PGF (Portable Graphics Format) is an internal engine, whereas TikZ (TikZ ist kein Zeichenprogramm) serves as a frontend.
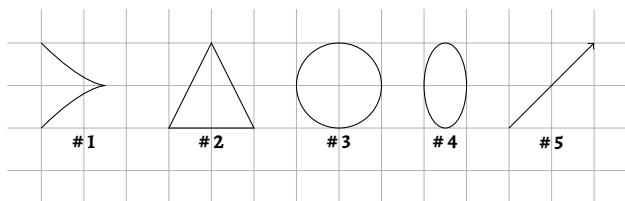
Usage

```
% ...
\usepackage{tikz}

\begin{document}
\begin{tikzpicture}
% larger picture code here
\end{tikzpicture}
% ...
```
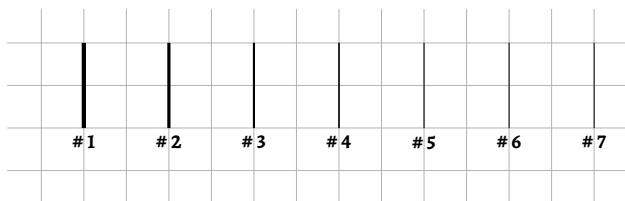
Basic shapes

```
\draw (10pt, 20pt) .. controls (30pt, 40pt) and (30pt, 20pt)
  .. (10pt, 40pt);
\draw (40pt, 20pt) -- (60pt, 20pt) -- (50pt, 40pt) -- cycle;
\draw (80pt, 30pt) circle (10pt);
\draw (105pt, 30pt) ellipse (5pt and 10pt);
\draw [->] (120pt, 20pt) -- (140pt, 40pt);
```

Thickness

```
\draw [ultra thick]  (20pt, 20pt)  -- (20pt, 40pt);
\draw [very thick]   (40pt, 20pt)  -- (40pt, 40pt);
\draw [thick]        (60pt, 20pt)  -- (60pt, 40pt);
\draw [semithick]    (80pt, 20pt)  -- (80pt, 40pt);
\draw [thin]         (100pt, 20pt) -- (100pt, 40pt);
\draw [very thin]    (120pt, 20pt) -- (120pt, 40pt);
\draw [ultra thin]   (140pt, 20pt) -- (140pt, 40pt);
```

Dots and dashes

All lines drawn below are ultra thick.

```
\draw [ultra thick, densely dotted];
\draw [ultra thick, dotted];
\draw [ultra thick, loosely dotted];
\draw [ultra thick, densely dashed];
\draw [ultra thick, dashed];
\draw [ultra thick, loosely dashed];
\draw [ultra thick, dashdotted];
```

Available colours

- red
- green
- blue
- cyan
- magenta
- yellow
- black
- gray
- darkgray
- lightgray
- brown
- lime
- olive
- orange
- pink
- purple
- teal
- violet
- white