Assignment 2 Circle on the Farthest Points

Due: March 29th, 2021 (6 am) **COMP 110 Object-oriented Programming**

In this assignment, you are going to write a program that first lets the user select 10 points on an StdDraw window. Each point will be selected by clicking on any location on the window using the mouse. Your program should show each selected point in color black. After the user completes selecting 10 points, your program should find the pair of points with the longest distance in between, then draw a circle centered on the middle of this pair of points with a radius equal to half the distance in between and highlight these two points in color blue. See Figure 1 below for an example.

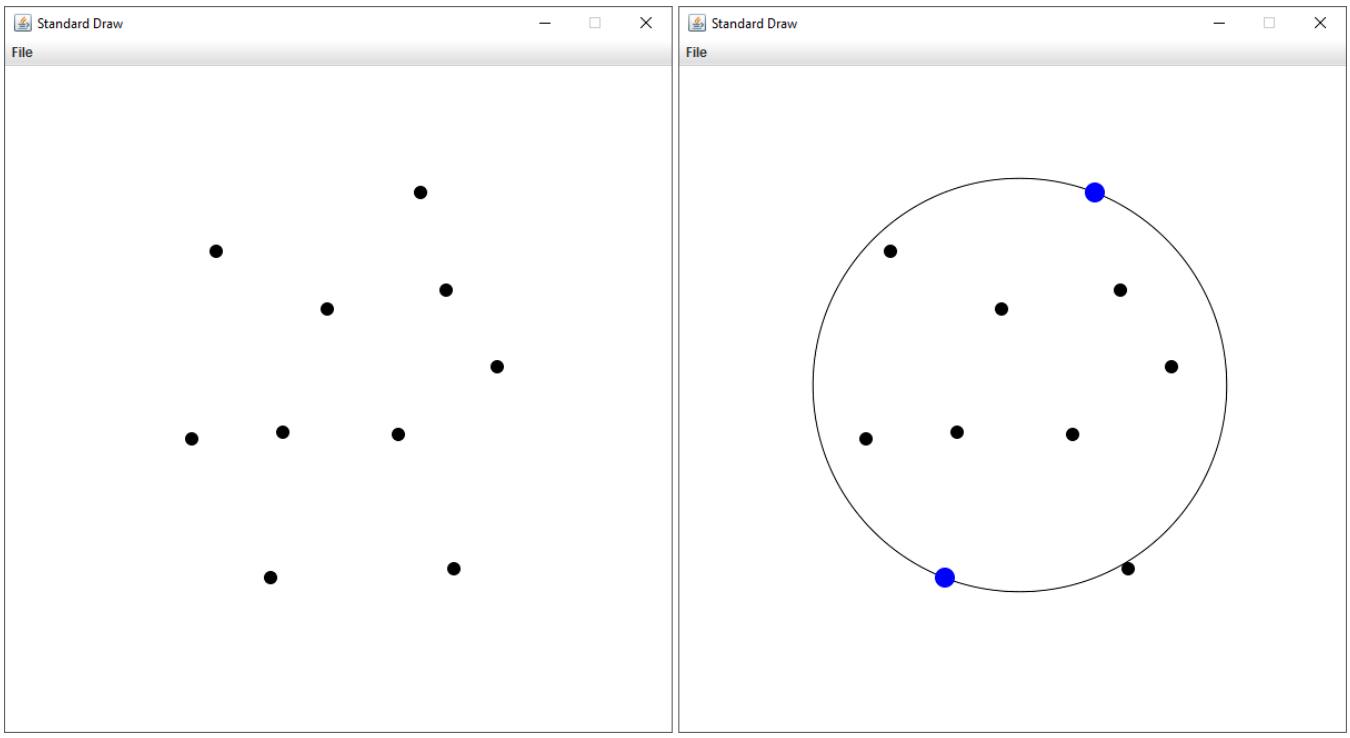

Figure 1. (a) 10 points selected by the user are shown in black, **(b)** a circle centered on the middle of the pair of the farthest points with a radius equal to half the distance in between is drawn and the farthest points are shown in blue.

Your program should store x and y coordinates of the points selected by the user in two separate arrays. You should write a distance method with the following signature for computing and returning the distance between two points. The input arguments of the method are the arrays that store x and y coordinates and the array indexes of the points for which the distance will be computed.

```
public static double distance(double[] xValues, double[] yValues, int index1, int index2)
```

In your report, provide a brief summary of your solution and the resulting visual outputs as in Figure 1(b) for two different sets of user-selected points.

In your code, write Javadoc style comments and comply with the programming style recommendations.

Evaluation Criteria and Grading

Code
20% Compliance to submission rules and programming style, e.g., file names, formats, directory structure, naming conventions, indentation, and comments.
60% Correctness of the solution.

Report
20% Completeness of the report, compliance to the report format, correctness of the content and language.

Submission Guide

Submission Files
Submit a single compressed (.zip) file to Blackboard.
Name your zip file as name_surname.zip.
Zip file should contain all source codes (under the \code directory), and report (in PDF format, under the \report directory).
Name the main code which is used to run your assignment as name_surname.java.
Name your report as name_surname.pdf.
Contents of each Java file should start with your name, student ID, date, and a brief code summary in a Javadoc style comment block.

Mandatory Submission
Submission of assignments is mandatory. If you do not submit an assignment, you will fail the course.

Late Submission Policy
Maximum submission delay is two days. Late submission will be graded on a scale of 50% of the original grade. Submission is mandatory even if you submit your assignment late.

Plagiarism
Plagiarism leads to grade F and YÖK regulations will be applied