Drawing Pie Chart by using \texttt{pgf-pie}

Yuan Xu

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Abstract

\texttt{pgf-pie} is a LaTeX package for drawing pie chart (and variant charts). As stated by its name, it is based on a very popular graphic package PGF/TiKZ. This document presents the usage of \texttt{pgf-pie} and collects some pie charts as examples. \texttt{pgf-pie} can be downloaded from https://github.com/pgf-tikz/pgf-pie.

Contents

1 Usage .......................... 1
  1.1 First Pie ................................................................. 1
  1.2 Position, Rotation, Size ......................... 1
  1.3 Color ................................................................. 2
  1.4 Explode .............................................................. 2
  1.5 Angle of slices .................................................. 3
  1.6 Text ................................................................. 3
    1.6.1 Number ......................................................... 3
    1.6.2 Label text ...................................................... 4
  1.7 More about style .............................................. 4
    1.7.1 shadow .......................................................... 4
2 Variant Charts ......................... 5
  2.1 Polar area diagram ......................... 5
  2.2 Square .............................................................. 5
  2.3 Clouds .............................................................. 5
3 Examples ................................. 5
4 Acknowledgements ....................... 5

1 Usage

1.1 First Pie

\texttt{\pie} is the only command that provided by \texttt{pgf-pie}. The argument is a list of number and text combination in the formate of \texttt{number/text}, i.e. 10/A, 20/B, 30/C, 40/D. The result is shown in figure 1.

\begin{tikzpicture}
\pie{10/, 20/, 30/, 40/}
\pie[pos={8,0}, rotate=180]{10/, 20/, 30/, 40/}
\pie[pos={17,0}, radius=4]{10/, 20/, 30/, 40/}
\end{tikzpicture}

1.2 Position, Rotation, Size

The center of chart can be set by \texttt{pos}, default is \{0,0\}. The chart can be rotated by setting \texttt{rotate} (in degrees). The size of chart can be set by \texttt{radius}, default is 3.
1.3 Color

The color can be specified by `color`, the default color wheel is shown in figure 2.

```
\begin{tikzpicture}
\pie[color={black!10, black!20, black!30, black!40}]
{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
```

```
\begin{tikzpicture}
\pie[pos={8,0}, color=blue!20]
{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
```

1.4 Explode

```
\begin{tikzpicture}
\pie=explode={0, 0, 0, 0.1}
{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
```

```
\begin{tikzpicture}
\pie=explode={0, 0, 0, 0.1} % explode all
\pie[pos={8,0}, explode=0.1] {10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
```
1.5 Angle of slices
The value of \texttt{sum} indicates the sum of all data in the chart, it is 100 by default. It can be calculated automatically when \texttt{auto} is set. Then the angle of slices are determined by number value and \texttt{sum}.

\begin{tikzpicture}
\pie[sum=auto, after number=, radius=2]{33/Boys, 7/Girls}
\end{tikzpicture}

1.6 Text
1.6.1 Number
Two parameters can be used to decorate number: \texttt{before number} and \texttt{after number}. Both are empty by default, but if \texttt{sum}=100, \texttt{after number} will be set to \% automatically if user doesn’t set it.

\begin{tikzpicture}
\pie[before number=\£, after number=, ]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}

The number also can be hide by \texttt{hide number}:

\begin{tikzpicture}
\pie[hide number]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}

Scale font The size of font in size pie can be scaled according to how big the part is automatically.

\begin{tikzpicture}
\pie[scale font]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
1.6.2 Label text

The value of text can be label (default), pin, inside or legend.

\begin{tikzpicture}
\pie[text=pin]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}

\begin{tikzpicture}
\pie[text=inside]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}

\begin{tikzpicture}
\pie[text=legend]{10/First, 20/Second, 30/Third, 40/Fourth}
\end{tikzpicture}

1.7 More about style

1.7.1 shadow

\begin{tikzpicture}
\begin{scope}
\usetikzlibrary{shadows}
\end{scope}
\pie[style=drop shadow]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
2 Variant Charts

2.1 Polar area diagram

The polar area diagram is similar to a usual pie chart, except sectors are equal angles and differ rather in how far each sector extends from the center of the circle.

\begin{tikzpicture}
\pie[polar]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}

2.2 Square

\begin{tikzpicture}
\pie[\text{square}]{40/A, 30/B, 20/C, 10/D}
\end{tikzpicture}

Note: \texttt{explode} has no affects in square chart.

2.3 Clouds

\begin{tikzpicture}
\pie[\text{cloud, text=inside, scale font}]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}

3 Examples

4 Acknowledgements

Many people contributed to \texttt{pgf-pie} by reporting problems, suggesting various improvements or submitting code. Here is a list of these people: Mohammed Alfaki, and Lukas Drude.