

TikZ commends tutorial

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The TikZ commands can be inside the environment `\begin{tikzpicture} ... \end{tikzpicture}` or simply use `\tikz` clause. We run `pdflatex` or `latex` followed by `dvips` to execute the TikZ commands.

1 Preliminary

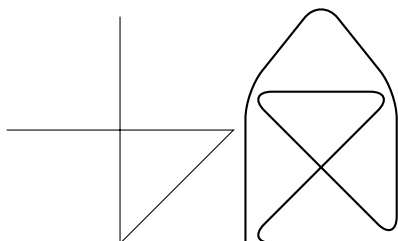
1.1 Straight Path Construction

Usage:

```
\draw[options] (x1,y1) -- (x2,y2) -- (x3,y3);
```

Example:

```
\draw (-1.5,0) -- (1.5,0) -- (0,-1.5) -- (0,1.5);  
\draw[thick, rounded corners=10pt]  
  (0,0) -- (0,2) -- (1,3.25) -- (2,2) -- (2,0) -- (0,2) -- (2,2) -- (0,0) -- (2,0);
```



1.2 Circle Path Construction

Usage:

```
\draw[options] (x,y) circle (radius);  
\draw[options] (x,y) ellipse (radius1 and radius2);
```

Example:

```
\draw (0,0) circle (2pt);  
\draw[red] (1,0) circle (3pt);  
\draw[fill=red] (2,0) circle (4pt);  
\draw[red,fill=red] (3,0) circle (5pt);  
\filldraw[blue,rotate=30] (3.5,-2) ellipse (10pt and 5pt);
```



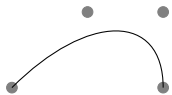
1.3 Curved Path Construction

Usage:

```
\draw[options] (x1,y1) .. controls (x2,y2) and (x3,y3) .. (x4,y4)
```

Example:

```
\filldraw[gray] (0,0) circle (2pt) (1,1) circle (2pt)
                (2,1) circle (2pt) (2,0) circle (2pt);
\draw (0,0) .. controls (1,1) and (2,1) .. (2,0);
```



1.4 Rectangle Path Construction

Usage:

```
\draw[options] (x1,y1) rectangle (x2,y2);
```

Example:

```
\draw (-1.5,0) -- (1.5,0);
\draw (0,-1.5) -- (0,1.5);
\draw[rotate=30, fill=red] (-0.5,-0.5) rectangle (-1,-1);
```

