**Line Class**

**Directions:** Create the *Line* class with the instance variables, constructors, and methods below:

**Instance Variables:**

* Two *Point* variables that represent the endpoints of the line

**Constructors:**

* *Line()* – initializes the points to (0,0) and (0,0)
* *Line(p1, p2)* – accepts two points and sets the instance variables to p1 and p2
* *Line(0, 0, 1, 3)* – accepts four double parameters and uses them to create the endpoints of the line (ex. (0,0) and (1,3))

**Methods:**

* Create mutators and accessors for each instance variable
* *length()* – returns the total length of the line
* *slope()* – returns the slope of the line
* *perpendicularTo(Line l)* – returns a boolean that describes if the current instance is perpendicular to Line *l*
* *parallelTo(Line l) –* returns a boolean that describes if the current instance is parallel to Line *l*
* *round(double input) –* a private method used to round all double outputs to the nearest thousandth
* *toString()* – returns a String of the format:

Line starts at (1.0, 1.0) and ends at (2.0, 2.0)

Length: 1.414

Slope: 1.0