

mayanumber

Mayan numerals and vigesimal notation
with positional floor colors
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Abstract

The `mayanumber` package converts decimal integers of *any* magnitude into (a) Mayan numerals (dots and bars, Unicode block U+1D2E0–U+1D2F3) and (b) vigesimal alphabetic notation (0–9, A–J), coloring each positional *floor* with a cycle of seven colors: earth, water, vegetation, life, sky, sun, universe.

1 Requirements and installation

XeLaTeX or LuaLaTeX. The package loads `xcolor` and `fontspec` by itself. It requires the free font *BabelStone Mayan Numerals* (<https://www.babelstone.co.uk/Fonts/>). To use another face, declare it *before* loading the package:

```
\newfontface{\mayanumerals}{Noto Sans Mayan Numerals}  
\usepackage{mayanumber}
```

Installation: drop `mayanumber.sty` next to your document, or into `tex/latex/mayanumber/` of your local TEXMF tree.

2 The command and its options

```
\mayanumber{4581}           % vertical + colors (default)  
\mayanumber[horizontal]{4581} % floors in a row, MSB left  
\mayanumber[nocolor]{4581}   % plain glyphs  
\mayanumber[nocolor, scale=3]{4581} % options combine freely  
\mayanumber[align=t]{4581}   % vertical alignment: c, t, b  
\mayanumber*{4581}          % alphabetic: B91 with subscript 20
```

Key	Values	Default	Meaning
<code>vertical</code> / <code>horizontal</code>	–	vertical	stack floors, or lay them in a row
<code>colors</code> / <code>nocolor</code>	–	colors	seven-color cycle on/off
<code>scale</code>	number	1	font scale
<code>align</code>	c, t, b	c	vertical alignment of the stack

Every call resets to the defaults before applying its own options, so no state leaks between calls.

3 The seven-floor color cycle

Floors are colored from the bottom up (and right to left in horizontal mode):

Floor	Swatch	Name	Meaning
6		#6A0DAD	the universe
5		#DAA520	light, the sun
4		#87CEEB	the sky
3		#DC143C	life
2		#2E8B57	vegetation
1		#005B96	water
0		#8B4513	the earth

The table reads like a Mayan stack: the earth below, the universe above.

Beyond floor 6 the cycle repeats: the universe becomes earth again. The two blues differ in luminosity on purpose: water is deep and saturated, sky is light and airy. The colors are declared with `\providecolor (mayaTierra, mayaAgua, ...)`, so users may redefine them before loading the package.

4 Examples

          