UNIVERSITY OF WESTMINSTER

Informatics Institute of Technology

4COSC006C: Programming Principles 01 [Design]

Tutorial 3 – Flowcharts (Repetition)

1. Draw a flowchart to display all odd numbers between 0 and 100, using a while loop, repeat until loop and a for loop.

2. Express an algorithm to get two numbers from the user (dividend and divisor), testing to make sure that the divisor number is not zero, (repeat receiving the divisor until it is not zero) and displaying their quotient using a flowchart.

3. Draw a flowchart to accept a positive number from the user and to calculate and to display the factorial of the given number. E.g. 3 factorial, or **3!** is equal to **3 x 2 x 1**; **5!** is equal to **5 x 4 x 3 x 2 x 1**, etc

   Note : do a validation for the input number since factorial cannot be computed for a negative number.

4. Printing prices are typically based on the number of copies to be printed. For example:

1 – 99	$0.30 per copy
100-499	$0.28 per copy
500-749	$0.27 per copy
750-1000	$0.26 per copy
over 1000	$0.25 per copy

   Create a printing application that prompts the user for the number of copies to print and then displays the price per copy and the total price for the job. Application output should look similar to:

   Enter the number of copies to be printed: 1001
   Price per copy is: $0.25
   Total cost is: $250.25

   Modify the above program to accept the number of copies repeat for 50 times.