**Assignment 2 | 5th January 2021**

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**Question 1**

Write a program to print the following pattern

1

2\*2

3\*3\*3

4\*4\*4\*4

Program Code:

#include<stdio.h>

int main()

{

    int i,j;

    for(i=1;i<=4;i++)

    {

        for(j=1;j<=i;j++)

        {

            if(j!=i)

                printf("%d\*",i);

            else

                printf("%d",i);

        }

        printf("\n");

    }

    return 0;

}

**Question 2**

Write a program to print the following pattern

1

01

101

0101

10101

Program Code:

#include<stdio.h>

int main()

{

    int i,j;

    for(i=1;i<=5;i++)

    {

        for(j=1;j<=i;j++)

        {

            if(i%2==0)

            {

                if(j%2==0)

                    printf("1");

                else

                    printf("0");

            }

            else

            {

                if(j%2==0)

                    printf("0");

                else

                    printf("1");

            }

        }

        printf("\n");

    }

    return 0;

}

**Question 3**

Write the similarity and difference between an array name and a pointer variable.

Answer:

**Similarity:**

Array name and pointer variable both store the address of a variable. Array name stores the address of the 1st element of the array (Base address) and pointer variable stores the address of any specified variable of any data type.

**Difference:**

Array name behaves like a constant pointer, we can’t change the value of the array name or the base address of the array. But we can change the value of the pointer variable, this can point to a location and at another time it can also point to another location.