

**20 C# Programs Assignments**  
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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:

 F:\NH\DotNetProjects\multiplication{0} fromat\multiplication{0} fromat\bin\Debug\multiplication{0} fromat.exe

Enter number:

8

8\*1=8

8\*2=16

8\*3=24

8\*4=32

8\*5=40

8\*6=48

8\*7=56

8\*8=64

8\*9=72

8\*10=80

## Program : 2

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

#### CODE

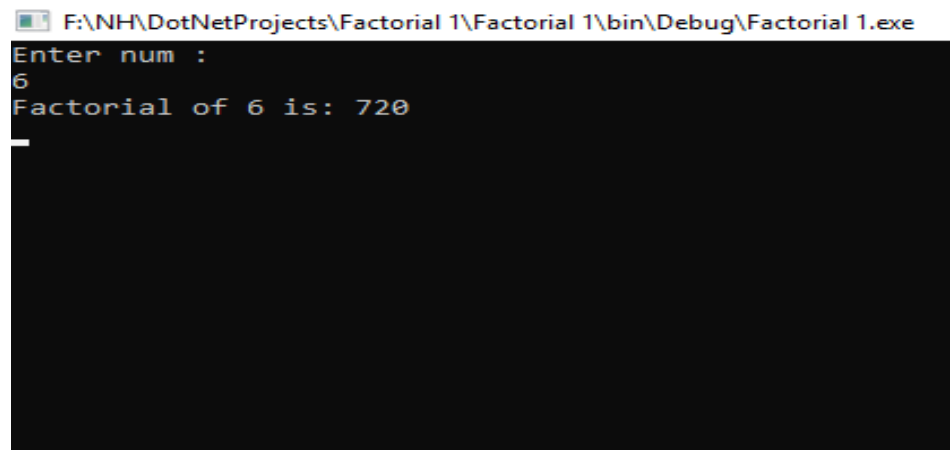
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

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:



```
F:\NH\DotNetProjects\Factorial 1\Factorial 1\bin\Debug\Factorial 1.exe
Enter num :
6
Factorial of 6 is: 720
```

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());

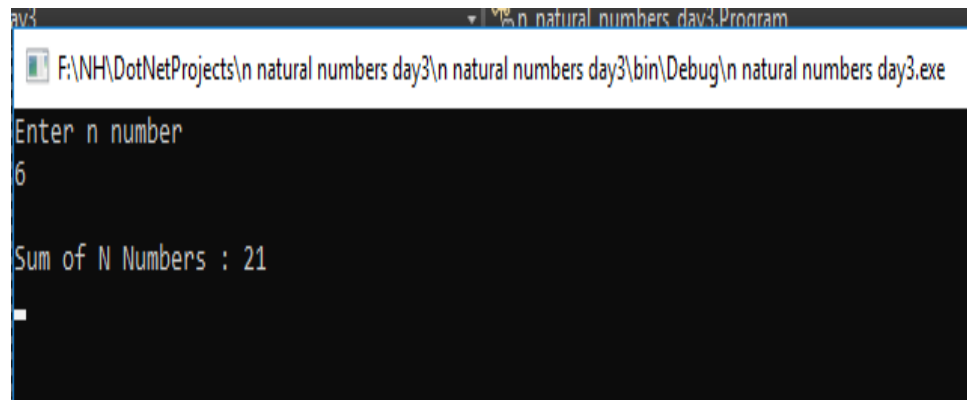
            for (j = 1; j <= n; j++)

                sum += j;

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

        }
    }
}
```

**OUTPUT :**



```
av3 n natural numbers day3.Program
F:\NH\DotNetProjects\n natural numbers day3\n natural numbers day3\bin\Debug\n natural numbers day3.exe
Enter n number
6
Sum of N Numbers : 21
```

## Program : 4

### Write a C# program to Print FACTORIAL using function

#### CODE

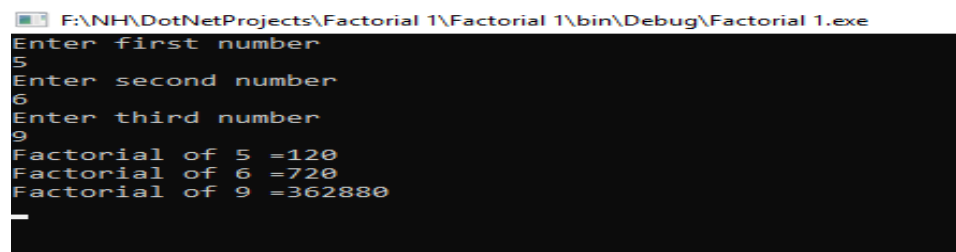
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Factorialusingrecursion
{
    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)
        {
            //Initialisation 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:



```
F:\NH\DotNetProjects\Factorial 1\Factorial 1\bin\Debug\Factorial 1.exe
Enter first number
5
Enter second number
6
Enter third number
9
Factorial of 5 =120
Factorial of 6 =720
Factorial of 9 =362880
```

## 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 Factorialusingrecursion
{
    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:

 F:\NH\DotNetProjects\Factorial 1\Factorial 1\bin\Debug\Factorial 1.exe

```
Enter first number
5
Enter second number
6
Enter third number
9
Factorial of 5 =120
Factorial of 6 =720
Factorial of 9 =362880
_
```

## 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

 F:\NH\DotNetProjects\Factors\Factors\bin\Debug\Factors.exe

Enter number

8  
1  
2  
4  
8

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;

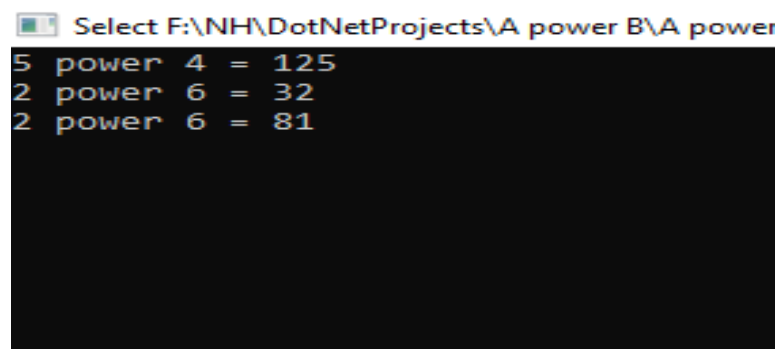
namespace A_power_B
{
    internal class Program
    {
        public static int Power(int a, int b)
        {
            int p = 1;
            for(int i =1;i<b;i++)
                p *= a;
            return p;
        }

        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}", a3, b2, Power(a3, b3));

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

**OUTPUT:**



```
Select F:\NH\DotNetProjects\A power B\A power
5 power 4 = 125
2 power 6 = 32
2 power 6 = 81
```



## 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;

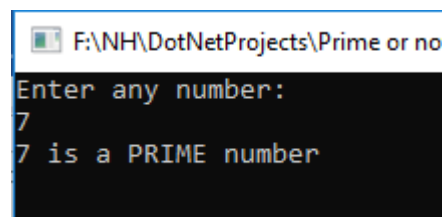
namespace Prime_or_not
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int i, v, count = 0;

            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);

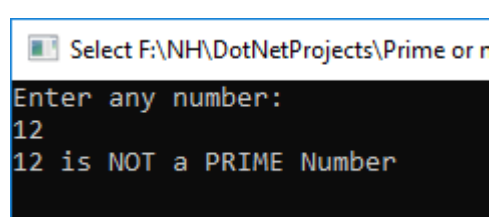
            Console.ReadLine();
        }
    }
}
```

#### OUTPUT:



F:\NH\DotNetProjects\Prime or no

```
Enter any number:
7
7 is a PRIME number
```



Select F:\NH\DotNetProjects\Prime or r

```
Enter any number:
12
12 is NOT a PRIME Number
```

## Program : 9

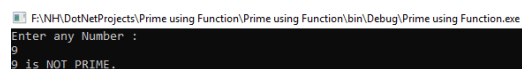
### Write a C# program to find prime number [Using Function]

#### CODE :

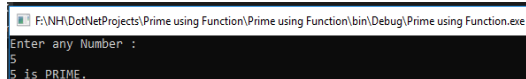
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

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 :



```
F:\NH\DotNetProjects\Prime using Function\Prime using Function\bin\Debug\Prime using Function.exe
Enter any Number :
9
9 is NOT PRIME.
```



```
F:\NH\DotNetProjects\Prime using Function\Prime using Function\bin\Debug\Prime using Function.exe
Enter any Number :
5
5 is PRIME.
```

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 :**

```
F:\NH\DotNetProjects\Prime Numbers in Range\Prime Numbers in Range\bin\Debug\Prime Numbers in Range.exe
Enter first number
2
Enter second number
20
2
3
5
7
11
13
17
19
```

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("Fibonacci series:");
            for (int i = 0; i < input; i++)
            {
                Console.WriteLine(v);
                int c = v + p;
                v = p;
                p = c;
            }
            Console.ReadLine();
        }
    }
}
```

### OUTPUT

 F:\NH\DotNetProjects\Fibonacci series\Fibonacci series\bin\Debug\Fibonacci series.exe

```
Enter a number
8
Fibonacci series:
0
1
1
2
3
5
8
13
```

## 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

 F:\NH\DotNetProjects\Armstrong number\Armstrong number\bin\Debug\Armstrong number.exe

Enter a number

321

321 is not a Armstrong number

## 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

F:\NH\DotNetProjects\Armstrong number\Armstrong number\bin\Debug\Armstrong number.exe  
Enter a number  
153  
153 is a Armstrong number

## 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

```
F:\NH\DotNetProjects\Armstrong number\Armstrong number\bin\Debug\Armstrong number.exe
Enter first number
1
Enter second number
500
Armstrong numbers between the given range:
1
153
370
371
407
```

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 :**

 F:\NH\DotNetProjects\Sum of digits\Sum of digits\bin\Debug\Sum of digits.exe

```
Enter a number
56413
Sum of the digits of 56413 is 19
_
```



## 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

 F:\NH\DotNetProjects\Reverse number\Reverse number\bin\Debug\Reverse number.exe

Enter a number

1265

Reverse of 1265 is 5621

## 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

 F:\NH\DotNetProjects\Palindrome or Not\Palindrome or Not\bin\Debug\Palindrome or Not.exe

```
Enter a number
1584
1584 is not a Palindrome
-
```

## Program : 18

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

#### CODE

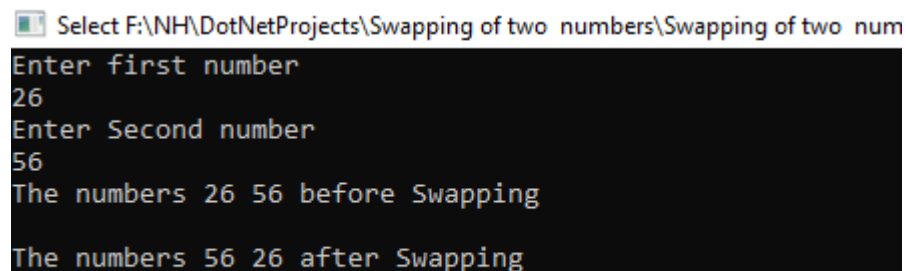
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

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



```
Select F:\NH\DotNetProjects\Swapping of two numbers\Swapping of two num
Enter first number
26
Enter Second number
56
The numbers 26 56 before Swapping
The numbers 56 26 after Swapping
```

## Program : 19

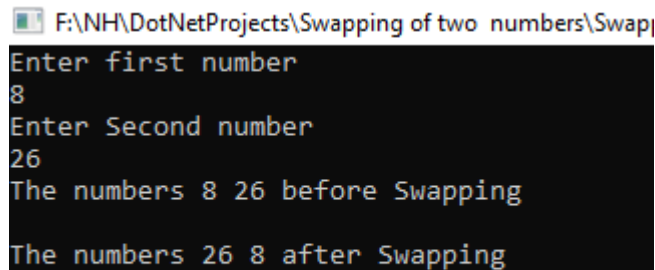
**Write a C# Program to print Swapping of two numbers without using third variable**

### 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



```
F:\NH\DotNetProjects\Swapping of two numbers\Swap
Enter first number
8
Enter Second number
26
The numbers 8 26 before Swapping
The numbers 26 8 after Swapping
```

Program : 20

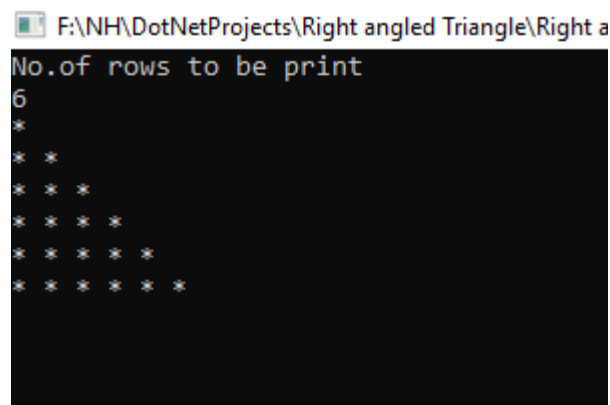
**Write a C# program to print Right angled triangle(\*) pattern**

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



```
F:\NH\DotNetProjects\Right angled Triangle\Right a
No.of rows to be print
6
*
* *
* * *
* * * *
* * * * *
* * * * * *
```