

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

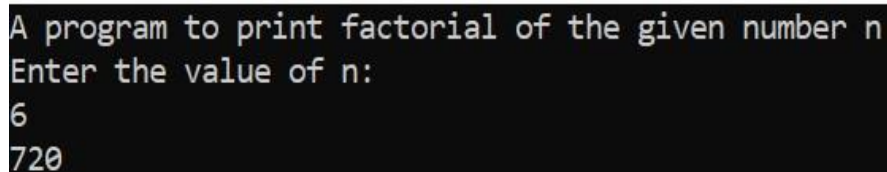
Enter the number of digits:
3
Enter the number:
153
153 Armstrong number.
```

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 screenshot of a terminal window showing the output of the program. The text is as follows:

```
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:-

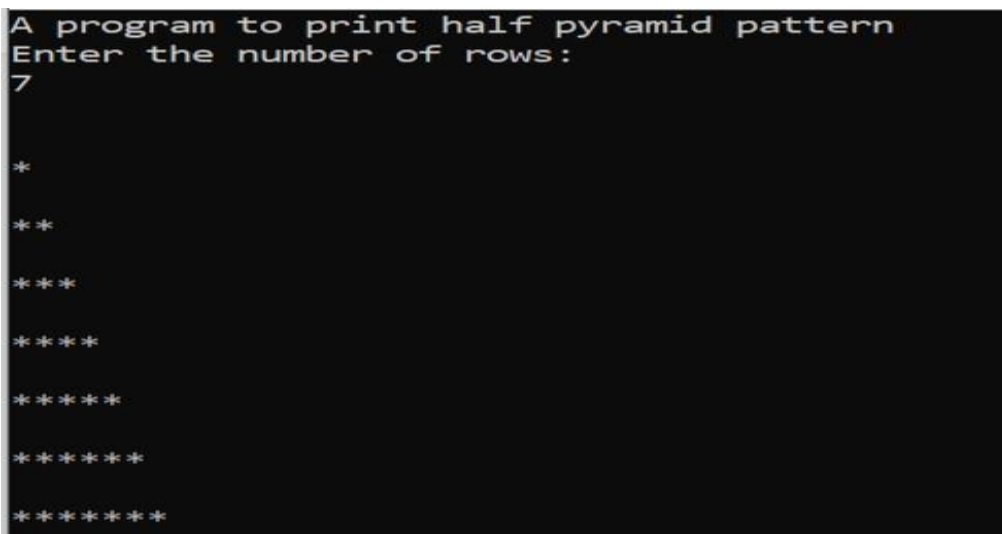
```
A program to print fibonacci series of n terms
Enter the value of n:
15
Fibonacci Series:
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
```

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

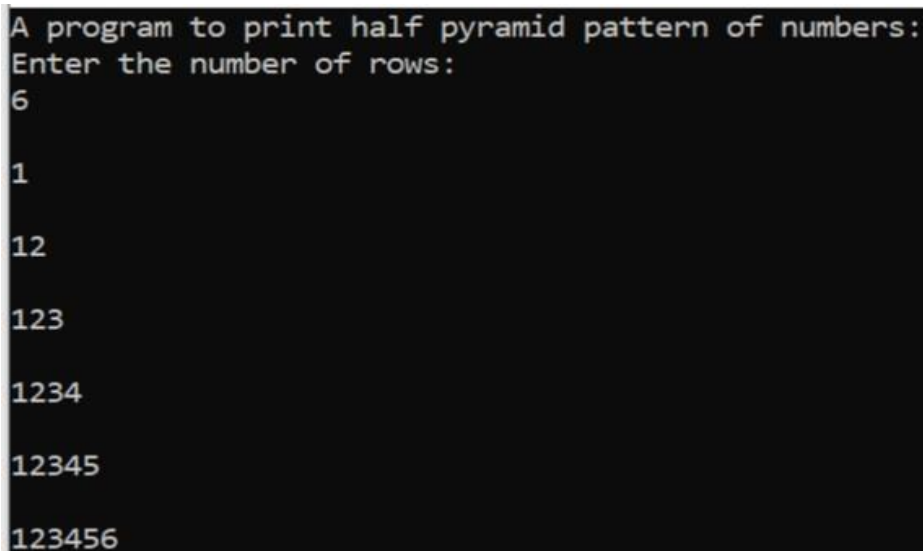
```
using System;
namespace myproject
{
    public class Pattern_HalfPyramidNum
    {
        public static void Main(string[] args)
        {
            int space, rows;
            Console.WriteLine("A program to print half pyramid
pattern of numbers:");
            Console.WriteLine("Enter the number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

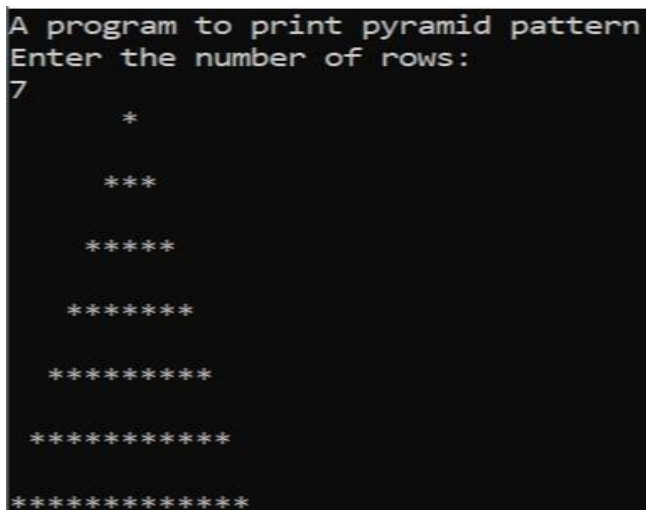
*****
*****
*****
****
***
**
*
```

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:-



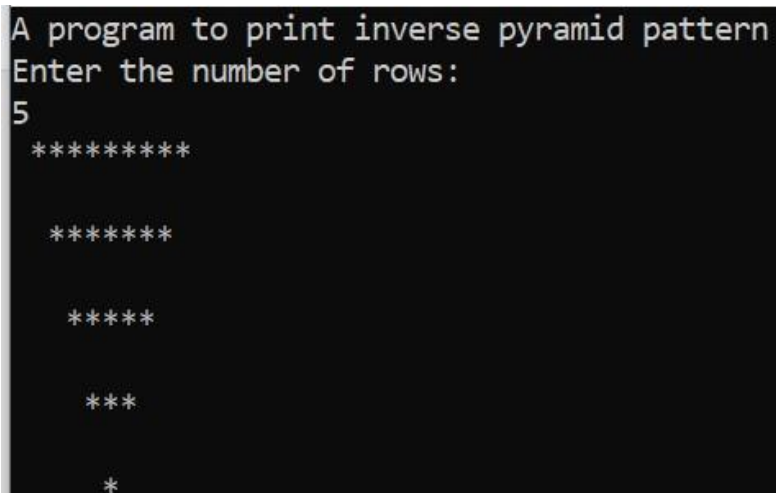
```
A program to print pyramid pattern
Enter the number of rows:
7
    *
  ***
 *****
 *******
          *
          *
          *
          *
          *
          *
          *
          *
          *
          *
          *
```

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");
            }
        }
    }
}
```

Output:-

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

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

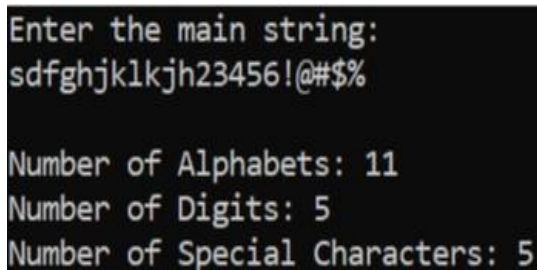
14. Write a program to count a total number of alphabets, digits and special characters in a string

```
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:-

A screenshot of a terminal window showing the output of the program. The input string is "sdfghjklkjh23456!@#%\$". The output shows three lines: "Number of Alphabets: 11", "Number of Digits: 5", and "Number of Special Characters: 5".

```
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

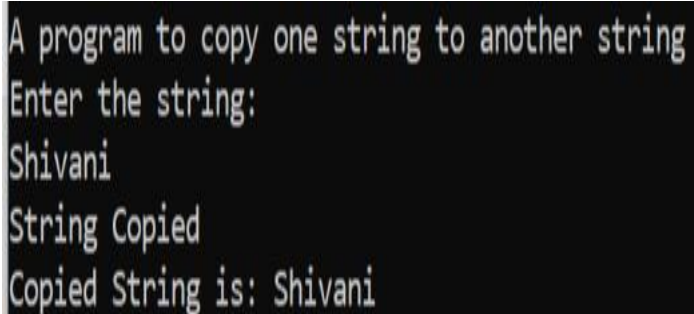
```
using System;
namespace String
{
    public class StringCopy
    {
        public static void Main(string[] args)
        {
            string s1, s2 = "Not Copied";

            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 screenshot of a console window with a black background and white text. The output shows the program's execution: it prints 'A program to copy one string to another string', prompts for input with 'Enter the string:', receives 'Shivani' as input, prints 'String Copied', and finally prints 'Copied String is: Shivani'.

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

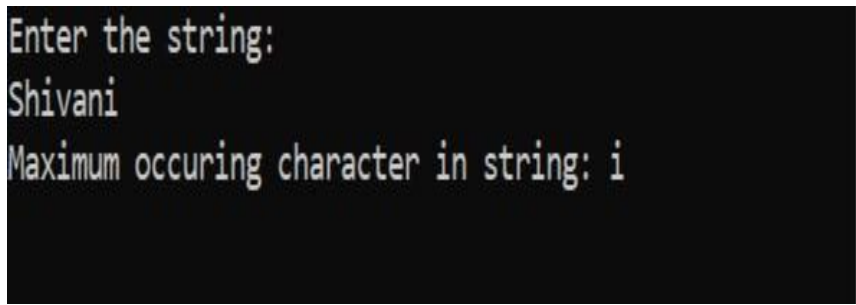

16. Write a program to find maximum occurring character in a string

```
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:

A screenshot of a terminal window with a black background and light green text. It shows the program's execution: the prompt "Enter the string:" is followed by the input "Shivani". Below that, the output "Maximum occuring character in string: i" is displayed.

```
Enter the string:
Shivani
Maximum occuring character in string: i
```

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();
            }
        }
    }
}
```

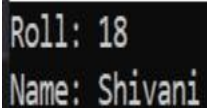
Output:

```
A program to check whether a given substring is present in the given string.  
Enter the string:  
Shivani  
Enter the Sub-string  
ai  
The substring is NOT 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 = 18;
            A.Name = "Shivani";
            Console.WriteLine("Roll: " + A.Roll);
            Console.WriteLine("Name: " + A.Name);
            Console.ReadLine();
        }
    }
}
```

Output:

A screenshot of a console window with a black background and white text. It displays the output of the program: "Roll: 18" on the first line and "Name: Shivani" on the second line.

```
Roll: 18
Name: Shivani
```

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:

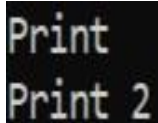
```
C# is Good  
C# is Best  
C# is Better
```

20. Write a program for single Inheritance

```
using System;
namespace OOPs
{
    public class Inheritance
    {
        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:

A screenshot of a console window with a black background. It shows two lines of white text: "Print" on the first line and "Print 2" on the second line.

```
Print
Print 2
```

21. Write a program for Multilevel Inheritance

```
using System;
namespace OOPs
{
    public class MultiInheritance
    {
        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:

A screenshot of a console window with a black background and white text. It displays the output of the program: "Print", "Print 1", and "Print 2" on three separate lines. A blue vertical bar is visible on the left side of the console window.

```
Print
Print 1
Print 2
```


22. Write a program for multiple Inheritance

```
using System;
namespace OOPs
{
    public class MultipleInheritance
    {
        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:

A screenshot of a terminal window with a black background and white text. It displays the output of the program: "Print", "Print 1", and "Print 2" on three separate lines. A vertical cursor is visible on the left side of the first line.

```
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:

A screenshot of a console window with a black background and white text. The first line displays the number 107, and the second line displays the number 150. These are the results of the integer and double sum methods being called in the program.

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:



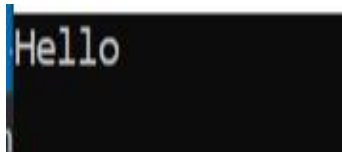
```
BCA
MCA
```

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();
        }
    }
}
```

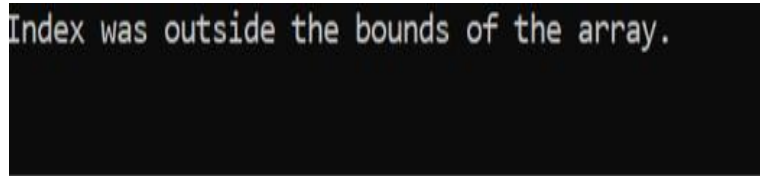
Output:

A screenshot of a console window with a black background. The word "Hello" is displayed in a light blue or cyan monospaced font. The text is positioned on the left side of the window, with a vertical blue bar visible on the far left edge, likely representing the console's scrollbar or a window border.

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;

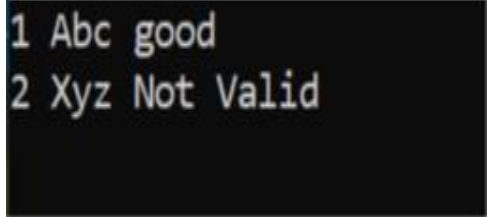
            public CSharp(int a, string b, string c)
            {
                roll = a;
                name = b;
                Result1 = c;
            }

            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
```

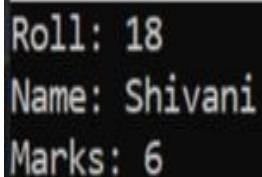

29. Write a program for Constructors

```
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(18,
"Shivani", 6);
                Console.WriteLine("Roll: " + a.roll + "\nName: " +
a.name + "\nMarks: " + a.marks);
                Console.ReadLine();
            }
        }
    }
}
```

Output:

A screenshot of a console window with a black background and white text. It displays the output of the program: 'Roll: 18', 'Name: Shivani', and 'Marks: 6' on three separate lines.

```
Roll: 18
Name: Shivani
Marks: 6
```

30. Write a program for Threading

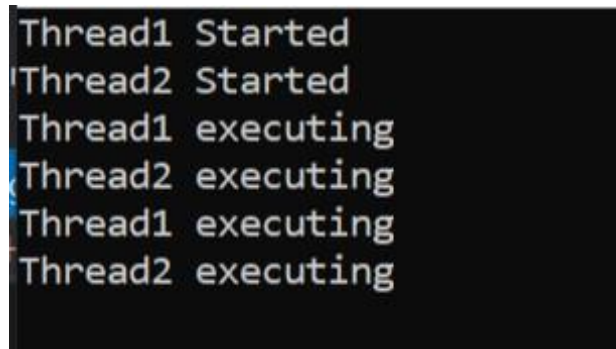
```
using System;
using System.Threading;

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
```

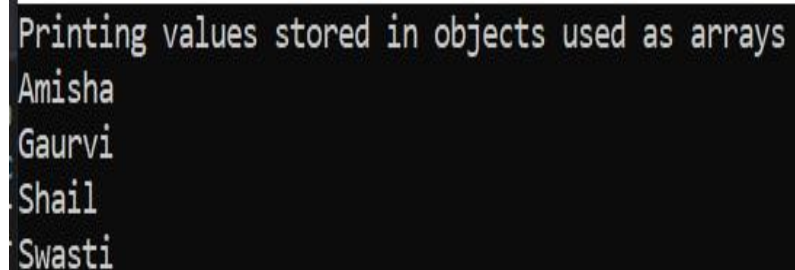
31. Write a program for Indexer

```
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.WriteLine("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:

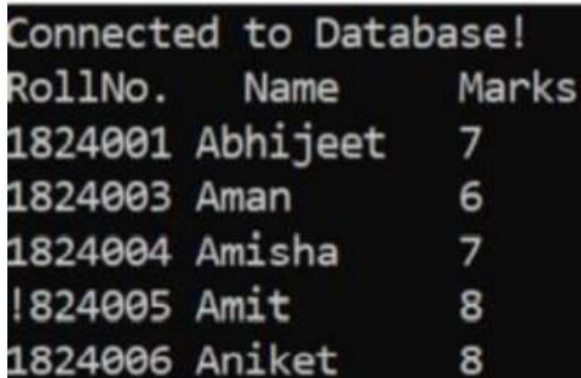
A screenshot of a terminal window with a black background and light green text. The output shows the text "Printing values stored in objects used as arrays" followed by four lines of names: "Amisha", "Gaurvi", "Shail", and "Swasti", each on a new line.

```
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) + " " + dataReader.GetName(1) + " " + dataReader.GetName(2));
            while (dataReader.Read())
            {
                Console.WriteLine(dataReader.GetValue(0) + " " + dataReader.GetValue(1) + " " + dataReader.GetValue(2));
            }
            Console.ReadLine();
            conn.Close();
        }
    }
}
```

Output:



The screenshot shows the output of the program in a console window. It first displays "Connected to Database!". Then, it prints a table with three columns: RollNo., Name, and Marks. The table contains six rows of data.

RollNo.	Name	Marks
1824001	Abhijeet	7
1824003	Aman	6
1824004	Amisha	7
1824005	Amit	8
1824006	Aniket	8

