf]{Name}[sub][sup][Par^{Ex^{Ex}}] = "\mathbf{Name}_{sub}^{sup}[Par^{Ex^{Ex}}]"
    • \mthopar*[\mathtt]{Name}[sub][sup][Par^{Ex^{Ex}}] = "Name_{sub}^{sup}[Par^{Ex^{Ex}}]"
410 \newcommand{\mthopar}
411   {\@ifstar{\newmthoparsty*{\mthsty}}{\newmthoparsty{\mthsty}}}

\mthsty ... to do!
412 \newcommand{\mthsty}
413   {}

414 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\cmdmth ... to do!

    • \cmdmth{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthNewCmd{Name}[sub][sup][Ext] = Name_{sub}^{sup}Ext
415 \newcommand{\cmdmth}[1]
416   {\csdef{mth#1}{\newmthsty{mthsty#1}}}

\cmdmtharg ... to do!

    • \cmdmtharg{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthargNewCmd{Name}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] = Name_{sub}^{sup}Ext1(Arg^{Ex^{Ex}})Ext2
      \mthargNewCmd*{Name}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] = Name_{sub}^{sup}Ext1(Arg^{Ex^{Ex}})Ext2
417 \newcommand{\cmdmtharg}[1]
418   {\csdef{mtharg#1}%
419     {\@ifstar{\newmthargsty*{mthsty#1}}{\newmthargsty{mthsty#1}}}}

\cmdmthoarg ... to do!

    • \cmdmthoarg{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthoargNewCmd{Name}[sub][sup][Arg^{Ex^{Ex}}] = Name_{sub}^{sup}(Arg^{Ex^{Ex}})
      \mthoargNewCmd*{Name}[sub][sup][Arg^{Ex^{Ex}}] = Name_{sub}^{sup}(Arg^{Ex^{Ex}})
420 \newcommand{\cmdmthoarg}[1]
421   {\csdef{mthoarg#1}%
422     {\@ifstar{\newmthoargsty*{mthsty#1}}{\newmthoargsty{mthsty#1}}}}

\cmdmthpar ... to do!

    • \cmdmthpar{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthparNewCmd{Name}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] = Name_{sub}^{sup}Ext1[Par^{Ex^{Ex}}]Ext2
      \mthparNewCmd*{Name}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] = Name_{sub}^{sup}Ext1[Par^{Ex^{Ex}}]Ext2
423 \newcommand{\cmdmthpar}[1]
424   {\csdef{mthpar#1}%
425     {\@ifstar{\newmthparsty*{mthsty#1}}{\newmthparsty{mthsty#1}}}}

\cmdmthopar ... to do!

    • \cmdmthopar{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
      \mthoparNewCmd{Name}[sub][sup][Par^{Ex^{Ex}}] = Name_{sub}^{sup}[Par^{Ex^{Ex}}]
      \mthoparNewCmd*{Name}[sub][sup][Par^{Ex^{Ex}}] = Name_{sub}^{sup}[Par^{Ex^{Ex}}]

```

```

426 \newcommand{\cmdmthopar}[1]
427   {\csdef{mthopar#1}%
428     {\@ifstar{\newmthoparsty*{mthsty#1}}{\newmthoparsty{mthsty#1}}}}

\cmdmthall ... to do!
• \cmdmthall{NewCmd}; \newcommand{mthstyNewCmd}{\mathtt};
  \mthNewCmd{Name}[sub][sup][Ext] = NamesubExt
  \mthargNewCmd{Name}[sub][sup][Ext1]{ArgEx{Ex}}}[Ext2] = NamesubExt1(ArgExExt2)Ext2
  \mthargNewCmd*{Name}[sub][sup][Ext1]{ArgEx{Ex}}}[Ext2] = NamesubExt1(ArgExExt2)Ext2
  \mthoargNewCmd{Name}[sub][sup][ArgEx{Ex}]} = Namesub(ArgExExt2)
  \mthoargNewCmd*{Name}[sub][sup][ArgEx{Ex}]} = Namesub(ArgExExt2)
  \mthparNewCmd{Name}[sub][sup][Ext1]{ParEx{Ex}}}[Ext2] = NamesubExt1[ParExExt2]Ext2
  \mthparNewCmd*{Name}[sub][sup][Ext1]{ParEx{Ex}}}[Ext2] = NamesubExt1[ParExExt2]Ext2
  \mthoparNewCmd{Name}[sub][sup][ParEx{Ex}]} = Namesub[ParExExt2]
  \mthoparNewCmd*{Name}[sub][sup][ParEx{Ex}]} = Namesub[ParExExt2]

429 \newcommand{\cmdmthall}[1]
430   {\cmdmth{#1}\cmdmtharg{#1}\cmdmthoarg{#1}\cmdmthpar{#1}\cmdmthopar{#1}}

431 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

```

\usrmth ... to do!

```

• \usrmth{cmdName}{Suf}{}; \cmdNameSuf = cmdName
  \usrmth{cmdName}{Suf}{arg};
  \cmdNameSuf{ArgEx{Ex}} = cmdName(ArgExExt2)
  \cmdNameSuf*{ArgEx{Ex}} = cmdName(ArgExExt2)
  \usrmth{cmdName}{Suf}{par};
  \cmdNameSuf{ParEx{Ex}} = cmdName[ParExExt2]
  \cmdNameSuf*{ParEx{Ex}} = cmdName[ParExExt2]

• \usrmth{cmdName}{Suf}{}[newName]; \cmdNameSuf = newName
  \usrmth{cmdName}{Suf}{arg}[newName];
  \cmdNameSuf{ArgEx{Ex}} = newName(ArgExExt2)
  \cmdNameSuf*{ArgEx{Ex}} = newName(ArgExExt2)
  \usrmth{cmdName}{Suf}{par}[newName];
  \cmdNameSuf{ParEx{Ex}} = newName[ParExExt2]
  \cmdNameSuf*{ParEx{Ex}} = newName[ParExExt2]

432 \newcommandx{\usrmth}[4][4=]
433   {\csdef{#1#2}{%
434     \@ifstar%
435       {\csname mth#3\endcsname*{\defval{#4}{#1}}}%
436       {\csname mth#3\endcsname{\defval{#4}{#1}}}%
437   }}

438 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

```

\usrmthlatlow ... to do!

```

439 \newcommandx{\usrmthlatlow}[4][4=]
440   {\usrmth{#1}{#2}{#3}[#4]\seqoflatlow{#1#2}{mth#3}}

```

\usrmthlatupp ... to do!

```

441 \newcommandx{\usrmthlatupp}[4][4=]
442   {\usrmth{#1}{#2}{#3}[#4]\seqoflatupp{#1#2}{mth#3}}

```

\usrmthlatlet ... to do!

```

443 \newcommandx{\usrmthlatlet}[4][4=]
444   {\usrmth{#1}{#2}{#3}[#4]\seqoflatlet{#1#2}{mth#3}}

```

```

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

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

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

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

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

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

457 %%*****%
458 %%*****%
459 %%** Text Macro Generators *****%
460 %%*****%
461 \iftxtgen@

\txtdf, ... ... to do!


- \txtdf{Name}[sub][sup][Ext] =  $Name_{sub}^{sup}Ext$
- \txtdf{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $Name_{sub}^{sup}Ext1(Arg)Ext2$
- \txtdf{Name}[sub][sup][Ext1]{Par}[Ext2] =  $Name_{sub}^{sup}Ext1[Par]Ext2$


462 %% Style for Definitions
463 \cmdtxtall{def}\newcommand{\txtstydef}{\normalfont\bfseries\em}

\cmdtxtdef ... to do!


- \cmdtxtdef{cmdName};  

\cmdName[sub][sub][ext] =  $cmdName_{sub}^{sub}ext$
- \cmdtxtdef{cmdName}[newName];  

\cmdName[sub][sub][ext] =  $newName_{sub}^{sub}ext$


464 \newcommandx{\cmdtxtdef}[2][2=]
465 {\usrtxt{#1}{\def}[#2]}

\cmdtxtargdef ... to do!


- \cmdtxtargdef{cmdName};  

\cmdName[sub][sub][ext1]{arg}[ext2] =  $cmdName_{sub}^{sub}ext1(arg)ext2$
- \cmdtxtargdef{cmdName}[newName];  

\cmdName[sub][sub][ext1]{arg}[ext2] =  $newName_{sub}^{sub}ext1(arg)ext2$


466 \newcommandx{\cmdtxtargdef}[2][2=]
467 {\usrtxt{#1}{\argdef}[#2]}

\cmdtxttoargdef ... to do!


- \cmdtxttoargdef{cmdName};  

\cmdName[sub][sub][arg] =  $cmdName_{sub}^{sub}(arg)$
- \cmdtxttoargdef{cmdName}[newName];  

\cmdName[sub][sub][arg] =  $newName_{sub}^{sub}(arg)$

```



```

468 \newcommandx{\cmdtxttoargdef}[2][2=]
469   {\usrtxt{#1}{\oargdef}[#2]}

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

\cmdtxtopardef ... to do!
  • \cmdtxtopardef{cmdName};
    \cmdName[sub][sub][par] =  $cmdName_{sub}^{sub}[par]$ 
  • \cmdtxtopardef{cmdName}[newName];
    \cmdName[sub][sub][par] =  $newName_{sub}^{sub}[par]$ 
472 \newcommandx{\cmdtxtopardef}[2][2=]
473   {\usrtxt{#1}{\opardef}[#2]}

\txtabr, ... ... to do!
  • \txtabr{Name}[sub][sup][Ext] =  $Name_{sub}^{sup}Ext$ 
  • \txtargabr{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $Name_{sub}^{sup}Ext1(Arg)Ext2$ 
  • \txtparabr{Name}[sub][sup][Ext1]{Par}[Ext2] =  $Name_{sub}^{sup}Ext1[Par]Ext2$ 
474 %% Style for Abbreviations
475 \cmdtxtall{abr}\newcommand{\txtstyabr}{\em}

\cmdtxtabr ... to do!
  • \cmdtxtabr{cmdName};
    \cmdName[sub][sub][ext] =  $cmdName_{sub}^{sub}ext$ 
  • \cmdtxtabr{cmdName}[newName];
    \cmdName[sub][sub][ext] =  $newName_{sub}^{sub}ext$ 
476 \newcommandx{\cmdtxtabr}[2][2=]
477   {\usrtxt{#1}{\abr}[#2]}

\cmdtxtargabr ... to do!
  • \cmdtxtargabr{cmdName};
    \cmdName[sub][sub][ext1]{arg}[ext2] =  $cmdName_{sub}^{sub}ext1(arg)ext2$ 
  • \cmdtxtargabr{cmdName}[newName];
    \cmdName[sub][sub][ext1]{arg}[ext2] =  $newName_{sub}^{sub}ext1(arg)ext2$ 
478 \newcommandx{\cmdtxtargabr}[2][2=]
479   {\usrtxt{#1}{\argabr}[#2]}

\cmdtxttoargabr ... to do!
  • \cmdtxttoargabr{cmdName};
    \cmdName[sub][sub][arg] =  $cmdName_{sub}^{sub}(arg)$ 
  • \cmdtxttoargabr{cmdName}[newName];
    \cmdName[sub][sub][arg] =  $newName_{sub}^{sub}(arg)$ 
480 \newcommandx{\cmdtxttoargabr}[2][2=]
481   {\usrtxt{#1}{\oargabr}[#2]}

\cmdtxtparabr ... to do!
  • \cmdtxtparabr{cmdName};
    \cmdName[sub][sub][ext1]{par}[ext2] =  $cmdName_{sub}^{sub}ext1[par]ext2$ 
  • \cmdtxtparabr{cmdName}[newName];
    \cmdName[sub][sub][ext1]{par}[ext2] =  $newName_{sub}^{sub}ext1[par]ext2$ 
482 \newcommandx{\cmdtxtparabr}[2][2=]
483   {\usrtxt{#1}{\parabr}[#2]}

```

```

\cmdtxtoparabr ... to do!
    • \cmdtxtoparabr{cmdName};
      \cmdName[sub][sub][par] =  $\text{cmdName}_{\text{sub}}^{\text{sub}}[\text{par}]$ 
    • \cmdtxtoparabr{cmdName}[newName];
      \cmdName[sub][sub][par] =  $\text{newName}_{\text{sub}}^{\text{sub}}[\text{par}]$ 
484 \newcommandx{\cmdtxtoparabr}[2][2=]
485   {\usrtxt{#1}{-}{oparabr}{#2}}

486 %%*****%

\txtname, ... to do!
    • \txtname{Name}[sub][sup][Ext] =  $\text{NAME}_{\text{SUB}}^{\text{SUP}}\text{EXT}$ 
    • \txtargname{Name}[sub][sup][Ext1]{Arg}[Ext2] =  $\text{NAME}_{\text{SUB}}^{\text{SUP}}\text{EXT1}(\text{ARG})\text{EXT2}$ 
    • \txtparname{Name}[sub][sup][Ext1]{Par}[Ext2] =  $\text{NAME}_{\text{SUB}}^{\text{SUP}}\text{EXT1}[\text{PAR}]\text{EXT2}$ 
487 %% Style for Names
488 \cmdtxtall{name}\newcommand{\txtstname}{\normalfont\mdseries\scshape\sffamily}

\cmdtxtname ... to do!
    • \cmdtxtname{cmdName};
      \cmdName[sub][sub][ext] =  $\text{CMDNAME}_{\text{SUB}}^{\text{SUB}}\text{EXT}$ 
    • \cmdtxtname{cmdName}[newName];
      \cmdName[sub][sub][ext] =  $\text{NEWNAME}_{\text{SUB}}^{\text{SUB}}\text{EXT}$ 
489 \newcommandx{\cmdtxtname}[2][2=]
490   {\usrtxt{#1}{-}{name}{#2}}

\cmdtxtargname ... to do!
    • \cmdtxtargname{cmdName};
      \cmdName[sub][sub][ext1]{arg}[ext2] =  $\text{CMDNAME}_{\text{SUB}}^{\text{SUB}}\text{EXT1}(\text{ARG})\text{EXT2}$ 
    • \cmdtxtargname{cmdName}[newName];
      \cmdName[sub][sub][ext1]{arg}[ext2] =  $\text{NEWNAME}_{\text{SUB}}^{\text{SUB}}\text{EXT1}(\text{ARG})\text{EXT2}$ 
491 \newcommandx{\cmdtxtargname}[2][2=]
492   {\usrtxt{#1}{-}{argname}{#2}}

\cmdtxtoargname ... to do!
    • \cmdtxtoargname{cmdName};
      \cmdName[sub][sub][arg] =  $\text{CMDNAME}_{\text{SUB}}^{\text{SUB}}(\text{ARG})$ 
    • \cmdtxtoargname{cmdName}[newName];
      \cmdName[sub][sub][arg] =  $\text{NEWNAME}_{\text{SUB}}^{\text{SUB}}(\text{ARG})$ 
493 \newcommandx{\cmdtxtoargname}[2][2=]
494   {\usrtxt{#1}{-}{oargname}{#2}}

\cmdtxtparname ... to do!
    • \cmdtxtparname{cmdName};
      \cmdName[sub][sub][ext1]{par}[ext2] =  $\text{CMDNAME}_{\text{SUB}}^{\text{SUB}}\text{EXT1}[\text{PAR}]\text{EXT2}$ 
    • \cmdtxtparname{cmdName}[newName];
      \cmdName[sub][sub][ext1]{par}[ext2] =  $\text{NEWNAME}_{\text{SUB}}^{\text{SUB}}\text{EXT1}[\text{PAR}]\text{EXT2}$ 
495 \newcommandx{\cmdtxtparname}[2][2=]
496   {\usrtxt{#1}{-}{parname}{#2}}

\cmdtxtoparname ... to do!
    • \cmdtxtoparname{cmdName};
      \cmdName[sub][sub][par] =  $\text{CMDNAME}_{\text{SUB}}^{\text{SUB}}[\text{PAR}]$ 
    • \cmdtxtoparname{cmdName}[newName];
      \cmdName[sub][sub][par] =  $\text{NEWNAME}_{\text{SUB}}^{\text{SUB}}[\text{PAR}]$ 
497 \newcommandx{\cmdtxtoparname}[2][2=]
498   {\usrtxt{#1}{-}{oparname}{#2}}

```

```

\txtcom, ... ... to do!
    • \txtcom{Name}[sub][sup][Ext] = NAMESUBEXT
    • \txtargcom{Name}[sub][sup][Ext1]{Arg}[Ext2] = NAMESUBEXT1(ARG)EXT2
    • \txtparcom{Name}[sub][sup][Ext1]{Par}[Ext2] = NAMESUBEXT1[PAR]EXT2
499 %% Style for Complexities
500 \cmdtxtall{com}\newcommand{\txtstycom}{\normalfont\mdseries\scshape\rmfamily}

\cmdtxtcom ... to do!
    • \cmdtxtcom{cmdName};
      \cmdName[sub][sub][ext] = CMDNAMESUBEXT
    • \cmdtxtcom{cmdName}[newName];
      \cmdName[sub][sub][ext] = NEWNAMESUBEXT
501 \newcommandx{\cmdtxtcom}[2][2=]
502   {\usrtxt{#1}{-}{com}{#2}}

\cmdtxtargcom ... to do!
    • \cmdtxtargcom{cmdName};
      \cmdName[sub][sub][ext1]{arg}[ext2] = CMDNAMESUBEXT1(ARG)EXT2
    • \cmdtxtargcom{cmdName}[newName];
      \cmdName[sub][sub][ext1]{arg}[ext2] = NEWNAMESUBEXT1(ARG)EXT2
503 \newcommandx{\cmdtxtargcom}[2][2=]
504   {\usrtxt{#1}{-}{argcom}{#2}}

\cmdtxtoargcom ... to do!
    • \cmdtxtoargcom{cmdName};
      \cmdName[sub][sub][arg] = CMDNAMESUB(ARG)
    • \cmdtxtoargcom{cmdName}[newName];
      \cmdName[sub][sub][arg] = NEWNAMESUB(ARG)
505 \newcommandx{\cmdtxtoargcom}[2][2=]
506   {\usrtxt{#1}{-}{oargcom}{#2}}

\cmdtxtparcom ... to do!
    • \cmdtxtparcom{cmdName};
      \cmdName[sub][sub][ext1]{par}[ext2] = CMDNAMESUBEXT1[PAR]EXT2
    • \cmdtxtparcom{cmdName}[newName];
      \cmdName[sub][sub][ext1]{par}[ext2] = NEWNAMESUBEXT1[PAR]EXT2
507 \newcommandx{\cmdtxtparcom}[2][2=]
508   {\usrtxt{#1}{-}{parcom}{#2}}

\cmdtxtoparcom ... to do!
    • \cmdtxtoparcom{cmdName};
      \cmdName[sub][sub][par] = CMDNAMESUB[PAR]
    • \cmdtxtoparcom{cmdName}[newName];
      \cmdName[sub][sub][par] = NEWNAMESUB[PAR]
509 \newcommandx{\cmdtxtoparcom}[2][2=]
510   {\usrtxt{#1}{-}{oparcom}{#2}}

511 \fi
512 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
513 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
514 %** Math Macro Generators %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
515 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
516 \ifmthgen@

\mthname, ... ... to do!
    • \mthname{NAME}[sub][sup][Ext] =  $\mathcal{NAME}_{sub}^{sup}Ext$ 
    • \mthargname{NAME}[sub][sup][Ext1]{Arg}{Ex}{Ex}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2$ 

```

- $\backslash\mathrm{mthargname}\{NAME\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathcal{NAM}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})\mathrm{Ext2}$
- $\backslash\mathrm{mthparname}\{NAME\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathcal{NAM}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] \mathrm{Ext2}$
- $\backslash\mathrm{mthparname}\{NAME\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathcal{NAM}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] \mathrm{Ext2}$

517 %% Style for Names

518 $\backslash\mathrm{cmdmthall}\{name\}\backslash\mathrm{newcommand}\{\mathrm{mthstname}\}\{\mathrm{mathcal}\}$

$\backslash\mathrm{AName}, \dots$... to do!

$A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z$

519 $\backslash\mathrm{seqoflatupp}\{Name\}\{\mathrm{mthname}\}$

$\backslash\mathrm{cmdmthname}$... to do!

- $\backslash\mathrm{cmdmthname}\{\mathrm{CMDNAME}\};$
 $\backslash\mathrm{CMDNAMEName}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathcal{CMDNAM}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$
- $\backslash\mathrm{cmdmthname}\{\mathrm{cmdName}\}[\mathrm{NEWNAME}];$
 $\backslash\mathrm{cmdNameName}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathcal{NEWNAM}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$

520 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthname}\}[2][2=]$

521 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Name}\}\{\mathrm{name}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthargname}$... to do!

- $\backslash\mathrm{cmdmthargname}\{\mathrm{CMDNAME}\};$
 $\backslash\mathrm{CMDNAMEName}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathcal{CMDNAM}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$
- $\backslash\mathrm{cmdmthargname}\{\mathrm{cmdName}\}[\mathrm{NEWNAME}];$
 $\backslash\mathrm{cmdNameName}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathcal{NEWNAM}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$

522 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthargname}\}[2][2=]$

523 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Name}\}\{\mathrm{argname}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoargname}$... to do!

- $\backslash\mathrm{cmdmthoargname}\{\mathrm{CMDNAME}\};$
 $\backslash\mathrm{CMDNAMEName}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathcal{CMDNAM}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$
- $\backslash\mathrm{cmdmthoargname}\{\mathrm{cmdName}\}[\mathrm{NEWNAME}];$
 $\backslash\mathrm{cmdNameName}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathcal{NEWNAM}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$

524 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoargname}\}[2][2=]$

525 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Name}\}\{\mathrm{oargname}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthparname}$... to do!

- $\backslash\mathrm{cmdmthparname}\{\mathrm{CMDNAME}\};$
 $\backslash\mathrm{CMDNAMEName}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathcal{CMDNAM}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$
- $\backslash\mathrm{cmdmthparname}\{\mathrm{cmdName}\}[\mathrm{NEWNAME}];$
 $\backslash\mathrm{cmdNameName}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathcal{NEWNAM}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$

526 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthparname}\}[2][2=]$

527 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Name}\}\{\mathrm{parname}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoparname}$... to do!

- $\backslash\mathrm{cmdmthoparname}\{\mathrm{CMDNAME}\};$
 $\backslash\mathrm{CMDNAMEName}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathcal{CMDNAM}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$
- $\backslash\mathrm{cmdmthoparname}\{\mathrm{cmdName}\}[\mathrm{NEWNAME}];$
 $\backslash\mathrm{cmdNameName}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathcal{NEWNAM}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$

528 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoparname}\}[2][2=]$

529 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Name}\}\{\mathrm{oparname}\}\{\#2\}\}$

$\backslash\mathrm{mthfam}, \dots$... to do!

- $\backslash\mathrm{mthfam}\{NAME\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \mathcal{AM}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext}$
- $\backslash\mathrm{mthargfam}\{NAME\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathcal{AM}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})\mathrm{Ext2}$
- $\backslash\mathrm{mthargfam}\{NAME\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathcal{AM}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})\mathrm{Ext2}$
- $\backslash\mathrm{mthparfam}\{NAME\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathcal{AM}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] \mathrm{Ext2}$

```

    • \mthparfam*{NAME}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] =  $\mathcal{NAM}_{sub}^{sup}Ext1[Par^{Ex^{Ex}}]Ext2$ 
530 %% Style for Families
531 \cmdmthall{fam}\newcommand{\mthstyfam}{\mathscr}

\AFam, ... ... 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
532 \seqoflatupp{Fam}{mthfam}

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

\cmdmthargfam ... to do!
    • \cmdmthargfam{CMDNAME};
      \CMDNAMEFam[sub][sub][ext1]{arg}[ext2] =  $\mathcal{CMDNAME}_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargfam{cmdName}{NEWNAME};
      \cmdNameFam[sub][sub][ext1]{arg}[ext2] =  $\mathcal{NEWNAME}_{sub}^{sub}ext1(arg)ext2$ 
535 \newcommandx{\cmdmthargfam}[2][2=]
536   {\usrmth{#1}{Fam}{argfam}[#2]}

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

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

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

\mthcls, ... ... to do!
    • \mthcls{NAME}[sub][sup][Ext] =  $\mathcal{NAME}_{sub}^{sup}Ext$ 
    • \mthargcls{NAME}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1(Arg^{Ex^{Ex}})Ext2$ 
    • \mthargcls*{NAME}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1(Arg^{Ex^{Ex}})Ext2$ 
    • \mthparcls{NAME}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1[Par^{Ex^{Ex}}]Ext2$ 
    • \mthparcls*{NAME}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] =  $\mathcal{NAME}_{sub}^{sup}Ext1[Par^{Ex^{Ex}}]Ext2$ 

```

```

543 %% Style for Classes
544 \cmdmthall{cls}\newcommand{\mthstycls}{\matheus}

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

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

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

\cmdmthoargcls ... to do!
• \cmdmthoargcls{CMDNAME};
  \CMDNAMECls[sub][sub][arg] = \mathcal{MNAME}_{sub}^{sub}(arg)
• \cmdmthoargcls{cmdCls}{NEWNAME};
  \cmdClsCls[sub][sub][arg] = \mathcal{NEWNAME}_{sub}^{sub}(arg)
550 \newcommandx{\cmdmthoargcls}[2][2=]
551   {\usrmth{#1}{Cls}{oargcls}{#2}}

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

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

\mthsig, ... ... to do!
• \mthsig{Name}[sub][sup][Ext] = \mathcal{ame}_{sub}^{sup}Ext
• \mthargsig{Name}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] = \mathcal{ame}_{sub}^{sup}Ext1\left(Arg^{Ex^{Ex}}\right)Ext2
• \mthargsig*{Name}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] = \mathcal{ame}_{sub}^{sup}Ext1(Arg^{Ex^{Ex}})Ext2
• \mthparsig{Name}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] = \mathcal{ame}_{sub}^{sup}Ext1\left[Par^{Ex^{Ex}}\right]Ext2
• \mthparsig*{Name}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] = \mathcal{ame}_{sub}^{sup}Ext1[Par^{Ex^{Ex}}]Ext2
556 %% Style for Signatures
557 \cmdmthall{sig}\newcommand{\mthstysig}{\mathpzc}

```

```

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

\cmdmthsig ... to do!
• \cmdmthsig{cmdName};
  \cmdNameSig[sub][sub][ext] = cmd\amesubsubext
• \cmdmthsig{cmdName}[NewName];
  \cmdNameSig[sub][sub][ext] = \ew\amesubsubext
559 \newcommandx{\cmdmthsig}[2][2=]
560 {\usrmth{#1}{Sig}{sig}[#2]}

\cmdmthargsig ... to do!
• \cmdmthargsig{cmdName};
  \cmdNameSig[sub][sub][ext1]{arg}[ext2] = cmd\amesubsubext1(arg)ext2
• \cmdmthargsig{cmdName}[NewName];
  \cmdNameSig[sub][sub][ext1]{arg}[ext2] = \ew\amesubsubext1(arg)ext2
561 \newcommandx{\cmdmthargsig}[2][2=]
562 {\usrmth{#1}{Sig}{argsig}[#2]}

\cmdmthoargsig ... to do!
• \cmdmthoargsig{cmdName};
  \cmdNameSig[sub][sub][arg] = cmd\amesubsub(arg)
• \cmdmthoargsig{cmdSig}[NewName];
  \cmdSigSig[sub][sub][arg] = \ew\amesubsub(arg)
563 \newcommandx{\cmdmthoargsig}[2][2=]
564 {\usrmth{#1}{Sig}{oargsig}[#2]}

\cmdmthparsig ... to do!
• \cmdmthparsig{cmdName};
  \cmdNameSig[sub][sub][ext1]{par}[ext2] = cmd\amesubsubext1[par]ext2
• \cmdmthparsig{cmdName}[NewName];
  \cmdNameSig[sub][sub][ext1]{par}[ext2] = \ew\amesubsubext1[par]ext2
565 \newcommandx{\cmdmthparsig}[2][2=]
566 {\usrmth{#1}{Sig}{parsig}[#2]}

\cmdmthoparsig ... to do!
• \cmdmthoparsig{cmdName};
  \cmdNameSig[sub][sub][par] = cmd\amesubsub[par]
• \cmdmthoparsig{cmdSig}[NewName];
  \cmdSigSig[sub][sub][par] = \ew\amesubsub[par]
567 \newcommandx{\cmdmthoparsig}[2][2=]
568 {\usrmth{#1}{Sig}{oparsig}[#2]}

\mthstr, ... ... to do!
• \mthstr{Name}[sub][sup][Ext] = \amesupsubExt
• \mthargstr{Name}[sub][sup][Ext1]{ArgEx{Ex}}}[Ext2] = \amesupsubExt1(ArgExEx)Ext2
• \mthargstr*{Name}[sub][sup][Ext1]{ArgEx{Ex}}}[Ext2] = \amesupsubExt1(ArgExEx)Ext2
• \mthparstr{Name}[sub][sup][Ext1]{ParEx{Ex}}}[Ext2] = \amesupsubExt1[ParExEx]Ext2
• \mthparstr*{Name}[sub][sup][Ext1]{ParEx{Ex}}}[Ext2] = \amesupsubExt1[ParExEx]Ext2
569 %% Style for Structures
570 \cmdmthall{str}\newcommand{\mthstystyr}{\mathfrak}

```

```

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

\cmdmthstr ... to do!
• \cmdmthstr{cmdName};
  \cmdNameStr[sub][sub][ext] = cmdNamesubsubext
• \cmdmthstr{cmdName}[NewName];
  \cmdNameStr[sub][sub][ext] = NewNamesubsubext
572 \newcommandx{\cmdmthstr}[2][2=]
573   {\usrmth{#1}{Str}{str}[#2]}

\cmdmthargstr ... to do!
• \cmdmthargstr{cmdName};
  \cmdNameStr[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
• \cmdmthargstr{cmdName}[NewName];
  \cmdNameStr[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
574 \newcommandx{\cmdmthargstr}[2][2=]
575   {\usrmth{#1}{Str}{argstr}[#2]}

\cmdmthoargstr ... to do!
• \cmdmthoargstr{cmdName};
  \cmdNameStr[sub][sub][arg] = cmdNamesubsub(arg)
• \cmdmthoargstr{cmdStr}[NewName];
  \cmdStrStr[sub][sub][arg] = NewNamesubsub(arg)
576 \newcommandx{\cmdmthoargstr}[2][2=]
577   {\usrmth{#1}{Str}{oargstr}[#2]}

\cmdmthparstr ... to do!
• \cmdmthparstr{cmdName};
  \cmdNameStr[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2
• \cmdmthparstr{cmdName}[NewName];
  \cmdNameStr[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2
578 \newcommandx{\cmdmthparstr}[2][2=]
579   {\usrmth{#1}{Str}{parstr}[#2]}

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

\mthset, ... ... to do!
• \mthset{Name}[sub][sup][Ext] = NamesupsubExt
• \mthargset{Name}[sub][sup][Ext1]{ArgEx{Ex}}}[Ext2] = NamesupsubExt1(ArgExEx)Ext2
• \mthargset*{Name}[sub][sup][Ext1]{ArgEx{Ex}}}[Ext2] = NamesupsubExt1(ArgExEx)Ext2
• \mthparset{Name}[sub][sup][Ext1]{ParEx{Ex}}}[Ext2] = NamesupsubExt1[ParExEx]Ext2
• \mthparset*{Name}[sub][sup][Ext1]{ParEx{Ex}}}[Ext2] = NamesupsubExt1[ParExEx]Ext2
582 %% Style for Sets
583 \cmdmthall{set}\newcommand{\mthstyset}{\mathrm{

```



```

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

\cmdmthset ... to do!


- \cmdmthset{cmdName};
  \cmdNameSet[sub][sub][ext] = cmdNamesubext
- \cmdmthset{cmdName}[NewName];
  \cmdNameSet[sub][sub][ext] = NewNamesubext


585 \newcommandx{\cmdmthset}[2][2=]
586 {\usrmth{#1}{Set}{set}[#2]}

\cmdmthargset ... to do!


- \cmdmthargset{cmdName};
  \cmdNameSet[sub][sub][ext1]{arg}[ext2] = cmdNamesubext1(arg)ext2
- \cmdmthargset{cmdName}[NewName];
  \cmdNameSet[sub][sub][ext1]{arg}[ext2] = NewNamesubext1(arg)ext2


587 \newcommandx{\cmdmthargset}[2][2=]
588 {\usrmth{#1}{Set}{argset}[#2]}

\cmdmthoargset ... to do!


- \cmdmthoargset{cmdName};
  \cmdNameSet[sub][sub][arg] = cmdNamesub(arg)
- \cmdmthoargset{cmdSet}[NewName];
  \cmdSetSet[sub][sub][arg] = NewNamesub(arg)


589 \newcommandx{\cmdmthoargset}[2][2=]
590 {\usrmth{#1}{Set}{oargset}[#2]}

\cmdmthparset ... to do!


- \cmdmthparset{cmdName};
  \cmdNameSet[sub][sub][ext1]{par}[ext2] = cmdNamesubext1[par]ext2
- \cmdmthparset{cmdName}[NewName];
  \cmdNameSet[sub][sub][ext1]{par}[ext2] = NewNamesubext1[par]ext2


591 \newcommandx{\cmdmthparset}[2][2=]
592 {\usrmth{#1}{Set}{parset}[#2]}

\cmdmthoparset ... to do!


- \cmdmthoparset{cmdName};
  \cmdNameSet[sub][sub][par] = cmdNamesub[par]
- \cmdmthoparset{cmdSet}[NewName];
  \cmdSetSet[sub][sub][par] = NewNamesub[par]


593 \newcommandx{\cmdmthoparset}[2][2=]
594 {\usrmth{#1}{Set}{oparset}[#2]}

\cmdmthsetext ... to do!
595 \newcommandx{\cmdmthsetext}[3][2=, 3=]
596 {\cmdmthset{#1}[#2]\caselower[q]{#1}%
597 \usrmthlet{\thestring}{Sym}{sym}
598 [\defval{#3}{\defval{\empchk{#2}{\lowercase{#2}}}{\thestring}}}%
599 \usrmthlet{\thestring}{Elm}{elm}
600 [\defval{#3}{\defval{\empchk{#2}{\lowercase{#2}}}{\thestring}}}]

\mthrel, ... ... to do!


- \mthrel{Name}[sub][sup][Ext] = NamesupsubExt
- \mthargrel{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = NamesupsubExt1(ArgExEx)Ext2

```

- $\backslash\mathrm{mthargrel}\{Name\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{Ex}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{Ex}})\mathrm{Ext2}$
- $\backslash\mathrm{mthparrel}\{Name\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{Ex}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{Ex}}]\mathrm{Ext2}$
- $\backslash\mathrm{mthparrel}\{Name\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{Ex}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{Ex}}]\mathrm{Ext2}$

601 %% Style for Relations

602 $\backslash\mathrm{cmdmthall}\{\mathrm{rel}\}\backslash\mathrm{newcommand}\{\mathrm{mthstyrel}\}\{\mathrm{mathit}\}$

$\backslash\mathrm{aRel}, \dots$... to do!

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

603 $\backslash\mathrm{seqoflet}\{\mathrm{Rel}\}\{\mathrm{mthrel}\}$

$\backslash\mathrm{cmdmthrel}$... to do!

- $\backslash\mathrm{cmdmthrel}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$
- $\backslash\mathrm{cmdmthrel}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$

604 $\backslash\mathrm{newcommandx}\{\mathrm{cmdmthrel}\}[2][2=]$

605 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Rel}\}\{\mathrm{rel}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthargrel}$... to do!

- $\backslash\mathrm{cmdmthargrel}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}][\mathrm{arg}][\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$
- $\backslash\mathrm{cmdmthargrel}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}][\mathrm{arg}][\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$

606 $\backslash\mathrm{newcommandx}\{\mathrm{cmdmthargrel}\}[2][2=]$

607 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Rel}\}\{\mathrm{argrel}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoargrel}$... to do!

- $\backslash\mathrm{cmdmthoargrel}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$
- $\backslash\mathrm{cmdmthoargrel}\{\mathrm{cmdRel}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdRelRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$

608 $\backslash\mathrm{newcommandx}\{\mathrm{cmdmthoargrel}\}[2][2=]$

609 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Rel}\}\{\mathrm{oargrel}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthparrel}$... to do!

- $\backslash\mathrm{cmdmthparrel}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}][\mathrm{par}][\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$
- $\backslash\mathrm{cmdmthparrel}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}][\mathrm{par}][\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$

610 $\backslash\mathrm{newcommandx}\{\mathrm{cmdmthparrel}\}[2][2=]$

611 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Rel}\}\{\mathrm{parrel}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoparrel}$... to do!

- $\backslash\mathrm{cmdmthoparrel}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$
- $\backslash\mathrm{cmdmthoparrel}\{\mathrm{cmdRel}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdRelRel}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$

612 $\backslash\mathrm{newcommandx}\{\mathrm{cmdmthoparrel}\}[2][2=]$

613 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Rel}\}\{\mathrm{oparrel}\}\{\#2\}\}$

$\backslash\mathrm{mthfun}, \dots$... to do!

- $\backslash\mathrm{mthfun}\{Name\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext}$
- $\backslash\mathrm{mthargfun}\{Name\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{Ex}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{Ex}})\mathrm{Ext2}$

- $\backslash\mathrm{mthargfun}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})\mathrm{Ext2}$
- $\backslash\mathrm{mthparfun}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}\left[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\right]\mathrm{Ext2}$
- $\backslash\mathrm{mthparfun}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}]\mathrm{Ext2}$

614 %% Style for Functions

615 $\backslash\mathrm{cmdmthall}\{\mathrm{fun}\}\backslash\mathrm{newcommand}\{\backslash\mathrm{mthstyfun}\}\{\mathrm{mathsf}\}$

$\backslash\mathrm{aFun}, \dots$... 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
 $\alpha, \beta, \gamma, \delta, \epsilon, \varepsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \varkappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$
A, B, $\Gamma, \Delta, E, E, Z, H, \Theta, \Theta, I, K, K, \Lambda, M, N, \Xi, O, \Pi, \Pi, P, P, \Sigma, \Sigma, T, T, \Phi, \Phi, X, \Psi, \Omega$

616 $\backslash\mathrm{seqoflet}\{\mathrm{Fun}\}\{\mathrm{mthfun}\}$

$\backslash\mathrm{cmdmthfun}$... to do!

- $\backslash\mathrm{cmdmthfun}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$
- $\backslash\mathrm{cmdmthfun}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$

617 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthfun}\}[2][2=]$

618 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Fun}\}\{\mathrm{fun}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthargfun}$... to do!

- $\backslash\mathrm{cmdmthargfun}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$
- $\backslash\mathrm{cmdmthargfun}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$

619 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthargfun}\}[2][2=]$

620 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Fun}\}\{\mathrm{argfun}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoargfun}$... to do!

- $\backslash\mathrm{cmdmthoargfun}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$
- $\backslash\mathrm{cmdmthoargfun}\{\mathrm{cmdFun}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdFunFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$

621 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoargfun}\}[2][2=]$

622 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Fun}\}\{\mathrm{oargfun}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthparfun}$... to do!

- $\backslash\mathrm{cmdmthparfun}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$
- $\backslash\mathrm{cmdmthparfun}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$

623 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthparfun}\}[2][2=]$

624 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Fun}\}\{\mathrm{parfun}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoparfun}$... to do!

- $\backslash\mathrm{cmdmthoparfun}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$
- $\backslash\mathrm{cmdmthoparfun}\{\mathrm{cmdFun}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdFunFun}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$

625 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoparfun}\}[2][2=]$

626 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Fun}\}\{\mathrm{oparfun}\}\{\#2\}\}$

$\backslash\mathrm{mthsym}, \dots$... to do!

- $\backslash\mathrm{mthsym}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext}$
- $\backslash\mathrm{mthargsym}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}\left(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\right)\mathrm{Ext2}$

- $\backslash\mathrm{mthargsym}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})\mathrm{Ext2}$
- $\backslash\mathrm{mthparsym}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] \mathrm{Ext2}$
- $\backslash\mathrm{mthparsym}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] \mathrm{Ext2}$

627 %% Style for Symbols

628 $\backslash\mathrm{cmdmthall}\{\mathrm{sym}\}\backslash\mathrm{newcommand}\{\backslash\mathrm{mthstysym}\}\{\backslash\mathrm{mathtt}\}$

$\backslash\mathrm{aSym}, \dots$... 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
 $\alpha, \beta, \gamma, \delta, \epsilon, \varepsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \varkappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \varpi, \rho, \varrho, \sigma, \varsigma, \tau, \upsilon, \phi, \varphi, \chi, \psi, \omega$
A, B, Γ, Δ, E, Ε, Ζ, Η, Θ, Θ, Ι, Κ, Κ, Λ, Μ, Ν, Ξ, Ο, Π, ΙΙ, Ρ, Ρ, Σ, Σ, Τ, Τ, Φ, Φ, Χ, Ψ, Ω
629 $\backslash\mathrm{seqoflet}\{\mathrm{Sym}\}\{\mathrm{mthsym}\}$

$\backslash\mathrm{cmdmthsym}$... to do!

- $\backslash\mathrm{cmdmthsym}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$
- $\backslash\mathrm{cmdmthsym}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$

630 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthsym}\}[2][2=]$

631 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Sym}\}\{\mathrm{sym}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthargsym}$... to do!

- $\backslash\mathrm{cmdmthargsym}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$
- $\backslash\mathrm{cmdmthargsym}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$

632 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthargsym}\}[2][2=]$

633 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Sym}\}\{\mathrm{argsym}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoargsym}$... to do!

- $\backslash\mathrm{cmdmthoargsym}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$
- $\backslash\mathrm{cmdmthoargsym}\{\mathrm{cmdSym}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdSymSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$

634 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoargsym}\}[2][2=]$

635 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Sym}\}\{\mathrm{oargsym}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthparsym}$... to do!

- $\backslash\mathrm{cmdmthparsym}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$
- $\backslash\mathrm{cmdmthparsym}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$

636 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthparsym}\}[2][2=]$

637 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Sym}\}\{\mathrm{parsym}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoparsym}$... to do!

- $\backslash\mathrm{cmdmthoparsym}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$
- $\backslash\mathrm{cmdmthoparsym}\{\mathrm{cmdSym}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdSymSym}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$

638 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoparsym}\}[2][2=]$

639 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Sym}\}\{\mathrm{oparsym}\}\{\#2\}\}$

$\backslash\mathrm{mthelm}, \dots$... to do!

- $\backslash\mathrm{mthelm}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext}$
- $\backslash\mathrm{mthargelm}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})\mathrm{Ext2}$

- $\backslash\mathrm{mthargelm}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}(\mathrm{Arg}^{\mathrm{Ex}^{\mathrm{Ex}}})\mathrm{Ext2}$
- $\backslash\mathrm{mthparelm}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] \mathrm{Ext2}$
- $\backslash\mathrm{mthparelm}\{\mathrm{Name}\}[\mathrm{sub}][\mathrm{sup}][\mathrm{Ext1}]\{\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}\}[\mathrm{Ext2}] = \mathrm{Name}_{\mathrm{sub}}^{\mathrm{sup}}\mathrm{Ext1}[\mathrm{Par}^{\mathrm{Ex}^{\mathrm{Ex}}}] \mathrm{Ext2}$

640 %% Style for Elements

641 $\backslash\mathrm{cmdmthall}\{\mathrm{elm}\}\backslash\mathrm{newcommand}\{\backslash\mathrm{mthstyelm}\}\{\mathrm{mathnormal}\}$

$\backslash\mathrm{aElm}$, ... to do!

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

642 $\backslash\mathrm{seqoflet}\{\mathrm{Elm}\}\{\mathrm{mthelm}\}$

$\backslash\mathrm{cmdmthelm}$... to do!

- $\backslash\mathrm{cmdmthelm}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$
- $\backslash\mathrm{cmdmthelm}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext}$

643 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthelm}\}[2][2=]$

644 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Elm}\}\{\mathrm{elm}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthargelm}$... to do!

- $\backslash\mathrm{cmdmthargelm}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$
- $\backslash\mathrm{cmdmthargelm}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{arg}\}[\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}(\mathrm{arg})\mathrm{ext2}$

645 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthargelm}\}[2][2=]$

646 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Elm}\}\{\mathrm{argelm}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoargelm}$... to do!

- $\backslash\mathrm{cmdmthoargelm}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$
- $\backslash\mathrm{cmdmthoargelm}\{\mathrm{cmdElm}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdElmElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{arg}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}(\mathrm{arg})$

647 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoargelm}\}[2][2=]$

648 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Elm}\}\{\mathrm{oargelm}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthparelm}$... to do!

- $\backslash\mathrm{cmdmthparelm}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$
- $\backslash\mathrm{cmdmthparelm}\{\mathrm{cmdName}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{ext1}]\{\mathrm{par}\}[\mathrm{ext2}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}\mathrm{ext1}[\mathrm{par}]\mathrm{ext2}$

649 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthparelm}\}[2][2=]$

650 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Elm}\}\{\mathrm{parelm}\}\{\#2\}\}$

$\backslash\mathrm{cmdmthoparelm}$... to do!

- $\backslash\mathrm{cmdmthoparelm}\{\mathrm{cmdName}\};$
 $\backslash\mathrm{cmdNameElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{cmdName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$
- $\backslash\mathrm{cmdmthoparelm}\{\mathrm{cmdElm}\}[\mathrm{NewName}];$
 $\backslash\mathrm{cmdElmElm}[\mathrm{sub}][\mathrm{sub}][\mathrm{par}] = \mathrm{NewName}_{\mathrm{sub}}^{\mathrm{sub}}[\mathrm{par}]$

651 $\backslash\mathrm{newcommandx}\{\backslash\mathrm{cmdmthoparelm}\}[2][2=]$

652 $\{\backslash\mathrm{usrmth}\{\#1\}\{\mathrm{Elm}\}\{\mathrm{oparelm}\}\{\#2\}\}$

653 %%*****

$\backslash\mathrm{cmdmthsymelm}$... to do!

- $\backslash\text{cmdmthsymelm}\{\text{cmdName}\};$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{ext}] = \text{cmdName}_{sub}^{sub}ext$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{ext}] = \text{cmdName}_{sub}^{sub}ext$
- $\backslash\text{cmdmthsymelm}\{\text{cmdName}\}[\text{NewName}];$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{ext}] = \text{NewName}_{sub}^{sub}ext$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{ext}] = \text{NewName}_{sub}^{sub}ext$

```
654 \newcommandx{\cmdmthsymelm}[2][2=]
655   {\cmdmthsym\#1\#2}%
656   \cmdmthelm\#1\#2}
```

$\backslash\text{cmdmthargsymelm}$... to do!

- $\backslash\text{cmdmthargsymelm}\{\text{cmdName}\};$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{ext1}\{\text{arg}\}][\text{ext2}] = \text{cmdName}_{sub}^{sub}ext1(\text{arg})ext2$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{ext1}\{\text{arg}\}][\text{ext2}] = \text{cmdName}_{sub}^{sub}ext1(\text{arg})ext2$
- $\backslash\text{cmdmthargsymelm}\{\text{cmdName}\}[\text{NewName}];$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{ext1}\{\text{arg}\}][\text{ext2}] = \text{NewName}_{sub}^{sub}ext1(\text{arg})ext2$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{ext1}\{\text{arg}\}][\text{ext2}] = \text{NewName}_{sub}^{sub}ext1(\text{arg})ext2$

```
657 \newcommandx{\cmdmthargsymelm}[2][2=]
658   {\cmdmthargsym\#1\#2}%
659   \cmdmthargelm\#1\#2}
```

$\backslash\text{cmdmthoargsymelm}$... to do!

- $\backslash\text{cmdmthoargsymelm}\{\text{cmdName}\};$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{arg}] = \text{cmdName}_{sub}^{sub}(\text{arg})$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{arg}] = \text{cmdName}_{sub}^{sub}(\text{arg})$
- $\backslash\text{cmdmthoargsymelm}\{\text{cmdName}\}[\text{NewName}];$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{arg}] = \text{NewName}_{sub}^{sub}(\text{arg})$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{arg}] = \text{NewName}_{sub}^{sub}(\text{arg})$

```
660 \newcommandx{\cmdmthoargsymelm}[2][2=]
661   {\cmdmthoargsym\#1\#2}%
662   \cmdmthoargelm\#1\#2}
```

$\backslash\text{cmdmthparsymelm}$... to do!

- $\backslash\text{cmdmthparsymelm}\{\text{cmdName}\};$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{ext1}\{\text{par}\}][\text{ext2}] = \text{cmdName}_{sub}^{sub}ext1[\text{par}]ext2$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{ext1}\{\text{par}\}][\text{ext2}] = \text{cmdName}_{sub}^{sub}ext1[\text{par}]ext2$
- $\backslash\text{cmdmthparsymelm}\{\text{cmdName}\}[\text{NewName}];$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{ext1}\{\text{par}\}][\text{ext2}] = \text{NewName}_{sub}^{sub}ext1[\text{par}]ext2$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{ext1}\{\text{par}\}][\text{ext2}] = \text{NewName}_{sub}^{sub}ext1[\text{par}]ext2$

```
663 \newcommandx{\cmdmthparsymelm}[2][2=]
664   {\cmdmthparsym\#1\#2}%
665   \cmdmthparelm\#1\#2}
```

$\backslash\text{cmdmthoparsymelm}$... to do!

- $\backslash\text{cmdmthoparsymelm}\{\text{cmdName}\};$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{par}] = \text{cmdName}_{sub}^{sub}[\text{par}]$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{par}] = \text{cmdName}_{sub}^{sub}[\text{par}]$
- $\backslash\text{cmdmthoparsymelm}\{\text{cmdName}\}[\text{NewName}];$
 $\backslash\text{cmdNameSym}[\text{sub}][\text{sub}][\text{par}] = \text{NewName}_{sub}^{sub}[\text{par}]$
 $\backslash\text{cmdNameElm}[\text{sub}][\text{sub}][\text{par}] = \text{NewName}_{sub}^{sub}[\text{par}]$

```
666 \newcommandx{\cmdmthoparsymelm}[2][2=]
667   {\cmdmthoparsym\#1\#2}%
668   \cmdmthoparelm\#1\#2}
```

```
669 %%*****%
```

$\backslash\text{mthluop}$, ... to do!

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

```

670 %% Style for \LaTeX Operators
671 \cmdmth{luop}\newcommand{\mthstyluop}[1]{\textstyle\mathop{#1}}
672 \cmdmth{lbop}\newcommand{\mthstylbop}[1]{\textstyle\mathbin{#1}}

```

\cmdmthluop, to do!

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

```

673 \newcommandx{\cmdmthluop}[2][2=]
674   {\usrmth{#1}{UOp}{luop}[#2]}
675 \newcommandx{\cmdmthlbop}[2][2=]
676   {\usrmth{#1}{BOp}{lbop}[#2]}

```

\mthlrel ... to do!

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

```

677 %% Style for \LaTeX Relations
678 \cmdmth{lrel}\newcommand{\mthstylrel}{\mathrel}

```

\cmdmthlrel ... to do!

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

```

679 \newcommandx{\cmdmthlrel}[2][2=]
680   {\usrmth{#1}{Rel}{lrel}[#2]}

```

```

681 %%*****%

```

\mthsnt, to do!

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

```

682 %% Style for Sentences
683 \cmdmthall{snt}\newcommand{\mthstysnt}{\mathsf}

```

\aSnt, to do!

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

```

684 \seqoflet{Snt}{mthsnt}

```

\cmdmthsnt ... to do!

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

```

685 \newcommandx{\cmdmthsnt}[2][2=]
686   {\usrmth{#1}{Snt}{snt}[#2]}

```

```

\cmdmthargsnt ... to do!
    • \cmdmthargsnt{cmdName};
      \cmdNameSnt[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
    • \cmdmthargsnt{cmdName}[NewName];
      \cmdNameSnt[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
687 \newcommandx{\cmdmthargsnt}[2][2=]
688   {\usrmth{#1}{Snt}{argsnt}[#2]}

\cmdmthoargsnt ... to do!
    • \cmdmthoargsnt{cmdName};
      \cmdNameSnt[sub][sub][arg] = cmdNamesubsub(arg)
    • \cmdmthoargsnt{cmdName}[NewName];
      \cmdNameSnt[sub][sub][arg] = NewNamesubsub(arg)
689 \newcommandx{\cmdmthoargsnt}[2][2=]
690   {\usrmth{#1}{Snt}{oargsnt}[#2]}

\cmdmthparsnt ... to do!
    • \cmdmthparsnt{cmdName};
      \cmdNameSnt[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2
    • \cmdmthparsnt{cmdName}[NewName];
      \cmdNameSnt[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2
691 \newcommandx{\cmdmthparsnt}[2][2=]
692   {\usrmth{#1}{Snt}{parsnt}[#2]}

\cmdmthoparsnt ... to do!
    • \cmdmthoparsnt{cmdName};
      \cmdNameSnt[sub][sub][par] = cmdNamesubsub[par]
    • \cmdmthoparsnt{cmdName}[NewName];
      \cmdNameSnt[sub][sub][par] = NewNamesubsub[par]
693 \newcommandx{\cmdmthoparsnt}[2][2=]
694   {\usrmth{#1}{Snt}{oparsnt}[#2]}

\mthfrm, ... ... to do!
    • \mthfrm{Name}[sub][sup][Ext] = NamesupsubExt
    • \mthargfrm{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = NamesupsubExt1(ArgExEx)Ext2
    • \mthargfrm*{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = NamesupsubExt1(ArgExEx)Ext2
    • \mthparfrm{Name}[sub][sup][Ext1]{ParEx{Ex}}[Ext2] = NamesupsubExt1[ParExEx]Ext2
    • \mthparfrm*{Name}[sub][sup][Ext1]{ParEx{Ex}}[Ext2] = NamesupsubExt1[ParExEx]Ext2
695 %% Style for Formulae
696 \cmdmthall{frm}\newcommand{\mthstyfrm}{\mathit}

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

\cmdmthfrm ... to do!
    • \cmdmthfrm{cmdName};
      \cmdNameFrm[sub][sub][ext] = cmdNamesubsubext
    • \cmdmthfrm{cmdName}[NewName];
      \cmdNameFrm[sub][sub][ext] = NewNamesubsubext
698 \newcommandx{\cmdmthfrm}[2][2=]
699   {\usrmth{#1}{Frm}{frm}[#2]}

```



```

\cmdmthargfrm ... to do!
    • \cmdmthargfrm{cmdName};
      \cmdNameFrm[sub][sub][ext1]{arg}[ext2] =  $\text{cmdName}_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargfrm{cmdName}[NewName];
      \cmdNameFrm[sub][sub][ext1]{arg}[ext2] =  $\text{NewName}_{sub}^{sub}ext1(arg)ext2$ 
700 \newcommandx{\cmdmthargfrm}[2][2=]
701   {\usrmth{#1}{Frm}{argfrm}[#2]}

\cmdmthoargfrm ... to do!
    • \cmdmthoargfrm{cmdName};
      \cmdNameFrm[sub][sub][arg] =  $\text{cmdName}_{sub}^{sub}(arg)$ 
    • \cmdmthoargfrm{cmdName}[NewName];
      \cmdNameFrm[sub][sub][arg] =  $\text{NewName}_{sub}^{sub}(arg)$ 
702 \newcommandx{\cmdmthoargfrm}[2][2=]
703   {\usrmth{#1}{Frm}{oargfrm}[#2]}

\cmdmthparfrm ... to do!
    • \cmdmthparfrm{cmdName};
      \cmdNameFrm[sub][sub][ext1]{par}[ext2] =  $\text{cmdName}_{sub}^{sub}ext1[par]ext2$ 
    • \cmdmthparfrm{cmdName}[NewName];
      \cmdNameFrm[sub][sub][ext1]{par}[ext2] =  $\text{NewName}_{sub}^{sub}ext1[par]ext2$ 
704 \newcommandx{\cmdmthparfrm}[2][2=]
705   {\usrmth{#1}{Frm}{parfrm}[#2]}

\cmdmthoparfrm ... to do!
    • \cmdmthoparfrm{cmdName};
      \cmdNameFrm[sub][sub][par] =  $\text{cmdName}_{sub}^{sub}[par]$ 
    • \cmdmthoparfrm{cmdName}[NewName];
      \cmdNameFrm[sub][sub][par] =  $\text{NewName}_{sub}^{sub}[par]$ 
706 \newcommandx{\cmdmthoparfrm}[2][2=]
707   {\usrmth{#1}{Frm}{oparfrm}[#2]}

708 %%*****%

\mthmat, ... ... to do!
    • \mthmat{Name}[sub][sup][Ext] =  $\text{Name}_{sub}^{sup}Ext$ 
    • \mthargmat{Name}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] =  $\text{Name}_{sub}^{sup}Ext1\left(\text{Arg}^{Ex^{Ex}}\right)Ext2$ 
    • \mthargmat*{Name}[sub][sup][Ext1]{Arg^{Ex^{Ex}}}[Ext2] =  $\text{Name}_{sub}^{sup}Ext1\left(\text{Arg}^{Ex^{Ex}}\right)Ext2$ 
    • \mthparmat{Name}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] =  $\text{Name}_{sub}^{sup}Ext1\left[\text{Par}^{Ex^{Ex}}\right]Ext2$ 
    • \mthparmat*{Name}[sub][sup][Ext1]{Par^{Ex^{Ex}}}[Ext2] =  $\text{Name}_{sub}^{sup}Ext1\left[\text{Par}^{Ex^{Ex}}\right]Ext2$ 
709 %% Style for Matrices
710 \cmdmthall{mat}\newcommand{\mthstymat}[1]{\boldsymbol{\mathsf{#1}}}

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

\cmdmthmat ... to do!
    • \cmdmthmat{cmdName};
      \cmdNameMat[sub][sub][ext] =  $\text{cmdName}_{sub}^{sub}ext$ 
    • \cmdmthmat{cmdName}[NewName];
      \cmdNameMat[sub][sub][ext] =  $\text{NewName}_{sub}^{sub}ext$ 

```

```

712 \newcommandx{\cmdmthmat}[2][2=]
713   {\usrmth{#1}{Mat}{mat}{#2}}

\cmdmthargmat ... to do!
  • \cmdmthargmat{cmdName};
    \cmdNameMat[sub][sub][ext1]{arg}[ext2] = cmdNamesubsubext1(arg)ext2
  • \cmdmthargmat{cmdName}[NewName];
    \cmdNameMat[sub][sub][ext1]{arg}[ext2] = NewNamesubsubext1(arg)ext2
714 \newcommandx{\cmdmthargmat}[2][2=]
715   {\usrmth{#1}{Mat}{argmat}{#2}}

\cmdmthoargmat ... to do!
  • \cmdmthoargmat{cmdName};
    \cmdNameMat[sub][sub][arg] = cmdNamesubsub(arg)
  • \cmdmthoargmat{cmdName}[NewName];
    \cmdNameMat[sub][sub][arg] = NewNamesubsub(arg)
716 \newcommandx{\cmdmthoargmat}[2][2=]
717   {\usrmth{#1}{Mat}{oargmat}{#2}}

\cmdmthparmat ... to do!
  • \cmdmthparmat{cmdName};
    \cmdNameMat[sub][sub][ext1]{par}[ext2] = cmdNamesubsubext1[par]ext2
  • \cmdmthparmat{cmdName}[NewName];
    \cmdNameMat[sub][sub][ext1]{par}[ext2] = NewNamesubsubext1[par]ext2
718 \newcommandx{\cmdmthparmat}[2][2=]
719   {\usrmth{#1}{Mat}{parmat}{#2}}

\cmdmthoparmat ... to do!
  • \cmdmthoparmat{cmdName};
    \cmdNameMat[sub][sub][par] = cmdNamesubsub[par]
  • \cmdmthoparmat{cmdName}[NewName];
    \cmdNameMat[sub][sub][par] = NewNamesubsub[par]
720 \newcommandx{\cmdmthoparmat}[2][2=]
721   {\usrmth{#1}{Mat}{oparmat}{#2}}

\mthvec, ... ... to do!
  • \mthvec{Name}[sub][sup][Ext] = NamesubsupExt
  • \mthargvec{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = NamesubsupExt1(ArgExEx)Ext2
  • \mthargvec*{Name}[sub][sup][Ext1]{ArgEx{Ex}}[Ext2] = NamesubsupExt1(ArgExEx)Ext2
  • \mthparvec{Name}[sub][sup][Ext1]{ParEx{Ex}}[Ext2] = NamesubsupExt1[ParExEx]Ext2
  • \mthparvec*{Name}[sub][sup][Ext1]{ParEx{Ex}}[Ext2] = NamesubsupExt1[ParExEx]Ext2
722 %% Style for Vectors
723 \cmdmthall{vec}\newcommand{\mthstyvec}[1]{\boldsymbol{\mathit{#1}}}

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

\cmdmthvec ... to do!
  • \cmdmthvec{cmdName};
    \cmdNameVec[sub][sub][ext] = cmdNamesubsubext
  • \cmdmthvec{cmdName}[NewName];
    \cmdNameVec[sub][sub][ext] = NewNamesubsubext

```

```

725 \newcommandx{\cmdmthvec}[2][2=]
726   {\usrmth{#1}{Vec}{vec}{#2}}

\cmdmthargvec ... to do!
    • \cmdmthargvec{cmdName};
      \cmdNameVec[sub][sub][ext1]{arg}[ext2] =  $\text{cmdName}_{sub}^{sub}ext1(arg)ext2$ 
    • \cmdmthargvec{cmdName}[NewName];
      \cmdNameVec[sub][sub][ext1]{arg}[ext2] =  $\text{NewName}_{sub}^{sub}ext1(arg)ext2$ 
727 \newcommandx{\cmdmthargvec}[2][2=]
728   {\usrmth{#1}{Vec}{argvec}{#2}}

\cmdmthoargvec ... to do!
    • \cmdmthoargvec{cmdName};
      \cmdNameVec[sub][sub][arg] =  $\text{cmdName}_{sub}^{sub}(arg)$ 
    • \cmdmthoargvec{cmdName}[NewName];
      \cmdNameVec[sub][sub][arg] =  $\text{NewName}_{sub}^{sub}(arg)$ 
729 \newcommandx{\cmdmthoargvec}[2][2=]
730   {\usrmth{#1}{Vec}{oargvec}{#2}}

\cmdmthparvec ... to do!
    • \cmdmthparvec{cmdName};
      \cmdNameVec[sub][sub][ext1]{par}[ext2] =  $\text{cmdName}_{sub}^{sub}ext1[par]ext2$ 
    • \cmdmthparvec{cmdName}[NewName];
      \cmdNameVec[sub][sub][ext1]{par}[ext2] =  $\text{NewName}_{sub}^{sub}ext1[par]ext2$ 
731 \newcommandx{\cmdmthparvec}[2][2=]
732   {\usrmth{#1}{Vec}{parvec}{#2}}

\cmdmthoparvec ... to do!
    • \cmdmthoparvec{cmdName};
      \cmdNameVec[sub][sub][par] =  $\text{cmdName}_{sub}^{sub}[par]$ 
    • \cmdmthoparvec{cmdName}[NewName];
      \cmdNameVec[sub][sub][par] =  $\text{NewName}_{sub}^{sub}[par]$ 
733 \newcommandx{\cmdmthoparvec}[2][2=]
734   {\usrmth{#1}{Vec}{oparvec}{#2}}

735 \fi
736 %*****
737 %*****
738 %** Elementary Macros for Text *****
739 %*****
740 \iftext@
741 %** Latin Abbreviations *****

\adhoc    • \adhoc = ad hoc
742 \cmdtxtabr{\adhoc}{ad hoc]

\afortiori    • \afortiori = a fortiori
743 \cmdtxtabr{\afortiori}{a fortiori]

\apriori    • \apriori = a priori
744 \cmdtxtabr{\apriori}{a priori]

\aposteriori    • \aposteriori = a posteriori
745 \cmdtxtabr{\aposteriori}{a posteriori]

\cf    • \cf = cf.
746 \cmdtxtabr{\cf}{cf.]

```

`\dedicto` • `\dedicto = de dicto`
747 `\cmdtxtabr{dedicto}[de dicto]`

`\defacto` • `\defacto = de facto`
748 `\cmdtxtabr{defacto}[de facto]`

`\dere` • `\dere = de re`
749 `\cmdtxtabr{dere}[de re]`

`\divideetimpera` • `\divideetimpera = divide et impera`
750 `\cmdtxtabr{divideetimpera}[divide et impera]`

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

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

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

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

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

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

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

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

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

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

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

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

`\viz` • `\viz = viz.`
763 `\cmdtxtabr{viz}[viz.]`
764 `%%*****%`

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

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

\backslash Aposteriori • \backslash Aposteriori = *A posteriori*
767 \backslash cmdtxtabr{Aposteriori}[A posteriori]

\backslash Dedicto • \backslash Dedicto = *De dicto*
768 \backslash cmdtxtabr{Dedicto}[De dicto]

\backslash Defacto • \backslash Defacto = *De facto*
769 \backslash cmdtxtabr{Defacto}[De facto]

\backslash Dere • \backslash Dere = *De re*
770 \backslash cmdtxtabr{Dere}[De re]

\backslash Divideetimperā • \backslash Divideetimperā = *Divide et impera*
771 \backslash cmdtxtabr{Divideetimperā}[Divide et impera]

\backslash Eg • \backslash Eg = *E.g.*
772 \backslash cmdtxtabr{Eg}[E.g.]

\backslash Errata • \backslash Errata = *Errata*
773 \backslash cmdtxtabr{Errata}

\backslash Erratum • \backslash Erratum = *Erratum*
774 \backslash cmdtxtabr{Erratum}

\backslash Mutatismutandis • \backslash Mutatismutandis = *Mutatis mutandis*
775 \backslash cmdtxtabr{Mutatismutandis}[Mutatis mutandis]

\backslash Percontra • \backslash Percontra = *Per contra*
776 \backslash cmdtxtabr{Percontra}[Per contra]

\backslash Prima facie • \backslash Prima facie = *Prima facie*
777 \backslash cmdtxtabr{Prima facie}[Prima facie]

\backslash Viceversa • \backslash Viceversa = *Vice versa*
778 \backslash cmdtxtabr{Viceversa}[Vice versa]

779 %** Italian Abbreviations *****%
...
780 %*****%
...
781 %** French Abbreviations *****%

\backslash naif • \backslash naif = *naïf*
782 \backslash cmdtxtabr{naif}[na\{i}f]

\backslash naive • \backslash naive = *naïve*
783 \backslash cmdtxtabr{naive}[na\{i}ve]

\backslash role • \backslash role = *rôle*
784 \backslash cmdtxtabr{role}[r\^{o}le]

785 %*****%

\backslash Role • \backslash Role = *Rôle*
786 \backslash cmdtxtabr{Role}[R\^{o}le]

787 %** English Abbreviations *****%

```

\aka      • \aka = a.k.a.
788 \cmdtxtabr{aka}[a.k.a.]

\contd    • \contd = contd.
789 \cmdtxtabr{contd}[contd.]

\iff      • \iff = iff
790 \cmdtxtabr{iff}

\iht      • \iht = i.h.t.
791 \cmdtxtabr{iht}[i.h.t.]

\stx      • \stx = s.t.
792 \cmdtxtabr{stx}[s.t.]

\resp     • \resp = resp.
793 \cmdtxtabr{resp}[resp.]

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

\wlogx    • \wlogx = w.l.o.g.
795 \cmdtxtabr{wlogx}[w.l.o.g.]
796 %%*****%%

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

\Wlogx    • \Wlogx = W.l.o.g.
798 \cmdtxtabr{Wlogx}[W.l.o.g.]
799 \fi
800 %%*****%%
801 %%*****%%
802 %%** Elementary Macros for Math *****%%
803 %%*****%%
804 \ifmath@
805 %%** General Notation *****%%

\defeq, \seteq ...
806 \DeclareRobustCommand{\defeq}
807   {\@ifstar%
808     {\mthlbop{\stackrel{\text{\textup{def}}}{=}}}%
809     {\mthlbop{\triangleleft}}}%
810 \DeclareRobustCommand{\seteq}
811   {\@ifstar{\mthlbop{:=}}{\mthlbop{:=}}}
812 %%*****%%

\implies, ... ...
813 \DeclareRobustCommand{\implies}
814   {\mthlrel{\Rightarrow}}
815 \DeclareRobustCommand{\notimplies}
816   {\mthlrel{\not\Rightarrow}}

\implied, ... ...
817 \DeclareRobustCommand{\implied}
818   {\mthlrel{\Leftarrow}}
819 \DeclareRobustCommand{\notimplied}
820   {\mthlrel{\not\Leftarrow}}

```

```

\coimplies, ... ...
821 \DeclareRobustCommand{\coimplies}
822   {\mthlrel{\Leftrightarrow}}
823 \DeclareRobustCommand{\notcoimplies}
824   {\mthlrel{\not\!\Leftrightarrow}}

825 %%*****%

\cmodels, ... ...
826 \DeclareRobustCommand{\cmodels}
827   {\mthlrel{\models}}
828 \DeclareRobustCommand{\notcmodels}
829   {\mthlrel{\not\models}}

\cequiv, ... ...
830 \DeclareRobustCommand{\cequiv}
831   {\mthlrel{\equiv}}
832 \DeclareRobustCommand{\notcequiv}
833   {\mthlrel{\not\equiv}}

834 %%*****%

\denot ...
835 \DeclareRobustCommand{\denot}
836   {\@ifstar{\@denot}{\@denot[\left][\right]}}
837 \DeclareRobustCommandx{\@denot}[3][1=, 2=]
838   {\mth{\argmid{\#1\llbracket}{\#3}{\#2\rrbracket}}}

839 %%*****%

\dual, \adj, ... ...
840 \DeclareRobustCommand{\dual}[1]
841   {\mth{\overline{\#1}}}
842 \DeclareRobustCommand{\adj}[1]
843   {\mth{\mathring{\#1}}}
844 \DeclareRobustCommand{\der}[1]
845   {\mth{\widehat{\#1}}}
846 \DeclareRobustCommand{\trn}[1]
847   {\mth{\widetilde{\#1}}}

\vec ...
848 \DeclareRobustCommand{\vec}
849   {\@ifstar{\@svec}{\@vec}}
850 \DeclareRobustCommand{\@vec}[1]
851   {\mth{\mathaccent"017E{\#1}}}
852 \DeclareRobustCommand{\@svec}[1]
853   {\mth{\overline{\#1}}}

854 %%*****%

\enumeration, ... ...
855 \varcmd{enumeration}{\mth}{\{,\}{}}
856 \varcmd{enumerationx}{\mth}{\{;\}{}}

\sequence, ... ...
857 \varcmd{sequence}{\mth}{\left[\,{}\,\right]\{}}
858 \varcmd{sequence1}{\mth}{\left[\,{}\,\right.\{}}
859 \varcmd{sequencer}{\mth}{\left[\,{}\,\right]\{}}
860 \varcmd{sequencex}{\mth}{\left[\,{}\,;\right]\{}}
861 \varcmd{sequencex1}{\mth}{\left[\,{}\,;\right.\{}}
862 \varcmd{sequencexr}{\mth}{\left[\,{}\,;\right]\{}}

```

```

\tuple, ... ...
863 \varcmd{tuple}{\mth}{\left\langle}{,}{\right\rangle}{}
864 \varcmd{tuplel}{\mth}{\left\langle}{,}{\right.}{}
865 \varcmd{tupler}{\mth}{\left.}{,}{\right\rangle}{}
866 \varcmd{tuplex}{\mth}{\left\langle}{;}{\right\rangle}{}
867 \varcmd{tuplexl}{\mth}{\left\langle}{;}{\right.}{}
868 \varcmd{tuplexr}{\mth}{\left.}{;}{\right\rangle}{}

869 %** Sets *****%%

\set, ... ...
870 \DeclareRobustCommand{\set}
871   {\ifstar{\@set}{\@set[\left][\middle][\right]}}
872 \DeclareRobustCommandx{\set}[5][1=, 2=, 3=]
873   {\mth{\argmid{#1\lbrace}{\argsep{#4}{\, #2\vert\,}{#5}}{#3\rbrace}}}
874 \DeclareRobustCommand{\setl}
875   {\ifstar{\@setl}{\@setl[\left][\right]}}
876 \DeclareRobustCommandx{\setl}[3][1=, 2=]
877   {\mth{\argmid{#1\lbrace}{#3}{\, #2\vert\!}}{}}
878 \DeclareRobustCommand{\setr}
879   {\ifstar{\@setr}{\@setr[\left.][\right]}}
880 \DeclareRobustCommandx{\setr}[3][1=, 2=]
881   {\mth{\argmid{#1}{#3}{#2\rbrace}}}

\card ...
882 \DeclareRobustCommand{\card}
883   {\ifstar{\@card}{\@card[\left][\right]}}
884 \DeclareRobustCommandx{\card}[3][1=, 2=]
885   {\mth{\argmid{#1\lvert}{#3}{#2\rvert}}}

\pow ...
886 \DeclareRobustCommand{\pow}[1]
887   {\mth{2^{\defval{#1}{\cdot}}}}

888 %** Relations *****%%

\emptyrel ...
889 \DeclareRobustCommand{\emptyrel}
890   {\mth{\varnothing}}

891 %*****%%

\dom, \cod, ... ...
892 \usrmth{dom}{\}{\argfun}
893 \usrmth{cod}{\}{\argfun}
894 \usrmth{rng}{\}{\argfun}
895 \usrmth{img}{\}{\argfun}

896 %*****%%

\prj ...
897 \DeclareRobustCommand{\prj}
898   {\mthargfun{prj}}

\rst ...
899 \DeclareRobustCommand{\rst}
900   {\mthlbop{\upharpoonright}}

\cmp ...
901 \DeclareRobustCommand{\cmp}
902   {\mthlbop{\circ}}

903 %** Functions *****%%

```



```

\emptyfun ...
904 \DeclareRobustCommand{\emptyfun}
905   {\mth{\varnothing}}

906 %%*****%

\pto, \pmapsto ...
907 \DeclareMathOperator{\pto}
908   {\ensuremath{\rightharpoonup}}
909 \DeclareMathOperator{\pmapsto}
910   {\ensuremath{\mathrel{\raisebox{0.5ex}{\footnotesize$\llcorner$}%
911     \kern-1.5ex\rightharpoonup}}}}

912 %%*****%

\fix, \ifp, ... ...
913 \usrmth{fix}{\}{fun}
914 \usrmth{ifp}{\}{fun}
915 \usrmth{lfp}{\}{fun}
916 \usrmth{gfp}{\}{fun}

917 %%*****%

\Aomega, \AOmega ...
918 \usrmth{Aomega}{\}{argset}[\omega]
919 \usrmth{AOmega}{\}{argset}[\Omega]

\Atheta, \ATheta ...
920 \usrmth{Atheta}{\}{argset}[\theta]
921 \usrmth{ATheta}{\}{argset}[\Theta]

\Aomicron, ... ...
922 \usrmth{Aomicron}{\}{argset}[\omicron]
923 \usrmth{AOmicron}{\}{argset}[\Omicron]

924 %** Numbers *****%

\SetB ...
925 \DeclareRobustCommand{\SetB}
926   {\mthset[mathbb]{B}}

\SetF ...
927 \DeclareRobustCommand{\SetF}
928   {\mthset[mathbb]{F}}

\SetN, ... ...
929 \DeclareRobustCommand{\SetN}
930   {\mthset[mathbb]{N}}
931 \DeclareRobustCommand{\SetNI}[1] []
932   {\SetN[\infty #1]}

\SetZ, ... ...
933 \DeclareRobustCommand{\SetZ}
934   {\mthset[mathbb]{Z}}
935 \DeclareRobustCommand{\SetZI}[1] []
936   {\SetZ[\pm\infty #1]}
937 \DeclareRobustCommand{\SetZPI}[1] []
938   {\SetZ[+\infty #1]}
939 \DeclareRobustCommand{\SetZNI}[1] []
940   {\SetZ[-\infty #1]}

```

```

\SetQ, ... ...
941 \DeclareRobustCommand{\SetQ}
942   {\mthset[mathbb]{Q}}
943 \DeclareRobustCommand{\SetQI}[1] []
944   {\SetQ[\pm\infty #1]}
945 \DeclareRobustCommand{\SetQPI}[1] []
946   {\SetQ[+\infty #1]}
947 \DeclareRobustCommand{\SetQNI}[1] []
948   {\SetQ[-\infty #1]}

\SetR, ... ...
949 \DeclareRobustCommand{\SetR}
950   {\mthset[mathbb]{R}}
951 \DeclareRobustCommand{\SetRI}[1] []
952   {\SetR[\pm\infty #1]}
953 \DeclareRobustCommand{\SetRPI}[1] []
954   {\SetR[+\infty #1]}
955 \DeclareRobustCommand{\SetRNI}[1] []
956   {\SetR[-\infty #1]}

\SetC, ... ...
957 \DeclareRobustCommand{\SetC}
958   {\mthset[mathbb]{C}}
959 \DeclareRobustCommand{\SetCI}[1] []
960   {\SetC[\infty #1]}

961 %%*****%

\num, ... ...
962 \DeclareRobustCommand{\num}[1]
963   {\mth{[#1]}}
964 \DeclareRobustCommand{\numcc}[2]
965   {\mth{[\argsep{#1}{,}{#2}]}}
966 \DeclareRobustCommand{\numco}[2]
967   {\mth{[\argsep{#1}{,}{#2})}}
968 \DeclareRobustCommand{\numoc}[2]
969   {\mth{(\argsep{#1}{,}{#2}]}}
970 \DeclareRobustCommand{\numoo}[2]
971   {\mth{(\argsep{#1}{,}{#2})}}

972 %%*****%

\abs ...
973 \DeclareRobustCommand{\abs}
974   {\@ifstar{\@abs}{\@abs[\left][\right]}}
975 \DeclareRobustCommandx{\@abs}[3][1=, 2=]
976   {\mth{\argmid{#1\lvert}{#3}{#2\rvert}}}

\floor, \ceil ...
977 \DeclareRobustCommand{\floor}
978   {\@ifstar{\@floor}{\@floor[\left][\right]}}
979 \DeclareRobustCommandx{\@floor}[3][1=, 2=]
980   {\mth{\argmid{#1\lfloor}{#3}{#2\rfloor}}}
981 \DeclareRobustCommand{\ceil}
982   {\@ifstar{\@ceil}{\@ceil[\left][\right]}}
983 \DeclareRobustCommandx{\@ceil}[3][1=, 2=]
984   {\mth{\argmid{#1\lceil}{#3}{#2\rceil}}}

985 %%*****%

\arg ...
986 \usrmth{arg}{\fun}

```

```

\evn, \odd ...
    987 \usrmth{evn}{-}{fun}
    988 \usrmth{odd}{-}{fun}

\bst, ... ...
    989 \usrmth{bst}{-}{fun}
    990 \usrmth{argbst}{-}{fun}[arg\,bst]

\min, \max, ... ...
    991 \usrmth{min}{-}{fun}
    992 \usrmth{max}{-}{fun}
    993 \usrmth{argmin}{-}{fun}[arg\,min]
    994 \usrmth{argmax}{-}{fun}[arg\,max]

\inf, \sup ...
    995 \usrmth{inf}{-}{fun}
    996 \usrmth{sup}{-}{fun}

    997 %** Sequences *****%%

\emptyseq ...
    998 \DeclareRobustCommand{\emptyseq}
    999   {\mth{\varepsilon}}

\len ...
    1000 \DeclareRobustCommand{\len}
    1001   {\@ifstar{\@len}{\@len[\left][\right]}}
    1002 \DeclareRobustCommandx{\@len}[3][1=, 2=]
    1003   {\mth{\argmid{#1\lvert}{#3}{#2\rvert}}}

\fst, \lst ...
    1004 \usrmth{fst}{-}{argfun}
    1005 \usrmth{lst}{-}{argfun}

    1006 \fi
    1007 %*****%%
    1008 %*****%%
    1009 %** Macros for Computational-Complexity Classes *****%%
    1010 %*****%%
    1011 \ifcom@

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

      \CompClass[sub][sup][arg] = COMPCLASSSUB(ARG)

    • \defcomcls{CompClass}[NewClass];

      \CompClass[sub][sup][arg] = NEWCLASSSUB(ARG)

    1012 \newcommandx{\defcomcls}[2][2=]
    1013   {\csdef{#1}{\txtoargcom{\defval{#2}{#1}}}}

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

      \CompClass[sub][sup][arg] = COMPCLASSSUB(ARG)
      \CoCompClass[sub][sup][arg] = COCOMPCLASSSUB(ARG)
      \CompClassE[sub][sup][arg] = COMPCLASS-EASYSUB(ARG)
      \CoCompClassE[sub][sup][arg] = COCOMPCLASS-EASYSUB(ARG)
      \CompClassH[sub][sup][arg] = COMPCLASS-HARDSUB(ARG)
      \CoCompClassH[sub][sup][arg] = COCOMPCLASS-HARDSUB(ARG)

```

```

\CompClassC[sub][sup][arg] = COMPCLASS-COMPLETESUB(ARG)
\CoCompClassC[sub][sup][arg] = CoCOMPCLASS-COMPLETESUB(ARG)

\NCompClass[sub][sup][arg] = NCOMPCLASSSUB(ARG)
\CoNCompClass[sub][sup][arg] = CoNCOMPCLASSSUB(ARG)
\NCompClassE[sub][sup][arg] = NCOMPCLASS-EASYSUB(ARG)
\CoNCompClassE[sub][sup][arg] = CoNCOMPCLASS-EASYSUB(ARG)
\NCompClassH[sub][sup][arg] = NCOMPCLASS-HARDSUB(ARG)
\CoNCompClassH[sub][sup][arg] = CoNCOMPCLASS-HARDSUB(ARG)
\NCompClassC[sub][sup][arg] = NCOMPCLASS-COMPLETESUB(ARG)
\CoNCompClassC[sub][sup][arg] = CoNCOMPCLASS-COMPLETESUB(ARG)

\UCompClass[sub][sup][arg] = UCOMPCLASSSUB(ARG)
\CoUCompClass[sub][sup][arg] = CoUCOMPCLASSSUB(ARG)
\UCompClassE[sub][sup][arg] = UCOMPCLASS-EASYSUB(ARG)
\CoUCompClassE[sub][sup][arg] = CoUCOMPCLASS-EASYSUB(ARG)
\UCompClassH[sub][sup][arg] = UCOMPCLASS-HARDSUB(ARG)
\CoUCompClassH[sub][sup][arg] = CoUCOMPCLASS-HARDSUB(ARG)
\UCompClassC[sub][sup][arg] = UCOMPCLASS-COMPLETESUB(ARG)
\CoUCompClassC[sub][sup][arg] = CoUCOMPCLASS-COMPLETESUB(ARG)

\ACompClass[sub][sup][arg] = ACOMPCLASSSUB(ARG)
\CoACompClass[sub][sup][arg] = CoACOMPCLASSSUB(ARG)
\ACompClassE[sub][sup][arg] = ACOMPCLASS-EASYSUB(ARG)
\CoACompClassE[sub][sup][arg] = CoACOMPCLASS-EASYSUB(ARG)
\ACompClassH[sub][sup][arg] = ACOMPCLASS-HARDSUB(ARG)
\CoACompClassH[sub][sup][arg] = CoACOMPCLASS-HARDSUB(ARG)
\ACompClassC[sub][sup][arg] = ACOMPCLASS-COMPLETESUB(ARG)
\CoACompClassC[sub][sup][arg] = CoACOMPCLASS-COMPLETESUB(ARG)

• \defcomclsgrp{CompClass}[NewClass];

\CompClass[sub][sup][arg] = NEWCLASSSUB(ARG)
\CoCompClass[sub][sup][arg] = CoNEWCLASSSUB(ARG)
\CompClassE[sub][sup][arg] = NEWCLASS-EASYSUB(ARG)
\CoCompClassE[sub][sup][arg] = CoNEWCLASS-EASYSUB(ARG)
\CompClassH[sub][sup][arg] = NEWCLASS-HARDSUB(ARG)
\CoCompClassH[sub][sup][arg] = CoNEWCLASS-HARDSUB(ARG)
\CompClassC[sub][sup][arg] = NEWCLASS-COMPLETESUB(ARG)
\CoCompClassC[sub][sup][arg] = CoNEWCLASS-COMPLETESUB(ARG)

\NCompClass[sub][sup][arg] = NNEWCLASSSUB(ARG)
\CoNCompClass[sub][sup][arg] = CoNNEWCLASSSUB(ARG)
\NCompClassE[sub][sup][arg] = NNEWCLASS-EASYSUB(ARG)
\CoNCompClassE[sub][sup][arg] = CoNNEWCLASS-EASYSUB(ARG)
\NCompClassH[sub][sup][arg] = NNEWCLASS-HARDSUB(ARG)
\CoNCompClassH[sub][sup][arg] = CoNNEWCLASS-HARDSUB(ARG)
\NCompClassC[sub][sup][arg] = NNEWCLASS-COMPLETESUB(ARG)
\CoNCompClassC[sub][sup][arg] = CoNNEWCLASS-COMPLETESUB(ARG)

\UCompClass[sub][sup][arg] = UNEWCLASSSUB(ARG)
\CoUCompClass[sub][sup][arg] = CoUNEWCLASSSUB(ARG)
\UCompClassE[sub][sup][arg] = UNEWCLASS-EASYSUB(ARG)
\CoUCompClassE[sub][sup][arg] = CoUNEWCLASS-EASYSUB(ARG)
\UCompClassH[sub][sup][arg] = UNEWCLASS-HARDSUB(ARG)
\CoUCompClassH[sub][sup][arg] = CoUNEWCLASS-HARDSUB(ARG)
\UCompClassC[sub][sup][arg] = UNEWCLASS-COMPLETESUB(ARG)
\CoUCompClassC[sub][sup][arg] = CoUNEWCLASS-COMPLETESUB(ARG)

\ACompClass[sub][sup][arg] = ANEWCLASSSUB(ARG)
\CoACompClass[sub][sup][arg] = CoANEWCLASSSUB(ARG)
\ACompClassE[sub][sup][arg] = ANEWCLASS-EASYSUB(ARG)
\CoACompClassE[sub][sup][arg] = CoANEWCLASS-EASYSUB(ARG)
\ACompClassH[sub][sup][arg] = ANEWCLASS-HARDSUB(ARG)
\CoACompClassH[sub][sup][arg] = CoANEWCLASS-HARDSUB(ARG)

```

```

\ACompClassC[sub][sup][arg] = ANEWCLASS-COMPLETESUB(ARG)
\CoACompClassC[sub][sup][arg] = COANEWCLASS-COMPLETESUB(ARG)
1014 \newcommandx{\defcomclsgrp}[2][2=]
1015   {\defcomclsgrpsem{#1}{\defval{#2}{#1}}%
1016   \defcomclsgrpsem{#1}{\defval{#2}{#1}}[Co]}
1017 \newcommandx{\defcomclsgrpsem}[3][3=]
1018   {\defcomclsgrpred{#3#1}{#2}{#3}%
1019   \defcomclsgrpred{#3N#1}{#2}{#3N}%
1020   \defcomclsgrpred{#3U#1}{#2}{#3U}%
1021   \defcomclsgrpred{#3A#1}{#2}{#3A}}
1022 \newcommandx{\defcomclsgrpred}[3][3=]
1023   {\defcomclsgrpcmd{#1}{#2}{#3}%
1024   \defcomclsgrpcmd{#1E}{#2}{#3}[-easy]%
1025   \defcomclsgrpcmd{#1H}{#2}{#3}[-hard]%
1026   \defcomclsgrpcmd{#1C}{#2}{#3}[-complete]}%
1027 \newcommandx{\defcomclsgrpcmd}[4][3=, 4=]
1028   {\csdef{#1}{\txttoargcom{#3#2#4}}}

\defcomhrc ... to do!
    • \defcomhrc{CompHierarchy};

      CompHierarchy[sub][sup][par] = COMPHIERARCHYSUB[PAR]

    • \defcomhrc{CompHierarchy}[NewHierarchy];

      CompHierarchy[sub][sup][par] = NEWHIERARCHYSUB[PAR]

1029 \newcommandx{\defcomhrc}[2][2=]
1030   {\csdef{#1}{\txttoparcom{\defval{#2}{#1}}}}

1031 %%*****%

\Easy, \Hard, ...

1032 \cmdtxtcom{Easy}
1033 \cmdtxtcom{Hard}
1034 \cmdtxtcom{Complete}

1035 %%*****%

\FPT    • \FPT[sub][sup][arg] = FPTSUB(ARG)

1036 \defcomcls{FPT}

1037 %%*****%

\Time, ...
    • \Time[sub][sup][arg] = TIMESUB(ARG)
      \TimeE[sub][sup][arg] = TIME-EASYSUB(ARG)
      \TimeH[sub][sup][arg] = TIME-HARDSUB(ARG)
      \TimeC[sub][sup][arg] = TIME-COMPLETESUB(ARG)

    • \NTime[sub][sup][arg] = NTIMESUB(ARG)
      \NTimeE[sub][sup][arg] = NTIME-EASYSUB(ARG)
      \NTimeH[sub][sup][arg] = NTIME-HARDSUB(ARG)
      \NTimeC[sub][sup][arg] = NTIME-COMPLETESUB(ARG)

    • \UTime[sub][sup][arg] = UTIMESUB(ARG)
      \UTimeE[sub][sup][arg] = UTIME-EASYSUB(ARG)
      \UTimeH[sub][sup][arg] = UTIME-HARDSUB(ARG)
      \UTimeC[sub][sup][arg] = UTIME-COMPLETESUB(ARG)

    • \ATime[sub][sup][arg] = ATIMESUB(ARG)
      \ATimeE[sub][sup][arg] = ATIME-EASYSUB(ARG)
      \ATimeH[sub][sup][arg] = ATIME-HARDSUB(ARG)
      \ATimeC[sub][sup][arg] = ATIME-COMPLETESUB(ARG)

1038 \defcomclsgrp{Time}

```

\Space, ...

- \Space[sub][sup][arg] = SPACE_{SUB}^{SUP}(ARG)
- \SpaceE[sub][sup][arg] = SPACE-EASY_{SUB}^{SUP}(ARG)
- \SpaceH[sub][sup][arg] = SPACE-HARD_{SUB}^{SUP}(ARG)
- \SpaceC[sub][sup][arg] = SPACE-COMPLETE_{SUB}^{SUP}(ARG)
- \NSpace[sub][sup][arg] = NSPACE_{SUB}^{SUP}(ARG)
- \NSpaceE[sub][sup][arg] = NSPACE-EASY_{SUB}^{SUP}(ARG)
- \NSpaceH[sub][sup][arg] = NSPACE-HARD_{SUB}^{SUP}(ARG)
- \NSpaceC[sub][sup][arg] = NSPACE-COMPLETE_{SUB}^{SUP}(ARG)
- \USpace[sub][sup][arg] = USPACE_{SUB}^{SUP}(ARG)
- \USpaceE[sub][sup][arg] = USPACE-EASY_{SUB}^{SUP}(ARG)
- \USpaceH[sub][sup][arg] = USPACE-HARD_{SUB}^{SUP}(ARG)
- \USpaceC[sub][sup][arg] = USPACE-COMPLETE_{SUB}^{SUP}(ARG)
- \ASpace[sub][sup][arg] = ASPACE_{SUB}^{SUP}(ARG)
- \ASpaceE[sub][sup][arg] = ASPACE-EASY_{SUB}^{SUP}(ARG)
- \ASpaceH[sub][sup][arg] = ASPACE-HARD_{SUB}^{SUP}(ARG)
- \ASpaceC[sub][sup][arg] = ASPACE-COMPLETE_{SUB}^{SUP}(ARG)

1039 \defcomclsggrp{Space}

\LogTime, ...

- \LogTime[sub][sup][arg] = LOGTIME_{SUB}^{SUP}(ARG)
- \LogTimeE[sub][sup][arg] = LOGTIME-EASY_{SUB}^{SUP}(ARG)
- \LogTimeH[sub][sup][arg] = LOGTIME-HARD_{SUB}^{SUP}(ARG)
- \LogTimeC[sub][sup][arg] = LOGTIME-COMPLETE_{SUB}^{SUP}(ARG)
- \NLogTime[sub][sup][arg] = NLOGTIME_{SUB}^{SUP}(ARG)
- \NLogTimeE[sub][sup][arg] = NLOGTIME-EASY_{SUB}^{SUP}(ARG)
- \NLogTimeH[sub][sup][arg] = NLOGTIME-HARD_{SUB}^{SUP}(ARG)
- \NLogTimeC[sub][sup][arg] = NLOGTIME-COMPLETE_{SUB}^{SUP}(ARG)
- \ULogTime[sub][sup][arg] = ULOGTIME_{SUB}^{SUP}(ARG)
- \ULogTimeE[sub][sup][arg] = ULOGTIME-EASY_{SUB}^{SUP}(ARG)
- \ULogTimeH[sub][sup][arg] = ULOGTIME-HARD_{SUB}^{SUP}(ARG)
- \ULogTimeC[sub][sup][arg] = ULOGTIME-COMPLETE_{SUB}^{SUP}(ARG)
- \ALogTime[sub][sup][arg] = ALOGTIME_{SUB}^{SUP}(ARG)
- \ALogTimeE[sub][sup][arg] = ALOGTIME-EASY_{SUB}^{SUP}(ARG)
- \ALogTimeH[sub][sup][arg] = ALOGTIME-HARD_{SUB}^{SUP}(ARG)
- \ALogTimeC[sub][sup][arg] = ALOGTIME-COMPLETE_{SUB}^{SUP}(ARG)

1040 \defcomclsggrp{LogTime}

\LogSpace, ...

- \LogSpace[sub][sup][arg] = LOGSPACE_{SUB}^{SUP}(ARG)
- \LogSpaceE[sub][sup][arg] = LOGSPACE-EASY_{SUB}^{SUP}(ARG)
- \LogSpaceH[sub][sup][arg] = LOGSPACE-HARD_{SUB}^{SUP}(ARG)
- \LogSpaceC[sub][sup][arg] = LOGSPACE-COMPLETE_{SUB}^{SUP}(ARG)
- \NLogSpace[sub][sup][arg] = NLOGSPACE_{SUB}^{SUP}(ARG)
- \NLogSpaceE[sub][sup][arg] = NLOGSPACE-EASY_{SUB}^{SUP}(ARG)
- \NLogSpaceH[sub][sup][arg] = NLOGSPACE-HARD_{SUB}^{SUP}(ARG)
- \NLogSpaceC[sub][sup][arg] = NLOGSPACE-COMPLETE_{SUB}^{SUP}(ARG)
- \ULogSpace[sub][sup][arg] = ULOGSPACE_{SUB}^{SUP}(ARG)
- \ULogSpaceE[sub][sup][arg] = ULOGSPACE-EASY_{SUB}^{SUP}(ARG)
- \ULogSpaceH[sub][sup][arg] = ULOGSPACE-HARD_{SUB}^{SUP}(ARG)
- \ULogSpaceC[sub][sup][arg] = ULOGSPACE-COMPLETE_{SUB}^{SUP}(ARG)
- \ALogSpace[sub][sup][arg] = ALOGSPACE_{SUB}^{SUP}(ARG)
- \ALogSpaceE[sub][sup][arg] = ALOGSPACE-EASY_{SUB}^{SUP}(ARG)
- \ALogSpaceH[sub][sup][arg] = ALOGSPACE-HARD_{SUB}^{SUP}(ARG)
- \ALogSpaceC[sub][sup][arg] = ALOGSPACE-COMPLETE_{SUB}^{SUP}(ARG)

1041 \defcomclsggrp{LogSpace}

\PTime, ...

- \PTime[sub][sup][arg] = PTIME_{SUB}^{SUP}(ARG)
- \PTimeE[sub][sup][arg] = PTIME-EASY_{SUB}^{SUP}(ARG)
- \PTimeH[sub][sup][arg] = PTIME-HARD_{SUB}^{SUP}(ARG)
- \PTimeC[sub][sup][arg] = PTIME-COMPLETE_{SUB}^{SUP}(ARG)


```

    • \DBH[sub][sup][par] =  $\Delta_{\text{SUB}}^{\text{SUP}}[\text{PAR}]$ 
1052 \defcomhrc{DLH}{\mth{\Delta}}
1053 \defcomhrc{DBH}{\mth{\mathbf{\Delta}}}

\ELH, \EBH    • \ELH[sub][sup][par] =  $\Sigma_{\text{SUB}}^{\text{SUP}}[\text{PAR}]$ 
    • \EBH[sub][sup][par] =  $\Sigma_{\text{SUB}}^{\text{SUP}}[\text{PAR}]$ 
1054 \defcomhrc{ELH}{\mth{\Sigma}}
1055 \defcomhrc{EBH}{\mth{\mathbf{\Sigma}}}

\ULH, \UBH    • \ULH[sub][sup][par] =  $\Pi_{\text{SUB}}^{\text{SUP}}[\text{PAR}]$ 
    • \UBH[sub][sup][par] =  $\Pi_{\text{SUB}}^{\text{SUP}}[\text{PAR}]$ 
1056 \defcomhrc{ULH}{\mth{\Pi}}
1057 \defcomhrc{UBH}{\mth{\mathbf{\Pi}}}

1058 \fi
1059 %*****
1060 %*****
1061 %** Macros for Games *****
1062 %*****
1063 \ifgam@
1064 %** Logic Games *****

\SATG, ... ...
1065 %% Satisfiability Games
1066 \cmdtxtoparname{SATG}{Sat}
1067
1068 %% Validity Games
1069 \cmdtxtoparname{VALG}{Val}
1070
1071 %% Evaluation Games
1072 \cmdtxtoparname{EVLG}{Evl}
1073
1074 %% Synthesis Games
1075 \cmdtxtoparname{SYNG}{Syn}
1076
1077 %% Model-Checking Games
1078 \cmdtxtoparname{MCG}{MC}
1079
1080 %% Ehrenfeucht-Fraisse Games
1081 \cmdtxtoparname{EFG}{EF}

1082 %** Syntax *****

\PlrSym, \OppSym ...
1083 \newcommand{\plrsym}{E}
1084 \cmdmthsym{Plr}{\plrsym}
1085 \newcommand{\oppsym}{A}
1086 \cmdmthsym{Opp}{\oppsym}

\ArenaName, ... ...
1087 \newcommand{\arenaname}{A}
1088 \usrmthlatupp{Arena}{Name}{name}{\arenaname}

\PosSet, ... ...
1089 \newcommand{\possym}{v}
1090 \newcommand{\posset}{Ps}
1091 \cmdmthsetext{Pos}{\posset}{\possym}
1092 \cmdmthsymelm{ipos}{\possym_{I}}
1093 \cmdmthsymelm{fpos}{\possym_{F}}
1094 \cmdmthset{PPos}{\posset_{\PlrSym}}
1095 \cmdmthsymelm{ppos}{\possym_{\PlrSym}}
1096 \cmdmthset{OPos}{\posset_{\OppSym}}
1097 \cmdmthsymelm{opos}{\possym_{\OppSym}}

```

```

\PlrFun ...
1098 \newcommand{\plrfun}{pl}
1099 \cmdmthfun{plr}[\plrfun]

\MovRel ...
1100 \newcommand{\movrel}{Mv}
1101 \cmdmthrel{Mov}[\movrel]

\GameName, ... ...
1102 \newcommand{\gamename}{\Game}
1103 \usrmthlatupp{Game}{Name}{name}[\gamename]

\WinSet ...
1104 \newcommand{\winset}{Wn}
1105 \cmdmthset{Win}[\winset]

\ObsSet, \obsFun ...
1106 \newcommand{\obsset}{Ob}
1107 \cmdmthset{Obs}[\obsset]
1108 \cmdmthfun{obs}

1109 %** Semantics *****/

\PthSet, \pthFun ...
1110 \newcommand{\pthsym}{\pi}
1111 \newcommand{\pthset}{Pth}
1112 \cmdmthsetext{Pth}[\pthset][\pthsym]
1113 \cmdmthfun{pth}

\HstSet, ... ...
1114 \newcommand{\hstsym}{\rho}
1115 \newcommand{\hstset}{Hst}
1116 \cmdmthsetext{Hst}[\hstset][\hstsym]
1117 \cmdmthset{PHst}[\hstset_{\PlrSym}]
1118 \cmdmthsymelm{phst}[\hstsym_{\PlrSym}]
1119 \cmdmthset{OHst}[\hstset_{\OppSym}]
1120 \cmdmthsymelm{ohst}[\hstsym_{\OppSym}]
1121 \cmdmthfun{hst}

\PlaySet, \playFun ...
1122 \newcommand{\playsym}{\pi}
1123 \newcommand{\playset}{Play}
1124 \cmdmthsetext{Play}[\playset][\playsym]
1125 \cmdmthfun{play}

\StrSet, ... ...
1126 \newcommand{\strsym}{\sigma}
1127 \newcommand{\strset}{Str}
1128 \cmdmthsetext{Str}[\strset][\strsym]
1129 \cmdmthset{PStr}[\strset_{\PlrSym}]
1130 \cmdmthsymelm{pstr}[\strsym_{\PlrSym}]
1131 \cmdmthset{OStr}[\strset_{\OppSym}]
1132 \cmdmthsymelm{ostr}[\strsym_{\OppSym}]

\PrfSet, \prfFun ...
1133 \newcommand{\prfsym}{\xi}
1134 \newcommand{\prfset}{Prf}
1135 \cmdmthsetext{Prf}[\prfset][\prfsym]

\preFun, \sucFun ...
1136 \newcommand{\prefun}{pre}
1137 \cmdmthoargfun{pre}[\prefun]
1138 \newcommand{\sucfun}{suc}
1139 \cmdmthoargfun{suc}[\sucfun]

```

```

\entFun, \escFun ...
1140 \newcommand{\entfun}{ent}
1141 \cmdmthoargfun{ent}[\entfun]
1142 \newcommand{\escfun}{esc}
1143 \cmdmthoargfun{esc}[\escfun]

\intFun, \outFun ...
1144 \newcommand{\intfun}{int}
1145 \cmdmthoargfun{int}[\intfun]
1146 \newcommand{\outfun}{out}
1147 \cmdmthoargfun{out}[\outfun]

\atrFun, \rchFun ...
1148 \newcommand{\atrfun}{atr}
1149 \cmdmthoargfun{atr}[\atrfun]
1150 \newcommand{\rchfun}{rch}
1151 \cmdmthoargfun{rch}[\rchfun]

\liftFun ...
1152 \newcommand{\liftfun}{lift}
1153 \cmdmthoargfun{lift}[\liftfun]

\solFun ...
1154 \newcommand{\solfun}{sol}
1155 \cmdmthoargfun{sol}[\solfun]

1156 %** Qualitative Games on Graph *****%

\BG, ... ...
1157 %% Buchi Games
1158 \cmdtxttoparname{BG}
1159
1160 %% Co-Buchi Games
1161 \cmdtxttoparname{CG}
1162
1163 %% Parity Games
1164 \cmdtxttoparname{PG}
1165
1166 %% Rabin Games
1167 \cmdtxttoparname{RG}
1168
1169 %% Streett Games
1170 \cmdtxttoparname{SG}
1171
1172 %% Muller Games
1173 \cmdtxttoparname{MG}

1174 %** Syntax *****%

\EvnSym, \OddSym ...
1175 \newcommand{\evnsym}{0}
1176 \cmdmthsym{Evnsym}[\evnsym]
1177 \newcommand{\oddsym}{1}
1178 \cmdmthsym{Oddsym}[\oddsym]

\PrtSet, \prtFun ...
1179 \newcommand{\prtsym}{p}
1180 \newcommand{\prtset}{Pr}
1181 \cmdmthsetext{Prt}[\prtset][\prtsym]
1182 \cmdmthfun{prt}[pr]

1183 %** Semantics *****%

```

```

...
1184 %%** Quantitative Games on Graph *****%%
\EG, ... ...
1185 %% Energy Games
1186 \cmdtxttoparname{EG}
1187
1188 %% Mean-Payoff Games
1189 \cmdtxttoparname{MPG}
1190
1191 %% Discounted-Payoff Games
1192 \cmdtxttoparname{DPG}

1193 %%** Syntax *****%%

\MaxSym, \MinSym ...
1194 \newcommand{\maxsym}{\oplus}
1195 \cmdmthsym{Max}[\maxsym]
1196 \newcommand{\minsym}{\boxminus}
1197 \cmdmthsym{Min}[\minsym]

\WghSet, \wghFun ...
1198 \newcommand{\wghsym}{w}
1199 \newcommand{\wghset}{Wg}
1200 \cmdmthsetext{Wgh}[\wghset][\wghsym]
1201 \cmdmthfun{wgh}[wg]

1202 %%** Semantics *****%%
...
1203 \fi
1204 %%*****%%
1205 %%*****%%
1206 %%** Macros for Logics *****%%
1207 %%*****%%
1208 \iflog@
1209 %%** Propositional Logics *****%%

\BF, \QBF, ... ...
1210 % Boolean Formulae
1211 \cmdtxttoparname{BF}
1212
1213 % Quantified Boolean Formulae
1214 \DeclareRobustCommand{\QBF}
1215   {\{\textrmname{Q}\}\BF}
1216 \DeclareRobustCommand{\EBF}
1217   {\ensuremath{\exists}\BF}
1218 \DeclareRobustCommand{\UBF}
1219   {\ensuremath{\forall}\BF}

1220 %%** Syntax *****%%

\LogSig, ... ...
1221 \newcommand{\logsig}{L}
1222 \usrmthlatupp{Log}{Sig}{sig}[\logsig]

\Tt, \Ff ...
1223 \newcommand{\ttsym}{\top}
1224 \usrmth{Tt}{\}{sym}[\ttsym]
1225 \newcommand{\ffsym}{\bot}
1226 \usrmth{Ff}{\}{sym}[\ffsym]

```

```

\LNeg, \LNot ...
1227 \newcommand{\lnegsym}{\neg}
1228 \usrmth{LNeg}{-}{\luop}{\lnegsym}
1229 \newcommand{\lnotsym}{\sim}
1230 \usrmth{LNot}{-}{\luop}{\lnotsym}

\LCon, \LDis ...
1231 \newcommand{\lconsym}{\land}
1232 \usrmth{LCon}{-}{\lbop}{\lconsym}
1233 \newcommand{\ldissym}{\lor}
1234 \usrmth{LDis}{-}{\lbop}{\ldissym}

\LImp, \LCoi ...
1235 \newcommand{\limpsym}{\rightarrow}
1236 \usrmth{LImp}{-}{\lbop}{\limpsym}
1237 \newcommand{\lcoisym}{\leftrightharpoonup}
1238 \usrmth{LCoi}{-}{\lbop}{\lcoisym}

\LExs, \LAll ...
1239 \newcommand{\lexssym}{\exists}
1240 \usrmth{LExs}{-}{\luop}{\lexssym}
1241 \newcommand{\lallsym}{\forall}
1242 \usrmth{LAll}{-}{\luop}{\lallsym}

\APSet, ... ...
1243 \newcommand{\apsym}{p}
1244 \newcommand{\apset}{AP}
1245 \cmdmthsetext{AP}{\apset} [\apsym]
1246 \cmdmthfun{ap}{\usrmth{ap}{-}{\argfun}}

\sub ...
1247 \usrmth{sub}{-}{\argfun}

\Cnt, \Qnt, \Sym ...
1248 \usrmth{Cnt}{-}{\sym}[C]
1249 \usrmth{Qnt}{-}{\sym}[Q]
1250 \usrmth{Sym}{-}{\sym}[\odot]

\QAE, \QEA ...
1251 \usrmth{QAE}{-}{\sym}[\forall\exists]
1252 \usrmth{QEA}{-}{\sym}[\exists\forall]

\QntSet, ... ...
1253 \newcommand{\qntsym}{\wp}
1254 \newcommand{\qntset}{Qn}
1255 \cmdmthsetext{Qnt}{\qntset} [\qntsym]

\free, \bound ...
1256 \usrmth{free}{-}{\argfun}
1257 \usrmth{bound}{-}{\argfun}

\dep, \alt ...
1258 \usrmth{dep}{-}{\argfun}
1259 \usrmth{alt}{-}{\argfun}

\cnf, \dnf, ... ...
1260 \cmdtxtabr{cnf}
1261 \cmdtxtabr{dnf}
1262 \cmdtxtabr{pnf}
1263 \cmdtxtabr{nnf}

1264 %** Semantics *****%

```

```

\LogStr, ... ...
1265 \newcommand{\logstr}{L}
1266 \usrmthlatupp{Log}{Str}{str}[\logstr]

\ValSet, ... ...
1267 \newcommand{\valsym}{\xi}
1268 \newcommand{\valset}{Val}
1269 \cmdmthsetext{Val}[\valset][\valsym]

\AsgSet, ... ...
1270 \newcommand{\asgsym}{\chi}
1271 \newcommand{\asgset}{Asg}
1272 \cmdmthsetext{Asg}[\asgset][\asgsym]

1273 %** First-Order Logics I *****%

\FOL, ... ...
1274 % First-Order Logic
1275 \cmdtxttoparname{FOL}[Fol]
1276 \cmdtxttoparname{FO}[FO]
1277
1278 % Monadic First-Order Logic
1279 \DeclareRobustCommand{\MFOL}
1280   {\{\txtrname{M}\}\FOL}
1281 \DeclareRobustCommand{\MFO}
1282   {\{\txtrname{M}\}\FO}

1283 %** Syntax *****%

\VarSig, ... ...
1284 \newcommand{\varsig}{V}
1285 \usrmthlatupp{Var}{Sig}{sig}[\varsig]
1286 \newcommand{\varsym}{x}
1287 \newcommand{\varset}{Vr}
1288 \cmdmthsetext{Var}[\varset][\varsym]
1289 \usrmth{var}{\}{argfun}[vr]
1290 \cmdmthfun{dim}[dm]\usrmth{dim}{\}{argfun}[dm]

\ConSig, ... ...
1291 \newcommand{\consig}{C}
1292 \usrmthlatupp{Con}{Sig}{sig}[\consig]
1293 \newcommand{\consym}{c}
1294 \newcommand{\conset}{Cn}
1295 \cmdmthsetext{Con}[\conset][\consym]
1296 \usrmth{con}{\}{argfun}[cn]

\FunSig, ... ...
1297 \newcommand{\funsig}{F}
1298 \usrmthlatupp{Fun}{Sig}{sig}[\funsig]
1299 \newcommand{\funsym}{f}
1300 \newcommand{\funset}{Fn}
1301 \cmdmthsetext{Fun}[\funset][\funsym]
1302 \usrmth{fun}{\}{argfun}[fn]
1303 \cmdmthfun{art}[ar]\usrmth{art}{\}{argfun}[ar]

\TerSig, ... ...
1304 \newcommand{\tersig}{T}
1305 \usrmthlatupp{Ter}{Sig}{sig}[\tersig]
1306 \newcommand{\tersym}{t}
1307 \newcommand{\terset}{Tr}
1308 \cmdmthsetext{Ter}[\terset][\tersym]
1309 \usrmth{ter}{\}{argfun}

```

```

\RelSig, ... ...
1310 \newcommand{\relsig}{R}
1311 \usrmthlatupp{Rel}{Sig}{sig}[\relsig]
1312 \newcommand{\relsym}{r}
1313 \newcommand{\relset}{Rl}
1314 \cmdmthsetext{Rel}{\relset}[\relsym]
1315 \usrmth{rel}{}{argfun}[rl]

\skm ...
1316 \usrmth{skm}{}{argfun}

1317 %** Semantics *****%%

\ConStr, ... ...
1318 \newcommand{\constr}{C}
1319 \usrmthlatupp{Con}{Str}{str}[\constr]

\FunStr, ... ...
1320 \newcommand{\funstr}{F}
1321 \usrmthlatupp{Fun}{Str}{str}[\funstr]

\TerStr, ... ...
1322 \newcommand{\terstr}{T}
1323 \usrmthlatupp{Ter}{Str}{str}[\terstr]

\RelStr, ... ...
1324 \newcommand{\relstr}{R}
1325 \usrmthlatupp{Rel}{Str}{str}[\relstr]

1326 %** First-Order Logics II *****%%

\DF, \IF, ... ...
1327 % Dependence-Friendly Logic
1328 \cmdtxtoparname{DF}
1329
1330 % Independence-Friendly Logic
1331 \cmdtxtoparname{IF}
1332
1333 % Dependence/Independence-Friendly Logic
1334 \cmdtxtoparname{DIF}
1335
1336 % Dependence Logic
1337 \cmdtxtoparname{DL}
1338
1339 % Team Logic
1340 \cmdtxtoparname{TL}
1341
1342 % Alternating Dependence-Friendly Logic
1343 \cmdtxtoparname{ADF}
1344
1345 % Alternating Independence-Friendly Logic
1346 \cmdtxtoparname{AIF}
1347
1348 % Alternating Dependence/Independence-Friendly Logic
1349 \cmdtxtoparname{ADIF}

...

1350 %** Syntax *****%%

\LEExs, \LAA11 ...
1351 \newcommand{\leexssym}{\Sigma}
1352 \usrmth{LEExs}{}{luop}[\leexssym]
1353 \newcommand{\laallsym}{\Pi}
1354 \usrmth{LAA11}{}{luop}[\laallsym]

```

```

1355 %** Semantics *****%
...
1356 %** Second-Order Logics I *****%

\SOL, ... ...
1357 % Second-Order Logic
1358 \cmdtxtopname{SOL}[Sol]
1359 \cmdtxtopname{SO}
1360
1361 % Weak Second-Order Logic
1362 \DeclareRobustCommand{\WSOL}
1363   {\txtname{W}\SOL}
1364 \DeclareRobustCommand{\WSO}
1365   {\txtname{W}\SO}
1366
1367 % coWeak Second-Order Logic
1368 \DeclareRobustCommand{\coWSOL}
1369   {\txtname{coW}\SOL}
1370 \DeclareRobustCommand{\coWSO}
1371   {\txtname{coW}\SO}
1372
1373 % Monadic Second-Order Logic
1374 \DeclareRobustCommand{\MSOL}
1375   {\txtname{M}\SOL}
1376 \DeclareRobustCommand{\MSO}
1377   {\txtname{M}\SO}
1378
1379 % Weak Monadic Second-Order Logic
1380 \DeclareRobustCommand{\WMSOL}
1381   {\txtname{W}\MSOL}
1382 \DeclareRobustCommand{\WMSO}
1383   {\txtname{W}\MSO}
1384
1385 % coWeak Monadic Second-Order Logic
1386 \DeclareRobustCommand{\coWMSOL}
1387   {\txtname{coW}\MSOL}
1388 \DeclareRobustCommand{\coWMSO}
1389   {\txtname{coW}\MSO}

1390 %** Syntax *****%

\FVarSet, ... ...
1391 \newcommand{\fvarsym}{x}
1392 \newcommand{\fvarset}{FVr}
1393 \cmdmthsetext{FVar}[\fvarset][\fvarsym]

\SVarSet, ... ...
1394 \newcommand{\svarsym}{X}
1395 \newcommand{\svarset}{SVr}
1396 \cmdmthsetext{SVar}[\svarset][\svarsym]

1397 %** Semantics *****%
...
1398 %** Second-Order Logics II *****%

\TL, \PL, ... ...
1399 % Tree Logic
1400 \cmdtxtopname{TL}
1401
1402 % Weak Tree Logic
1403 \DeclareRobustCommand{\WTL}
1404   {\txtname{W}\TL}

```



```

1405
1406 % coWeak Tree Logic
1407 \DeclareRobustCommand{\coWTL}
1408   {\txtname{coW}\TL}
1409
1410 % Monadic Tree Logic
1411 \DeclareRobustCommand{\MTL}
1412   {\txtname{M}\TL}
1413
1414 % Weak Monadic Tree Logic
1415 \DeclareRobustCommand{\WMTL}
1416   {\txtname{W}\MTL}
1417
1418 % coWeak Monadic Tree Logic
1419 \DeclareRobustCommand{\coWMTL}
1420   {\txtname{coW}\MTL}
1421
1422 % Path Logic
1423 \cmdtxttoparname{PL}
1424
1425 % Weak Path Logic
1426 \DeclareRobustCommand{\WPL}
1427   {\txtname{W}\PL}
1428
1429 % coWeak Path Logic
1430 \DeclareRobustCommand{\coWPL}
1431   {\txtname{coW}\PL}
1432
1433 % Monadic Path Logic
1434 \DeclareRobustCommand{\MPL}
1435   {\txtname{M}\PL}
1436
1437 % Weak Monadic Path Logic
1438 \DeclareRobustCommand{\WMPL}
1439   {\txtname{W}\MPL}
1440
1441 % coWeak Monadic Path Logic
1442 \DeclareRobustCommand{\coWMPL}
1443   {\txtname{coW}\MPL}
1444 %** Syntax *****%
...
1445 %** Semantics *****%
...
1446 %** Modal Logics I *****%

\ML, \GML, ... ...
1447 % Modal Logic
1448 \cmdtxttoparname{ML}
1449
1450 % Graded Modal Logic
1451 \DeclareRobustCommand{\GML}
1452   {\txtname{G}\ML}
1453
1454 % Quantified Modal Logic
1455 \DeclareRobustCommand{\QML}
1456   {\txtname{Q}\ML}
1457 \DeclareRobustCommand{\EML}
1458   {\ensuremath{\exists}\ML}
1459 \DeclareRobustCommand{\UML}
1460   {\ensuremath{\forall}\ML}

```

1461 %** Syntax *****%

\Opr ...

1462 \usrmth{Opr}{\sym}[Op]

\DMod, \BMod ...

1463 \usrmth{DMod}{\sym}[\Diamond]

1464 \usrmth{BMod}{\sym}[\Box]

\Exs, \All ...

1465 \DeclareRobustCommand{\Exs}[1]

1466 {\mth{\defval{\argmid{\langle}{#1}{\rangle}}{\DMod}}}

1467 \DeclareRobustCommand{\All}[1]

1468 {\mth{\defval{\argmid{\left[]}{#1}{\right}}}{\BMod}}}

1469 %** Semantics *****%

\KrpStr,

1470 \newcommand{\krpstr}{K}

1471 \usrmthlatupp{Krp}{Str}{str}[\krpstr]

\WrlSet,

1472 \newcommand{\wrlsym}{w}

1473 \newcommand{\wrlset}{W}

1474 \cmdmthsetext{Wrl}[\wrlset][\wrlsym]

1475 \cmdmthsymelm{iwrl}[\wrlsym_{I}]

\AccRel, \TrnRel ...

1476 \newcommand{\accsym}{R}

1477 \cmdmthrel{Acc}[\accsym]

1478 \cmdmthrel{Trn}[\accsym]

\labFun ...

1479 \newcommand{\labsym}{\lambda}

1480 \cmdmthfun{lab}[\labsym]

\PthSet, \pthFun ...

1481 \providecommand{\pthsym}{\pi}

1482 \providecommand{\pthset}{Pth}

1483 \cmdmthsetext{Pth}[\pthset][\pthsym]

1484 \cmdmthfun{pth}

1485 %** Modal Logics II *****%

\MC, \GMC,

1486 % Mu Calculus

1487 \cmdtxtoparname{MC}[\ensuremath{\mu}-Calculus]

1488

1489 % Graded Mu Calculus

1490 \DeclareRobustCommand{\GMC}

{\{\txtname{G}\}MC}

1492

1493 % Quantified Mu Calculus

1494 \DeclareRobustCommand{\QMC}

{\{\txtname{Q}\}MC}

1496 \DeclareRobustCommand{\EMC}

{\ensuremath{\exists}MC}

1498 \DeclareRobustCommand{\UMC}

{\ensuremath{\forall}MC}

1500

1501 % Alternation-Free Mu Calculus

1502 \DeclareRobustCommand{\AFMC}

{\{\txtname{AF}\}MC}

```

1504
1505 % Alternation-Free Graded Mu Calculus
1506 \DeclareRobustCommand{\AFGMC}
1507   {\textrmname{AF}}\GMC}
1508
1509 % Quantified Alternation-Free Mu Calculus
1510 \DeclareRobustCommand{\QAFMC}
1511   {\textrmname{Q}}\AFMC}
1512 \DeclareRobustCommand{\EAFMC}
1513   {\ensuremath{\exists}\AFMC}
1514 \DeclareRobustCommand{\UAFMC}
1515   {\ensuremath{\forall}\AFMC}
1516
1517 %** Syntax *****%
...
1518 %** Semantics *****%
...
1519 %** Temporal Logics I *****%

\PTL, \LTL, ... ...
1520 % Propositional Temporal Logic
1521 \cmdtxttoparname{PTL}
1522
1523 % Quantified Propositional Temporal Logic
1524 \DeclareRobustCommand{\QPTL}
1525   {\textrmname{Q}}\PTL}
1526 \DeclareRobustCommand{\EPTL}
1527   {\ensuremath{\exists}\PTL}
1528 \DeclareRobustCommand{\UPTL}
1529   {\ensuremath{\forall}\PTL}
1530
1531 % Linear Temporal Logic
1532 \cmdtxttoparname{LTL}
1533
1534 % Quantified Linear Temporal Logic
1535 \DeclareRobustCommand{\QLTL}
1536   {\textrmname{Q}}\LTL}
1537 \DeclareRobustCommand{\ELTL}
1538   {\ensuremath{\exists}\LTL}
1539 \DeclareRobustCommand{\ULTL}
1540   {\ensuremath{\forall}\LTL}
1541 %** Syntax *****%

\X, ... ...
1542 \usrmth{X}{-}{sym}[X\,,]
1543 \usrmth{F}{-}{sym}[F\,,]
1544 \usrmth{G}{-}{sym}[G\,,]
1545 \usrmth{U}{-}{sym}[\,,U\,,]
1546 \usrmth{R}{-}{sym}[\,,R\,,]

\Y, ... ...
1547 \usrmth{Y}{-}{sym}[G\,,]
1548 \usrmth{P}{-}{sym}[P\,,]\let\SavePildcrow\P
1549 \usrmth{H}{-}{sym}[H\,,]\let\SaveDoubleAcute\H
1550 \usrmth{S}{-}{sym}[\,,S\,,]\let\SaveSectionSymbol\S
1551 \usrmth{B}{-}{sym}[\,,B\,,]

1552 %** Semantics *****%
...
1553 %** Temporal Logics II *****%

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```

\ PDL, \ CTL, ... ...
1554
1555 % Propositional Dynamic Logic
1556 \cmdtxttoparname{PDL}
1557
1558 % Computation Tree Logic
1559 \cmdtxttoparname{CTL}
1560
1561 % Weak Computation Tree Logic
1562 \DeclareRobustCommand{\WCTL}
1563   {\{\txtrname{W}\}\CTL}
1564
1565 % Quantified Computation Tree Logic
1566 \DeclareRobustCommand{\QCTL}
1567   {\{\txtrname{Q}\}\CTL}
1568 \DeclareRobustCommand{\ECTL}
1569   {\ensuremath{\exists}\CTL}
1570 \DeclareRobustCommand{\UCTL}
1571   {\ensuremath{\forall}\CTL}
1572
1573 % Improved Computation Tree Logic
1574 \cmdtxttoparname{CTLP}[CTL$^{+}$]
1575
1576 % Weak Improved Computation Tree Logic
1577 \DeclareRobustCommand{\WCTLP}
1578   {\{\txtrname{W}\}\CTLP}
1579
1580 % Quantified Improved Computation Tree Logic
1581 \DeclareRobustCommand{\QCTLP}
1582   {\{\txtrname{Q}\}\CTLP}
1583 \DeclareRobustCommand{\ECTLP}
1584   {\ensuremath{\exists}\CTLP}
1585 \DeclareRobustCommand{\UCTLP}
1586   {\ensuremath{\forall}\CTLP}
1587
1588 % Full Computation Tree Logic
1589 \cmdtxttoparname{CTLS}[CTL*]
1590
1591 % Weak Full Computation Tree Logic
1592 \DeclareRobustCommand{\WCTLS}
1593   {\{\txtrname{W}\}\CTLS}
1594
1595 % Quantified Full Computation Tree Logic
1596 \DeclareRobustCommand{\QCTLS}
1597   {\{\txtrname{Q}\}\CTLS}
1598 \DeclareRobustCommand{\ECTLS}
1599   {\ensuremath{\exists}\CTLS}
1600 \DeclareRobustCommand{\UCTLS}
1601   {\ensuremath{\forall}\CTLS}
1602 %** Syntax *****%

\ E, \ A ...
1603 \usrmth{E}{-}{sym}
1604 \usrmth{A}{-}{sym}
1605 %** Semantics *****%

...
1606 %** Strategic Logics I *****%

\ ATL, ... ...
1607 % Alternating Temporal Logic
1608 \cmdtxttoparname{ATL}

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```

1609
1610 % Weak Alternating Tree Logic
1611 \DeclareRobustCommand{\WATL}
1612   {\txtname{W}}\ATL}
1613
1614 % Quantified Alternating Temporal Logic
1615 \DeclareRobustCommand{\QATL}
1616   {\txtname{Q}}\ATL}
1617 \DeclareRobustCommand{\EATL}
1618   {\ensuremath{\exists}\ATL}
1619 \DeclareRobustCommand{\UATL}
1620   {\ensuremath{\forall}\ATL}
1621
1622 % Improved Alternating Temporal Logic
1623 \cmdtxtopname{ATLP}[ATL$^{+}$]
1624
1625 % Weak Improved Alternating Tree Logic
1626 \DeclareRobustCommand{\WATLP}
1627   {\txtname{W}}\ATLP}
1628
1629 % Quantified Improved Alternating Temporal Logic
1630 \DeclareRobustCommand{\QATLP}
1631   {\txtname{Q}}\ATLP}
1632 \DeclareRobustCommand{\EATLP}
1633   {\ensuremath{\exists}\ATLP}
1634 \DeclareRobustCommand{\UATLP}
1635   {\ensuremath{\forall}\ATLP}
1636
1637 % Full Alternating Temporal Logic
1638 \cmdtxtopname{ATLS}[ATL*]
1639
1640 % Weak Full Alternating Tree Logic
1641 \DeclareRobustCommand{\WATLS}
1642   {\txtname{W}}\ATLS}
1643
1644 % Quantified Full Alternating Temporal Logic
1645 \DeclareRobustCommand{\QATLS}
1646   {\txtname{Q}}\ATLS}
1647 \DeclareRobustCommand{\EATLS}
1648   {\ensuremath{\exists}\ATLS}
1649 \DeclareRobustCommand{\UATLS}
1650   {\ensuremath{\forall}\ATLS}
1651
1651 %** Syntax *****%
\EExs, \AA11 ...
1652 \DeclareRobustCommand{\EExs}[1]
1653   {\mth{\argmid{\langle!\rangle}{\defval{#1}{\emptyset}}{\rangle!\rangle}}
1654 \DeclareRobustCommand{\AA11}[1]
1655   {\mth{\argmid{\left[\left[\defval{#1}{\emptyset}]{\right]\right]}}}
1656
1656 %** Semantics *****%
\CGS ...
1657 \cmdtxtname{CGS}
\CGSstr, ... ...
1658 \newcommand{\cgsstr}{G}
1659 \usrmthlatupp{CGS}{Str}{str}[\cgsstr]
\AgnSet, ... ...
1660 \newcommand{\agnsym}{a}
1661 \newcommand{\agnset}{Ag}
1662 \cmdmthsetext{Agn}[\agnset][\agnsym]

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```

\PosSet, ... ...
1663 \providecommand{\possym}{v}
1664 \providecommand{\posset}{Ps}
1665 \cmdmthsetext{Pos}[\posset][\possym]
1666 \cmdmthsymelm{ipos}[\possym_{I}]
1667 \cmdmthsymelm{fpos}[\possym_{F}]
1668 \cmdmthset{PPos}[\posset_{\PlrSym}]
1669 \cmdmthsymelm{ppos}[\possym_{\PlrSym}]
1670 \cmdmthset{OPos}[\posset_{\OppSym}]
1671 \cmdmthsymelm{opos}[\possym_{\OppSym}]

\SttSet, ... ...
1672 \newcommand{\sttsym}{s}
1673 \newcommand{\sttset}{St}
1674 \cmdmthsetext{Stt}[\sttset][\sttsym]
1675 \cmdmthset{IStt}[\sttset_{I}]
1676 \cmdmthsymelm{istt}[\sttsym_{I}]
1677 \cmdmthset{FStt}[\sttset_{F}]
1678 \cmdmthsymelm{fstt}[\sttsym_{F}]

\ActSet, ... ...
1679 \newcommand{\actsym}{c}
1680 \newcommand{\actset}{Ac}
1681 \cmdmthsetext{Act}[\actset][\actsym]

\DecSet, ... ...
1682 \newcommand{\decsym}{d}
1683 \newcommand{\decset}{Dc}
1684 \cmdmthsetext{Dec}[\decset][\decsym]

\movFun ... $\tau$ 
1685 \newcommand{\movsym}{\tau}
1686 \cmdmthfun{mov}[\movsym]

\HstSet, ... ...
1687 \providecommand{\hstsym}{\rho}
1688 \providecommand{\hstset}{Hst}
1689 \cmdmthsetext{Hst}[\hstset][\hstsym]
1690 \cmdmthset{PHst}[\hstset_{\PlrSym}]
1691 \cmdmthsymelm{phst}[\hstsym_{\PlrSym}]
1692 \cmdmthset{OHst}[\hstset_{\OppSym}]
1693 \cmdmthsymelm{ohst}[\hstsym_{\OppSym}]
1694 \cmdmthfun{hst}

\PlaySet, \playFun ...
1695 \providecommand{\playsym}{\pi}
1696 \providecommand{\playset}{Play}
1697 \cmdmthsetext{Play}[\playset][\playsym]
1698 \cmdmthfun{play}

\StrSet, ... ...
1699 \providecommand{\strsym}{\sigma}
1700 \providecommand{\strset}{Str}
1701 \cmdmthsetext{Str}[\strset][\strsym]
1702 \cmdmthset{PStr}[\strset_{\PlrSym}]
1703 \cmdmthsymelm{pstr}[\strsym_{\PlrSym}]
1704 \cmdmthset{OStr}[\strset_{\OppSym}]
1705 \cmdmthsymelm{ostr}[\strsym_{\OppSym}]

\PrfSet, \prfFun ...
1706 \providecommand{\prfsym}{\xi}
1707 \providecommand{\prfset}{Prf}
1708 \cmdmthsetext{Prf}[\prfset][\prfsym]

```

```

1709 %** Strategic Logics II *****%%
\SL, ... ...
1710 % Strategy Logic
1711 \cmdtxttoparname{SL}
1712
1713 \DeclareRobustCommand{\ESL}
1714   {\ensuremath{\exists}\SL}
1715 \DeclareRobustCommand{\USL}
1716   {\ensuremath{\forall}\SL}
1717
1718 \DeclareRobustCommand{\FSL}
1719   {\{\textname{F}\}\SL}
1720
1721 \DeclareRobustCommand{\EFSL}
1722   {\ensuremath{\exists}\FSL}
1723 \DeclareRobustCommand{\UFSL}
1724   {\ensuremath{\forall}\FSL}
1725
1726 % One-Goal Strategy Logic
1727 \DeclareRobustCommandx{\OGSL}[3][1=, 2=, 3=]
1728   {\SL[#1][#2][lg\arglef{,}{#3}]}
1729
1730 \DeclareRobustCommand{\EOGSL}
1731   {\ensuremath{\exists}\OGSL}
1732 \DeclareRobustCommand{\UOGSL}
1733   {\ensuremath{\forall}\OGSL}
1734
1735 \DeclareRobustCommand{\FOGSL}
1736   {\{\textname{F}\}\OGSL}
1737
1738 \DeclareRobustCommand{\EFOGSL}
1739   {\ensuremath{\exists}\FOGSL}
1740 \DeclareRobustCommand{\UFOGSL}
1741   {\ensuremath{\forall}\FOGSL}
1742
1743 % Conjunctive-Goal Strategy Logic
1744 \DeclareRobustCommandx{\CGSL}[3][1=, 2=, 3=]
1745   {\SL[#1][#2][cg\arglef{,}{#3}]}
1746
1747 \DeclareRobustCommand{\ECGSL}
1748   {\ensuremath{\exists}\CGSL}
1749 \DeclareRobustCommand{\UCGSL}
1750   {\ensuremath{\forall}\CGSL}
1751
1752 \DeclareRobustCommand{\FCGSL}
1753   {\{\textname{F}\}\CGSL}
1754
1755 \DeclareRobustCommand{\EFCGSL}
1756   {\ensuremath{\exists}\FCGSL}
1757 \DeclareRobustCommand{\UFCGSL}
1758   {\ensuremath{\forall}\FCGSL}
1759
1760 % Disjunctive-Goal Strategy Logic
1761 \DeclareRobustCommandx{\DGSL}[3][1=, 2=, 3=]
1762   {\SL[#1][#2][dg\arglef{,}{#3}]}
1763
1764 \DeclareRobustCommand{\EDGSL}
1765   {\ensuremath{\exists}\DGSL}
1766 \DeclareRobustCommand{\UDGSL}
1767   {\ensuremath{\forall}\DGSL}
1768
1769 \DeclareRobustCommand{\FDGSL}
1770   {\{\textname{F}\}\DGSL}

```

```

1771
1772 \DeclareRobustCommand{\EFDGSL}
1773   {\ensuremath{\exists}\FDGSL}
1774 \DeclareRobustCommand{\UFDGSL}
1775   {\ensuremath{\forall}\FDGSL}
1776
1777 % Alternating-Goal Strategy Logic
1778 \DeclareRobustCommandx{\AGSL}[3][1=, 2=, 3=]
1779   {\SL[#1][#2][ag\arglef{,}{#3}]}
1780
1781 \DeclareRobustCommand{\EAGSL}
1782   {\ensuremath{\exists}\AGSL}
1783 \DeclareRobustCommand{\UAGSL}
1784   {\ensuremath{\forall}\AGSL}
1785
1786 \DeclareRobustCommand{\FAGSL}
1787   {\{\textname{F}\}\xGSL}
1788
1789 \DeclareRobustCommand{\EFAGSL}
1790   {\ensuremath{\exists}\FAGSL}
1791 \DeclareRobustCommand{\UFAGSL}
1792   {\ensuremath{\forall}\FAGSL}
1793
1794 % Extended-Goal Strategy Logic
1795 \DeclareRobustCommandx{\EGSL}[3][1=, 2=, 3=]
1796   {\SL[#1][#2][eg\arglef{,}{#3}]}
1797
1798 \DeclareRobustCommand{\EEGSL}
1799   {\ensuremath{\exists}\EGSL}
1800 \DeclareRobustCommand{\UEGSL}
1801   {\ensuremath{\forall}\EGSL}
1802
1803 \DeclareRobustCommand{\FEGSL}
1804   {\{\textname{F}\}\xGSL}
1805
1806 \DeclareRobustCommand{\EFEGSL}
1807   {\ensuremath{\exists}\FEGSL}
1808 \DeclareRobustCommand{\UFEGSL}
1809   {\ensuremath{\forall}\FEGSL}
1810
1811 % Boolean-Goal Strategy Logic
1812 \DeclareRobustCommandx{\BGSL}[3][1=, 2=, 3=]
1813   {\SL[#1][#2][bg\arglef{,}{#3}]}
1814
1815 \DeclareRobustCommand{\EBGSL}
1816   {\ensuremath{\exists}\BGSL}
1817 \DeclareRobustCommand{\UBGSL}
1818   {\ensuremath{\forall}\BGSL}
1819
1820 \DeclareRobustCommand{\FBGSL}
1821   {\{\textname{F}\}\xGSL}
1822
1823 \DeclareRobustCommand{\EFBGSL}
1824   {\ensuremath{\exists}\FBGSL}
1825 \DeclareRobustCommand{\UFBGSL}
1826   {\ensuremath{\forall}\FBGSL}
1827
1828 % Nested-Goal Strategy Logic
1829 \DeclareRobustCommandx{\NGSL}[3][1=, 2=, 3=]
1830   {\SL[#1][#2][ng\arglef{,}{#3}]}
1831
1832 \DeclareRobustCommand{\ENGSL}
1833   {\ensuremath{\exists}\NGSL}

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1834 \DeclareRobustCommand{\UNGSL}
1835   {\ensuremath{\forall}\text{NGSL}}
1836
1837 \DeclareRobustCommand{\FNGSL}
1838   {\{\textname{F}\}\text{XGSL}}
1839
1840 \DeclareRobustCommand{\EFNGSL}
1841   {\ensuremath{\exists}\text{FNGSL}}
1842 \DeclareRobustCommand{\UFNGSL}
1843   {\ensuremath{\forall}\text{FNGSL}}
1844
1845 % Undefined-Goal Strategy Logic
1846 \DeclareRobustCommandx{\XGSL}[3][1=, 2=, 3=]
1847   {\SL[#1][#2][xg\arglef{,}{#3}]}
1848
1849 \DeclareRobustCommand{\EXGSL}
1850   {\ensuremath{\exists}\text{XGSL}}
1851 \DeclareRobustCommand{\UXGSL}
1852   {\ensuremath{\forall}\text{XGSL}}
1853
1854 \DeclareRobustCommand{\FXGSL}
1855   {\{\textname{F}\}\text{XGSL}}
1856
1857 \DeclareRobustCommand{\EFXGSL}
1858   {\ensuremath{\exists}\text{FXGSL}}
1859 \DeclareRobustCommand{\UFXGSL}
1860   {\ensuremath{\forall}\text{FXGSL}}
1861
1861 %** Syntax *****%
\BndSet, ...
1862 \newcommand{\bndsym}{\flat}
1863 \newcommand{\bndset}{\text{Bn}}
1864 \cmdmthsetext{\Bnd}{\bndset}{\bndsym}
1865 \usrmth{\bnd}{\argfun}
1866
\psn ...
1866 \usrmth{\psn}{\argfun}
1867
1867 %** Semantics *****%
\nxtFun ...
1868 \newcommand{\nxtfun}{\text{nxt}}
1869 \cmdmthfun{\nxt}{\nxtfun}
1870
1870 \fi
1871 %*****%
1872 %*****%
1873 %** Macros for Automata *****%
1874 %*****%
1875 \ifaut@
1876 %** Finite Word Automata *****%
\DFA, ...
1877 \cmdtxtoparname{DFA}\cmdtxtoparname{NFA}\cmdtxtoparname{UFA}\cmdtxtoparname{AFA}
1878
1879 \cmdtxtoparname{DWA}\cmdtxtoparname{NWA}\cmdtxtoparname{UWA}\cmdtxtoparname{AWA}
1880
1881 \cmdtxtoparname{DFW}\cmdtxtoparname{NFW}\cmdtxtoparname{UFW}\cmdtxtoparname{AFW}
1882 \cmdtxtoparname{DBW}\cmdtxtoparname{NBW}\cmdtxtoparname{UBW}\cmdtxtoparname{ABW}
1883 \cmdtxtoparname{DCW}\cmdtxtoparname{NCW}\cmdtxtoparname{UCW}\cmdtxtoparname{ACW}
1884 \cmdtxtoparname{DPW}\cmdtxtoparname{NPW}\cmdtxtoparname{UPW}\cmdtxtoparname{APW}
1885 \cmdtxtoparname{DRW}\cmdtxtoparname{NRW}\cmdtxtoparname{URW}\cmdtxtoparname{ARW}
1886 \cmdtxtoparname{DSW}\cmdtxtoparname{NSW}\cmdtxtoparname{USW}\cmdtxtoparname{ASW}
1887 \cmdtxtoparname{DMW}\cmdtxtoparname{NMW}\cmdtxtoparname{UMW}\cmdtxtoparname{AMW}

```

```

\GFG, \PD, ... ...
1888 \cmdttxtoparname{GFG}
1889
1890 \cmdttxtoparname{PD}
1891
1892 %% ...

1893 %** Syntax *****%%

\AutName, ... ...
1894 \newcommand{\autname}{A}
1895 \usrmthlatupp{Aut}{Name}{name}[\autname]
1896 \newcommand{\autset}{Aut}
1897 \cmdmthset{Aut}[\autset]

\WAutSet ...
1898 \newcommand{\wautset}{WAut}
1899 \cmdmthset{WAut}[\wautset]

\SttSet, ... ...
1900 \def\sttsym{q}
1901 \def\sttset{Q}
1902 \cmdmthsetext{Stt}[\sttset][\sttsym]
1903 \cmdmthset{IStt}[\sttset_{I}]
1904 \cmdmthsymelm{istt}[\sttsym_{I}]
1905 \cmdmthset{FStt}[\sttset_{F}]
1906 \cmdmthsymelm{fstt}[\sttsym_{F}]

\SymSet, ... ...
1907 \newcommand{\symsym}{\sigma}
1908 \newcommand{\symset}{\Sigma}
1909 \cmdmthsetext{Sym}[\symset][\symsym]

\trnFun ...
1910 \newcommand{\trnsym}{\delta}
1911 \cmdmthfun{trn}[\trnsym]

1912 %** Semantics *****%%

\LangFun ...
1913 \newcommand{\langfun}{L}
1914 \cmdmthfun{Lang}[\langfun]

\WrdSet, ... ...
1915 \newcommand{\wrdsym}{w}
1916 \newcommand{\wrdset}{Wr}
1917 \cmdmthsetext{Wrd}[\wrdset][\wrdsym]

1918 %** Finite Tree Automata *****%%

\DTA, ... ...
1919 \cmdttxtoparname{DTA}\cmdttxtoparname{NTA}\cmdttxtoparname{UTA}\cmdttxtoparname{ATA}
1920
1921 \cmdttxtoparname{DFT}\cmdttxtoparname{NFT}\cmdttxtoparname{UFT}\cmdttxtoparname{AFT}
1922 \cmdttxtoparname{DBT}\cmdttxtoparname{NBT}\cmdttxtoparname{UBT}\cmdttxtoparname{ABT}
1923 \cmdttxtoparname{DCT}\cmdttxtoparname{NCT}\cmdttxtoparname{UCT}\cmdttxtoparname{ACT}
1924 \cmdttxtoparname{DPT}\cmdttxtoparname{NPT}\cmdttxtoparname{UPT}\cmdttxtoparname{APT}
1925 \cmdttxtoparname{DRT}\cmdttxtoparname{NRT}\cmdttxtoparname{URT}\cmdttxtoparname{ART}
1926 \cmdttxtoparname{DST}\cmdttxtoparname{NST}\cmdttxtoparname{UST}\cmdttxtoparname{AST}
1927 \cmdttxtoparname{DMT}\cmdttxtoparname{NMT}\cmdttxtoparname{UMT}\cmdttxtoparname{AMT}

1928 %** Syntax *****%%

```

```

\TAutSet ...
1929 \newcommand{\tautset}{TAut}
1930 \cmdmthset{TAut}[\tautset]

\DirSet, ... ...
1931 \newcommand{\dirsym}{d}
1932 \newcommand{\dirset}{\Lambda}
1933 \cmdmthsettext{Dir}[\dirset][\dirsym]

1934 %%** Semantics *****%%

\TreeSet, ... ...
1935 \newcommand{\treesym}{T}
1936 \newcommand{\treeset}{Tr}
1937 \cmdmthsettext{Tree}[\treeset][\treesym]

\wotFun ...
1938 \newcommand{\wotfun}{wot}
1939 \cmdmthfun{wot}[\wotfun]

1940 \fi
1941 %*****%%

1942 %*****%%
1943 %%** Format Tricks *****%%
1944 %*****%%
1945 \iffirm@

... ...
1946 %...

1947 \fi
1948 %*****%%

1949 %*****%%
1950 %%** Figure Tricks *****%%
1951 %*****%%
1952 \iffig@

1953 \RequirePackage{tikz}
1954 \usetikzlibrary{arrows,graphs,matrix,patterns,shapes}

1955 \tikzstyle{every node} =
1956   [draw = none, fill = none, black, thin]
1957 \tikzstyle{every edge} +=
1958   [black, thick]

1959 \tikzstyle{noall} =
1960   [draw = none, fill = none]
1961 \tikzstyle{nodraw} =
1962   [draw = none, fill = white]
1963 \tikzstyle{nofill} =
1964   [draw = black, fill = none]

1965 \ifwrpfig@
1966   % Wrapfig Package
1967   \RequirePackage{wrapfig}
1968 \fi

1969 \fi
1970 %*****%%

1971 %*****%%
1972 %%** Table Tricks *****%%
1973 %*****%%
1974 \iftab@

... ...
1975 %...

```

```

1976 \fi
1977 %%*****%
1978 %%*****%
1979 %%** Algorithm Tricks *****%
1980 %%*****%
1981 \ifalg@

1982 \RequirePackage[ruled,vlined]{algorithm2e}
1983 \setlength{\algomargin}{1.25em}
1984 \DontPrintSemicolon
1985 \SetInd{0.25em}{0.5em}

\Signature ...
1986 \SetKw{Signature}{signature}

\Macro, ... ...
1987 \SetKwFor{Macro}{macro}{}{}
1988 \SetKwFor{Function}{function}{}{}
1989 \SetKwFor{Procedure}{procedure}{}{}

\Let ...
1990 \SetKwFor{Let}{let}{in}{}

\True, \False ...
1991 \SetKw{True}{true}
1992 \SetKw{False}{false}

\From, ... ...
1993 \SetKw{From}{from}
1994 \SetKw{To}{to}
1995 \SetKw{DownTo}{downto}

\GoTo, ... ...
1996 \SetKw{GoTo}{goto}
1997 \SetKw{Break}{break}
1998 \SetKw{Continue}{continue}

\MIf, ... ...
1999 \SetKwIF{MIf}{MElseIf}{MElse}{\#if}{\#then}{\#else \#if}{\#else}{\#endif}

\nlr ...
2000 \DeclareRobustCommand{\nlr}[1]
2001 {\addtocounter{AlgoLine}{1}%
2002 \nlset{\arabic{AlgoLine}-\addtocounter{AlgoLine}{#1}\arabic{AlgoLine}}

2003 \fi
2004 %%*****%
2005 \endinput
2006 \</package>

```

2 Change History

v0.0	General: First public release 1	v0.3	General: Few problems solved 1
v0.1	General: Algorithm tricks 1	v0.4	General: Refactoring, corrections, and extensions 1
v0.10	General: Small refinements 1	v0.5	General: Figure tricks 1
v0.11	General: Few additions and corrections 1	v0.6	General: Small refinements 1
v0.12	General: New starred variants 1	v0.7	General: Refinements, corrections, and extensions 1
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v0.14	General: Few additions and corrections 1	v0.9	General: Small addition to ‘Algorithm tricks’ 1
v0.2	General: Changes in auxiliary tricks 1		

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