tesseracont — A new LaTeX package*

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Abstract

A simple package to write tesseracont numbers in LaTeX (and possibly TeX).

1 Usage

`\tesseracont` The only user macro for this packge is `\tesseracont{`⟨*base 10 number*⟩`}`. It converts numbers from base 10 into base tesseracont like so:

Base 10	Base tesseracont
TODO	(this in TikZ, tables don't like loops!

2 Implementation

```
1 ⟨*package⟩
2 \RequirePackage{xparse}
3 \RequirePackage{tikz}
4 \tikzset{
5   pics/carc/.style args={#1:#2:#3}{
6     code={
7       \draw[pic actions] (#1:#3) arc(#1:#2:#3);
8     }
9   }
10 }
```

`\tesseracont@dodec` An internal helper macro to calculcate a dodecadent (like quadrant, but with twelve).

```
11 \def\tesseracont@dodec#1{{90+(30*(#1-1)}}
```

`\tesseracont@one` Representation of the number 1 in base tesseracont .

```
12 \NewDocumentCommand{\tesseracont@one}{}{%
13   \draw[white] (0,0) circle (0pt) pic[black]{%
14     carc=\tesseracont@dodec{2}:\tesseracont@dodec{7}:6pt};%
15   \draw[white] (0,0) circle (0pt) pic[black,line width={6pt*0.2}]{%
16     carc=\tesseracont@dodec{2}:\tesseracont@dodec{4}:{6pt*0.9}};%
17 }
```

`\tesseracont@two` Representation of the number 2 in base tesseracont .

```
18 \NewDocumentCommand{\tesseracont@two}{}{%
19   \draw[white] (0,0) circle (0pt) pic[black]{carc=\tesseracont@dodec{7}:\tesseracont@dodec{2+1
20   \draw[white] (0,0) circle (0pt) pic[black,line width={6pt*0.2}]{carc=\tesseracont@dodec{7}:\
21 }
```

`\tesseracont@three` Representation of the number 3 in base tesseracont .

```
22 \NewDocumentCommand{\tesseracont@three}{}{%
23   \draw[white] (0,0) circle (0pt) pic[black]{carc=\tesseracont@dodec{3}:\tesseracont@dodec{11}
24   \draw[white] (0,0) circle (0pt) pic[black,line width={6pt*0.2}]{carc=\tesseracont@dodec{3}:\
25   \draw[white] (0,0) circle (0pt) pic[black,line width={6pt*0.2}]{carc=\tesseracont@dodec{8}:\
26 }
```

*This file describes version v1.00, last revised 2018/02/18.

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`\tesseracont@four` Representation of the number 4 in base tesseracont .

```
\NewDocumentCommand{\tesseracont@four}{}{
  \draw[white] (0,0) circle (0pt) pic[black]{carc=\tesseracont@dodec{8}:\tesseracont@dodec{6+1
  \draw[white] (0,0) circle (0pt) pic[black,line width={6pt*0.2}]{carc=\tesseracont@dodec{0}:\
}
```

`\tesseracont@five` Representation of the number 5 in base tesseracont ○.

```
\NewDocumentCommand{\tesseracont@five}{}{
  \draw[black] (0,0) circle ({6pt*0.5});
}
```

`\tesseracont@ten` Representation of the number 10 in base tesseracont .

```
\NewDocumentCommand{\tesseracont@ten}{}{
  \draw[white] (0,0) circle (0pt) pic[black]{carc=\tesseracont@dodec{2}:\tesseracont@dodec{8}:
  \draw[black] (0,0) -- ++(\tesseracont@dodec{2}:6pt);
}
```

`\tesseracont@fifteen` Representation of the number 15 in base tesseracont  .

```
\NewDocumentCommand{\tesseracont@fifteen}{}{
  \draw[white] (0,0) circle (0pt) pic[black]{carc=0:180:6pt};
  \draw[black] ({6pt*0.3},0) -- ++(0:{6pt*0.7});
}

\endinput
⟨/package⟩
```

3 Change History

v1.00

General: First public release 1

4 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.