Homework 04

1. Given the class **Point** below, define a class **Circle** that represents a circle with a given center and radius. The Circle class should have an attribute named **center** as well as an integer **radius** attribute. The center is a point object, defined by the class Point. The class should also have these members:
   - the **constructor** of the class, which should take **parameters** to initialize **all attributes**
   - a getter for each instance data
   - a setter for each instance data
   - an equals method that returns true if two circles have same radii and false otherwise
   - an area() method that returns the area of the circle
   - a toString() method that returns the summary of a Circle object

```
public class Point
{
    private int x, y;

    public Point(int newX, int newY)
    {
        x = newX;
        y = newY;
    }

    public String toString()
    {
        return "x:"+x+","+"y:"+y;
    }

    public double distance(Point other)
    {
        return Math.sqrt(Math.pow(x-other.x,2)+Math.pow(y-other.y,2));
    }
}
```

2. Write an application CircleTest that first creates two Points objects, point1 with random coordinates from 1 to 25, inclusive, and point2 with coordinates 0,0. The program will then instantiate two circles with the following radius/center requirements:
   1. Radius entered from the keyboard and point2 as the center
   2. Radius 10 and point1 as the center

   The program prints to the screen the summary of each circle, the distance between their centers if they are "equal" and the average area, otherwise. For full credit, you MUST use the circle objects and their instance methods.