20 C# Programs Assignments

BY

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Program : 1

Write a C# Program to print multiplication table of a given number

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace multiplication_0__fromat
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int i, v;
            Console.WriteLine("Enter number: ");
            v = Convert.ToInt32(Console.ReadLine());

            for (i = 1; i <= 10; i++)
            {
                Console.WriteLine("{0}*{1}={2}", v, i, v * i);
            }
            Console.ReadLine();
        }
    }
}
```

OUTPUT:

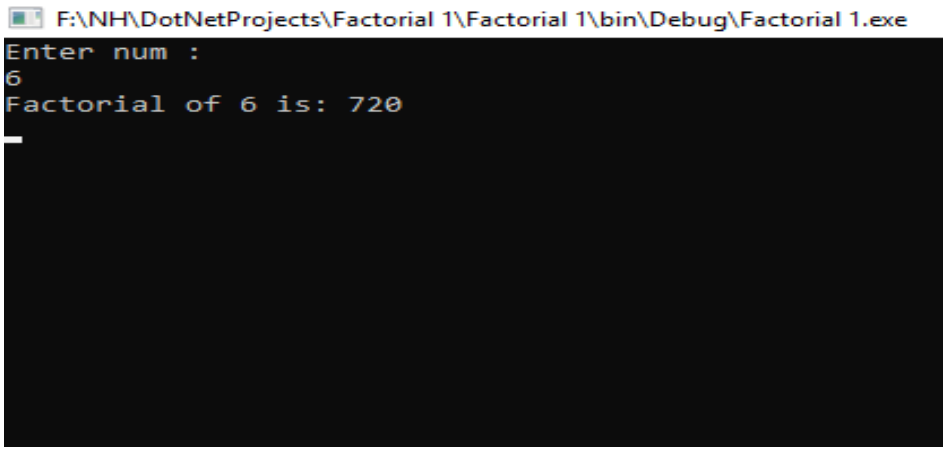
Program : 2

Write a C# program to Print FACTORIAL of a given number

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Factorial_1
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int i, num, fact = 1;

            Console.WriteLine("Enter num :");
            num = Convert.ToInt32(Console.ReadLine());

            for(i =1;i<=num;i++)
            {
                fact = fact*i;
            }
            Console.WriteLine("Factorial of " +num+ " is: " + fact);
            Console.ReadLine();

        }
    }
}
```

OUTPUT:



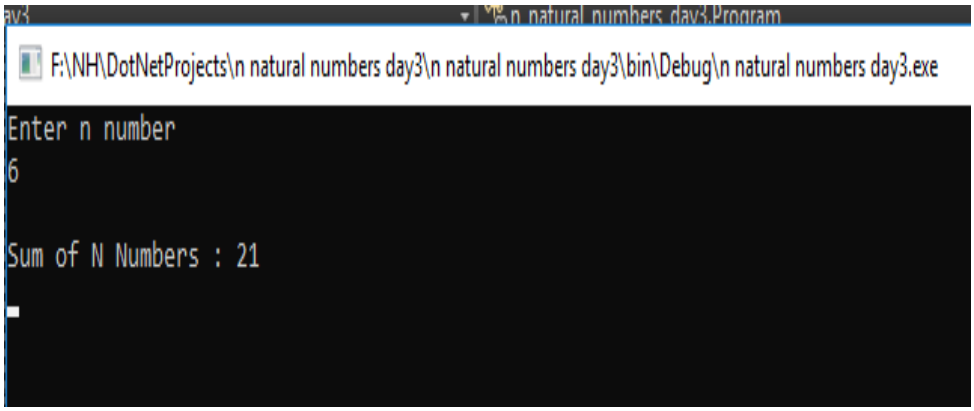
Program : 3

Write a C# program to find print Sum of a n natural numbers

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace n_natural_numbers_day3
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int j, n, sum =0;

            Console.WriteLine("Enter n number");

            n = Convert.ToInt32(Console.ReadLine());

            for (j = 1; j <=n; j++)

                sum+=j;


            Console.WriteLine("\nSum of N Numbers : " + sum);
            Console.ReadLine();



        }
    }
}
```

OUTPUT :



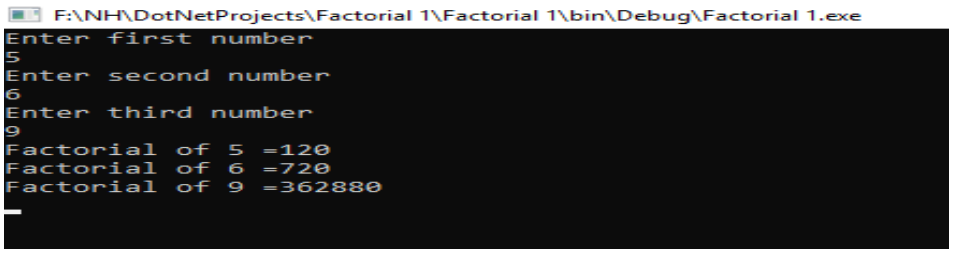
Program : 4

Write a C# program to Print FACTORIAL using function

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Factorialusingrecurssion
{
    internal class Program
    {
        public static void Output(int n)
        {
            Console.WriteLine("Factorial of {0} ={1}", n, factorial(n));
        }
        //Logic
        public static int factorial(int n)
        {
            int fact = 1;
            for (int i = 1; i <= n; i++)
                fact = fact * i;
            return fact;
        }

        static void Main(string[] args)
        {
            //Intialisation and read data from user
            int n, n1, n2;

            Console.WriteLine("Enter first number");
            n = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter second number");
            n1 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter third number");
            n2 = Convert.ToInt32(Console.ReadLine());
            Output(n);
            Output(n1);
            Output(n2);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



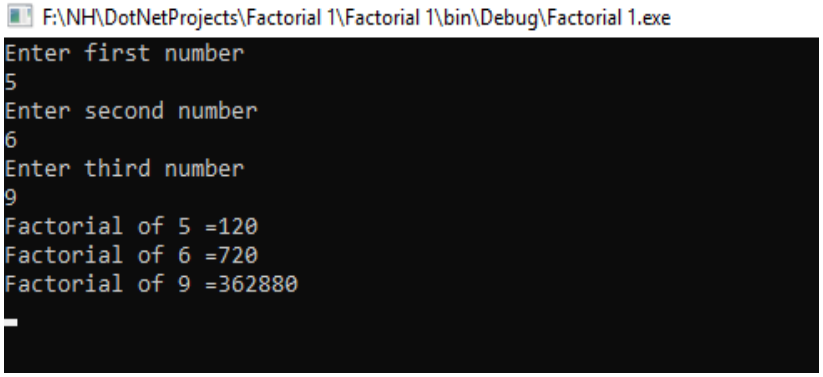
Program : 5

Write a C# Program to Print FACTORIAL of a given number

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Factorialusingrecurssion
{
    internal class Program
    {


        static void Main(string[] args)
        {
            int n;
            Console.WriteLine("Enter a number");
            n = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine("Factorial of {0} is {1}", n, Factorial(n));
            Console.ReadLine();
        }
        static int Factorial(int input)
        {
            if (input == 0)
                return 1;
            else
                return input * Factorial(input - 1);
        }

    }
}
```

OUTPUT:



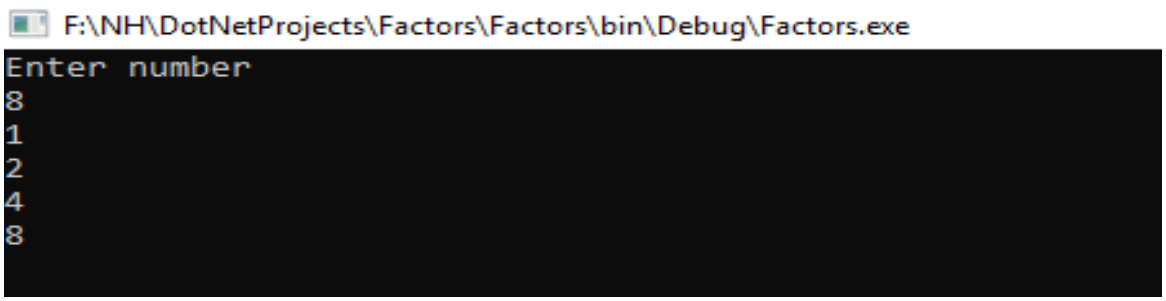
Program : 6

Write a C# Program to Print FACTORIAL of a given number

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Factors
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int i, n;

            Console.WriteLine("Enter number");
            n = Convert.ToInt32(Console.ReadLine());

            for (i = 1; i <= n;i++)
            {
                if(n%i==0)
                    Console.WriteLine( i);
             }
            Console.ReadLine();
        }
    }
}
```

OUTPUT



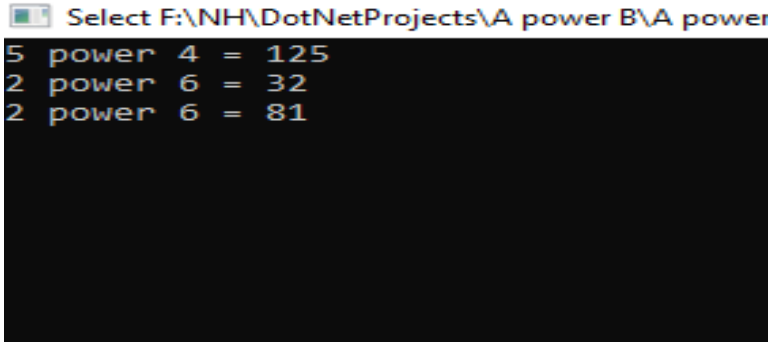
Program : 7

Write a C# Program to Print POWER of Given numbers [a power b]

CODE :

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace A_power_B
{
    internal class Program
    {
        public static int Power(int a, int b)
        {
            int p = 1;
            for(int i =1;i<b;i++)
                p *= a;
            return p;
        }

        static void Main(string[] args)
        {
            int a1 = 5; int b1 = 4 , a2 = 2, b2 = 6 , a3 = 3, b3 = 5;

            Console.WriteLine("{0} power {1} = {2}", a1, b1, Power(a1, b1));
            Console.WriteLine("{0} power {1} = {2}", a2, b2, Power(a2, b2));
            Console.WriteLine("{0} power {1} = {2}", a2, b2, Power(a3, b3));



            Console.ReadLine();
        }
    }
}
```

OUTPUT:



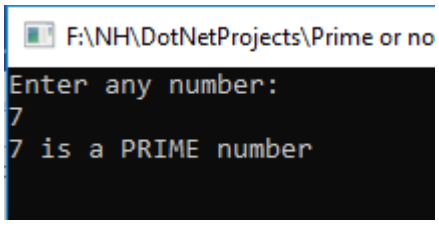
Program : 8

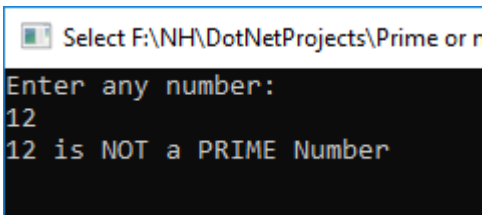
Write a C# program to find PRIME NUMBER or Not

CODE :

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Prime_or_not
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int i, v, count = 0;

            Console.WriteLine("Enter any number: ");
            v = Convert.ToInt32(Console.ReadLine());

            for(i=1;i<=v;i++)
            {
                if (v % i == 0)
                    count++;

            }
            if (count == 2)
                Console.WriteLine("v is a PRIME number", v);
            else
                Console.WriteLine("v is NOT a PRIME Number", v);

            Console.ReadLine();
        }
    }
}
```

OUTPUT:





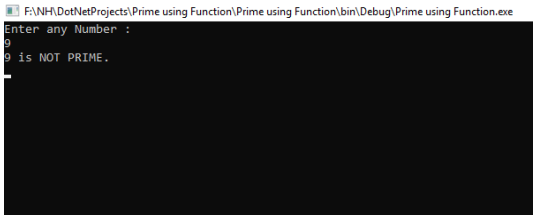
Program : 9

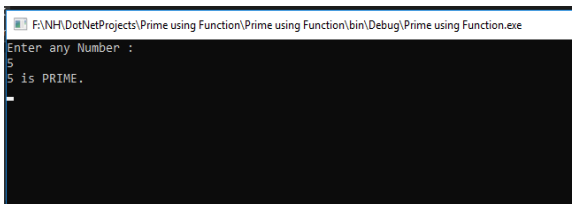
Write a C# program to find prime number [Using Function]

CODE :

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Prime_using_Function
{
    internal class Program
    {
        public static bool Prime(int num)
        {
            for(int i=2;i<num;i++)
                if(num%i==0)
                    return true;
            return false;
        }
        public static void Main(string[] args)
        {
            Console.WriteLine("Enter any Number :");
            int p = Convert.ToInt32(Console.ReadLine());
                if (Prime(p))
                    Console.WriteLine("{0} is NOT PRIME.", p);
                else
                    Console.WriteLine("{0} is PRIME.", p);
            Console.ReadLine();

        }
    }

}
```

OUTPUT :





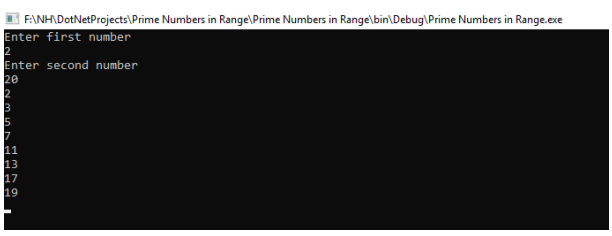
Program : 10

Write a C# program to find PRIME NUMBERS in RANGE

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
namespace Primenumbers_in_a_range
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Variable declaration and reading data from user
            int i1, i2;
            Console.WriteLine("Enter first number");
            i1 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter second number");
            i2 = Convert.ToInt32(Console.ReadLine());
            for (int i = i1; i <= i2; i++)
            {
                if (isPrimenumber(i))
                    Console.WriteLine("{0}", i);
            }
            Console.ReadLine();

        }
        //Logic and returning Output
        public static Boolean isPrimenumber(int input)
        {
            int i;
            for (i = 2; i < input; i++)
            {
                if (input % i == 0)
                    break;
            }
            if (i == input)
                return true;
            else
                return false;
        }

    }
}
```

OUTPUT :



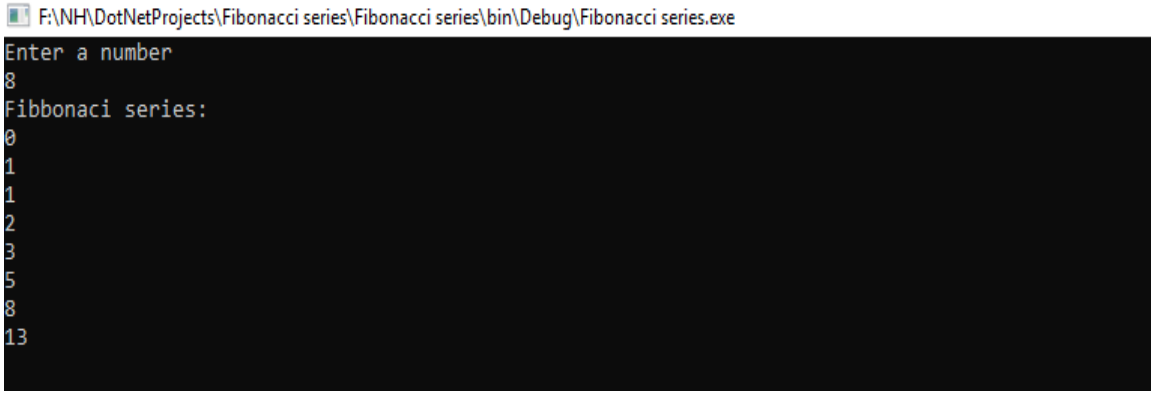
Program : 11

Write a C # program to print FIBONACCI Series

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Fibonacci_series
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input;
            int v = 0, p = 1;
            Console.WriteLine("Enter a number");
            input = Convert.ToInt32(Console.ReadLine());
            //Logic and printing output
            Console.WriteLine("Fibbonaci series:");
            for (int i = 0; i < input; i++)
            {
                Console.WriteLine(v);
                int c = v + p;
                v = p;
                p = c;
            }
            Console.ReadLine();

        }
    }
}
```

OUTPUT



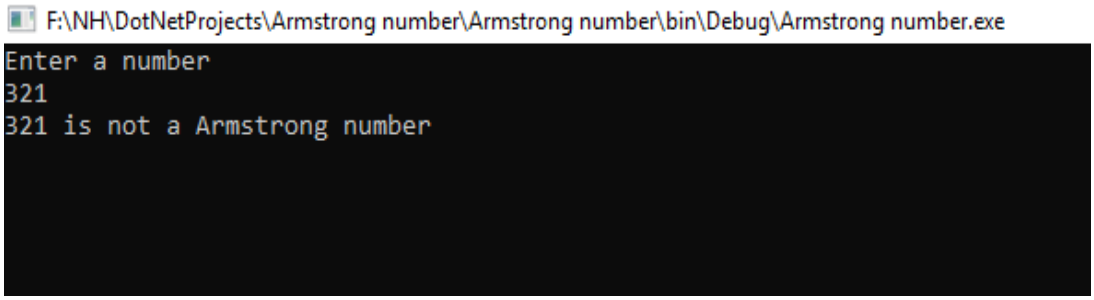
Program :12

Write a C# program to print ARMSTRONG Number.

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Armstrong_number
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input;
            int s, arm;
            int result = 0;
            Console.WriteLine("Enter a number");
            input = Convert.ToInt32(Console.ReadLine());
            //Logic and Output
            s = input;
            while (s > 0)
            {
                arm = s % 10;
                s = s / 10;
                result = result + arm * arm * arm;
            }
            if (result == input)
                Console.WriteLine("{0} is a Armstrong number", input);
            else
                Console.WriteLine("{0} is not a Armstrong number", input);
            Console.ReadLine();
        }
    }
}
```

OUTPUT



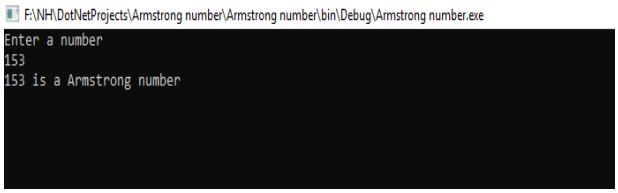
Program : 13

Write a C# program to print Armstrong number[Using Function]

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Armstrong_number
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input;

            Console.WriteLine("Enter a number");
            input = Convert.ToInt32(Console.ReadLine());

            //Printing Output
            if (isArmstrongnumber(input))
                Console.WriteLine("{0} is a Armstrong number", input);
            else
                Console.WriteLine("{0} is not a Armstrong number", input);
            Console.ReadLine();
        }
        //Logic
        public static Boolean isArmstrongnumber(int input)
        {
            int m, rem;
            int result = 0;
            m = input;
            while (m > 0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem * rem * rem;
            }
            if (result == input)
                return true;
            else
                return false;


        }
    }
}
```

OUTPUT



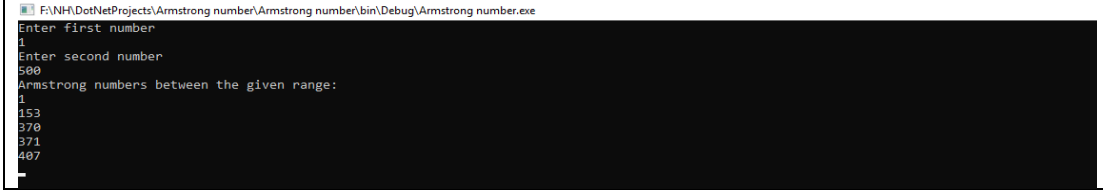
Program : 14

Write a C# program to print Armstrong numbers in range

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Armstrong_number
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input1, input2, i;
            Console.WriteLine("Enter first number");
            input1 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter second number");
            input2 = Convert.ToInt32(Console.ReadLine());
            //Printing Output
            Console.WriteLine("Armstrong numbers between the given range:");
            for (i = input1; i <= input2; i++)
            {
                if (isArmstrongnumber(i))
                    Console.WriteLine(i);
            }
            Console.ReadLine();
        }
        //Logic
        public static Boolean isArmstrongnumber(int input)
        {
            int m, rem;
            int result = 0;
            m = input;
            while (m > 0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem * rem * rem;
            }
            if (result == input)
                return true;
            else
                return false;
        }
    }
}
```

OUTPUT



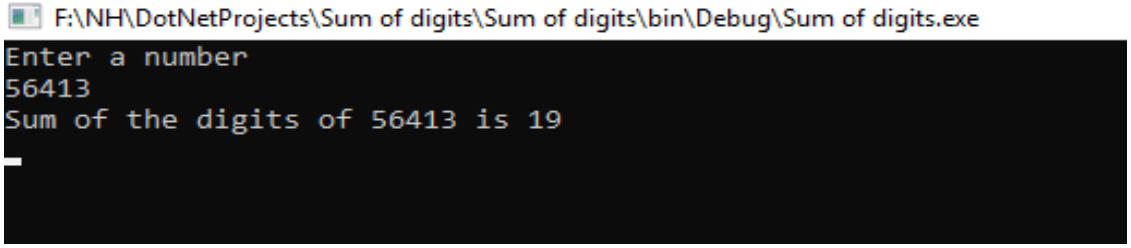
Program : 15

Write a C# program to find Sum of digits of a given number.

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Sum_of_digits
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input;
            int d, sum;
            int res = 0;
            Console.WriteLine("Enter a number");
            input = Convert.ToInt32(Console.ReadLine());
            //Logic
            d = input;
            while (d > 0)
            {
                sum = d % 10;
                d = d / 10;
                res = res + sum;
            }
            //Output
            Console.WriteLine("Sum of the digits of {0} is {1}", input, res);
            Console.ReadLine();
        }
    }
}
```

OUTPUT :



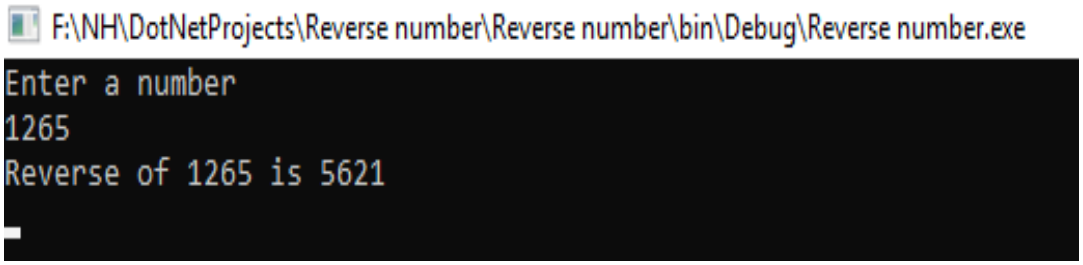
Program : 16

Write to C# program to print reverse of a given number

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Reverse_number
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input;
            int r, sum;
            int rev = 0;
            Console.WriteLine("Enter a number");
            input = Convert.ToInt32(Console.ReadLine());
            //Logic
            r = input;
            while (r > 0)
            {
                sum = r % 10;
                r = r / 10;
                rev = rev * 10 + sum;
            }
            //Output
            Console.WriteLine("Reverse of {0} is {1}", input, rev);
            Console.ReadLine();
        }
    }
}
```

OUTPUT



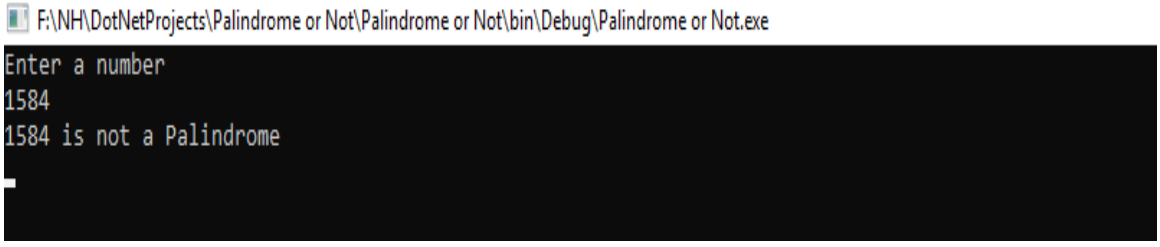
Program : 17

Write a C# program to check given number is Palindrome or not

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Palindrome_or_Not
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Variable declaration and read data from user
            int k;
            int p, palin;
            int rev = 0;
            Console.WriteLine("Enter a number");
            k = Convert.ToInt32(Console.ReadLine());
            //Logic and Output
            p = k;
            while (p > 0)
            {
                palin = p % 10;
                p = p / 10;
                rev = rev * 10 + palin;
            }
            if (k == rev)
                Console.WriteLine("{0} is a Palindrome", k);
            else
                Console.WriteLine("{0} is not a Palindrome", k);
            Console.ReadLine();
        }
    }
}
```

OUTPUT



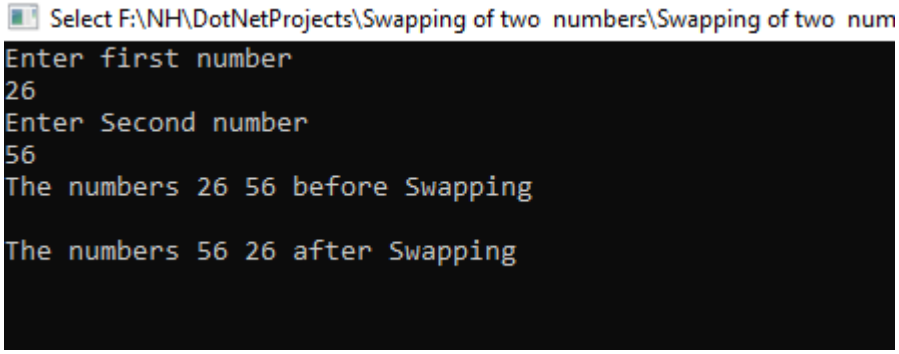
Program : 18

Write a C# program to print Swapping of two numbers using third variable

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Swapping_of_two__numbers
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int a, b, s;
            Console.WriteLine("Enter first number");
            a = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter Second number");
            b = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("The numbers {0} {1} before Swapping",a, b);

            Console.ReadLine();

            //Logic and Output
            s = a;
            a = b;
            b = s;
            Console.WriteLine("The numbers {0} {1} after Swapping", a, b);
            Console.ReadLine();
        }
    }
}
```

OUTPUT



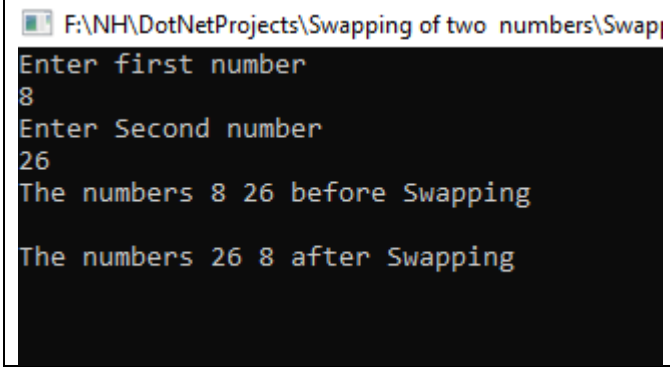
Program : 19

Write a C# Program to print Swapping of two numbers without using third variable

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Swapping_of_two__numbers
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input1, input2;
            Console.WriteLine("Enter first number");
            input1 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter Second number");
            input2 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("The numbers {0} {1} before Swapping", input1,
           input2);
            Console.ReadLine();
            //Logic and Output
            input1 = input1 + input2;
            input2 = input1 - input2;
            input1 = input1 - input2;
            Console.WriteLine("The numbers {0} {1} after Swapping", input1,
           input2);
            Console.ReadLine();
        }
    }
}
```

OUTPUT



Program : 20

Write a C# program to print Right angled triangle(*) pattern

CODE

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Right_angled_Triangle
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, i, j;
            Console.WriteLine("No.of rows to be print");
            input = Convert.ToInt32(Console.ReadLine());
            //Logic and output
            for (i = 1; i <= input; i++)
            {
                for (j = 1; j <= i; j++)
                {
                    Console.Write("* ");
                }
                Console.WriteLine();
            }
            Console.ReadLine();

        }
    }
}
```

OUTPUT