University of Mauritius
Faculty of Engineering
Department of Computer Science and Engineering

CSE 1003 – Computer Programming
2010/2011- Semester 2

Labsheet 3 (Control Structures Loops)

Question 1
Write a program which asks the user for a number and generates the multiplication table for this number.

e.g. If the user enters 5, the program should display:

1 * 5 = 5
2 * 5 = 10
3 * 5 = 15
.
.
.
12 * 5 = 60

Question 2
Write a program which continuously asks the user to key in 5 numbers and finds the square root of these numbers.

Question 3
Write a program which accepts a positive integer from the user and displays the list of integers from that number to 0 (in descending order).

Question 4
Write a program which uses a for loop to find out the value of a bank deposit, P (input by the user), after 10 years given that the annual interest on the deposit is 8.5 % (Assuming no withdrawals are made during those 10 years).
Note that this problem involves the calculation of compound interest.

Question 5
Modify the program in Question 2 such that it stops if the user types in a negative number.

Question 6
Modify your program for Question 4 to use a while loop instead of a for loop.

Question 7
Modify the programs in Questions 4 above so that the number of years and interest rate are also input by the user. The program must now display the value of the Bank deposit after each year

in an appropriate format.

Question 8
Write a program which used nested loops to display the following:

1**1<->2**1<->3**1<->4**1<->5**1
1**2<->2**2<->3**2<->4**2<->5**2
1**3<->2**3<->3**3<->4**3<->5**3

Question 9: The Christmas Tree:
Write a program which displays the following given the input below:

When x=1	When x=2	When x=3
Output: * 	Output: * **	Output: * ** ***

Question 9
Modify the program above such that it displays the following:

When x=1	When x=2	When x=3
Output: * * **	Output: * * ** * ** ***	Output: * * ** * ** *** * ** *** ****

Hint: determine the pattern before writing the code.