20 C# Programs Assignment

By

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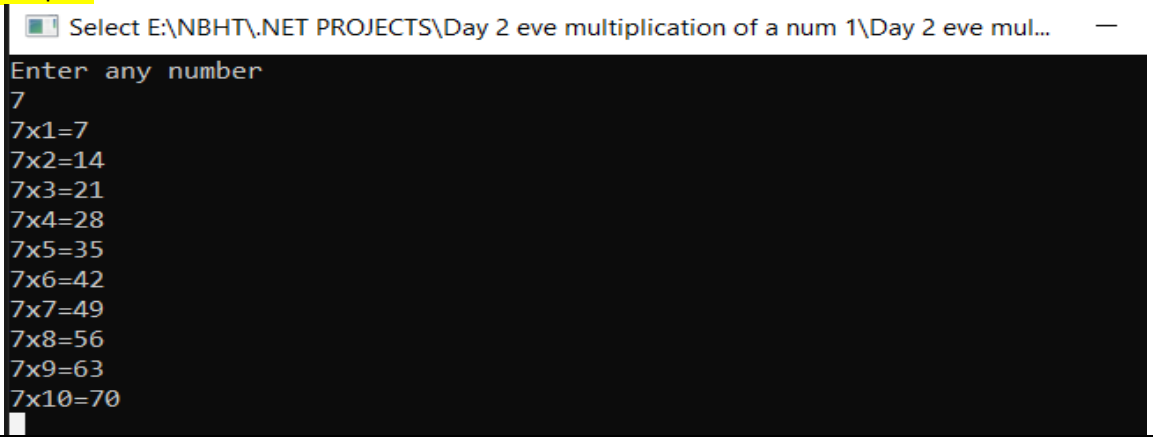
Program 1:

Write a C# Program to print MULTIPLICATION TABLE of a number:

Code:

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

namespace Day_2_eve_multiplication_of_a_num_1
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, i;
            Console.WriteLine("Enter any number");
            input = Convert.ToInt32(Console.ReadLine());
            for (i = 1; i <= 10; i++)
            {
                Console.WriteLine(input + "x" + i + "=" + input * i);

            }
            Console.ReadLine();

        }
    }
}
```

Output:



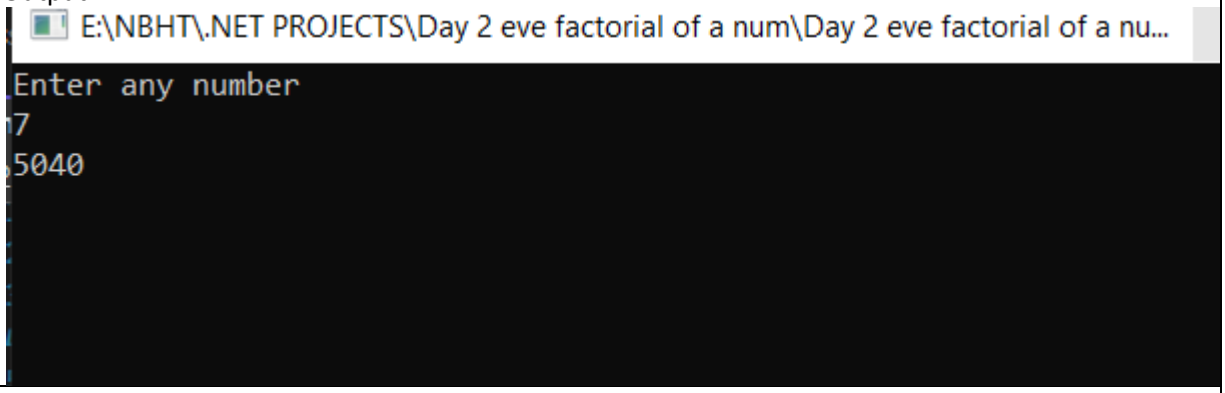
Program 2:

Write a C# Program to print a FACTORIAL of a given number:

Code:

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

namespace Day_2_eve_factorial_of_a_num
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, product = 1, i;

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

            for (i = 1; i <= input; i++)
                product = product * i;

            Console.WriteLine(product);

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

Output:



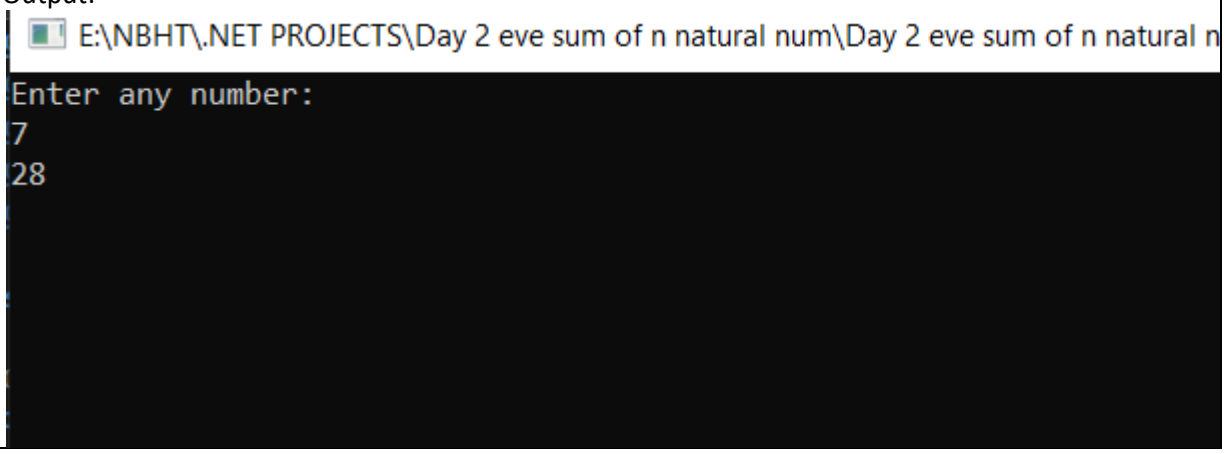
Program 3:

Write a C# Program to print a SUM OF N NATURAL NUMBERS:

Code:

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

namespace Day_2_eve_sum_of_n_natural_num
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, sum = 0, i;
            Console.WriteLine("Enter any number:");
            input = Convert.ToInt32(Console.ReadLine());
            for (i = 1; i <= input; i++)
                sum = sum + i;
            Console.WriteLine(sum);
            Console.ReadLine();
        }
    }
}
```

Output:



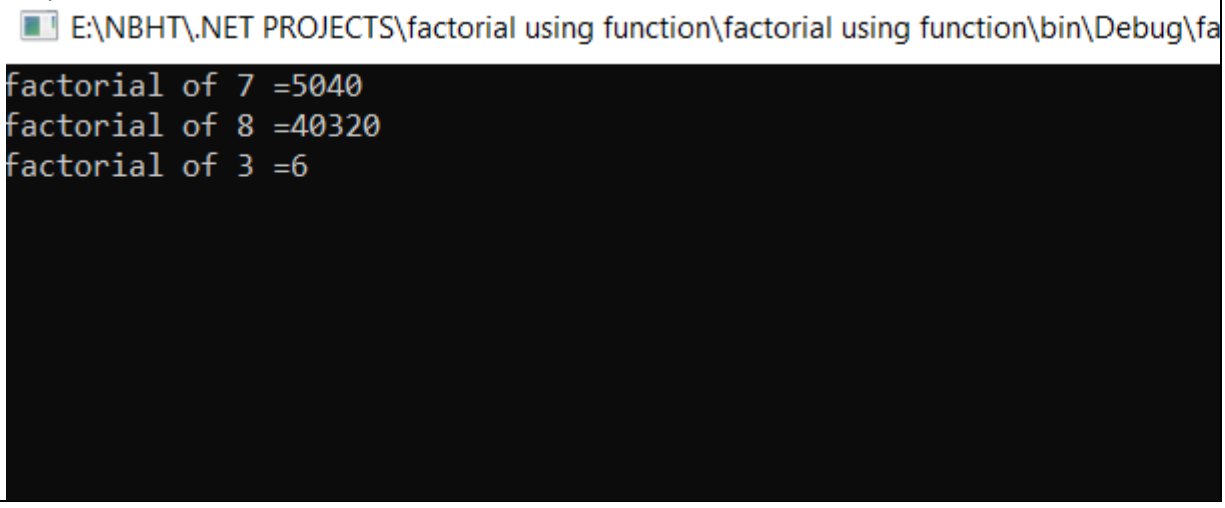
Program 4:

Write a C# Program to print a FACTORIAL using FUNCTIONS:

Code:

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

namespace factorial_using_function
{
    internal class Program
    {
        public static void printOutout(int n)
        {
            Console.WriteLine("factorial of {0} ={1}", n, factorial(n));
        }
        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)
        {
            int n = 7, n1 = 8, n2 = 3;

            printOutout(n);
            printOutout(n1);
            printOutout(n2);
            Console.ReadLine();
        }
    }
}
```

Output:



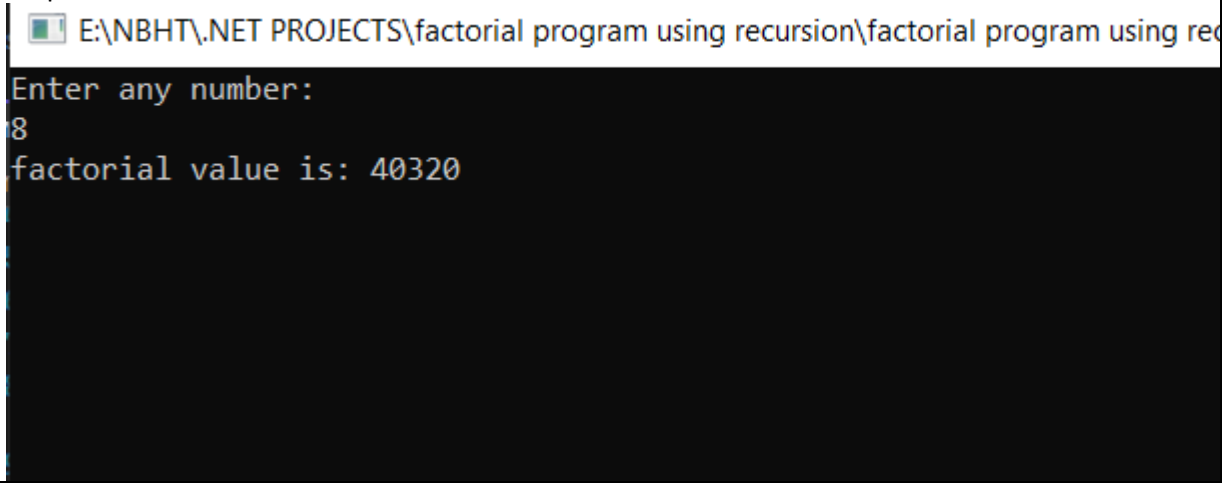
Program 5:

Write a C# Program to print a FACTORIAL using RECURSION:

Code:

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

namespace factorial_program_using_recursion
{
    internal class Program
    {

        static void Main(string[] args)
        {

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

            int factorial= getFact(input);

                Console.WriteLine("factorial value is: " +  factorial);

            Console.ReadLine();
        }
        static int getFact(int input)
        {

            if (input == 0)
                return 1;
            else
                return input * getFact(input - 1);
        }



    }
}
```

Output:



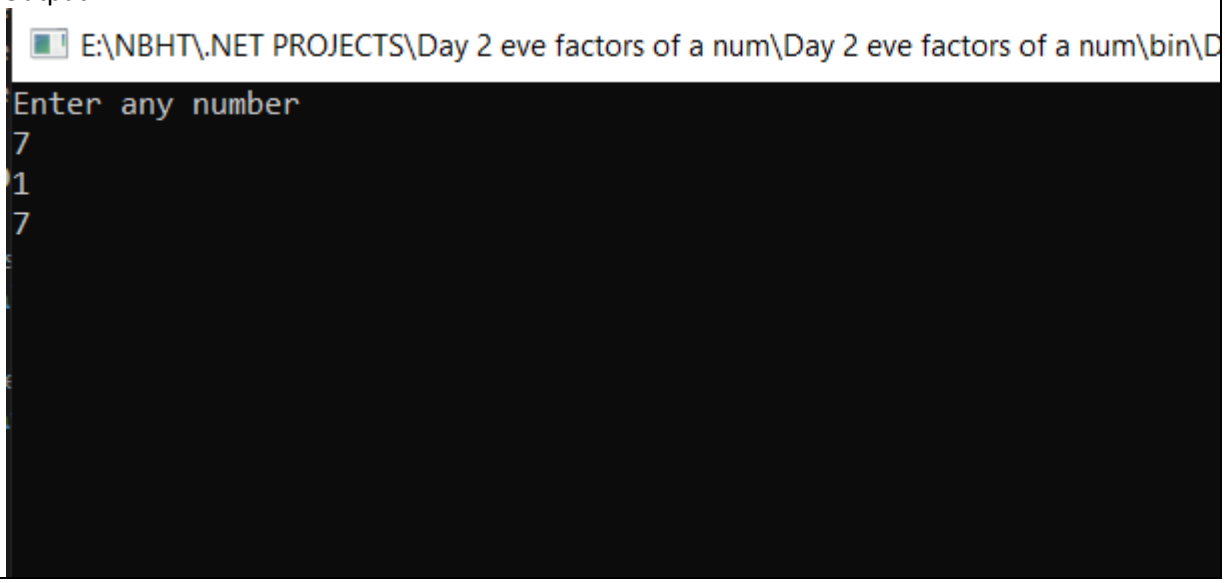
Program 6:

Write a C# Program to print a FACTORS of a given Number:

Code:

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

namespace Day_2_eve_factors_of_a_num
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, i;
            Console.WriteLine("Enter any number");
            input = Convert.ToInt32(Console.ReadLine());

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

Output:



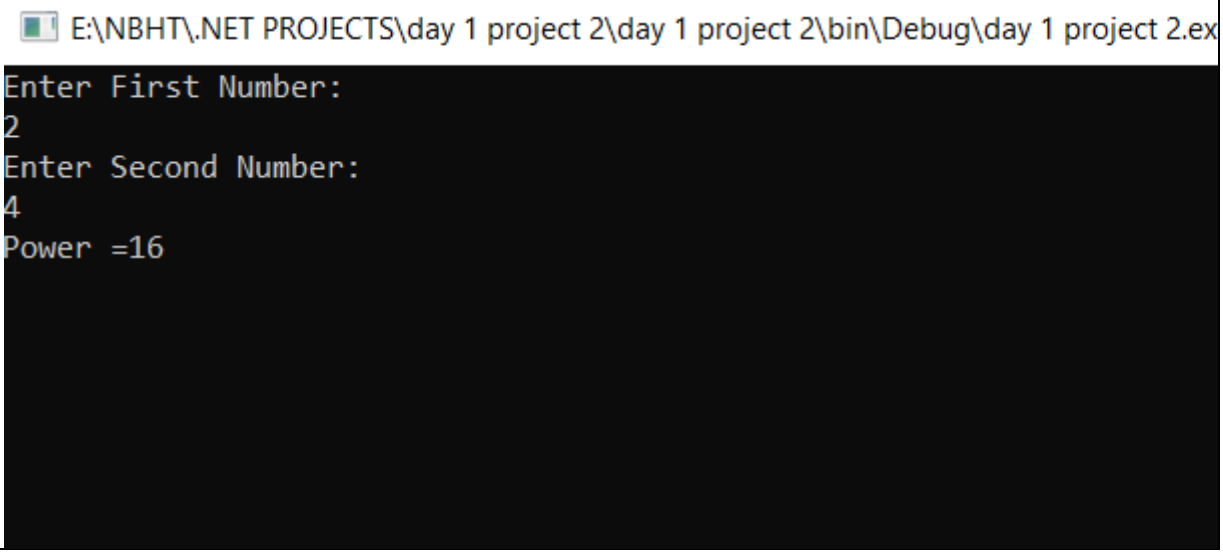
Program 7:

Write a C# Program to print a 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 power_of_a_num
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int fn, sn, sum = 0;
            int f = 1;
            fn = 8;

            Console.WriteLine("Enter First Number:");
            fn = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine("Enter Second Number:");
            sn = Convert.ToInt32(Console.ReadLine());

            for (int i = 1; i <= sn; i++)
                f = f * fn;
            Console.WriteLine("Power =" + f);
            Console.ReadLine();
        }
    }
}
```

Output:



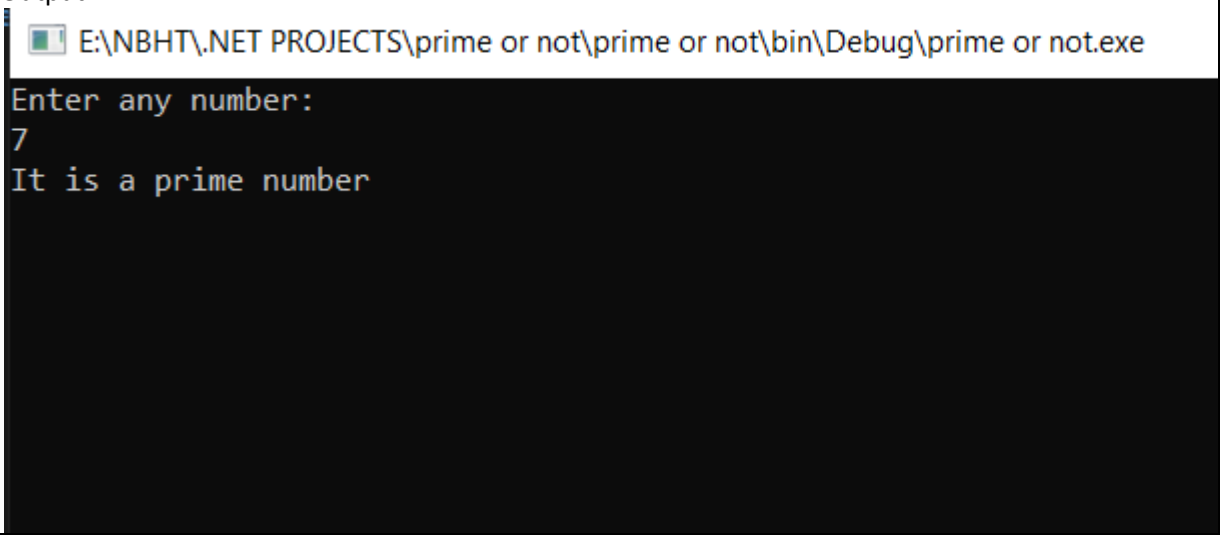
Program 8:

Write a C# Program to print 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 input, i, count = 0;
            Console.WriteLine("Enter any number:");
            input = Convert.ToInt32(Console.ReadLine());

            for (i = 1; i <= input; i++)
            {
                if (input % i == 0)
                    count++;
            }
            if (count == 2)
                Console.WriteLine("It is a prime number", input);
            else Console.WriteLine("It is not a prime number", input);
            Console.ReadLine();

        }
    }
}
```

Output:



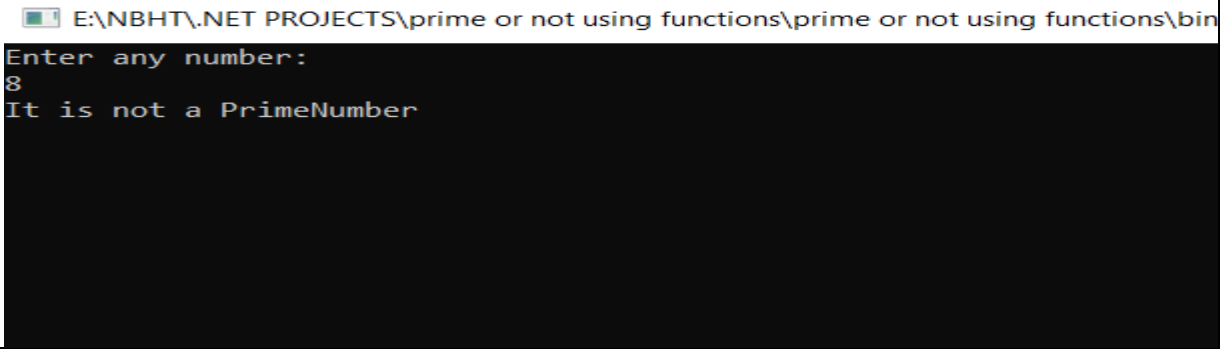
Program 9:

Write a C# Program to print PRIME NUMBER check using FUNCTIONS:

Code:

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

namespace prime_or_not_using_functions
{
    internal class Program
    {

        static void Main(string[] args)
        {

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

            if (isPrimeNumber(input))
                Console.WriteLine("It is a PrimeNumber", input);
            else
                Console.WriteLine("It is not a PrimeNumber", input);
            Console.ReadLine();
        }
       static bool isPrimeNumber(int input)
        {

            for (int i = 2; i < input; i++){
                if (input % i == 0)
                {
                    return false;
                }
            }


                return true;

        }
    }
}
```

Output:



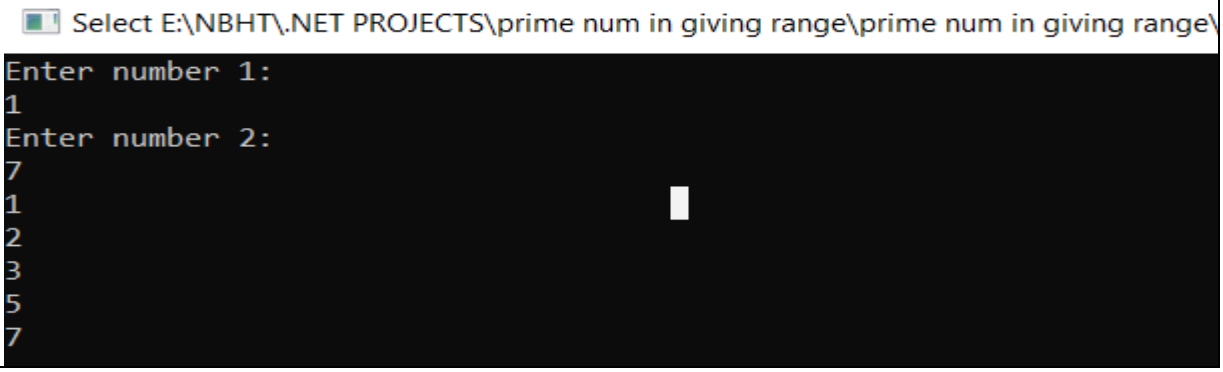
Program 10:

Write a C# Program to print PRIME NUMBERS in RANGE:

Code:

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

namespace prime_num_in_giving_range
{
    internal class Program
    {

        static void Main(string[] args)
        {

            Console.WriteLine("Enter number 1:");

           int input1 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter number 2:");
            int input2 = Convert.ToInt32(Console.ReadLine());

             for(int i = input1; i <= input2; i++)
            {
                isPrime(i);
            }
            Console.ReadLine();
        }

        static void isPrime(int input)
        {
            bool isPrimenum = true;
            for (int i = 2; i < input; i++)
            {
                if (input % i == 0)
                {
                     isPrimenum = false;
                 }

            }
            if (isPrimenum == true)
            {
                Console.WriteLine(input);
            }
           }
    }

}
```

Output:



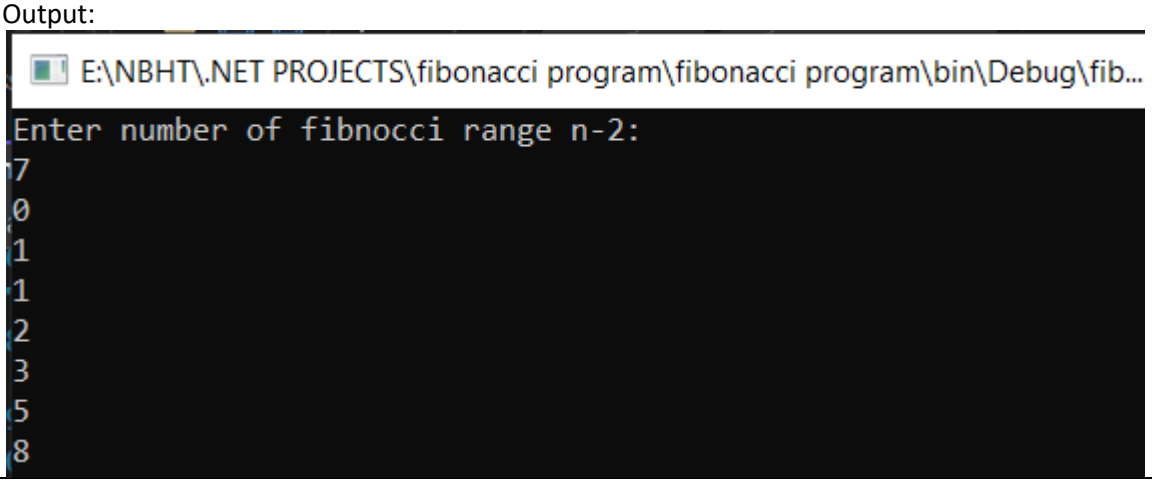
Program 11:

Write a C# Program to print a FIBONACCI SERIES:

Code:

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

namespace fibonacci_program
{
    internal class Program
    {

        static void Main(string[] args)
        {
            int a = 0, b = 1, c, n;
            Console.WriteLine("Enter number of fibnocci range n-2:");

           n = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("0");
            Console.WriteLine("1");

            for (int i = 0; i < n-2; i++) {

               c = a + b;
                a = b;
                b = c;
                Console.WriteLine(c);

            }


            Console.ReadLine();
        }


    }

}
```

Output:



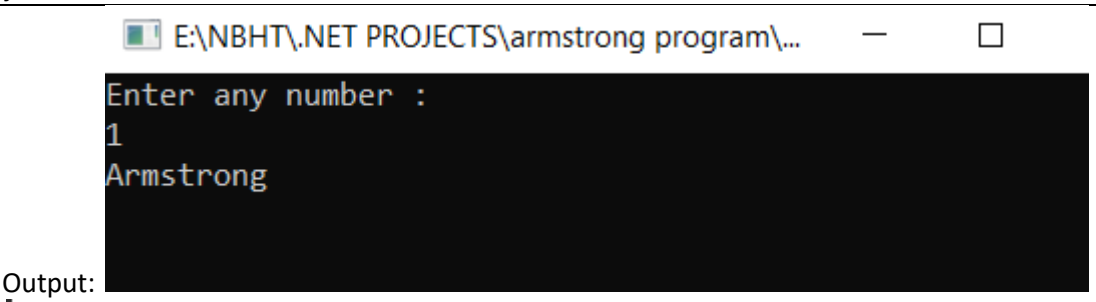
Program 12:

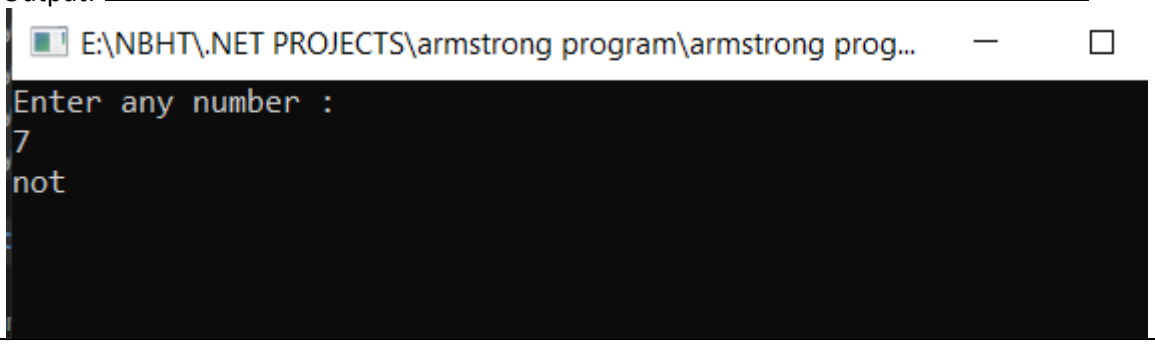
Write a C# Program to print ARMSTRONG NUMBER:

Code:

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

namespace armstrong_program
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n, rem, m, res = 0;
            Console.WriteLine("Enter any number :");

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

            m = n;
            while (m > 0)
            {

                rem = m % 10;
                m /= 10;
                res = res + rem * rem * rem;

            }
            Console.WriteLine((res == n) ? "Armstrong" : "not");


            Console.ReadLine();

        }
    }
}
```

Output:





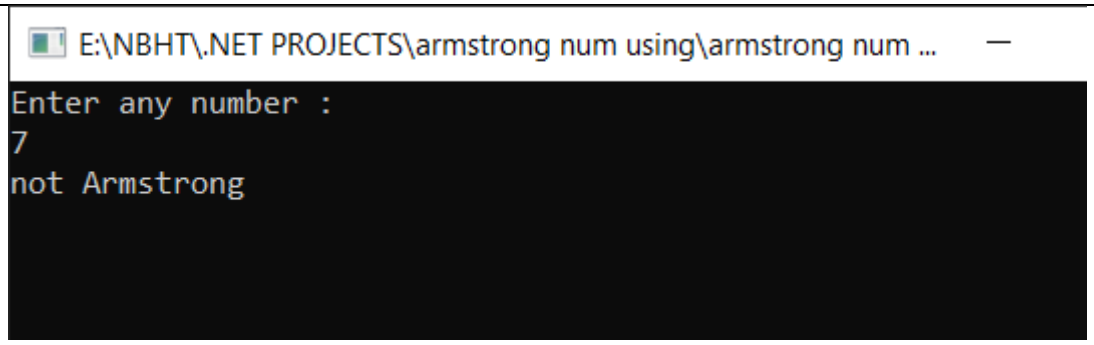
Program 13:

Write a C# Program to print a ARMSTRONG NUMBER using FUNCTIONS:

Code:

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

namespace armstrong_num_using
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n, rem, m, res = 0;
            Console.WriteLine("Enter any number :");

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

        static void getArmtrong(int n)
        {
            int rem, m, res = 0;

            m = n;
            while (m > 0)
            {

                rem = m % 10;
                m /= 10;
                res = res + rem * rem * rem;

            }
            Console.WriteLine((res == n) ? "Armstrong" : "not Armstrong");


        }
    }
}
```

Output:



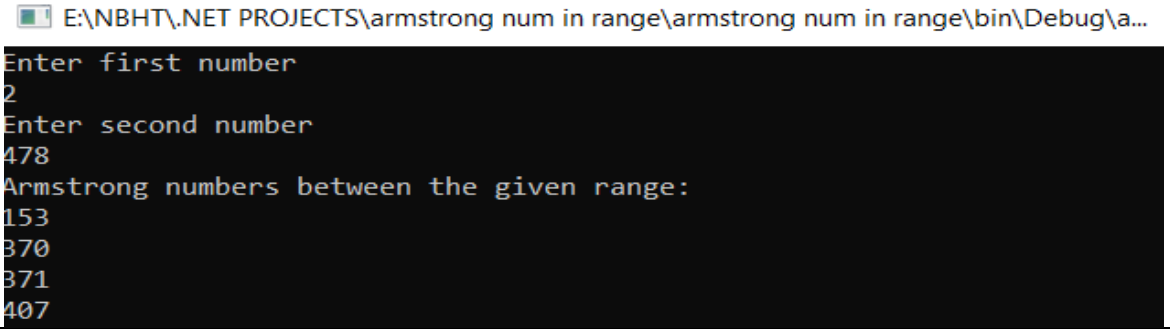
Program 14:

Write a C# Program to print a ARMSTRONG NUMBER in RANGE:

Code:

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

namespace armstrong_num_in_range
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Variable declaration and read data from user
            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:



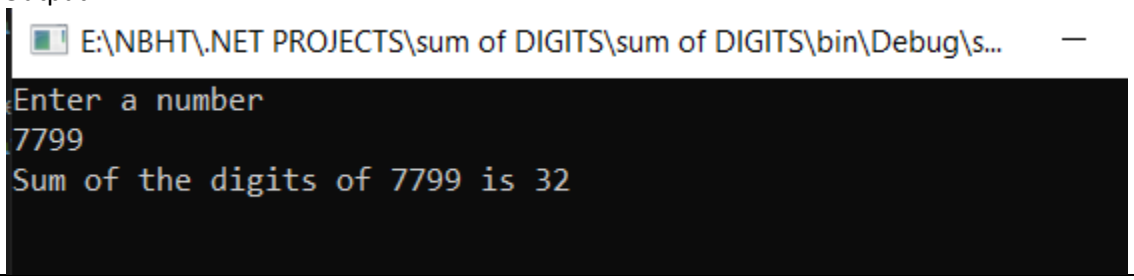
Program 15:

Write a C# Program to print a SUM OF DIGITS of 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)
        {
            //Variable declaration and read data from user
            int input;
            int m, rem;
            int result = 0;
            Console.WriteLine("Enter a number");
            input = Convert.ToInt32(Console.ReadLine());
            //Logic
            m = input;
            while (m > 0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem;
            }
            //Output
            Console.WriteLine("Sum of the digits of {0} is {1}", input, result);
            Console.ReadLine();
        }
    }
}
```

Output:



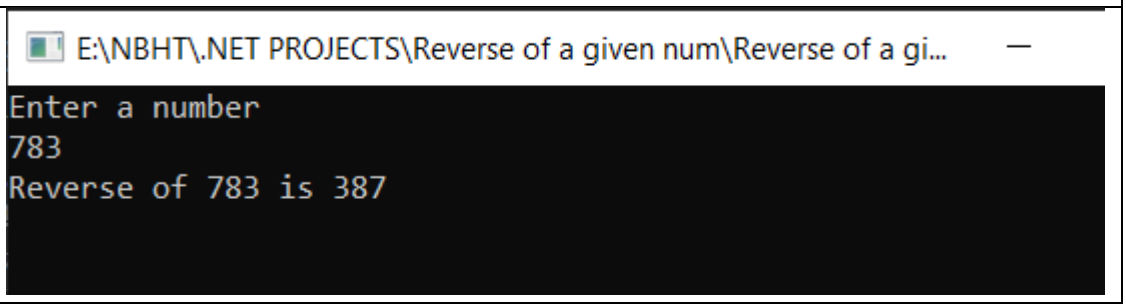
Program 16:

Write a C# Program to print a REVERSE of a Given Number:

Code:

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

namespace Reverse_of_a_given_num
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Variable declaration and read data from user
            int input;
            int m, rem;
            int rev = 0;
            Console.WriteLine("Enter a number");
            input = Convert.ToInt32(Console.ReadLine());
            //Logic
            m = input;
            while (m > 0)
            {
                rem = m % 10;
                m = m / 10;
                rev = rev * 10 + rem;
            }
            //Output
            Console.WriteLine("Reverse of {0} is {1}", input, rev);
            Console.ReadLine();
        }
    }
}
```

Output:



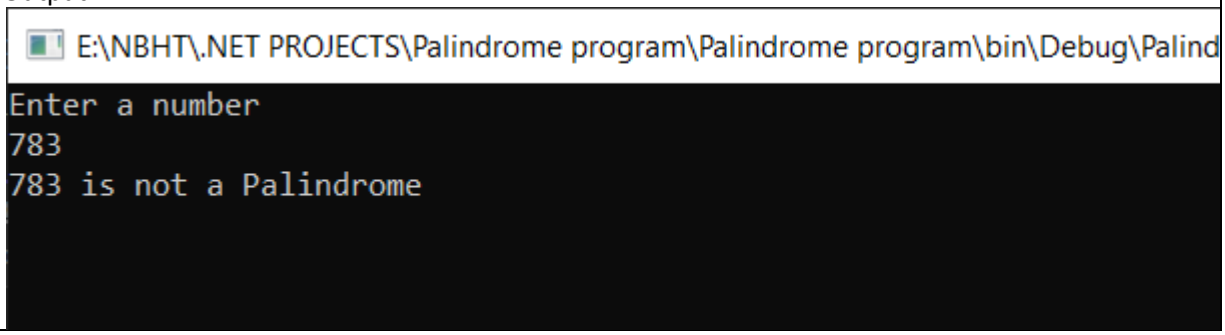
Program 17:

Write a C# Program to print a PALINDROME NUMBER:

Code:

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

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

        }
    }
}
```

Output:



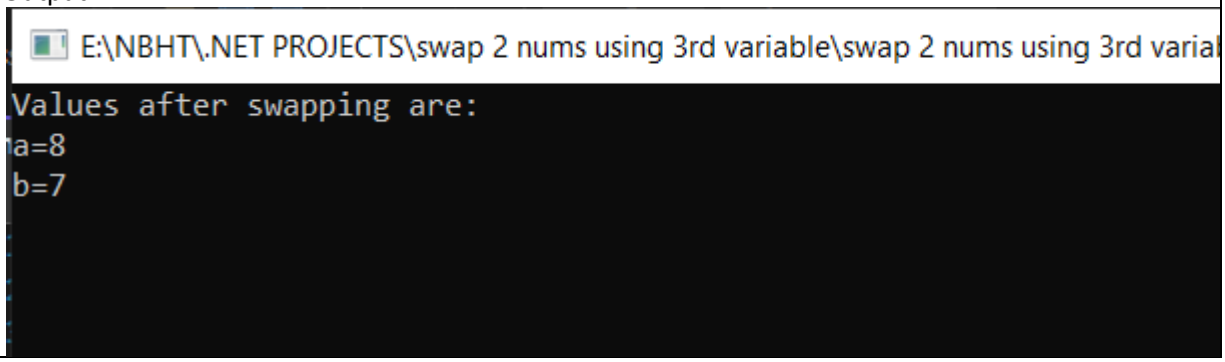
Program 18:

Write a C# Program to print SWAP NUMBERS using THIRD VARIABLE:

Code:

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

namespace swap_2_nums_using_3rd_variable
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int a = 7, b = 8, temp;


            temp = a;
            a = b;
            b = temp;

            Console.WriteLine("Values after swapping are:");
            Console.WriteLine("a=" + a);
            Console.WriteLine("b=" + b);
            Console.ReadLine();


        }
    }
}
```

Output:



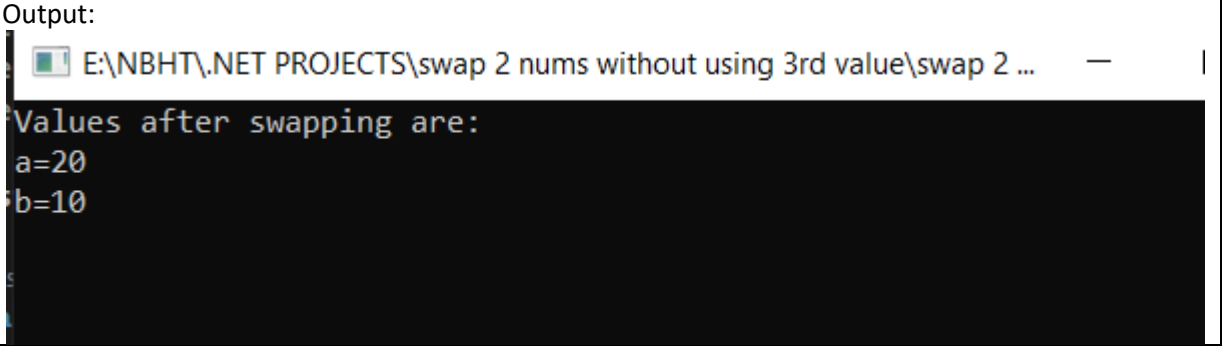
Program 19:

Write a C# Program to print a SWAP NUMBERS WITHOUT using THIRD VARIBLE:

Code:

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

namespace swap_2_nums_without_using_3rd_value
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int a = 10, b = 20;


            a = a + b;
            b = a - b;
            a = a - b;

            Console.WriteLine("Values after swapping are:");
            Console.WriteLine("a=" + a);
            Console.WriteLine("b=" + b);
            Console.ReadLine();

        }
    }
}
```

Output:



Program 20:

Write a C# Program to print Stars (*) in a pattern [RIGHT ANGLED TRIANGLE PATTERN]:

Code:

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

namespace STARS_PRINT__right_angled_triangle_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            // Variable declaration
            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: