Practical File

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C#.NET

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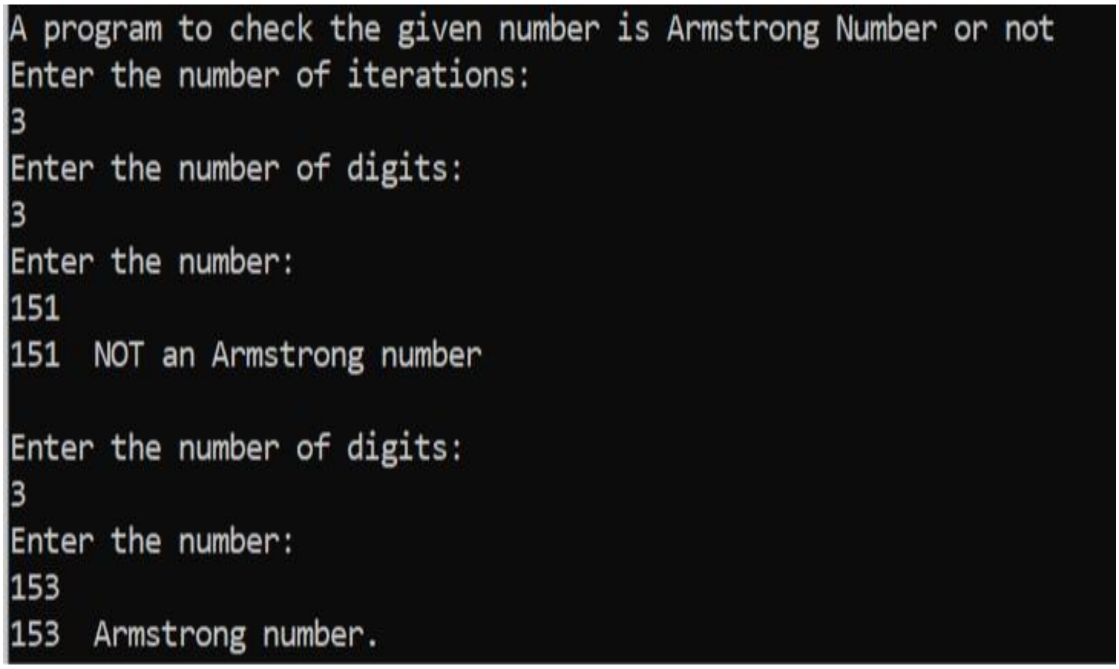
Signature

1. Write a program to print Armstrong Numbers

```
using System;
namespace myproject
{
    public class Armstrong
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("A program to check the given number
is Armstrong Number or not");
            int n, m, num, d;
            double result = 0, number;

            Console.WriteLine("Enter the number of iterations: ");
            n = int.Parse(Console.ReadLine());
            for (m = 0; m < n; m++)
            {
                Console.WriteLine("Enter the number of digits: ");
                d = int.Parse(Console.ReadLine());
                Console.WriteLine("Enter the number: ");
                num = int.Parse(Console.ReadLine());
                number = num;
                for (int i = 0; i < d; i++)
                {
                    int rem = num % 10;  //split last digit from
number
                    double power = Math.Pow(rem, d);
                    //Console.WriteLine(power);
                    result = result + power;
                    num = num / 10;
                }
                if (number == result)
                {
                    Console.WriteLine(number + "  Armstrong
number.");
                    result = 0;
                }
                else
                {
                    Console.WriteLine(number + "  NOT an Armstrong
number");
                    result = 0;
                    Console.ReadLine();
                }
            }
        }
    }
}
```

Output:-

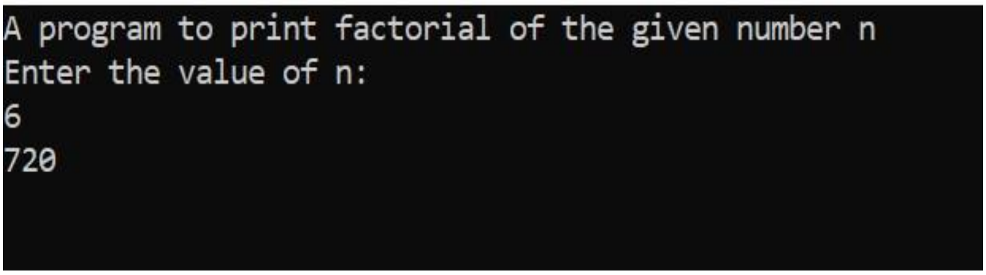


```
A program to check the given number is Armstrong Number or not
Enter the number of iterations:
3
Enter the number of digits:
3
Enter the number:
151
151  NOT an Armstrong number

Enter the number of digits:
3
Enter the number:
153
153  Armstrong number.
```

2. Write a program to print factorial of a number

```
using System;
namespace myproject
{
    public class Factorial
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("A program to print factorial of the
given number n");
            int m, n, fact = 1;

            Console.WriteLine("Enter the value of n: ");
            n = int.Parse(Console.ReadLine());
            for (m = 1; m <= n; m++)
            {
                fact = fact * m;
            }
            Console.WriteLine(fact);
            Console.ReadLine();
        }
    }
}
```

Output:-

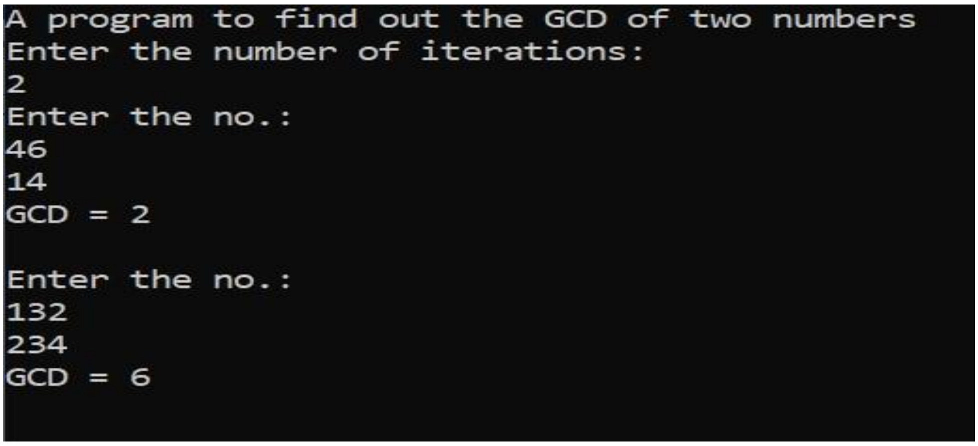


```
A program to print factorial of the given number n
Enter the value of n:
6
720
```

3. Write a program to find the GCD of two numbers

```
using System;
namespace myproject
{
    public class GCD
    {
        public static void Main(string[] args)
        {
            int n, a, b, gcd = 1, temp;
            Console.WriteLine("A program to find out the GCD of
two numbers");
            Console.WriteLine("Enter the number of iterations: ");
            n = int.Parse(Console.ReadLine());
            for (int i = 0; i < n; i++)
            {
                Console.WriteLine("Enter the no.:");
                a = int.Parse(Console.ReadLine());
                b = int.Parse(Console.ReadLine());

                 for(int z = 1; z<=a && z <= b; z++)
                      {
                          if (a%z==0 && b%z==0)
                              gcd = z;
                      }
                while (b != 0)
                {
                    temp = b;
                    b = a % b;
                    a = temp;
                }
                gcd = a;
                Console.WriteLine("GCD = " + gcd);
                Console.ReadLine();
            }
        }
    }
}
```

Output:-

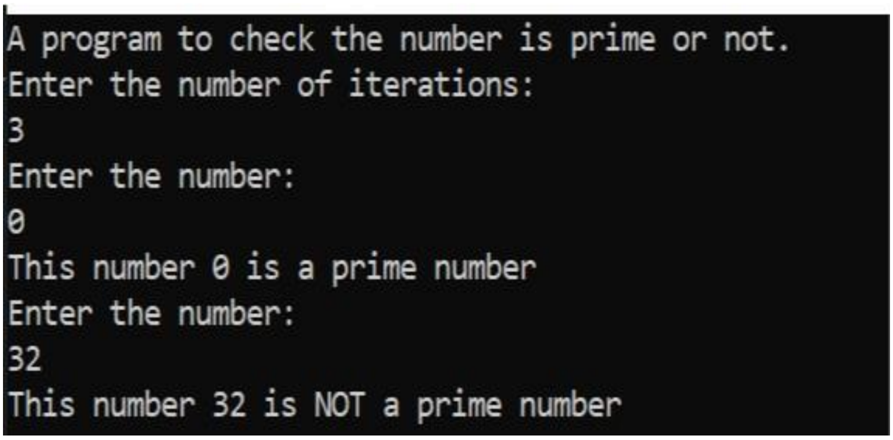


```
A program to find out the GCD of two numbers
Enter the number of iterations:
2
Enter the no.:
46
14
GCD = 2

Enter the no.:
132
234
GCD = 6
```

4. Write a program to check if a number is prime number

```
using System;
namespace myproject
{
    public class Prime
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("A program to check the number is 
prime or not.");
            int m, n, count = 0, i, j;

            Console.WriteLine("Enter the number of iterations: ");
            j = int.Parse(Console.ReadLine());

            for (i = 0; i < j; i++)
            {
                Console.WriteLine("Enter the number: ");
                n = int.Parse(Console.ReadLine());

                for (m = 2; m <= n / 2; m++)
                {
                    if (n % m == 0)
                    {
                        count = count + 1;
                    }

                }
                if (count == 0)
                {
                    Console.WriteLine("This number " + n + " is a 
prime number");
                }
                else
                {
                    Console.WriteLine("This number " + n + " is 
NOT a prime number");
                    count = 0;
                }
            }
        }
}
```

Output :-

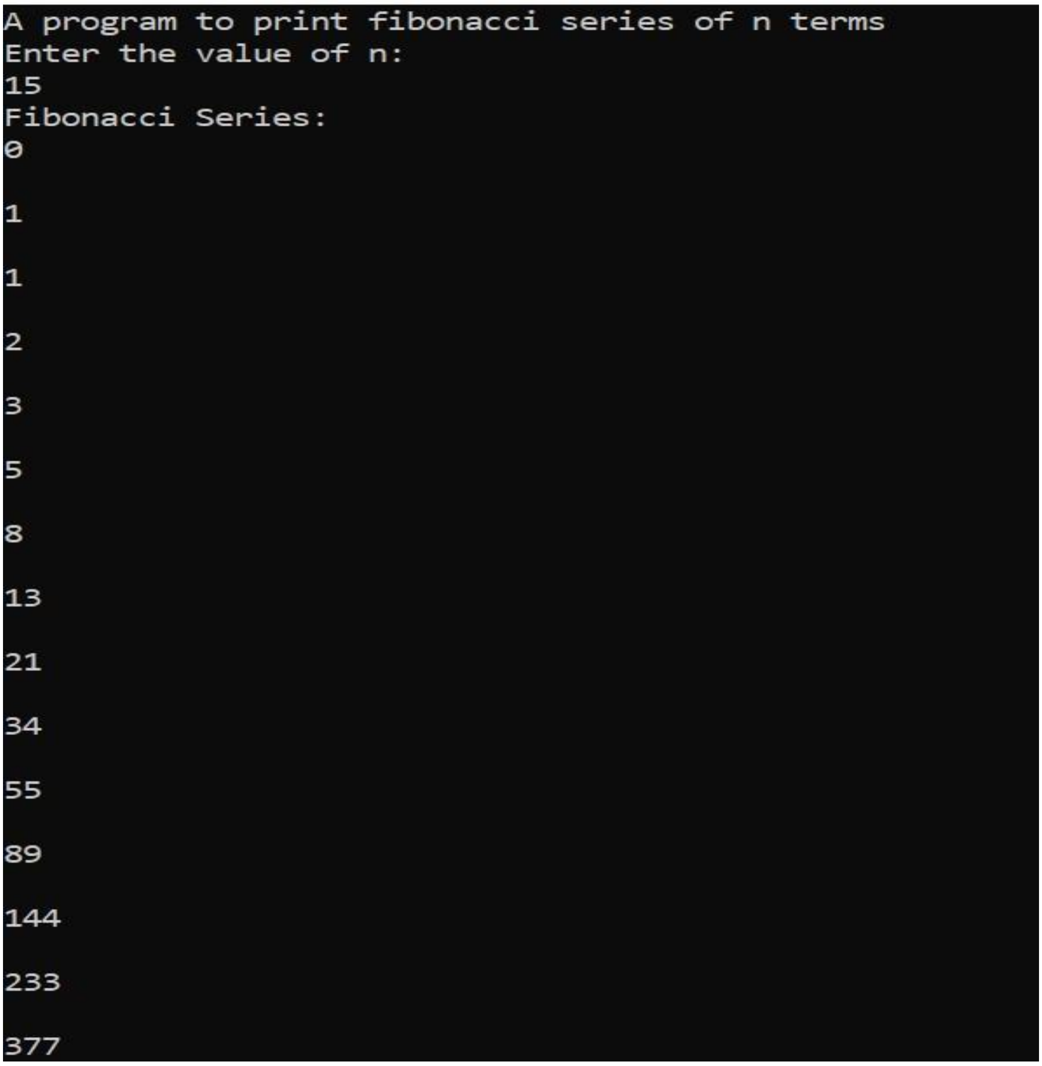


```
A program to check the number is prime or not.
Enter the number of iterations:
3
Enter the number:
0
This number 0 is a prime number
Enter the number:
32
This number 32 is NOT a prime number
```

5. Write a program to print the Fibonacci series

```
using System;
namespace myproject
{
    public class Fibonacci
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("A program to print fibonacci series
of n terms");
            int m, n, a = 0, b = 1;

            Console.WriteLine("Enter the value: ");
            n = int.Parse(Console.ReadLine());
            Console.WriteLine("Fibonacci Serise: ");
            for (m = 1; m <= n; m++)
            {
                Console.WriteLine(a);
                int next = a + b;
                a = b;
                b = next;

            }
        }
   }
}
```

Output:-

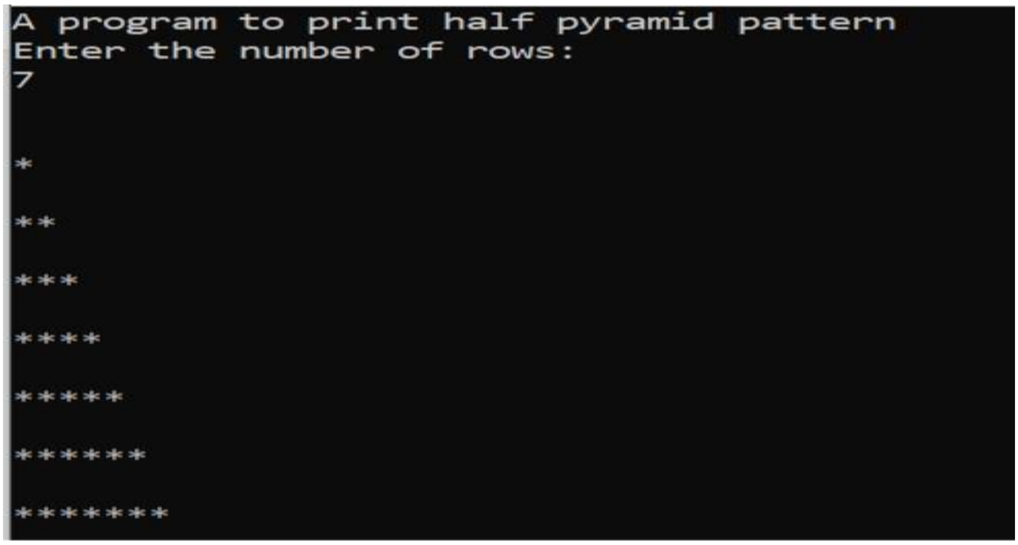


```
A program to print fibonacci series of n terms
Enter the value of n:
15
Fibonacci Series:
0

1

1

2

3

5

8

13

21

34

55

89

144

233

377
```

6. Write a program to print the half pyramid pattern

```
using System;
namespace myproject
{
    public class Pattern_HalfPyramid
    {
        public static void Main(string[] args)
        {
            int space, rows;
            Console.WriteLine("A program to print half pyramid
pattern");
            Console.WriteLine("Enter the number of rows:");
            rows = int.Parse(Console.ReadLine());

            for (int i = 0; i <= rows; i++)
            {

                for (int star = 0; star < i; star++)
                {
                    Console.Write("*");
                }
                for (space = i; space < rows; space++)
                {
                    Console.Write(" ");
                }
                Console.WriteLine();
                Console.ReadLine();
            }

        }
    }
}
```

Output:-

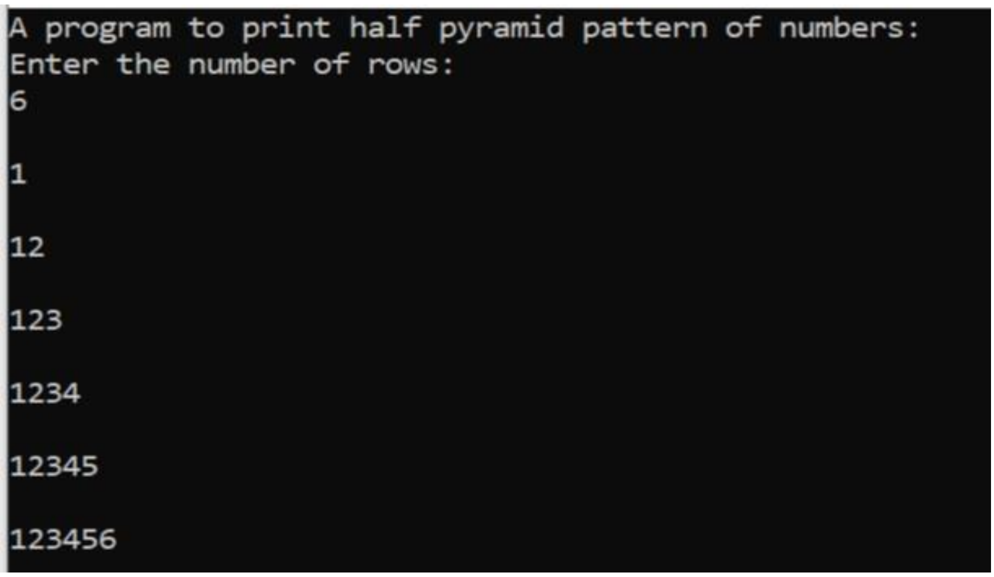


```
A program to print half pyramid pattern
Enter the number of rows:
7

*

**

***

****

*****

******

*******
```

7. Write a program to print the half pyramid pattern with numbers

```
using System;
namespace myproject
{
    public class Pattern_HalfPyramidNum
    {
        public static void Main(string[] args)
        {
            int space, rows;
            Console.WriteLine("A program to print half pyramid
pattern of numbers:");
            Console.WriteLine("Enter the number of rows:");
            rows = int.Parse(Console.ReadLine());
            Console.WriteLine();

            for (int i = 1; i <= rows; i++)
            {

                for (int num = 1; num <= i; num++)
                {
                    Console.Write(num);
                }
                for (space = i; space < rows; space++)
                {
                    Console.Write(" ");
                }
                Console.WriteLine();
                Console.ReadLine();
            }

        }
    }
}
```

Output :-

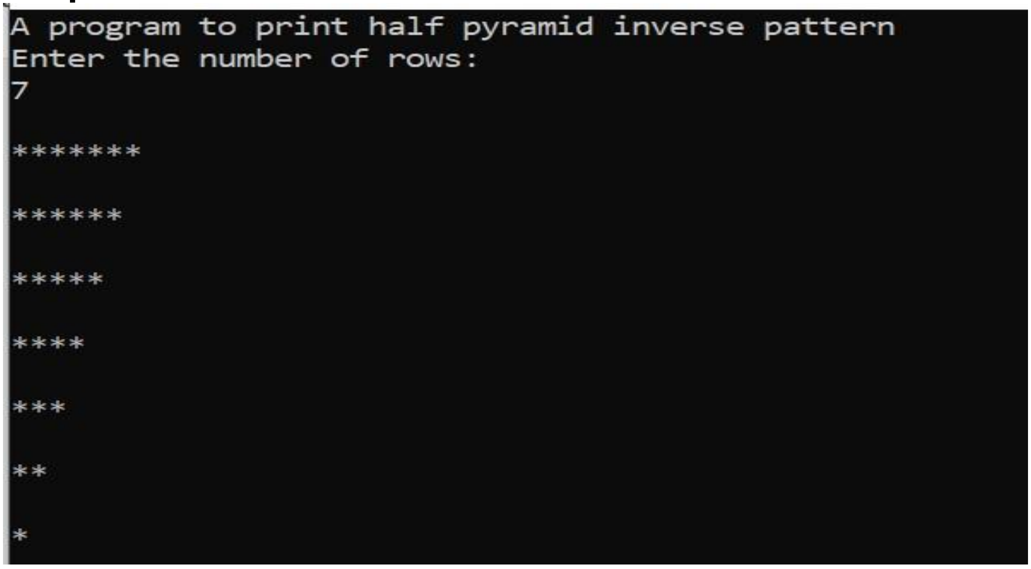


```
A program to print half pyramid pattern of numbers:
Enter the number of rows:
6

1

12

123

1234

12345

123456
```

8. Write a program to print the half pyramid inverse pattern

```
using System;
namespace myproject
{
    public class Pattern_HalfInversePyramid
    {
        public static void Main(string[] args)
        {
            int space, rows;
            Console.WriteLine("A program to print half pyramid
inverse pattern");
            Console.WriteLine("Enter the number of rows:");
            rows = int.Parse(Console.ReadLine());
            Console.WriteLine();

            for (int i = 0; i <= rows; i++)
            {
                 for (int star = rows; star > i; star--)
                {
                    Console.Write("*");
                }
                for (space = i; space < rows; space++)
                {
                    Console.Write(" ");
                }
                Console.WriteLine();
                Console.ReadLine();
            }

        }
    }
}
```

Output:-

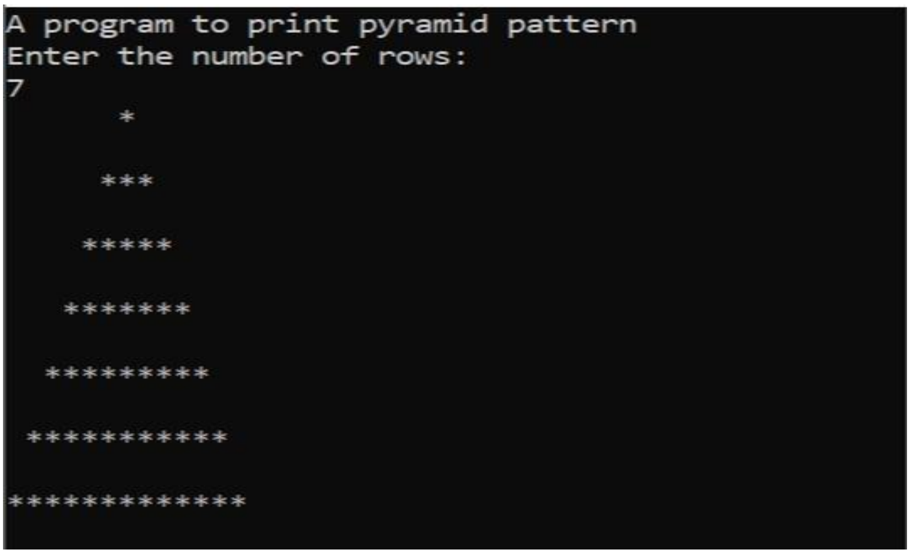


```
A program to print half pyramid inverse pattern
Enter the number of rows:
7

*******

******

*****

****

***

**

*
```

9. Write a program to print the pyramid pattern

```
using System;
namespace myproject
{
    public class Pattern_pyramid
    {
        public static void Main(string[] args)
        {
            int space, rows;
            Console.WriteLine("A program to print pyramid
pattern");

            Console.WriteLine("Enter the number of rows:");
            rows = int.Parse(Console.ReadLine());
            for (int i = 1; i <= rows; i++)
            {
                for (space = i; space < rows; space++)
                {
                    Console.Write(" ");
                }
                for (int star = 1; star < (i * 2); star++)
                {
                    Console.Write("*");
                }
                Console.WriteLine();
                Console.ReadLine();
            }
        }
    }
}
```

Output:-

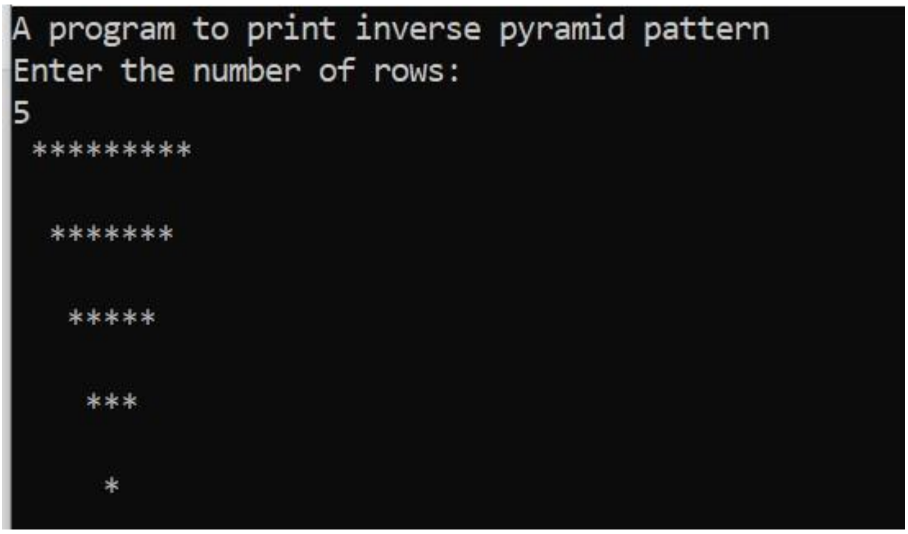


```
A program to print pyramid pattern
Enter the number of rows:
7
      *

     ***

    *****

   *******

  *********

 ***********

*************
```

10. Write a program to print the inverse pyramid pattern

```
using System;
namespace myproject
{
    public class Pattern_PyramidInverse
    {
        public static void Main(string[] args)
        {
            int space, rows;
            Console.WriteLine("A program to print inverse pyramid
pattern");

            Console.WriteLine("Enter the number of rows:");
            rows = int.Parse(Console.ReadLine());
            for (int i = rows; i >= 1; i--)
            {
                for (space = i; space <= rows; space++)
                {
                    Console.Write(" ");
                }
                for (int star = (i * 2); star > 1; star--)
                {
                    Console.Write("*");
                }
                Console.WriteLine();
                Console.ReadLine();
            }
        }
    }
}
}
```

Output:-

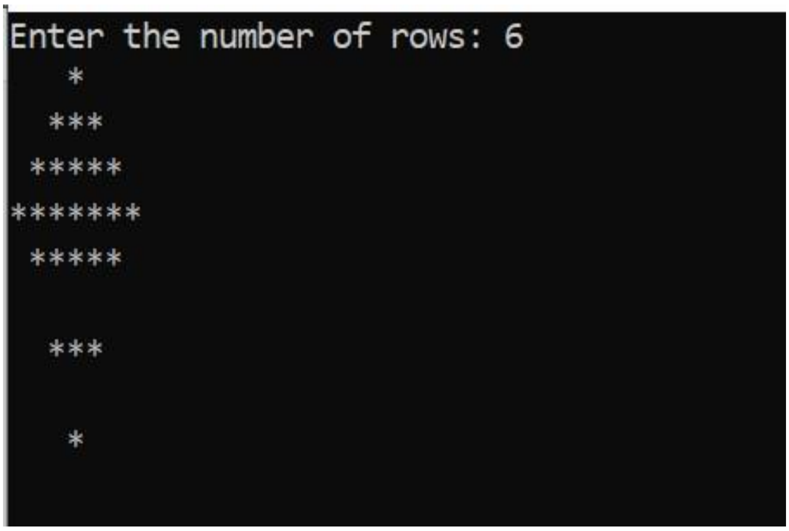


```
A program to print inverse pyramid pattern
Enter the number of rows:
5
 *********

  *******

   *****

    ***

     *
```

11. Write a program to print the diamond pattern

```
using System;
namespace myproject
{
    public class Pattern_diamond
    {
        public static void Main(string[] args)
        {
            int rows, i, j, space;

            Console.Write("Enter the number of rows: ");
            rows = int.Parse(Console.ReadLine());

            for (i = 0; i <= rows / 2; i++)
            {
                for (space = i; space < rows / 2; space++)
                {
                    Console.Write(" ");
                }
                for (j = 0; j <= i * 2; j++)
                {
                    Console.Write("*");
                }
                Console.WriteLine();
            }
            for (i = rows / 2 + 1; i >= 1; i--)
            {
                for (space = i; space <= rows / 2 + 1; space++)
                {
                    Console.Write(" ");
                }
                for (j = i * 2 - 4; j >= 0; j--)
                {
                    Console.Write("*");
                }
                Console.WriteLine();
                Console.ReadLine();
            }
        }
    }
}
```

Output:-

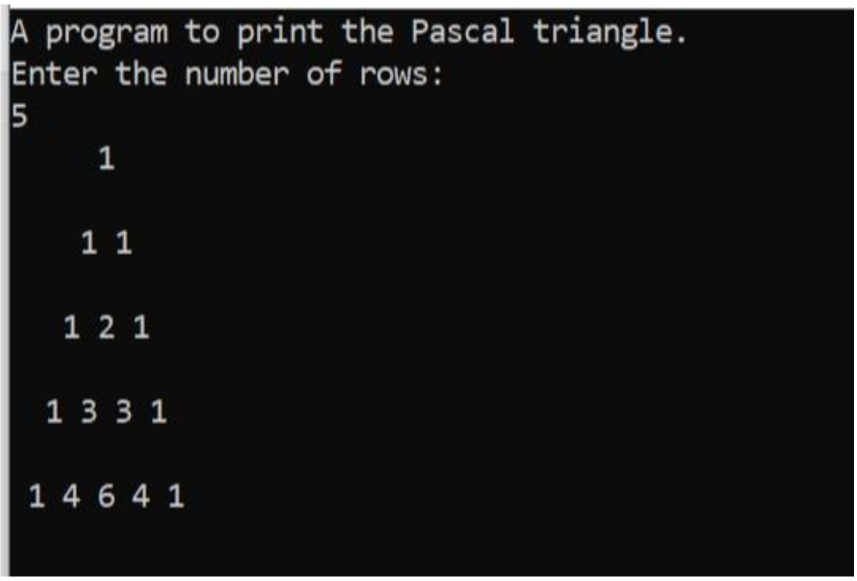


```
Enter the number of rows: 6
   *
  ***
 *****
*******
 *****

  ***

   *
```

12. Write a program to print the Pascal’s triangle

```
using System;
namespace myproject
{
    public class Pascal_Triangle
    {
        public static int Factorial(int fact)
        {
            int m, f = 1;
            for (m = 1; m <= fact; m++)
            {
                f = f * m;
            }
            return f;
        }

        public static int Ncr(int a, int b)
        {
            return Factorial(a) / (Factorial(b) * Factorial(a -
b));
        }

        public static void Main(string[] args)
        {
            int space, rows, c;
            Console.WriteLine("A program to print the Pascal
triangle.");
            Console.WriteLine("Enter the number of rows:");
            rows = int.Parse(Console.ReadLine());

            for (int i = 0; i <= rows; i++)
            {
                for (space = i; space < rows; space++)
                {
                    Console.Write(" ");
                }
                for (int j = 0; j <= i; j++)
                {
                    c = Ncr(i, j);
                    Console.Write(c + " ");
                }
                Console.WriteLine();
                Console.ReadLine();
            }
        }
    }
}
```

Output:-

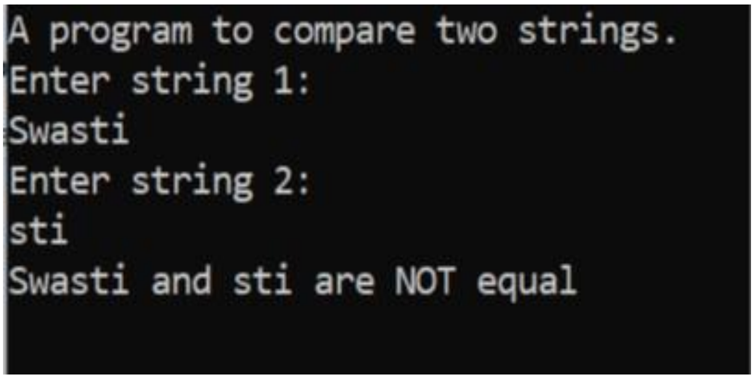


```
A program to print the Pascal triangle.
Enter the number of rows:
5
     1

    1 1

   1 2 1

  1 3 3 1

 1 4 6 4 1
```

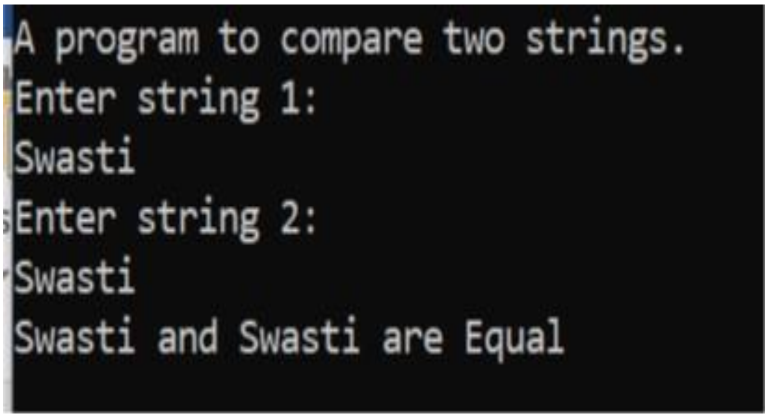
13. Write a program to compare two string without using string library functions

```
using System;
namespace String
{
    public class StringCompare
    {
        public static void Main(string[] args)
        {
            string str1, str2;
            int flag = 0;
            Console.WriteLine("A program to compare two
           strings.");

            Console.WriteLine("Enter string 1: ");
            str1 = Console.ReadLine();
            Console.WriteLine("Enter string 2: ");
            str2 = Console.ReadLine();

            for (int i = 0; i < str1.Length; i++)
            {
                if (str1[i] != str2[i])
                {
                    flag = 0;
                    break;
                }
                else
                {
                    flag = 1;
                }
            }

            if (flag == 0)
            {
                Console.WriteLine(str1 + " and " + str2 + " are
        NOT equal");
            }
            else if (flag == 1)
            {
                Console.WriteLine(str1 + " and " + str2 + " are
Equal");
            }
Console.readline();
        }
 }
}
```

Output:-



```
A program to compare two strings.
Enter string 1:
Swasti
Enter string 2:
sti
Swasti and sti are NOT equal
```

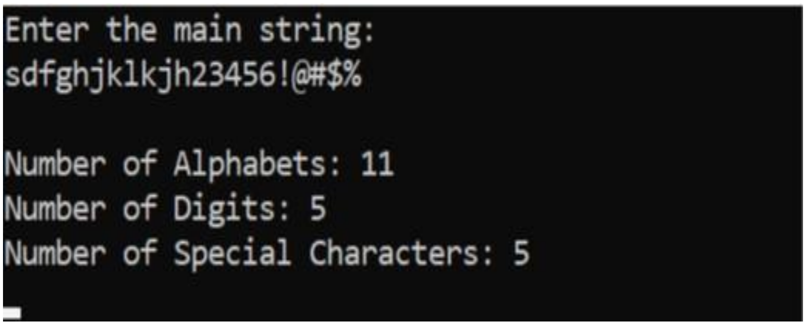


```
A program to compare two strings.
Enter string 1:
Swasti
Enter string 2:
Swasti
Swasti and Swasti are Equal
```

14. Write a program to count a total number of alphabets, digits and special characters in a string

```
using System;
namespace String
{
    public class StringCount
    {
        public static void Main(string[] args)
        {
            string str;
            int alpha = 0, digit = 0, sym = 0;

            Console.WriteLine("Enter the main string: ");
            str = Console.ReadLine();

            foreach (char s in str)
            {
                if (s >= 65 && s <= 90 || s >= 97 && s <= 122)
                {
                    alpha += 1;
                }
                else if (s >= 48 && s <= 57)
                {
                    digit += 1;
                }
                else
                {
                    sym += 1;
                }
            }
            Console.WriteLine();
            Console.WriteLine("Number of Alphabets: " + alpha);
            Console.WriteLine("Number of Digits: " + digit);
            Console.WriteLine("Number of Special Characters: " +
sym);
            Console.ReadLine();
        }
    }
}
```

Output:-

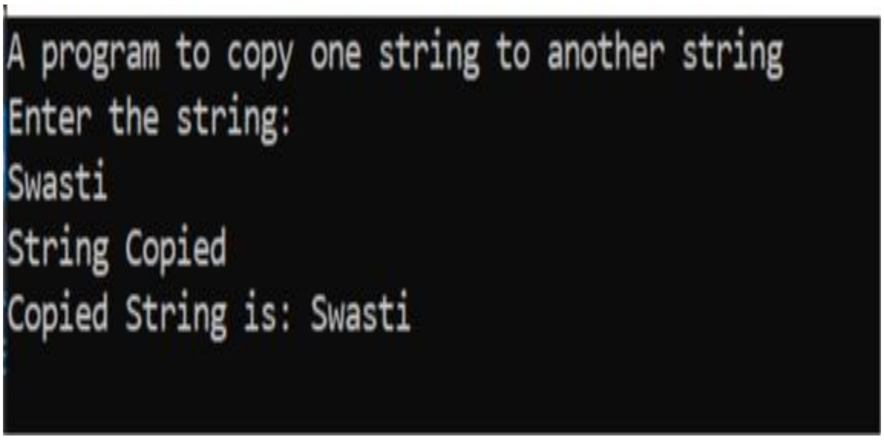


```
Enter the main string:
sdfghjklkjh23456!@#$%

Number of Alphabets: 11
Number of Digits: 5
Number of Special Characters: 5
```

15. Write a program to copy one string to another string

```
using System;
namespace String
{
    public class StringCopy
    {
        public static void Main(string[] args)
        {
            string s1, s2 = "Not Copied";

            Console.WriteLine("A program to copy one string to
another string");

            Console.WriteLine("Enter the string: ");
            s1 = Console.ReadLine();

            foreach (char a in s1)
            {
                s2 = s1;
            }
            Console.WriteLine("String Copied");
            Console.WriteLine("Copied String is: " + s2);
            Console.ReadLine();
        }
    }
}
```

Output:-

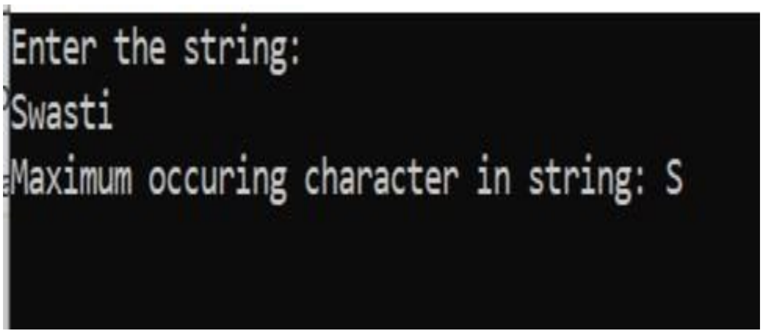


```
A program to copy one string to another string
Enter the string:
Swasti
String Copied
Copied String is: Swasti
```

16. Write a program to find maximum occurring character in a string

```
using System;
namespace Strings
{
    public class StringMax
    {
        public static void Main(string[] args)
        {
            string str;
            int[] count = new int[256];
            Console.WriteLine("Enter the string: ");
            str = Console.ReadLine();

            for (int i = 0; i < str.Length; i++)
            {
                count[str[i]]++;
            }
            int max = -1;
            char result = ' ';

            for (int i = 0; i < str.Length; i++)
            {
                if (max < count[str[i]])
                {
                    max = count[str[i]];
                    result = str[i];
                }
            }
            Console.WriteLine("Maximum occuring character in
string: " + result);
            Console.ReadLine();
        }
    }
}
```

Output:

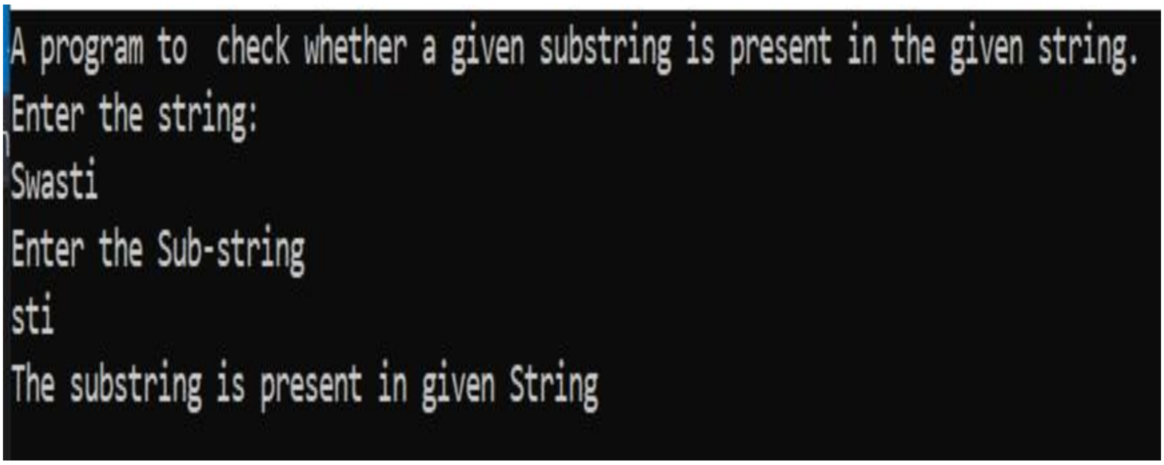


```
Enter the string:
Swasti
Maximum occuring character in string: S
```

17. Write a program to check whether a given substring is present in the given string

```
using System;
namespace Strings
{
    public class StringSubString
    {
        public static void Main(string[] args)
        {
            string str, substr;
            Console.WriteLine("A program to  check whether a given 
substring is present in the given string.");
            Console.WriteLine("Enter the string: ");
            str = Console.ReadLine();
            Console.WriteLine("Enter the Sub-string");
            substr = Console.ReadLine();

            int flag = 0;
            for (int i = 0; i <= str.Length - substr.Length; i++)
            {
                for (int j = i; j < i + substr.Length; j++)
                {
                    flag = 1;
                    if (str[j] != substr[j - i])
                    {
                        flag = 0;
                        break;
                    }
                }
                if (flag == 1)
                    break;
            }

            if (flag == 1)
            {
                Console.WriteLine("The substring is present in 
given String");
            }
            else
            {
                Console.WriteLine("The substring is NOT present in 
given String");
                Console.ReadLine();
            }
        }
    }
}
```

Output:

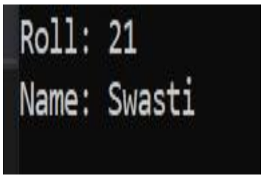


```
A program to  check whether a given substring is present in the given string.
Enter the string:
Swasti
Enter the Sub-string
sti
The substring is present in given String
```

18. Write a Program for Encapsulation

```
using System;
namespace test
{
    class Student
    {
        private int roll;
        private string name;
        public int Roll
        {
            get
            {
                return roll;
            }
            set
            {
                roll = value;
            }
        }
        public string Name
        {
            get
            {
                return name;
            }
            set
            {
                name = value;
            }
        }
    }
    class Program
    {
        static void Main(string[] args)
        {
            Student A = new Student();
            A.Roll = 21;
            A.Name = "Swasti";
            Console.WriteLine("Roll: " + A.Roll);
            Console.WriteLine("Name: " + A.Name);
            Console.ReadLine();
        }
    }
}
```

Output:

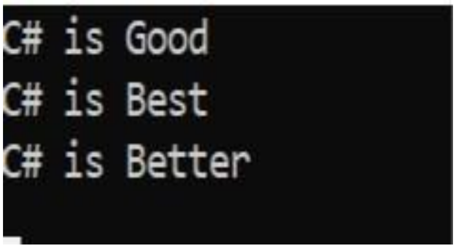


```
Roll: 21
Name: Swasti
```

19. Write a program for Abstraction

```
using System;
namespace OOPs
{
    public class Abstraction
    {
        abstract class Cs
        {
            public abstract void Fun();
        }

        private class Good : Cs
        {
            public override void Fun()
            {
                Console.WriteLine("C# is Good");
            }
        }

        private class Best : Cs
        {
            public override void Fun()
            {
                Console.WriteLine("C# is Best");
            }
        }

        private class Better : Cs
        {
            public override void Fun()
            {
                Console.WriteLine("C# is Better");
            }
        }

        public class MyClass
        {
            public static void Main()
            {
                Cs c;
                c = new Good();
                c.Fun();
                c = new Best();
                c.Fun();
                c = new Better();
                c.Fun();
                Console.ReadLine();
            }
        }
    }
}
```

Output:

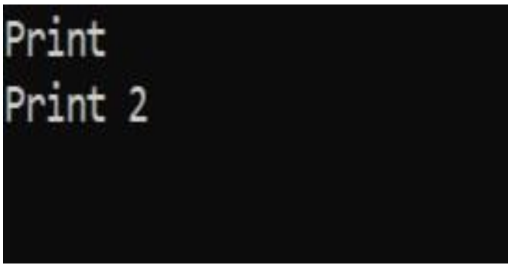


```
C# is Good
C# is Best
C# is Better
```

20. Write a program for single Inheritence

```
using System;
namespace OOPs
{
    public class Inheritence
    {
        class MainClass
        {
            public void Print()
            {
                Console.WriteLine("Print");
            }
        }
        class Subclass : MainClass
        {
            void Print1()
            {
                Console.WriteLine("Print 2");
            }
            static void Main(string[] args)
            {
                Subclass s = new Subclass();

                s.Print();
                s.Print1();
                Console.ReadLine();
            }
        }
    }
}
```

Output:

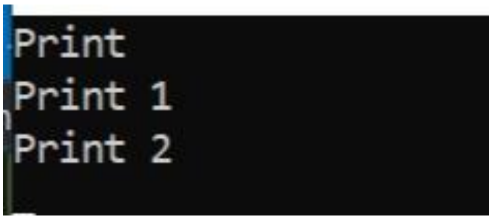


```
Print
Print 2
```

21. Write a program for Multilevel Inheritence

```
using System;
namespace OOPs
{
    public class MultiInheritence
    {
        class MainClass
        {
            public void Print()
            {
                Console.WriteLine("Print");
            }
        }
        class Subclass : MainClass
        {
            public void Print1()
            {
                Console.WriteLine("Print 1");
            }

        }
        class Subclass2 : Subclass
        {

            public void Print2()
            {
                Console.WriteLine("Print 2");
            }
            static void Main(string[] args)
            {
                Subclass2 s = new Subclass2();
                s.Print();
                s.Print1();
                s.Print2();
                Console.ReadLine();
            }

        }
    }
}
```

Output:

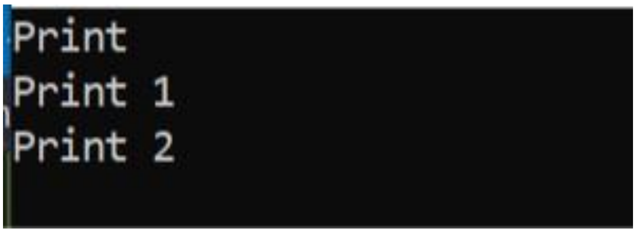


```
Print
Print 1
Print 2
```

22. Write a program for multiple Inheritence

```
using System;
namespace OOPs
{
    public class MultipleInheritence
    {
        class MainClass
        {
            public void Print()
            {
                Console.WriteLine("Print");
            }
        }
        interface MainClass1
        {
            void Print1();
        }
        class Subclass : MainClass, MainClass1
        {
            void Print2()
            {
                Console.WriteLine("Print 2");
            }
            public void Print1()
            {
                Console.WriteLine("Print 1");
            }
            static void Main(string[] args)
            {
                Subclass s = new Subclass();
                s.Print();
                s.Print1();
                s.Print2();
                Console.ReadLine();
            }
        }
    }
}
```

Output:

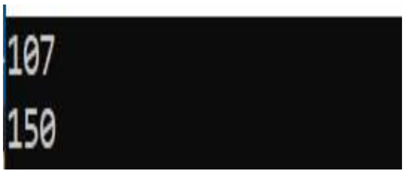


```
Print
Print 1
Print 2
```

23. Write a program for method overloading

```
using System;
namespace OOPs
{
    public class MethodOverloading
    {
        static int Sum(int a, int b)
        {
            return a + b;
        }
        static double Sum(double a, double b)
        {
            return a + b;
        }

        public static void Main()
        {
            int sum1 = Sum(73, 34);
            double sum2 = Sum(75.84, 74.16);
            Console.WriteLine(sum1);
            Console.WriteLine(sum2);
            Console.ReadLine();
        }
    }
}
```

Output:

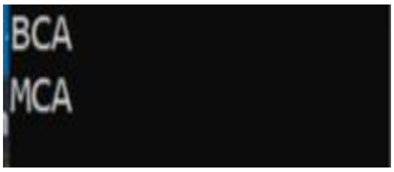


```
107
150
```

24. Write a program for method overriding

```
using System;
namespace OOPs
{
    public class MethodOverriding
    {
        public class Cs
        {
            public virtual void Fun()
            {
                Console.WriteLine("B.Sc");
            }
        }

        public class MCA : Cs
        {
            public override void Fun()
            {
                Console.WriteLine("MCA");
            }
        }

        private class BCA : Cs
        {
            public override void Fun()
            {
                Console.WriteLine("BCA");
            }
        }

        public static void Main()
        {
            Cs c;
            c = new BCA();
            c.Fun();
            c = new MCA();
            c.Fun();
            Console.ReadLine();
        }
    }
}
```

Output:

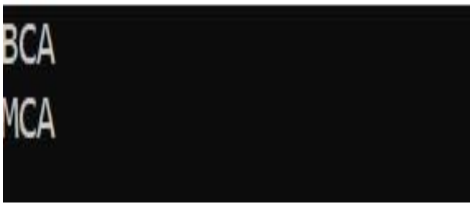


```
BCA
MCA
```

25. Write a program for Interface

```
using System;
namespace OOPs
{
    public class Interface
    {
        public interface Cs
        {
            void Fun();
        }

        private class Bca : Cs
        {
            public void Fun()
            {
                Console.WriteLine("BCA");
            }
        }
        private class Mca : Cs
        {
            public void Fun()
            {
                Console.WriteLine("MCA");
            }
        }

        public class MyClass
        {
            public static void Main(string[] args)
            {
                Cs c;
                c = new Bca();
                c.Fun();
                c = new Mca();
                c.Fun();
                Console.ReadLine();
            }
        }
    }
}
```

Output:

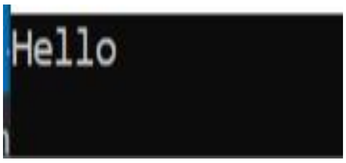


```
BCA
MCA
```

26. Write a program for Namespace

```
using System;
namespace ConsoleApp1
{
    class Program
    {
        static void Main(string[] args)
        {
            A.B test = new A.B();
            test.C();
        }
    }
}

namespace A
{
    public class B
    {
        public void C()
        {
            Console.WriteLine("Hi");
            Console.ReadLine();
        }
    }
}
```

Output:

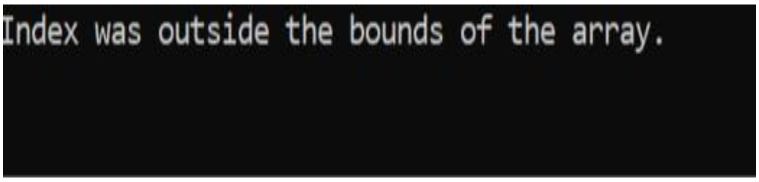


```
Hello
```

27. Write a program for exception handling through try and catch

```
using System;
namespace ConsoleApp
{
    class Program
    {
        static void Main(string[] args)
        {
            int[] myNumbers = { 1, 2, 3,4 };
            try
            {
                Console.WriteLine(myNumbers[5]);
            }
            catch (Exception c)
            {
                Console.WriteLine(c.Message);
                Console.ReadLine();
            }
        }
    }
}
```

Output:



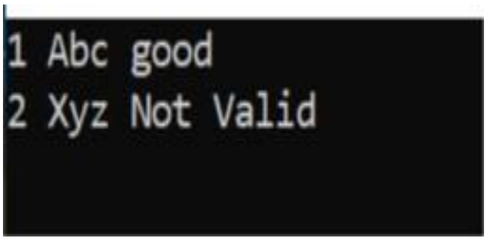
```
Index was outside the bounds of the array.
```

28. Write a program for Properties

```
using System;
namespace OOPBasics
{
    public class Properties
    {
        public class CSharp
        {
            public int roll;
            public string name;
            private string Result;

            public CSharp(int a, string b, string c)
            {
                roll = a;
                name = b;
                Result1 = c;
            }

            public string Result1
            {
                get
                {
                    return Result;
                }
                set
                {
                    if (value == "good" || value == "average" ||
value == "bad")
                    {
                        Result = value;
                    }
                    else
                    {
                        Result = "Not Valid";
                    }
                }
            }
        }
    }



    class Program
    {
        static void Main(string[] args)
        {
            Properties.CSharp c1 = new Properties.CSharp(1, "Xyz",
"good");
            Properties.CSharp c2 = new Properties.CSharp(2, "Ijk",
"5");
```

```
            Console.WriteLine(c1.roll + " " + c1.name + " " +
c1.Result1);
            Console.WriteLine(c2.roll + " " + c2.name + " " +
c2.Result1);
            Console.ReadLine();
        }
    }
}
```

Output:

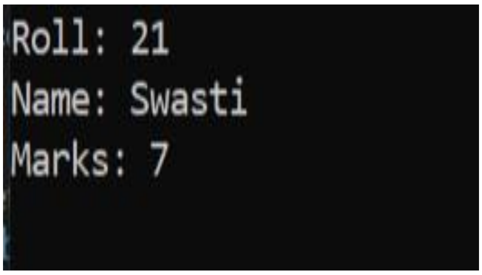


```
1 Abc good
2 Xyz Not Valid
```

29. Write a program for Constructors

```
using System;
using OOPBasics;

namespace OOPBasics
{
    class Constructor
    {
        public class CSharp
        {
            public int roll;
            public string name;
            public int marks;

            public CSharp(int a, string b, int c)
            {
                roll = a;
                name = b;
                marks = c;
            }
        }
    }
    public class MyClass
    {
        public static void Main(string[] args)
        {
            Constructor.CSharp a = new Constructor.CSharp(21,
"Swasti", 7);
            Console.WriteLine("Roll: " + a.roll + "\nName: " +
a.name + "\nMarks: " + a.marks);
            Console.ReadLine();
        }
    }
}
```

Output:

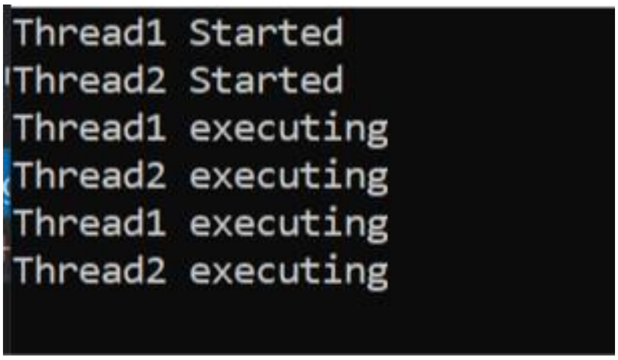


```
Roll: 21
Name: Swasti
Marks: 7
```

30. Write a program for Threading

```
using System;
using System.Threading;

namespace Threading
{
    class Program
    {
        static void T1()
        {
            Console.WriteLine("Thread1 Started");
            Thread.Sleep(5000);
            Console.WriteLine("Thread1 executing");
            Thread.Sleep(5000);
            Console.WriteLine("Thread1 executing");
        }

        static void T2()
        {
            Console.WriteLine("Thread2 Started");
            Thread.Sleep(5000);
            Console.WriteLine("Thread2 executing");
            Thread.Sleep(5000);
            Console.WriteLine("Thread2 executing");
        }

        public static void Main()
        {
            Thread t1 = new Thread(T1);
            Thread t2 = new Thread(T2);
            t1.Start();
            t2.Start();
            Console.ReadLine();
        }
    }
}
```

Output:

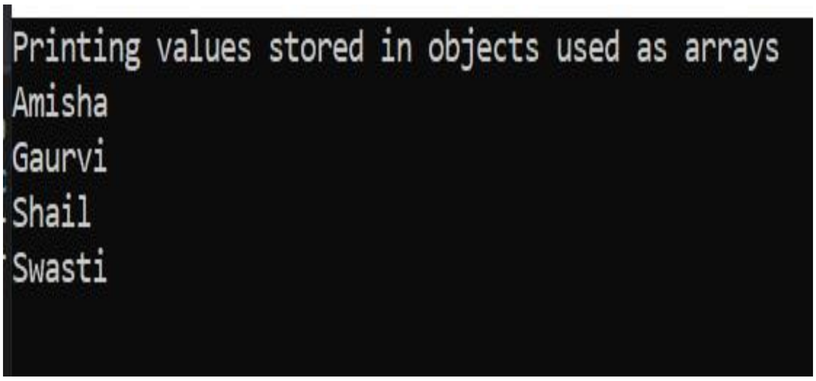


```
Thread1 Started
Thread2 Started
Thread1 executing
Thread2 executing
Thread1 executing
Thread2 executing
```

31. Write a program for Indexer

```
using System;
class IndexerCreation
{
    private string[] val = new string[4];
    public string this[int index]
    {
        get
        {
            return val[index];
        }
        set
        {
            val[index] = value;
        }
    }
}

class MyClass
{

    public static void Main()
    {
        IndexerCreation ic = new IndexerCreation();
        ic[0] = "Amisha";
        ic[1] = "Gaurvi";
        ic[2] = "Shail";
        ic[3] = "Swasti";

        Console.Write("Printing values stored in objects used as
arrays\n");
        Console.WriteLine(ic[0] + "\n" + ic[1] + "\n" + ic[2] +
"\n" + ic[3]);
        Console.ReadLine();

    }
}
```

Output:

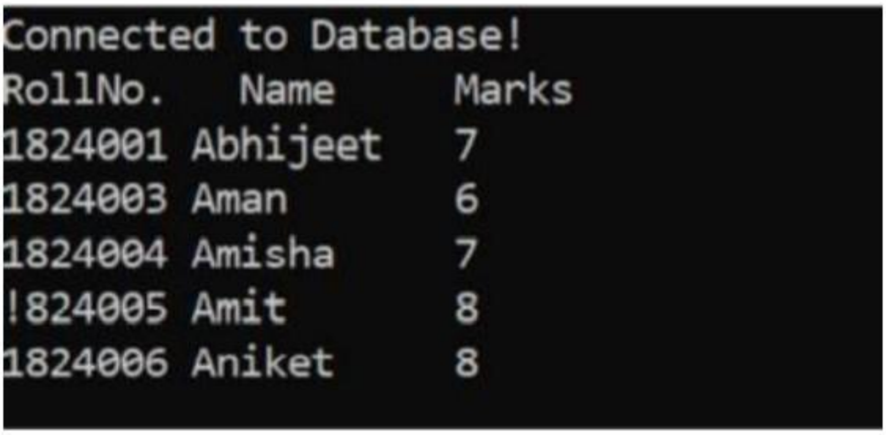


```
Printing values stored in objects used as arrays
Amisha
Gaurvi
Shail
Swasti
```

32. Write a program to access data from database using ADO.NET

```
using System;
using System.Data;
using System.Data.SqlClient;
namespace test
{
    class Program
    {
        public static void Main(string[] args)
        {
            string connectionString;
            SqlConnection conn;
            connectionString = @"Data Source=DESKTOP-
VPKMCMC\SQLEXPRESS;Initial Catalog=demo;Trusted_Connection=true";
            conn = new SqlConnection(connectionString);
            conn.Open();
            Console.WriteLine("Connected to Database!");
            string query = "select * from student";
            SqlCommand cmd = new SqlCommand(query, conn);
            SqlDataReader dataReader = cmd.ExecuteReader();
            Console.WriteLine(dataReader.GetName(0) + "     "+da-
taReader.GetName(1)+"      "+dataReader.GetName(2));
        while (dataReader.Read())
            {
                Console.WriteLine(dataReader.GetValue(0) + " " +
               dataReader.GetValue(1) + " " + dataReader.Get-
Value(2));
            }
            Console.ReadLine();
            conn.Close();
        }
    }
}
```

Output:



```
Connected to Database!
RollNo.   Name     Marks
1824001 Abhijeet   7
1824003 Aman       6
1824004 Amisha     7
!824005 Amit       8
1824006 Aniket     8
```