SLIIT
Discover Your Future

BSc (Hons) in Information Technology
Year 1

Lab Sheet3

IT1010 – Introduction to Programming

Semester 1, 2020

Objectives:
At the end of the class the students should be able to:

- use repetition statements in C programs

Exercise 1:

Write a C program that uses **while** loop to print the following table of values. Use the tab escape sequence in the printf statement to separate the column with tabs.

N	10*N	100*N	1000*N
1	10	100	1000
2	20	200	2000
3	30	300	3000
4	40	400	4000
5	50	500	5000
6	60	600	6000
7	70	700	7000
8	80	800	8000
9	90	900	9000
10	100	1000	10000

Exercise 2:

The factorial of a nonnegative integer n is written n! and is defined as follows:

n! = n * (n - 1) * (n - 2) * ……1

and

n! = 1 (for n = 0)

For example, 5! = 5 * 4 * 3 * 2 * 1, which is 120

Write a C program that reads a nonnegative integer and computes and print its factorial using a **while** loop.

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Exercise 3

Write a program that prints the following patterns separately. Use *for* loop to generate the patterns. All asterisks (*) should be printed by a single *printf* statements.

(a)
```
*
**
***
****
*****
******
*******
********
*********
**********
```

(b)
```
**********
*********
********
*******
******
*****
****
***
**
*
```

(c)
```
**********
*********
********
*******
******
*****
****
***
**
*
```

(d)
```
*
**
***
****
*****
******
*******
********
*********
**********
```