**Software Development 4**

**Lab 2**

Create a new project called Lab2 and create a new package for each exercise.

For each exercise, create a new Java class with a main method and write the Java statements to solve the problem.

Use the double datatype where appropriate and use the printf method to format this type of data.

**Exercise 1**

1. Declare 2 variables to store distance in kilometres and the cost of petrol per kilometre

2. Assign values to the 2 new variables

3. Create a new variable, called journeyCost and place the value of kilometres multiplied by petrol cost per km into it (multiplication sign \*)

4. Print out the journeyCost

**Exercise 2**

1. Declare 3 variables to represent the populations in Dublin, Meath and Leitrim, and place the values you think would be in each

2. If everyone in Leitrim moved to Dublin, code the statements to move everyone to Dublin (and leave no one in Leitrim).

Print the population of Leitrim and the population of Dublin.

**Exercise 3**

1. Create an int to store the number of people in your class

2. Create a double to store the total distance people have to travel to college every day (guess the number)

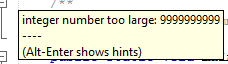
3. Create a double to store the average distance each student travels, which you can calculate from the first 2 numbers ( divide sign /)

4. Print out all three values.

**Exercise 4**

1. Create an int called number. Place any value into it.

If you put a number that is too big into an int, say 9999999999, then it will cause an error like

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What is the biggest number you can put in without causing an error like that?

**Exercise 5**

Write a program that calculates and displays the dimensions of a letter-size (8.5 (width) \* 11 (length) inches) sheet of paper in millimetres.

Declare constants for the width and length in inches, assign to them the values above.

Declare variables for the width and length in millimetres.

There are 25.4 millimetres per inch.

Calculate the equivalent millimetres for the width and length.

Display the equivalent width and length.

Use comments in your program and ensure your name is included as a comment.

**Exercise 6**

Edit the last program so that it also computes and displays the perimeter of a letter-size (8.5 \* 11 inches) sheet of paper.

Display the perimeter in inches and in millimetres

**Exercise 7**

Write a program that declares two variables for the length and the width of a rectangle, assign values to these variables.

Calculate and print the area and the perimeter of the rectangle.

**Exercise 8**

Write a program that declares three double variables, assigns values to each variable and calculates and prints the average of the numbers.

**Exercise 9**

Write a program that declares an integer number that stores a student number( just place a number into this variable for student number ), a character variable that stores the student’s overall grade(A,B,C,D,or F) and a boolean variable that stores whether the student is in receipt of a grant.

Assign appropriate values to the variables, the student is in receipt of a grant, and print out the student’s details to the screen.