**Point, LineSegment and Triangle**

In this project we will be making 3 classes all of which are linked together. The three classes are:

**Point**

**LineSegment**

**Triangle**

A **Point** is simply an x and a y value. You can make these ints, it has the appropriate accessors and mutators. It also has the ability to find the distance  
from itself to another point. i.e

Point p1 = new Point(2,3);

Point p2 = new Point(2,4);

double d = p1.distance(p2); //returns 1.0

A **LineSegment** is simply defined by its end points (2 Points). A LineSegment can be created in two ways, by indicating the beginning and ending points or the x and y components of the beginning and ending points. Whichever is used by the user, the LineSegment attributes will be Points. In addition to the accessors and mutators the LineSegment can be asked for its length. This is simply the distance from the beginning point to the ending point. i.e.

LineSegment l1 = new LineSegment(2,3,5,3);

double d = l1.length(); // returns 3.0

Point p1 = new Point(2,3);

Point p2 = new Point(2,4);

LineSegment l2 = new LineSegment(p1,p2);

double d2 = l2.length(); //returns 1.0

A **Triangle** is made of three LineSegments. It can be created using 3 Points or 2 LineSegments. You may assume that the first segment is a the second is b and the calculated one is c. The Triangle must hold 3 LineSegments. You will NOT be holding onto points. It also has accessors getA, getB, and getC. There are no mutators for these attributes. The triangle has 3 methods. isAcute (), isObtuse ), and isRight (.

Triangle t = new Triangle(new Point(2,3), new Point(6,7), new Point(5,3)); //Way one of creating the triangle  
LineSegment ls1 = new LineSegment(2,3,6,7);  
LineSegment ls2 = new LineSegment(6,7,5,3);  
Triangle t2 = new Triangle(ls1,ls2); // way 2 to create triangle

t1.equals(t2); // returns true

**All classes should have an equals(Object o) method, toString is optional in this assignment**