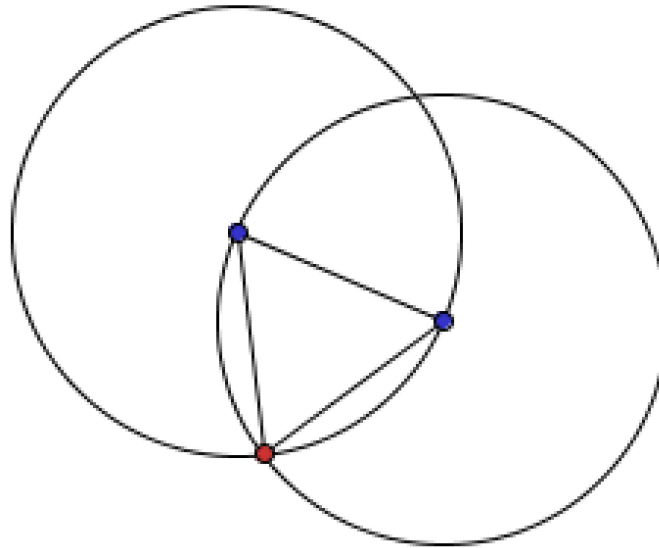


Java Exercises: Day 3

Exercise 1: Create a program containing a JPanel and a JButton. The panel should draw a String displaying the number of times the button has been pressed. Include a reset button.

Exercise 2: Yesterday you constructed the diagram below to explain Proposition 1 of Book 1 of *The Elements*.



Construct this figure with `MoveablePoints` so that the initial two points may be moved by the user and the figure updated.

Exercise 3: Animate a ball falling down a JPanel. There should be tick marks on the side of the panel to indicate distance fallen.

For extra credit, color the falling ball red and leave a family of blue balls indicating where the ball was at one second (or some other desirable unit) intervals.

For even more extra credit, animate a bouncing ball.

Exercise 4: Look at the code we developed in yesterday's lecture to draw the graph of the cubic $y = x^3 - x$. Modify it to produce an animation that shows the graphs of the functions $y = x^3 + cx$ as c varies from -1 to 1 .