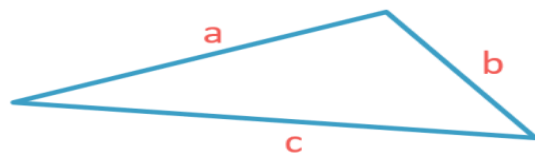


CSIT121 – Lab 4  
Due date: 22 May 2022

Write a program to allow the user to create an triangle and calculate the area. The program will prompt the user to enter the x-coordinate and y-coordinate of each vertex (tip) of the triangle. After that, the program will compute and display the triangle (appropriate information) and the area. The program will allow the user to repeat the process until he decides to quit. You will decide how to prompt the user and how to end the loop.

The diagram below explains how to compute the triangle area based on the length of the sides.



1. Work out  $s = \frac{a+b+c}{2}$

2. Area =  $\sqrt{s(s-a)(s-b)(s-c)}$

Your program will consist of three classes (or more depends on your design).

class	Point
Instance variables	x and y representing the x-coordinate and y-coordinate of a point.
Constructor	The constructor will receive 2 parameters and initialize the instance variables accordingly.
Get/set methods	Please include appropriate methods.
Instance method	getDistance Parameters: An instance of Point Returns: The distance between this point and the point represented by the parameter.

	Example: Point p1 = ... Point p2 = ... double distance = p1.getDistance(p2);
Instance method	toString Parameters: None Returns: A descriptive String

class	Triangle
Instance variables	3 instance variables of Point to represent the 3 vertices of the triangle
Constructor	The constructor will receive <b>appropriate</b> parameters for initializing the instance variables. You may define multiple constructors if you deemed fit.
Get methods	Please include appropriate methods.
Instance method	getArea Parameters: None Returns: Area of the triangle
Instance method	toString Parameters: None Returns: A descriptive String.

class	<i>XX_YourName_Lab4</i> where XX is your tutorial class (e.g. T1, T2, etc.)
Static method	main Prompts user to enter information of a triangle. Displays the triangle (appropriate information) and the area. Allows user to repeat until he decides to quit.

#### Source code comments

Please include appropriate comments in the program.

#### Submission

Please submit a single Java file (containing the above classes) to Moodle.