mtgreek, a package for enabling upright and italic Greek math letters with MathTime™

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1 Introduction

This package is an add-on to the MathTime style, a style to provide TeX support for the use of the MathTime™ commercially distributed by Y&Y, Inc.

The style file for MathTime has hard-wired uppercase Greek letters, they are upright and only upright, though the fonts come with italic letters as well for each and every weight. This package provides a switch to choose between both kinds of Greek uppercase letters.

With the command \uprightupcasegreek you turn to upright letters, with \italicupcasegreek you turn to italics.

2 Realization

The whole stuff is realized by tweaking NFSS2, since Greek characters are distributed rather madly in the fonts. In fact, after a no-op option processing event

\ProcessOptions\relax

and the explicit care, that we do not tweak the original math font setup,

\RequirePackage{mathtime}

we in fact adapt the core \LaTeX routines for command-character mapping \DeclareMathSymbol and \set@mathsymbol by throwing away all warning, other operators or \@onlypreamble-stuff.

\mtg@realloc

The macro \mtg@realloc turns the decimal digit into a hexadecimal one (why isn’t there a central routine for more than one digit?) and calls \mtg@realloc,

\def\mtg@realloc#1#2{%
\begin{group}
\count\z@=#2\relax
\count\tw@=\count\z@
\divide\count\z@\sixt@@n
\count@=\count\z@
\multiply\count@\sixt@@n
\advance\count\tw@-\count@
\expandafter\mtg@re@lloc
#1{\hexnumber@\count\z@\hexnumber@\count\tw@}%
\endgroup
\@mtg@re@lloc
then overwrites the \texttt{mathchardef}inition for a single letter.
\def\mtg@re@lloc#1#2{\global\mathchardef#1="01#2\relax }

The two switches take the character codes and plug them into the appropriate
letter commands, e basta cosí!
\newcommand{\uprightupcasegreek}{%
\mtg@realloc\Gamma {48}\mtg@realloc\Delta {49}%
\mtg@realloc\Theta {50}\mtg@realloc\Lambda {51}%
\mtg@realloc\Xi {52}\mtg@realloc\Pi {53}%
\mtg@realloc\Sigma {54}\mtg@realloc\Upsilon {55}%
\mtg@realloc\Phi {56}\mtg@realloc\Psi {57}%
\mtg@realloc\Omega {127}}
\newcommand{\italicupcasegreek}{%
\mtg@realloc\Gamma {0}\mtg@realloc\Delta {1}%
\mtg@realloc\Theta {2}\mtg@realloc\Lambda {3}%
\mtg@realloc\Xi {4}\mtg@realloc\Pi {5}%
\mtg@realloc\Sigma {6}\mtg@realloc\Upsilon {7}%
\mtg@realloc\Phi {8}\mtg@realloc\Psi {9}%
\mtg@realloc\Omega {10}}

\textbf{Change History}

v0.01
General: Initial Revision (KT). . . . 1

\textbf{Index}

Numbers written in italic refer to the page where the corresponding entry is
described; numbers underlined refer to the code line of the definition; numbers in
roman refer to the code lines where the entry is used.

\begin{center}
\begin{tabular}{lll}
\textbf{Symbols} & \textbf{D} & \textbf{G} \\
\texttt{\@mtg@re@lloc} & 14 & \texttt{\Delta} & 16, 23 & \texttt{\Gamma} & 16, 23 \\
\end{tabular}
\end{center}
<table>
<thead>
<tr>
<th>Greek Letter</th>
<th>Page References</th>
</tr>
</thead>
<tbody>
<tr>
<td>\italicupcasegreek I</td>
<td>1, 22</td>
</tr>
<tr>
<td>\Omega</td>
<td>21, 28</td>
</tr>
<tr>
<td>\Theta</td>
<td>17, 24</td>
</tr>
<tr>
<td>\Lambda</td>
<td>17, 24</td>
</tr>
<tr>
<td>\Phi</td>
<td>20, 27</td>
</tr>
<tr>
<td>\Uprightupcasegreek I</td>
<td>1, 15</td>
</tr>
<tr>
<td>\Pi</td>
<td>18, 25</td>
</tr>
<tr>
<td>\Psi</td>
<td>20, 27</td>
</tr>
<tr>
<td>\Upgamma</td>
<td>19, 26</td>
</tr>
<tr>
<td>\Sigma</td>
<td>19, 26</td>
</tr>
<tr>
<td>\Xi</td>
<td>18, 25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Page References</th>
</tr>
</thead>
<tbody>
<tr>
<td>\mtg@realloc</td>
<td>11, 14</td>
</tr>
<tr>
<td>\mtg@realloc</td>
<td>3, 16–21, 23–28</td>
</tr>
<tr>
<td>\Sigma</td>
<td>19, 26</td>
</tr>
<tr>
<td>\Xi</td>
<td>18, 25</td>
</tr>
</tbody>
</table>