Drawing Pie Chart by using `pgf-pie`

Yuan Xu

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Abstract

`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 `pgf-pie` and collects some pie charts as examples. `pgf-pie` can be downloaded from https://github.com/pgf-tikz/pgf-pie.

Contents

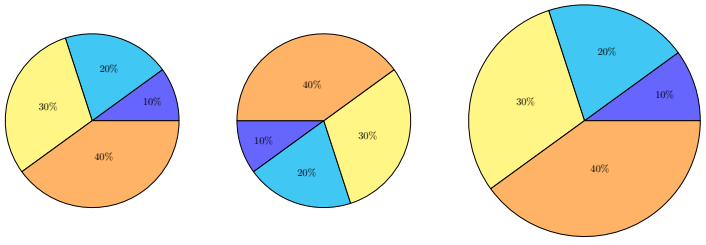
1 Usage

1.1 First Pie

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

1.2 Position, Rotation, Size

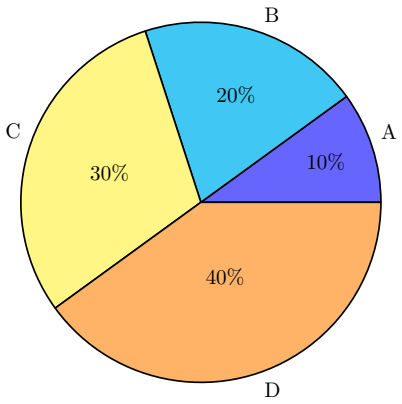
The center of chart can be set by `pos`, default is `{0,0}`. The chart can be rotated by setting `rotate` (in degrees). The size of chart can be set by `radius`, default is 3.




```
\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}
```




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

Figure 1: The first pie.

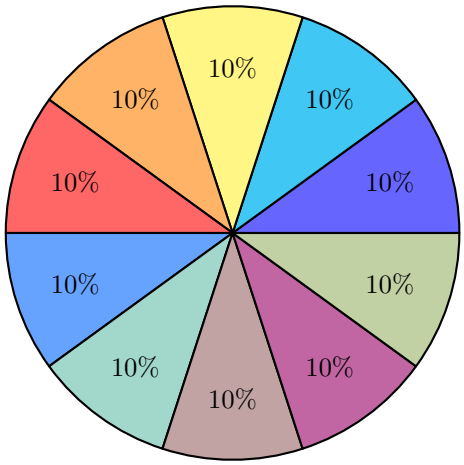
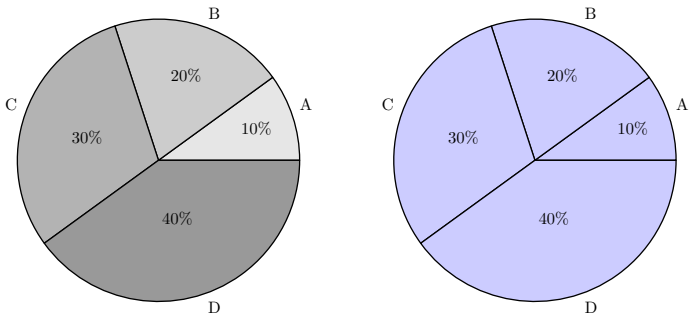


Figure 2: Default color wheel

1.3 Color

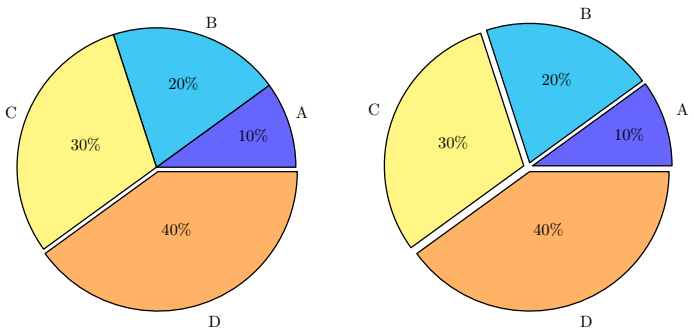
The color can be specified by `color`, the default color wheel is shown in figure 2.




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

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

1.4 Explode

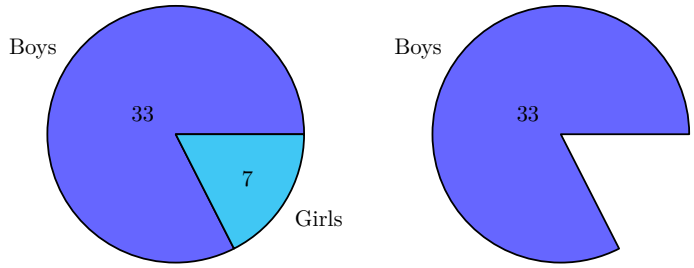



```
\begin{tikzpicture}
  % explode list
  \pie[explode={0, 0, 0, 0.1}] {10/A, 20/B, 30/C,
      40/D}

  % 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 `sum` indicats the sum of all data in the chart, it is 100 by default. It can be calculated automatically when `auto` is set. Then the angle of slices are determined by number value and `sum`.



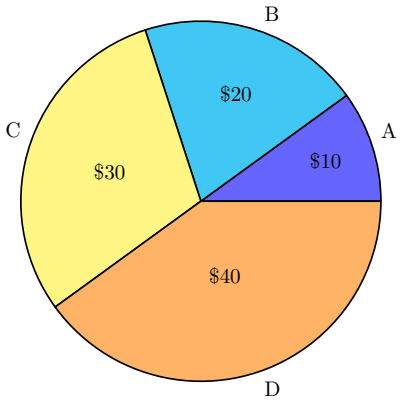

```
\begin{tikzpicture}
  \pie[sum=auto, after number=, radius=2]{33/Boys,
      7/Girls}

  \pie[pos={6,0}, sum=40, after number=, radius
      =2]{33/Boys}
\end{tikzpicture}
```

1.6 Text

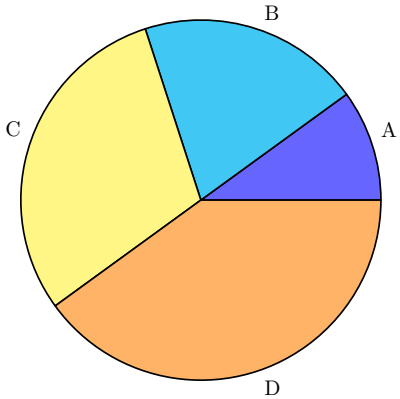
1.6.1 Number

Two parameters can be used to decorate number: `before number` and `after number`. Both are empty by default, but if `sum=100`, `after number` will be set to % automatically if user doesn't set it.



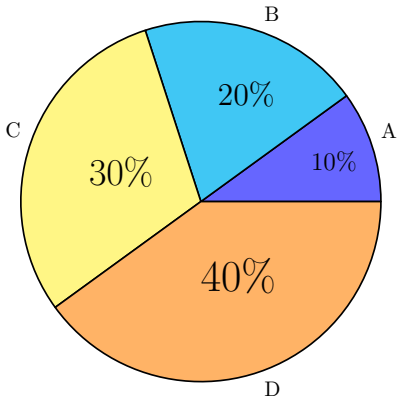

```
\begin{tikzpicture}
  \pie[before number={\$}, after number=,]{10/A,
      20/B, 30/C, 40/D}
\end{tikzpicture}
```

The number also can be hide by `hide number`:




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

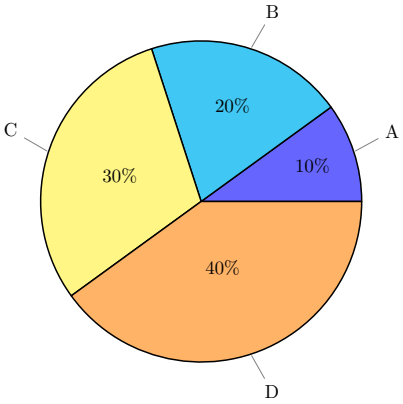
Scale font The size of font in size pie can be scaled according to how big the part is automatically.



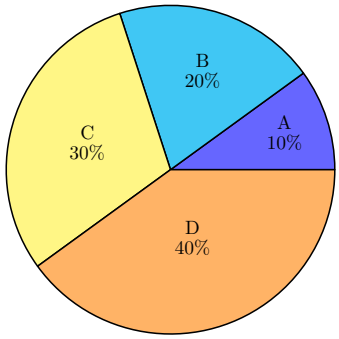

```
\begin{tikzpicture}
  \pie[scale font]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
```

1.6.2 Label text

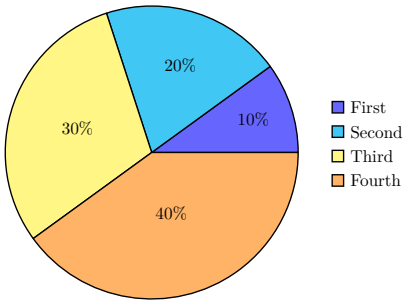
The value of `text` can be `label`(default), `pin`, `inside` or `legend`.




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



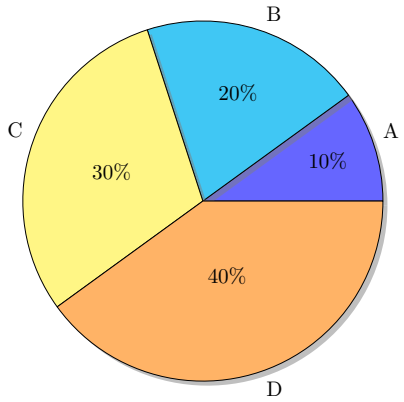

```
\begin{tikzpicture}
  \pie[text=inside]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
```




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

1.7 More about style

1.7.1 shadow

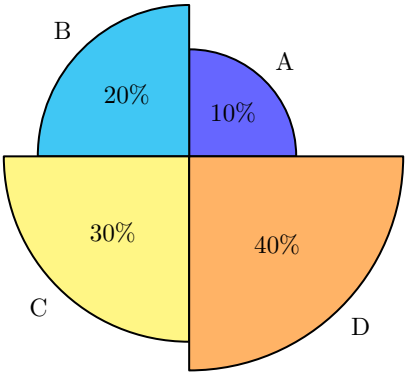



```
% \usetikzlibrary{shadows}
\begin{tikzpicture}
  \pie[style=drop shadow]{10/A, 20/B, 30/C, 40/D}
\end{tikzpicture}
```

2 Variant Charts

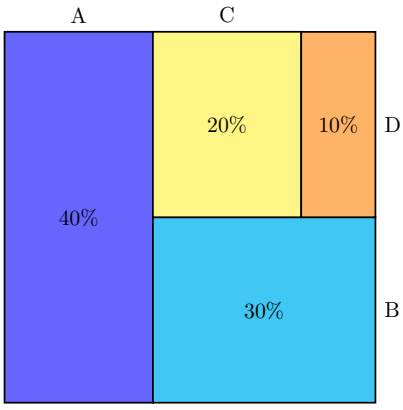
2.1 Polar area diagram

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}
```

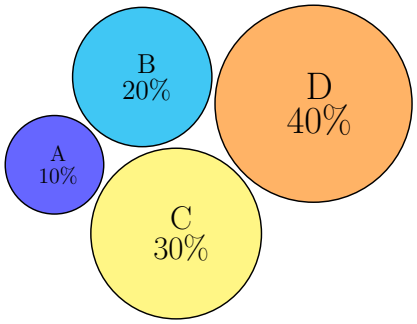
2.2 Square




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

Note: `explode` has no affects in sqaure chart.

2.3 Clouds




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

3 Examples

4 Acknowledgements

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