Drawing with LaTeX

Remigiusz Modrzejewski

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Any future versions of these slides can be found under:
`http://blog.lrem.net/2013/04/26/drawing-in-latex/`

LaTeX

- You write text
- LaTeX lays it out on pages
- You disagree — your problem
- Drawings?

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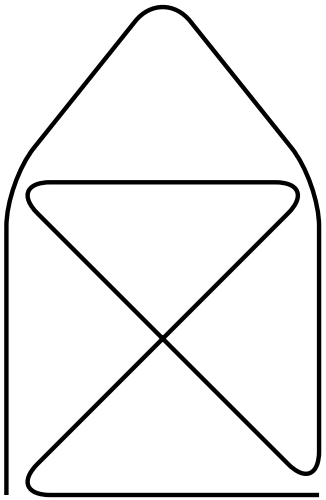
Preamble

Put this into the preamble of your document:

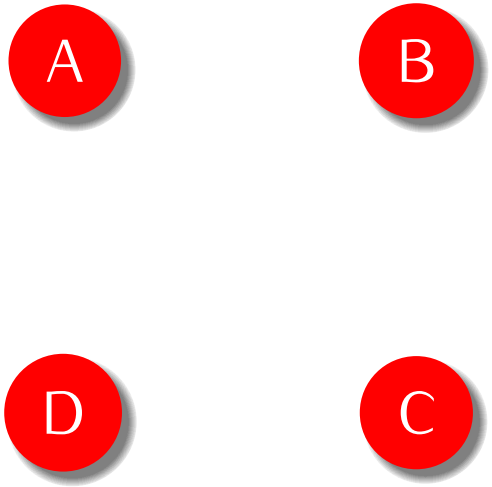
```
\usepackage{etex}
\usepackage{tikz}
\usetikzlibrary{shadows,
                positioning,
                calc,
                mindmap}
```

Tikz



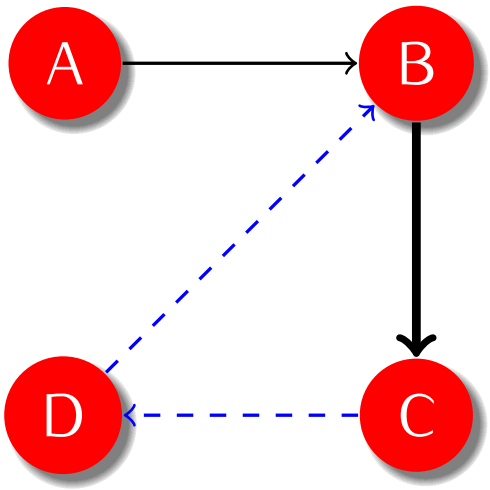
```
\tikz
\draw[thick,rounded corners=8pt]
(0,0) -- (0,2) -- (1,3.25) --
(2,2) -- (2,0) -- (0,2) --
(2,2) -- (0,0) -- (2,0);
```

Style & Layout



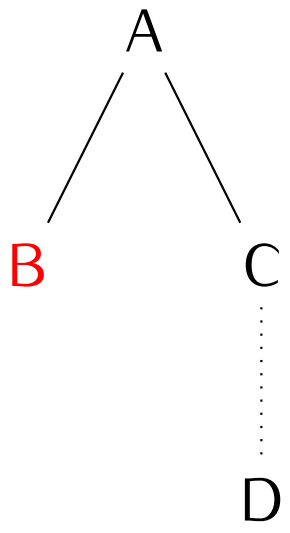

```
\begin{tikzpicture}[->,
    auto,node distance=1.5cm,semithick,
    every node/.style={fill=red,circle,
    circular drop shadow,text=white}]

    \node (A) {A};
    \node (B) [right = of A] {B};
    \node (C) [below = of B] {C};
    \node (D) [left = of C] {D};

\end{tikzpicture}
```

Edges



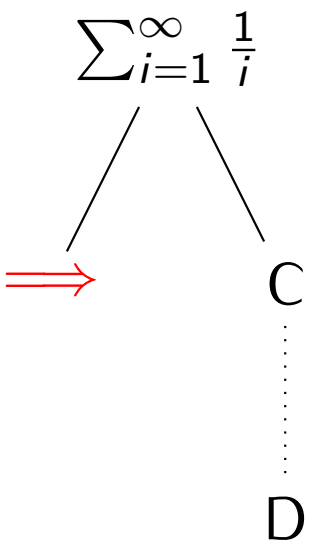

```
\begin{tikzpicture}[->,auto,node distance=

    \node (A) {A};\node (B) [right = of A]

    \path (A) edge (B);
    \path[ultra thick] (B) edge (C);
    \path[blue,dashed] (C) edge (D)
                       (D) edge (B);

\end{tikzpicture}
```

Trees



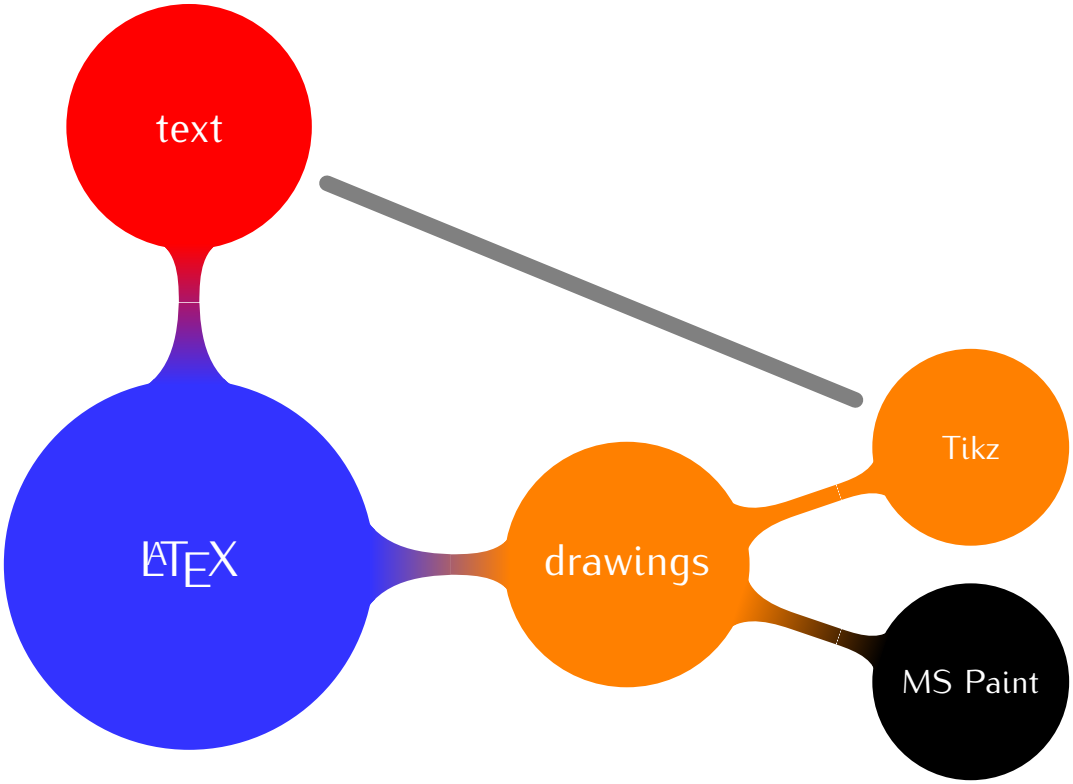

```
\begin{tikzpicture}
    \node {A}
        child {node[red] {B}}
        child {node {C}
            child[dotted] {node{D}}}
    ;
\end{tikzpicture}
```

Math^2




```
\begin{tikzpicture}
    \node {$\sum_{i = 1}^{\infty}
            \frac{1}{i}$}
        child {node[red] {
            $\Longrightarrow$}}
        child {node {C}
            child[dotted] {node{D}}}
    ;
\end{tikzpicture}
```

Mind maps



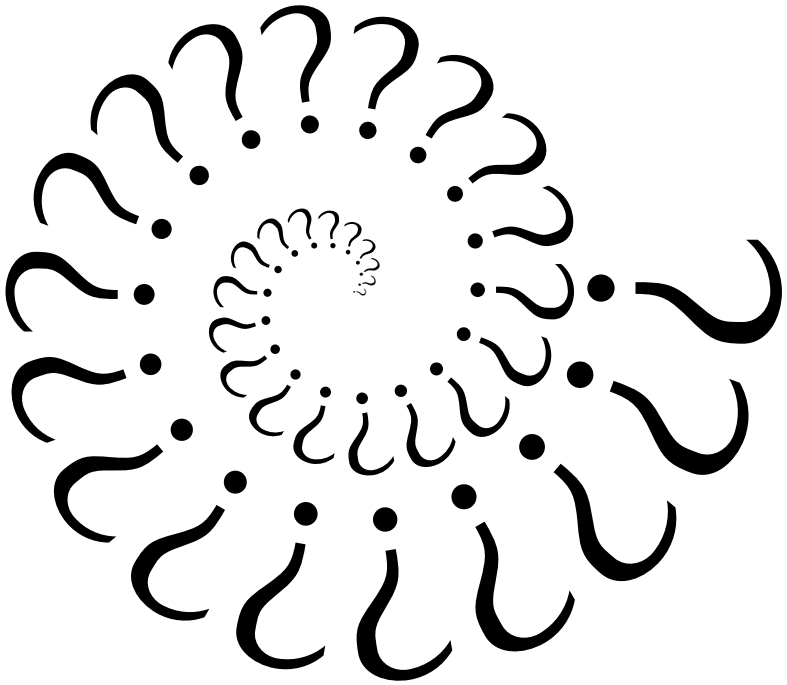
Mind maps

```
\begin{tikzpicture}[small mindmap,text=white,
    concept color = blue!80]
\node [concept] {\LaTeX}
  child[concept color=red,grow=90]
    {node[concept] (T1) {text}}
  child[concept color=orange,grow=0]
    {node[concept] {drawings}
       child[concept color=black] {
         node[concept] {MS Paint}}
       child[concept] {
         node[concept] (T2) {Tikz}}};
\draw (T1) edge[concept connection] (T2);
\end{tikzpicture}
```

Loops

```
\begin{tikzpicture}
\foreach \i in {0, 20, ..., 720}
{
  \path
    let
      \n1 = {0.5 + \i / 80}
    in
      node at (\i:\n1em)
        [rotate = \i - 90, scale = 0.5 + \i / 100] {?};
}
\end{tikzpicture}
```

Questions



Links

- Wikibook: `http://en.wikibooks.org/wiki/LaTeX/PGF/TikZ`
- Manual: `http://mirrors.ctan.org/graphics/pgf/base/doc/generic/pgf/pgfmanual.pdf`
- Gallery: `http://www.texample.net/tikz/examples/`