LAB 6 – While Looping

Objectives:

At the end of this lab, the students are able to

i. implement looping control using while statements

6.1 Activity 1

6.1.1 Objective

Writing pseudocode and Java program implementing looping control using while statements.

6.1.2 Problem Description

Design a psedocode and write a Java program that reads an unspecified number of integers, determines how many positive and negative values have been read, and computes the total and average of the input values (not counting zeros). Your program ends with the input 0. Display the total number of positive values, the total number of negative values, the total and average as a floating-point number.

[Estimated Time: 30 minutes]

6.2 Activity 2

6.2.1 Objective

Writing pseudocode and Java program implementing looping control using while statements.

6.2.2 Problem Description

Design a pseudocode and write a Java program that converts up to 200 kilograms to pounds (note that 1 kilogram is 2.2 pounds. The program should be able to display the following table):

Kilograms	Pounds
1	2.2
3	6.6
5	11.0
...	
197	433.4
199	437.8

[Estimated Time: 30 minutes]

6.3 Activity 3

6.3.1 Objective

Writing pseudocode and Java program implementing looping control using while statements.

6.3.2 Problem Description

Design a pseudocode and write a Java program that uses while loops to perform the following steps:

a. Prompt the user to input two integers. First integer number must be less than second integer number. If the user enter the wrong numbers, display an error message and ask the user to enter the correct input.
b. Output all the odd numbers between the first integer number and second integer number inclusive.
c. Output all the even numbers between the first integer number and second integer number inclusive.

[Estimated Time: 45 minutes]

6.4 Activity 4

6.4.1 Objective

Writing pseudocode and Java program implementing looping control using while statements.

6.4.2 Problem Description

Suppose that the tuition fee for a university is RM4,000 this year and increases 5% every year. Design a pseudocode and write a Java program that computes and displays the tuition fee in ten years. The program should also be able to calculate and display the total cost of four years tuition fee starting from now.

[Estimated Time: 30 minutes]

6.5 Activity 5

6.5.1 Objective

Writing pseudocode and Java program implementing looping control using while statements.

6.5.2 Problem Description

Mr. Roper owns 20 apartment buildings. Each building contains 15 units that he rents for $800 per month each. Design the application that would output 12 payment coupons for each of the 15 apartments in each of the 20 buildings. Each coupon should contain the building number (1 through 20), the apartment number (1 through 15), the month (January through December), the amount of rent and rent due. The sample of output is as below

```
---------------------------------------------------------------------------------------------------------------------------------
Payment Coupon for January
Building No: 1          Unit No: 1

Amount of Rent: RM 800.00
Rent Due: 31/1/2016
---------------------------------------------------------------------------------------------------------------------------------
Payment Coupon for February
Building No: 1          Unit No: 1

Amount of Rent: RM 800.00
Rent Due: 28/2/2016
```

[Estimated Time: 45 minutes]