Unicode declarations for \LaTeX documents.

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10	9.3 9.4 Gen 10.1	Function Relations 9.4.1 E 9.4.2 C eric or of Arrows.	operators quality like Order like other operators	INCOMI INCOMPLET	PLETE .					16 16 16
10	9.3 9.4 Gen 10.1 10.2	Function Relations 9.4.1 E 9.4.2 C eric or of Arrows . "o"-operations	operators quality like order like other operators	INCOMPLET	PLETE . E					16 16 16 17
10	9.3 9.4 Gen 10.1 10.2 10.3	Function Relations 9.4.1 E 9.4.2 C eric or of Arrows . "o"-opera Small, ha	operators quality like Order like other operators ators	INCOMI	PLETE . E bols					16 16 16 17 17
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	9.3 9.4 Gen 10.1 10.2 10.3 10.4	Function Relations 9.4.1 E 9.4.2 C eric or o Arrows . "o"-opers Small, ha Punctuar	operators capable operators cather operators ators alfwidth and fullw	INCOMI	PLETE . E bols					16 16 16 17 17 17 18 18
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1 About this file

In order to write LATEX documents using unicode in the source code, we must often tell LATEX what we want the unicode characters to be rendered as.

1.1 Usage

This file generates (via Org Babel tangling) the file unicode.sty.

To use it, either place it in the same directory as your .tex file, and require it via \usepackage{unicode}.

Alternatively, place it in your texmf directory to allow global usage on your system. That directory is commonly located at the following locations on various OS's.

- Linux
 - ~/texmf/tex/latex/local/
- Mac OS X
 - /Users/<user name>/Library/texmf/tex/latex/local/
- Windows 10 (and miktex)
 - C:\Users\<user name>\Appdata\Local\MikTex\<number>\tex\latex\local\
- Windows Vista/7
 - C:\Users\<user name>\texmf\tex\latex\local\
- Windows XP
 - C:\Documents and Settings\<user name>\texmf\tex\latex\local\

1.2 Requirements

This package depends upon the packages listed herein.

There are two ways to inform LATEX of unicode character translations;

- \DeclareUnicodeCharacter; this command does not work with Xe-LaTeX or LuaLaTeX, which I use.
- \newunicodechar; this command is provided by the newunicodechar package, which may not be pre-installed for all LATEX users.

This collection uses the second.

\usepackage{newunicodechar}

The unicode-math package "provides a complete implementation of unicode maths for XeLaTeX and LuaLaTeX".

\usepackage{unicode-math}

1.3 Contributing to this document

This document is written in Emacs using Org mode. While the exported PDF version, etc., show a collection of LATEX source blocks, these are in fact generated by an Emacs Lisp script below.

That means that contributions to this document should modify the Emacs Lisp script, not unicode.sty or the LATEX source blocks themselves.

1.4 The Emacs Lisp script

In this document, several lists of unicode character, LATEX translation pairs are declared, and then "wrapped" into latex source blocks, using this function to map the pairs into newunicodechar declarations.

generate-newunicodechars

2 Notes

:TODO: move the comments about missing characters here?

As discussed here, the prime characters are redefined by unicode-math at \begindocument. To redefine them, we would need to override that by wrapping out \newunicodechar declarations in \AtBeginDocument. Unfortunately we would then lose prime collapsing. The better solution is to use a font which has prime, or else avoid using double primes, etc..

3 Blackboard, calligraphic, etc. possiblycomplete

```
%------
% Blackboard, calligraphic, etc.
%-----
```

These lists are most likely complete, unless I have missed some characters aside from latin letters, greek letters and arabic numerals which should be included.

3.1 Blackboard possiblycomplete %-----% Blackboard %-----3.1.1 Lowercase latin complete %-----% Lowercase latin %-----\newunicodechar{0}{\ensuremath{\mathbb{a}}} $\mbox{\newunicodechar}{\b}{\consuremath{\mathbb{b}}}$ $\mbox{\colored} \mbox{\colored} \mbox{\color$ \newunicodechar{d}{\ensuremath{\mathbb{d}}}} \newunicodechar{e}{\ensuremath{\mathbb{e}}}} \newunicodechar{\(\infty\) \ensuremath{\mathbb{f}\}\) \newunicodechar{g}{\ensuremath{\mathbb{g}}}} $\mbox{\newunicodechar}{\h}{\consumerath}{\mbox{\mathbb}{h}}$ \newunicodechar{i}{\ensuremath{\mathbb{i}}} $\mbox{\newunicodechar}_{\new$ \newunicodechar{||}{\ensuremath{\mathbb{1}}}} \newunicodechar{m}{\ensuremath{\mathbb{m}}} \newunicodechar{n}{\ensuremath{\mathbb{n}}} \newunicodechar{0}{\ensuremath{\mathbb{o}}}} \newunicodechar{p}{\ensuremath{\mathbb{p}}}} \newunicodechar{q}{\ensuremath{\mathbb{q}}}} \newunicodechar{r}{\ensuremath{\mathbb{r}}} \newunicodechar{s}{\ensuremath{\mathbb{s}}} \newunicodechar{\bar{\bar{\tau}}{\ensuremath{\mathbb{t}}}} \newunicodechar{u}{\ensuremath{\mathbb{u}}} \newunicodechar{v}{\ensuremath{\mathbb{v}}}} \newunicodechar{w}{\ensuremath{\mathbb{w}}}} \newunicodechar{x}{\ensuremath{\mathbb{x}}} \newunicodechar{y}{\ensuremath{\mathbb{y}}}} $\mbox{\newunicodechar}{z}{\newunicodechar}{z}}$

3.1.2 Uppercase latin complete % Uppercase latin $\mbox{\newunicodechar}(A){\newunicodechar}(A)}$ $\mbox{\newunicodechar}{\mathbb{B}}{\newunicodechar}{\mathbb{B}}}$ $\mbox{\newunicodechar}{\color=0}{\color=0}{\color=0}$ $\new unicode char {\mathbb{D}} {\tt lensuremath} {\tt$ $\mbox{\newunicodechar}{\mathbb{E}}{\newunicodechar}{\mathbb{E}}}$ $\mbox{\newunicodechar}{\mathbb{F}}{\newunicodechar}{\mathbb{F}}}$ $\mbox{\newunicodechar}{H}{\consuremath{\mathbb{H}}}$ \newunicodechar{||}{\ensuremath{\mathbb{I}}}} $\mbox{\newunicodechar}{\ensuremath}{\mbox{\mathbb}{J}}}$ $\mbox{\newunicodechar}{\mathbb{K}}{\newunicodechar}{\mathbb{K}}}$ $\mbox{\newunicodechar}(L){\newunicodechar}(L)}$ $\newunicodechar{M}{\left\langle ensuremath{\mathbb{M}}\right\rangle }$ $\mbox{\newunicodechar}{\N}{\consumerath}{\mbox{\mathbb}{N}}$ $\new unicode char { 0 } {\new unicode char { 0 } {\new unicode char { 0 } } }$ $\mbox{\newunicodechar}{\newunicodechar$ $\mbox{\newunicodechar}{\mathbb{Q}}{\newunicodechar}{\newunicodechar}$ $\mbox{\newunicodechar}{\mathbb{R}}{\newunicodechar}{\mathbb{R}}}$ $\new unicode char {\$}{\new unicode char {\$}}{\new unicode char {\$}}$ $\mbox{\newunicodechar}{\mathbb{T}}{\newunicodechar}{\mathbb{T}}}$ $\mbox{\newunicodechar}{\mathbb{U}}{\newunicodechar}{\mathbb{U}}}$ $\mbox{\newunicodechar}{\w}_{\newunicodechar}}$ $\mbox{\newunicodechar}{X}{\color{x}}$ \newunicodechar{\mathbb{\mathb $\mbox{\newunicodechar}{\mathbb{Z}}{\newunicodechar}{\mathbb{Z}}}$ 3.1.3 Arabic numerals complete % Arabic numerals %-----

\newunicodechar{1}{\ensuremath{\mathbb{1}}}
\newunicodechar{2}{\ensuremath{\mathbb{2}}}

```
\newunicodechar{3}{\ensuremath{\mathbb{3}}}
\newunicodechar{4}{\ensuremath{\mathbb{4}}}
\newunicodechar{5}{\ensuremath{\mathbb{5}}}}
\newunicodechar{6}{\ensuremath{\mathbb{6}}}}
\mbox{\newunicodechar}{\label{ar}}{\newunicodechar}{\newunicodechar}{\label{ar}}
\newunicodechar{\B}{\ensuremath{\mathbb{8}}}
\newunicodechar{\mathbb{9}}}
\mbox{\newunicodechar}{0}{\newunicodechar}{\newunicodechar}
3.1.4 Greek
                                             complete
%-----
% Greek
%-----
  There are unfortunately not many included in Unicode.
\mbox{\newunicodechar}{\Gamma}{\newunicodechar}{\newunicodechar}
\newunicodechar{\( \) \{\mathbb{\gamma}\}\}
\newunicodechar{\pi}{\ensuremath{\mathbb{\pi}}}
Math calligraphic
                                     possiblycomplete
3.2
                _____
% Math calligraphic
3.2.1 Lowercase latin
                                             complete
%-----
% Uppercase latin
%-----
\new unicode char{a}{\operatorname{a}}{\operatorname{mathcal}{a}}}
\mbox{\newunicodechar}{b}{\columnwidth}
\new unicode char \{c\} \{\new unit ode char \{c\}\} \}
\mbox{\newunicodechar}{d}{\columnwidth}
\mbox{\codechar}\{e\}{\codechar}\{e\}\}
\newunicodechar{f}{\ensuremath{\mathcal{f}}}}
```

```
\new unicode char \{g\} \{\new unit ode char \{g\} \} \}
\mbox{\newunicodechar}{h}{\columnwidth}
\newunicodechar{i}{\ensuremath{\mathcal{i}}}
\newunicodechar{j}{\ensuremath{\mathcal{j}}}}
\verb|\newunicodechar{$k$}{\newunicodechar{$k$}}|
\mbox{\newunicodechar}{l}{\consumerath{\mathcal}{1}}
\new unicode char\{m\}\{\new unicode char\{m\}\}\}\
\new unicode char \{n\} {\new unicode char \{n\} \}}
\newunicodechar{o}{\ensuremath{\mathcal{o}}}}
\newunicodechar{p}{\newunicodechar{p}}}
\mbox{\newunicodechar}{q}{\columnwise}
\mbox{\newunicodechar}{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\column{r}{\colu
\new unicode char \{s\} \{\new unit ode char \{s\}\} \}
\mbox{\newunicodechar}{t}{\newunicodechar}{t}{\newunicodechar}{t}}
\mbox{\newunicodechar}\{u\}{\consuremath}\{\mbox{\mathcal}\{u\}\}\}
\verb|\newunicodechar| \{v\}{\newunicodechar} \{v\} \}|
\mbox{\newunicodechar}\{w\}{\newunicodechar}\{w\}\}
\new unicode char\{x\}\{\new unicode char\{x\}\}\}\
\newunicodechar{y}{\ensuremath{\mathcal{y}}}}
\new unicode char \{z\} \{\new unit ode char \{z\} \} \}
```

3.2.2 Uppercase latin

complete

4 Other letters or letterlike symbols incomplete

 $\new unicode char \{\ell\} \{\new unimpose \{\ell\}\} \}$

5 Greek alphabet

incomplete

5.1 Normal

complete

```
\newunicodechar{\alpha}{\ensuremath{\alpha}}
\new unicode char {A} {\new unicode char {A}} {\new 
\newunicodechar{\beta}{\ensuremath{\beta}}
\newunicodechar{B}{\ensuremath{\Beta}}
\mbox{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar
\mbox{\codechar}{\Gamma}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{
\new unicode char {\delta}{\new unicode char {\delta}{\new unicode char {\delta}}}
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\verb|\newunicodechar{$\epsilon$}{\newunicodechar{$\epsilon$}}|
\newunicodechar{\(\zeta\)}
\newunicodechar{Z}{\ensuremath{\Zeta}}
\new unicode char {\eta}{\new unicode char {\eta}}{\new unicode char {\eta}
\newunicodechar{H}{\ensuremath{\Eta}}
\new unicode char \{\theta\} \{\new unicode char \{\theta\}\} \}
\newunicodechar{\Theta}{\ensuremath{\Theta}}
\verb|\newunicodechar{|\iota|}{\newunicodechar{|\iota|}}|
```

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\mbox{\newunicodechar}{I}{\newunicodechar}
\verb|\newunicodechar{|\kappa|}{\newunicodechar{|\kappa|}}|
\mbox{\newunicodechar}{K}{\cnsuremath}{\cnsuremath}
\new unicode char {\Lambda}{\new unicode char {\Lambda}{\new unicode char {\Lambda}}}
\mbox{\newunicodechar}\{\mu\}{\newunicodechar}\{\mu\}\}
\new unicode char \{\nu\} \{\nu\} \}
\new unicode char{N}{\new unicode char{N}}
\verb|\newunicodechar{$\xi$}{\newunicodechar{$\xi$}}| 
\mbox{\newunicodechar}{\Xi}{\newunicodechar}{\Xi}{\newunicodechar}
\newunicodechar{o}{\ensuremath{\omicron}}}
\newunicodechar{O}{\ensuremath{\Omicron}}
\new unicode char {\pi}{\operatorname{municodechar}{\pi}}
\mbox{\newunicodechar}{\Pi}{\color{\Pi}}
\mbox{\codechar}{\rho}{\codechar}{\rho}{\codechar}{\rho}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\codechar}{\code
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\new unicode char {\sigma}{\new unicode char {\sigma}{\new unicode char {\sigma}}}
\mbox{\newunicodechar}{\color=0}{\color=0}
\verb|\newunicodechar{$\tau$}{\newunicodechar{$\tau$}}|
\mbox{\newunicodechar}{\newunicodechar}{\newunicodechar}
\new unicode char \{v\} \{\new unit ode char \{v\} \} \}
\mbox{\newunicodechar}{\newunicodechar}{\newunicodechar}
\newunicodechar{}{\ensuremath{\phi}}
\new unicode char {\Phi}{\new unicode char {\Phi}} {\new u
\mbox{\newunicodechar}{\chi}{\cm}
\newunicodechar{X}{\ensuremath{\Chi}}
\mbox{\newunicodechar}{\psi}{\newunicodechar}{\psi}{\newunicodechar}{\psi}{\newunicodechar}{\psi}{\newunicodechar}{\psi}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{\newunicodechar}{
\mbox{\newunicodechar}{\Psi}{\consuremath}{\consuremath}
\new unicode char \{\omega\} \{\new unimpose \{\omega\}\} \}
\new nicode char {\Omega}{\new new nicode char {\Omega}{\new new nicode char {\Omega}}{\new nicode char {\Omega}}
```

5.2 var-variants

incomplete

Note that some of the default Agda input entries are in this list, rather than the default above.

Also, varbeta is missing here; it requires a choice of some other package to add support for it.

```
\newunicodechar\{\varepsilon\}{\ensuremath{\varepsilon}} \newunicodechar\{\vartheta\}{\ensuremath{\vartheta}}
```

```
\label{eq:constraints} $$\operatorname{\omega}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath}_{\varepsilon}^{\ensuremath
```

6 Subscripts, superscripts, underscripts, and overscripts incomplete

Note that while the alphabetic lists are complete, **there are missing letters**, because unfortunately Unicode does not have characters for every letter subscript and superscript.

6.1 Subscripts

incomplete

Note there are no uppercase letter subscripts.

6.1.1 Lowercase alphabet

complete

```
\newunicodechar{a}{\ensuremath{{}_{a}}}
\verb|\newunicodechar|{e}| {\newunicodechar}{e}| \\
\new unicode char {h}{\new unicode char {h}}{\new unicode char {h}
\newunicodechar{i}{\ensuremath{{}_{i}}}
\newunicodechar{<sub>i</sub>}{\ensuremath{{}_{j}}}}
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\verb|\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}_n}{\newunicodechar{|}
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\verb|\newunicodechar{|}_p{\newunicodechar{|}_p}| \\
\verb|\newunicodechar{||}{\newunicodechar{||}}| \\
\verb|\newunicodechar{|}_{s}| = math{\{\}_{s}\}}|
\verb|\newunicodechar{|}{\newunicodechar{|}{\newunicodechar{|}{}}}|
\verb|\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{|}{\newunicodechar{||}{\newunicodechar{||}{\newunicodechar{||}{\ne
\verb|\newunicodechar{|}_{x}| = math{\{\}_{x}\}}|
```

6.1.2 Numeric complete

```
\newunicodechar{2}{\ensuremath{{}_{2}}}}
\newunicodechar{3}{\ensuremath{{}_{3}}}
\newunicodechar{5}{\ensuremath{{}_{5}}}
\new unicode char \{_6\} \{\new unit math \{ \}_{6} \} \}
\newunicodechar{8}{\ensuremath{{}_{8}}}
\new unicode char {0}{\new unicode char {0}}{\new unicode char {0}}{\new unicode char {0}}}
6.1.3 Other
                                                                                                                                            incomplete
\newunicodechar{_+}{\ensuremath{{}_{+}}}}
6.2
             Superscripts
                                                                                                                                          incomplete
6.2.1 Uppercase alphabet
\verb|\newunicodechar|{A}|{\newunicodechar}{A}| \\
\newunicodechar\{B\}{\ensuremath\{\{\}^{B}\}}
\newunicodechar\{E\}{\ensuremath\{\{\}^{E}\}}
\new unicode char \{G\} \{\new unicode char \{G\} \} \}
\new unicode char \{^{H}\} \{\new unicode char \{^{H}\}\} \}
\verb|\newunicodechar| \{I\} \{ \newunitarial \{I\} \} \}
\verb|\newunicodechar| \{J^{\} \{\ \ \ \ \ \ \ \ \ \ \ \ \ \}\} \}
\new unicode char \{^{L}\} \{\new unicode char \{^{L}\}\} \}
\new unicode char \{^{M}\} \{\new unicode char \{^{M}\}\} \}
\new unicode char \{^N\} \{\new unicode char \{^N\} \} \}
\newunicodechar\{R\}{\ensuremath\{\{\}^{R}\}}
\verb|\newunicodechar|{}^T } {\newunicodechar} {\n
\newunicodechar{^{U}}{\ensuremath{{}}^{U}}}
\verb|\newunicodechar| \{V\} \{ \texttt{\newunicodechar} \{V\} \} \}
\new unicode char \{W\} \{\new unicode char \{W\}\} \}
6.2.2 Lowercase alphabet
\new unicode char {a}{\operatorname{new unicodechar}} \\
```

 $\new unicode char \{b\} \{\new unith \{\{\}^{b}\}\}\$

```
\new unicode char \{^c\} \{\new unit math \{ \}^{c} \} \}
\new unicode char \{d\} \{\new unit = \{d\}\} \}
\verb|\newunicodechar| \{e\} \{ \newunited \{e\} \} \}
\newunicodechar\{f\}{\ensuremath\{\{\}^{f}\}}
\new unicode char \{g\} \{\new unimed \{g\}\} \}
\new unicode char \{^h\} \{\new unicode char \{^h\} \} \}
\new unicode char \{i\} \{\new unimpose \{i\}\} \}
\new unicode char { j } {\new unicode char { j } {\new unicode char { j } } }
\mbox{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremath}{\ensuremat
\new unicode char \{^n\} \{\new unit math \{\{\}^{n}\}\} \}
\newunicodechar{o}{\ensuremath{{}^{o}}}
\new unicode char \{^r\} \{\new unit math \{\{\}^{r}\}\} \}
\new unicode char {s}{\new unicode char {s}}{\new unicode char {s}}}
\new unicode char \{t\} \{\new unit ode char \{t\} \} \}
\new unicode char \{v\} {\new unicode char \{v\} \}}
\new unicode char \{^w\} \{\new unicode char \{^w\} \} \}
\new unicode char \{^x\} \{\new unimpose x \} \}
\new unicode char \{y\} \{\new unit math \{\{\}^{y}\}\} \}
\new unicode char{z}{\new unicode char{z}}{\new unicode char{z}}}
```

6.2.3 Numeric

```
\label{thm:codechar} $$\operatorname{1}{\operatorname{1}}^{0}} \ \operatorname{1}^{0}} \ \operatorname{1}^{1}} \ \operatorname{1}^{0}} \
```

6.2.4 Other

\newunicodechar{+}{\ensuremath{{}^{+}}}}

7 Punctuation and delimiters

incomplete

7.1 Dots incomplete

```
\newunicodechar{...}{\ensuremath{\ldots}}
\newunicodechar{...}{\ensuremath{\cdots}}
\newunicodechar{:}{\ensuremath{\vdots}}
```

7.2 Dashes incomplete

```
\newunicodechar{-}{\ensuremath{\text{--}}}
\newunicodechar{--}{\ensuremath{\text{---}}}}
```

7.3 Parentheses, braces and brackets

incomplete

Note there are a few different braces I translate the same way. Braces and parentheses themselves are special characters in Agda, so they cannot be used in names.

7.4 Other paired delimiters

```
\newunicodechar{\bar{\bar{\corner}}} \
\newunicodechar{\bar{\corner}} \\
\newunicodechar{\bar{\corner}} \\
\newunicodechar{\bar{\corner}} \\
\newunicodechar{\bar{\corner}} \\
\newunicodechar{\corner}} \\
\newuni
```

7.5 Whitespace

Non-breaking space. Though it may appear as a normal space, it is in fact a ~ in the LAT_FX.

\newunicodechar{ }{\ensuremath{~}}}

I am a very long line whose words are separated by non-breaking spaces so I should run off the page at

8 Logic incomplete

8.1 Quantifiers

incomplete

8.2 Boolean algebra

incomplete

8.3 Entailment

```
\newunicodechar{\\-}{\ensuremath{\vdash}}
\newunicodechar{\\-}{\ensuremath{\dashv}}
\newunicodechar{\\-}{\ensuremath{\vDash}}}
```

9 Sets, relations and functions

incomplete

9.1 Sets incomplete

```
\label{thm:codechar} $$\operatorname{\emptyset}_{\operatorname{mptyset}} \rightarrow (\emptyset)_{\operatorname{mptyset}} \rightarrow (\emptyset)_{\operatorname
```

9.2 Relation operators

incomplete

```
\label{eq:linear} $$\operatorname{T}{\operatorname{T}}{\operatorname{T}}_{\operatorname{T}}^{\ \mathbb{T}}_{\operatorname{T}}^{\ \mathbb{T}}_{\operatorname{T}}^{\ \mathbb{T}}_{\operatorname{T}}^{\ \mathbb{T}}_{\operatorname{T}}^{\ \mathbb{T}}_{\operatorname{T}}^{\ \mathbb{T}}^{\ \mathbb{T}}^{\ \mathbb{T}}_{\operatorname{T}}^{\ \mathbb{T}}^{\ \mathbb{T}}^{\mathbb{T}}^{\ \mathbb{T}}^{\ \mathbb{T}
```

9.3 Function operators

incomplete

\newunicodechar{0}{\ensuremath{\circ}}

9.4 Relations

incomplete

9.4.1 Equality like

Along with negations where they exist. Note that equivalences are within the 8 section.

9.4.2 Order like

```
\newunicodechar{≤}{\ensuremath{\leq}}
\newunicodechar{$\${\ensuremath{\nleq}}}
\newunicodechar{$\}{\ensuremath{\geq}}}
\newunicodechar{$\${\ensuremath{\ngeq}}}
```

10 Generic or other operators

10.1 Arrows

10.2 "o"-operators

```
\newunicodechar{\( \operath{\oplus} \)
\newunicodechar{\( \operath{\ominus} \)
\newunicodechar{\( \operath{\otimes} \)
\newunicodechar{\( \operath{\oslash} \)
\newunicodechar{\( \operath{\odot} \)
\newunicodechar{\( \
```

10.3 Small, halfwidth and fullwidth math symbols

For small characters, we use scalebox on the corresponding symbols, and raisebox to correct for height.

```
\label{thm:codechar} $$\operatorname{\traisebox}.4\left(\scalebox\{.6\}^*\}\right) \ \operatorname{\traisebox}.4\left(\scalebox\{.6\}^*\}\right) \ \operatorname{\traisebox}.4\left(\scalebox\{.6\}^*\right) \ \operatorname{\traisebox}
```

For fullwidth characters, we place them in a 1em box. Note the "plain TeX" method for obtaining a non-raised tilde here.

So far, I haven't devised a good solution for the halfwidth arrows. I just substitute the regular arrows in.

```
\newnicodechar\{\leftarrow\}\{\newnicodechar\{\uparrow\}\{\newnicodechar\{\uparrow\}\}\}\} \\ \newnicodechar\{\rightarrow\}\{\newnicodechar\{\downarrow\}\}\} \\ \newnicodechar\{\downarrow\}\{\newnicodechar\{\downarrow\}\}\} \\ \newnicodechar\{\downarrow\}\{\newnicodechar\{\downarrow\}\} \\
```

10.4 Punctuation like

```
\newunicodechar{}{\ensuremath{\ratio}}
\newunicodechar{}{\ensuremath{\fcmp}}
```

10.5 Others

Probably some of these belong somewhere else.

11 Emoticons

11.1 Check and X-marks

11.2 Smilies

I have not found a reliable way to produce smilies in LATEX. In LuaLaTeX and XeLaTeX, it should work to just use the unicode characters themselves, making sure to use a font that supports them. DejaVu Sans does so.

\newfontfamily\DejaSans{DejaVu Sans}

So these characters can only be used if you use LuaLaTeX or XeLaTeX.

```
\newunicodechar{@}{{\DejaSans @}}
\newunicodechar{@}{{\DejaSans @}}
\newunicodechar{@}{{\DejaSans @}}
\newunicodechar{@}{{\DejaSans @}}
\newunicodechar{}{{\DejaSans }}
```