

A Constituent College of Somaiya Vidyavihar University

Batch: D2 Roll No.: 25

Experiment / assignment / tutorial No. 4

Grade: AA / AB / BB / BC / CC / CD /DD

Signature of the Staff In-charge with date

**TITLE:** Program to print patterns

AIM: Program to print patterns for 'n' rows using nested loop

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### **Expected OUTCOME of Experiment:**

\_\_\_\_\_\_

#### **Books/ Journals/ Websites referred:**

1. Programming in C, second edition, Pradeep Dey and Manas Ghosh, Oxford University Press.

- 2. Programming in ANSI C, fifth edition, E Balagurusamy, Tata McGraw Hill.
- 3. Introduction to programming and problem solving , G. Michael Schneider ,Wiley India edition.
- 4. <a href="http://cse.iitkgp.ac.in/~rkumar/pds-vlab/">http://cse.iitkgp.ac.in/~rkumar/pds-vlab/</a>

#### **Problem Definition:**

The program is to print a pattern as given by the user. The program makes use of a nested loop to print a pattern of characters, numbers or alphabets.

#### **Example:**

Input: number of rows = 4, number of columns = 4

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## Output:

5 4 5 3 4 5 2 3 4 5 1 2 3 4 5

## Algorithm:

**STEP 1: START** 

STEP 2: Input number of lines to be printed from the user.

STEP 3: Initiate a for loop to iterate from 1 to number entered by user.

STEP 4: Initiate a nested for loop to print spaces.

STEP 5: Initiate a for loop to print the required series.

STEP 6: END

# **Output(s):**

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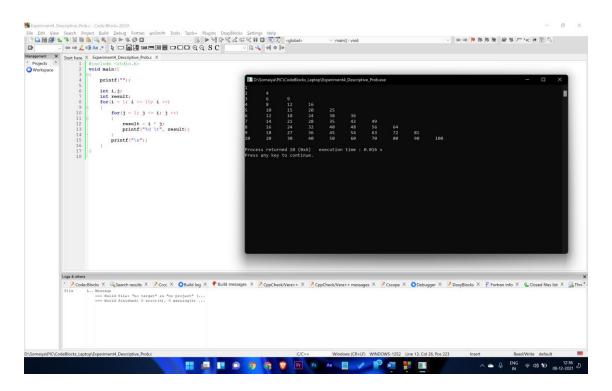
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**Conclusion:** Using nested for loop we can print any sort of triangular series.

## **Post Lab Descriptive Questions**

Write a program to print the following:

```
2
      4
3
      6
             9
4
      8
             12
                    16
5
                    20
       10
             15
                           25
6
      12
             18
                    24
                           30
                                  36
7
       14
             21
                    28
                           35
                                  42
                                         49
8
       16
             24
                    32
                           40
                                  48
                                         56
                                                64
9
       18
             27
                    36
                           45
                                  54
                                         63
                                                72
                                                       81
                                                       90
10
      20
             30
                    40
                           50
                                  60
                                         70
                                                80
                                                              100
```



#### Code:

#include <stdio.h>
void main()



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```
 \left\{ \begin{array}{l} int \ i,j; \\ int \ result; \\ for (i=1; \ i <= 10; \ i ++) \\ \left\{ \\ for (j=1; \ j <= i; \ j ++) \\ \left\{ \\ result = i \ * \ j; \\ printf("\% d \ t", \ result); \\ \right\} \\ printf("\n"); \\ \right\} \\  \right\}
```

**Date:** \_\_\_\_\_

Signature of faculty in-charge

**Department of Science and Humanities** 

PIC Sem I/August-December 2021