

# Lab 02 – Program development

## Questions

- a) What variables do you need? What types should they be?

You need two variables for each point, and one for the result (distance):

- x1 (type: double)
- y1 (type: double)
- x2 (type: double)
- y2 (type: double)
- distance (type: double)

- b) Do you need any constants? If so, what type(s)?

No, in this program all variables should be able to change value.

- c) What kinds of calculations do you need?

You need to calculate the distance with the formula:

$$distance = \sqrt{(x2 - x1)^2 + (y2 - y1)^2}$$

- d) Do you need user input? If so, what should you prompt?

Yes, the program prompts the user two points with the four variables x1,y1, and x2, y2.

- e) What information do you need to return to the user?

The distance calculated. Which is the value of the variable 'distance'.

- f) Do you need to import any packages?

Yes, you need to import the Scanner object from java.util and the Math object from java.lang.

## Program Distance

**File name:** C:\Users\enriq\Documents\Langara Computer Science\CPSC 1150\lab02\Distance.java

**Purpose:** Calculate distance between two points entered by the user.

**Input:** The values of x and y of two different points.

**Output:** The calculated distance between the two points.