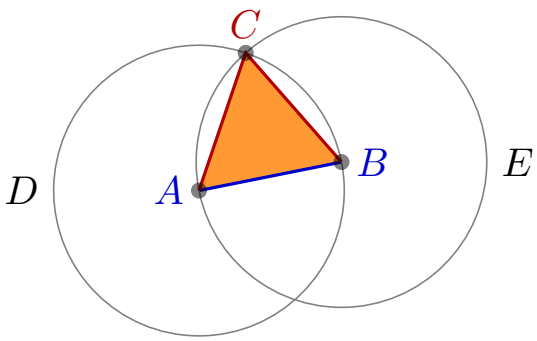
# Walk Through the Tutorial 4 of TikZ Manual

**Eason Zhang with www.makesteamclear.com**

**December 22, 2019**



**copyright page**

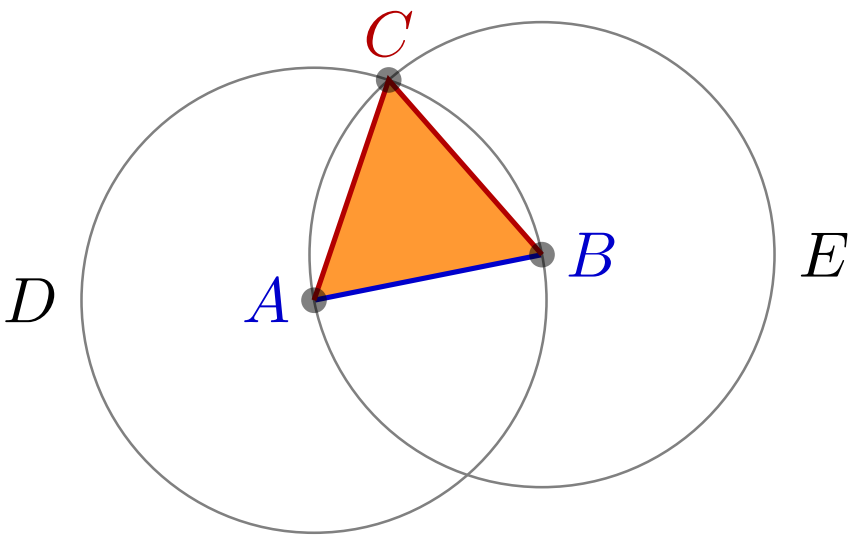
## Contents

Analyze the Elements Example in Chapter 3 of the TikZ manual line by line.

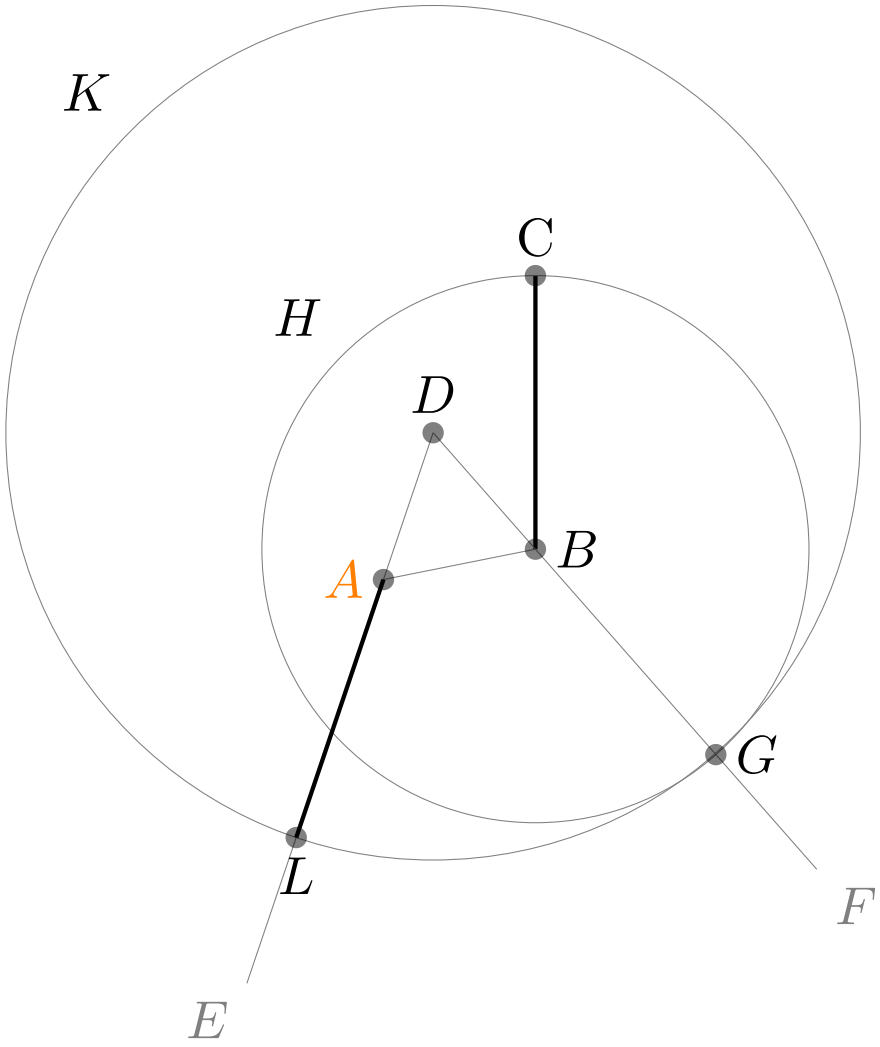
```
\begin{tikzpicture}
  [thick,help lines/.style={thin,draw=black!50}]
  \def\A{\textcolor{input}{$A$}}
  \def\B{\textcolor{input}{$B$}}
  \def\C{\textcolor{output}{$C$}}
  \def\D{$D$}
  \def\E{$E$}

  \colorlet{input}{blue!80!black}
  \colorlet{output}{red!70!black}
  \colorlet{triangle}{orange}

  \coordinate [label=left:\A] (A) at ($(0,0) + .0*(rand,rand)$)
     ;
  \coordinate [label=right:\B] (B) at ($(1.25,0.25) + .0*(rand,
     rand)$);

  \draw [input] (A) -- (B);

  \node [name path=D,help lines,draw,label=left:\D] (D) at (A)
     [circle through = (B)] {};
  \node [name path=E,help lines,draw,label=right:\E] (E) at (B)
      [circle through = (A)] {};

  \path [name intersections = {of =D and E, by={[label=above:\C
     ]C}}];
  \draw [output] (A) -- (C) -- (B);

  \foreach \point in {A,B,C}
  \fill[black,opacity=.5] (\point) circle (2pt);
  \begin{pgfonlayer}{background}
    \fill[triangle!80] (A) -- (C) -- (B) -- cycle;
  \end{pgfonlayer}

  % \node [below right, text width = 10cm,align = justify] at
     (4,3) {
  %   \small\textbf{Proposition I} \par
  %   \emph{To construct an \textcolor{triangle}{equilateral
     triangle}
  %     on a given \textcolor{input}{finite straight line.}}
```

```
34    %   \par \vskip 1em
35    %   Let \A\B\ be the given \textcolor{input}{finite straight
          line}. \dots
36    % };
37
38  \end{tikzpicture}
```

Listing 1: Euclid Amber version of the Elements



## 1 Proposition II



# 2 A Lecture Map Tutorial