Worksheet 11

Creating Static Methods

Hardwire into your program, two ordered pairs. That is, initialize, x1, y1, x2 and y2 directly in your program to some values which define a line. No need to ask the user for input. Have the main program display the slope, distance and midpoint belonging to the line defined by these co-ordinates. See figure 1, for a start to your main program.

```
public static void main (String[] args)
{//main
double x1,y1,x2,y2;
//hardwire two ordered pairs
x1 = 1;
y1 = 1;
x2 = 2;
y2 = 2;
System.out.println("Given 2 ordered pairs: " + ordered_pair(x1,y1) + " and " + ordered_pair(x2,y2));
System.out.println("slope = "+ slope(x1,y1,x2,y2));
System.out.println("distance = "+ distance(x1,y1,x2,y2));
System.out.println("midpoint = "+ midpoint(x1,y1,x2,y2));
```

```
}//main
```

Figure 1. W11's main program

Remember to include the following line at the top of your file, so that sqrt() will work: import java.lang.Math;

You need to write 4 static methods.

Good Practice: Methods should rarely print things to the console ... when they do, it makes them not very reusable. When we write a methods, we want it to be generic so that we can use them again and again ... to save coding time...

1. a method called, ordered_pair (x,y) which is capable of returning a string which is formatted like an order pair in math, i.e. (x,y)

2. a method called, slope (x1,y1,x2,y2) which returns the slope. Check for infinite sloped lines.

3. a method called, distance (x1,y1,x2,y2) which returns the distance between the two points.

4. a method called, midpoint which outputs the midpoint of the line in ordered pair form.

Sample Session

Given 2 ordered pairs: (1.0, 1.0) and (2.0, 2.0)	Given 2 ordered pairs: (1.0, 1.0) and (1.0, 1.0)
slope = 1.0	slope = Infinity
distance = 1.4142135623730951	distance = 0.0
midpoint = (1.5, 1.5)	midpoint = (1.0, 1.0)