

**Day-4 Morning Assignment
(27-01-2022)
20 C# Programs**

**By
Sarath phani Kasimsetty**

1) Print multiplication Table of given number by using C# program.

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

namespace practisce_programs
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaration
            int i , input;

            //read the read from user
            Console.WriteLine("Enter the Number :");
            input = Convert.ToInt32(Console.ReadLine());

            //logical and print output
            for (i = 1; i <= 10; i++)
            {
                Console.WriteLine("{0} x {1} = {2}", input, i, input * i);
            }

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

```
Enter the Number :
7
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
7 x 6 = 42
7 x 7 = 49
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70
```

2) Print factorial of a given number by using C#

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

namespace practise_programs
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaration
            int i , factorial = 1 , input;

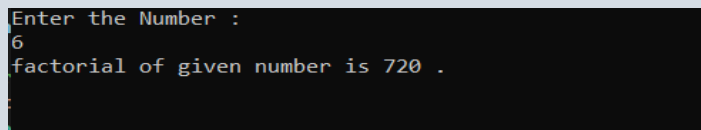
            //read the read from user
            Console.WriteLine("Enter the Number :");
            input = Convert.ToInt32(Console.ReadLine());

            //logical and print output
            for (i = 1; i <= input; i++)
                factorial = factorial*i;

            Console.WriteLine("factorial of given number is {0} .",factorial);

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

Output:

A screenshot of a console window showing the output of the C# program. The text is as follows:

```
Enter the Number :
6
factorial of given number is 720 .
```

3) Print Sum of n natural numbers by using C#.

Code:

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

namespace practise_programs
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaration
            int i, sum = 0, input;

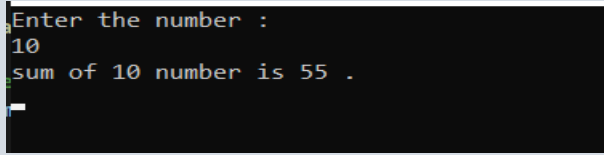
            //read the input from user
            Console.WriteLine("Enter the number :");
            input = Convert.ToInt32(Console.ReadLine());

            //logical
            for (i = 1; i <= input; i++)
                sum = sum + i;

            //print output
            Console.WriteLine("sum of {0} number is {1} .", input, sum);

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

Output:

A screenshot of a console window showing the output of the C# program. The text displayed is: "Enter the number :", "10", and "sum of 10 number is 55 .". There is a cursor on the line following the output.

```
Enter the number :
10
sum of 10 number is 55 .
```

4) Print factorial using functions of c# code.

Code:

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

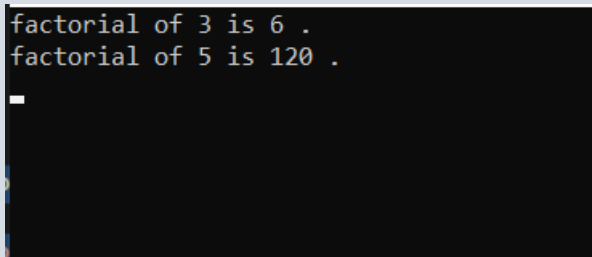
namespace practisce_programs
{
    internal class Program
    {
        public static void printOutput(int a)
        {
            Console.WriteLine("factorial of {0} is {1} .", a, Factorial(a));
        }
        //function call
        public static int Factorial(int a) //function name of parameters
        {
            //logical and function definition
            int i, fact = 1;
            for (i = 1; i <= a; i++)
            {
                fact = fact * i;
            }
            return fact;
        }

        static void Main(string[] args)
        {
            //variable declaraton
            int a = 3, a1 = 5;

            // print output from return of function
            printOutput(a);
            printOutput(a1);

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

Output:



```
factorial of 3 is 6 .
factorial of 5 is 120 .
```

5) Print factorial of number using recursion of C# code.

Code:

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

namespace practisce_programs
{
    internal class Program
    {
        public static void printOutput(int a)
        {
            Console.WriteLine("factorial of {0} is {1} .", a, Factorial(a)); //function
call
        }
        public static int Factorial(int a) //function name of parameters
        {
            //locigal and function defination

            if (a == 0)
                return 1;
            else
                return a * Factorial(a-1);

        }
        static void Main(string[] args)
        {
            //variable declaraton
            int a = 3, a1 = 5;

            // print output from return of function
            printOutput(a);
            printOutput(a1);

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

Output:

```
factorial of 3 is 6 .
factorial of 5 is 120 .
```

6) Print Factors of given number by using C# code.

Code:

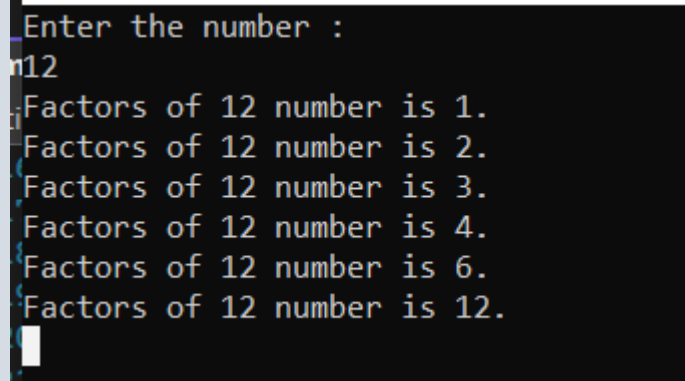
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace practisce_programs
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int i, input ;

            // read the input from user
            Console.WriteLine("Enter the number :");
            input = Convert.ToInt32(Console.ReadLine());

            for (i = 1; i <= input; i++)
            {
                if
                    (input % i == 0)
                    Console.WriteLine("Factors of {0} number is {1}.", input, i);
            }
            Console.ReadLine();
        }
    }
}
```

Output:



```
Enter the number :
12
Factors of 12 number is 1.
Factors of 12 number is 2.
Factors of 12 number is 3.
Factors of 12 number is 4.
Factors of 12 number is 6.
Factors of 12 number is 12.
```

7) 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 practisce_programs
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int a ,b, i, power=1;

            // read the input from user
            Console.WriteLine("Enter the number :");
            a = Convert.ToInt32(Console.ReadLine());

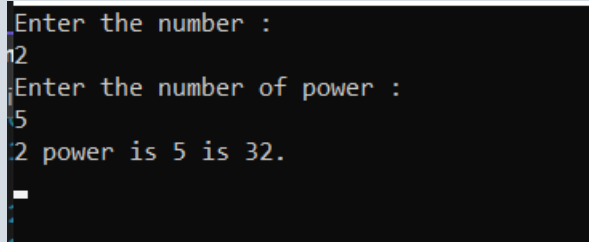
            Console.WriteLine("Enter the number of power :");
            b = Convert.ToInt32(Console.ReadLine());

            for (i = 1; i <= b; i++)
                power = power * a;

            // print output
            Console.WriteLine("{0} power is {1} is {2}.",a,b, power);

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

Output:

A screenshot of a console window showing the program's output. The text is as follows:
Enter the number :
2
Enter the number of power :
5
2 power is 5 is 32.
The text is displayed in a monospaced font on a black background with light blue line numbers on the left.

```
1 Enter the number :
2 2
3 Enter the number of power :
4 5
5 2 power is 5 is 32.
```


8) Find the PRIME number or NOT of given number .

Code:

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

namespace practisce_programs
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int i, input ;

            // read the input from user
            Console.WriteLine("Enter the number :");
            input = Convert.ToInt32(Console.ReadLine());

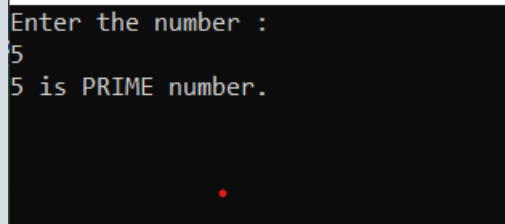
            //logic
            for (i = 2; i < input; i++)
            {
                if
                    (input % i == 0)
                    break;
            }

            if
                (i == input) // print output
                Console.WriteLine("{0} is PRIME number.", input);

            else
                Console.WriteLine("{0} is NOT a PRIME number.", input);

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

Output:



```
Enter the number :
5
5 is PRIME number.
```

9) Check the PRIME number or NOT by using Function.

Code:

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

/// </summary>
namespace practisce_programs
{
    internal class Program
    {
        public static bool IsPrimenumber(int input)
        {
            int i;
            for (i = 2; i < input; i++)
            {
                if (input % i == 0)
                    break;
            }
            if (i == input)
                return true;
            else
                return false;
        }

        static void Main(string[] args)
        {
            //variable declaraton
            int i, input ;

            // read the input from user

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

            if
                (IsPrimenumber(input)) // function call

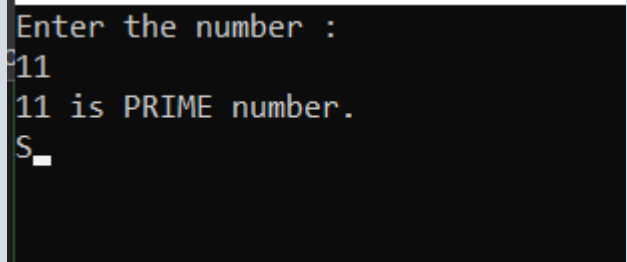
                Console.WriteLine("{0} is PRIME number.", input); // print output

            else

                Console.WriteLine("{0} is NOT a PRIME number.", input);

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

Output:



```
Enter the number :
11
11 is PRIME number.
S_
```

10) Check the prime number in Range

Code:

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

/// </summary>
namespace practisce_programs
{
    ///: PRIME NUMBERS in RANGE of your numbbbers
    internal class Program
    {
        public static bool IsPrimenumber(int input)
        {
            int i;
            for (i = 2; i < input; i++)
            {
                if (input % i == 0)
                    break;
            }
            if (i == input)
                return true;
            else
                return false;
        }

        static void Main(string[] args)
        {
            //variable declaraton
            int i, a, b;

            // read the input from user

            Console.WriteLine("Enter the number of a :");
            a = Convert.ToInt32(Console.ReadLine());

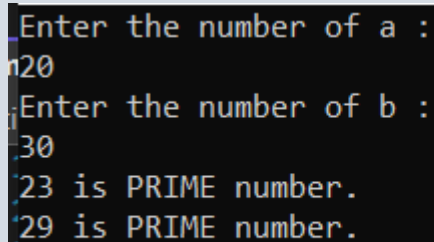
            Console.WriteLine("Enter the number of b :");
            b = Convert.ToInt32(Console.ReadLine());

            for(i = a; i <= b; i++)
            if
                (IsPrimenumber(i)) // function call

                Console.WriteLine("{0} is PRIME number.", i); // print output

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

Output:

A screenshot of a terminal window showing the output of the program. The text is as follows:
Enter the number of a :
20
Enter the number of b :
30
23 is PRIME number.
29 is PRIME number.
The text is displayed in a monospaced font on a dark background with light-colored text.

11) To read a Number (n) and print n Fibonacci Series,

Code:

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

/// </summary>
namespace practisce_programs
{
    ///: To read a number(n) and print n fibonacci terms.
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int i, n, a = 0, b = 1, c;

            // read the input from user

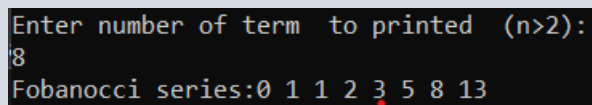
            Console.WriteLine("Enter number of term to printed (n>2):");
            n = Convert.ToInt32(Console.ReadLine());

            Console.Write("Fobanocci series:0 1");

            // Logical
            for (i = 1; i <= n - 2; i++)
            {
                c = a + b;
                a = b;
                b = c;
                Console.Write(" {0}",c); //print output
            }

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

Output:

A screenshot of a terminal window showing the output of the program. The first line is the prompt "Enter number of term to printed (n>2):" followed by the user input "8". The second line shows the Fibonacci series: "Fobanocci series:0 1 1 2 3 5 8 13". The number 3 is highlighted in red in the original image.

```
Enter number of term to printed (n>2):
8
Fobanocci series:0 1 1 2 3 5 8 13
```

12) To read a number and check it is ARMSTRONG Number.

Code:

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

/// </summary>
namespace practisce_programs
{
    // To read a number and check it is ARMSTRONG Number.
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int i, n, m, rem, result=0;

            // read the input from user

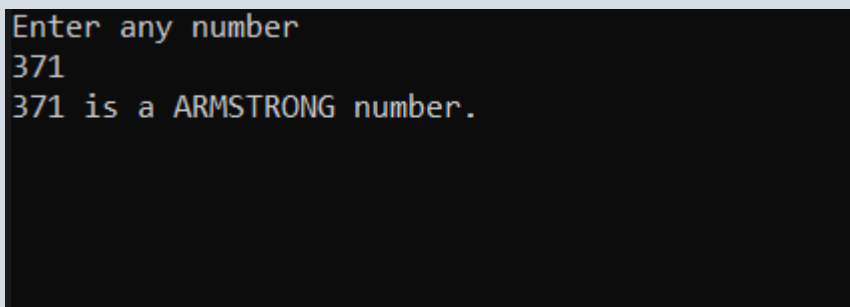
            Console.WriteLine("Enter any number ");
            n = Convert.ToInt32(Console.ReadLine());

            //Logic
            m = n;
            while(m>0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem * rem * rem;
            }

            // print output
            if (result == n)
                Console.WriteLine("{0} is a ARMSTRONG number. ", n);
            else
                Console.WriteLine("{0} is a NOT ARMSTRONG number. ", n);

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

Output:



```
Enter any number
371
371 is a ARMSTRONG number.
```

13) Check the ARMSTRONG NUMBER Using FUNCTION.

Code:

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

/// </summary>
namespace practise_programs
{
    // To read a number and check it is ARMSTRONG Number ( using FUNCTION)
    internal class Program
    {
        public static bool IsArmstrong(int n)
        {
            int m, rem, result = 0;
            m = n;

            while (m > 0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem * rem * rem;
            }
            if (result == n)
                return true;
            else
                return false;
        }

        static void Main(string[] args)
        {
            //variable declaraton
            int n;

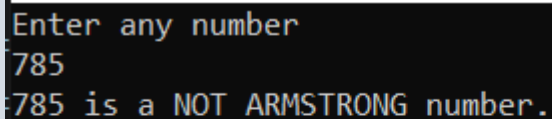
            // read the input from user

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

            if (IsArmstrong(n))
                Console.WriteLine("{0} is a ARMSTRONG number. ", n); //print output
            else
                Console.WriteLine("{0} is a NOT ARMSTRONG number. ", n);

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

Output:



```
Enter any number
785
785 is a NOT ARMSTRONG number.
```

14) To read a number of range and check it is ARMSTRONG Number(using FUNCTION).

Code:

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

/// </summary>
namespace practise_programs
{
    // To read a number of RANGE and check it is ARMSTRONG Number ( using FUNCTION)
    internal class Program
    {
        public static bool IsArmstrong(int n)
        {
            int m, rem, result = 0;
            m = n;

            while (m > 0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem * rem * rem;
            }
            if (result == n)
                return true;
            else
                return false;
        }

        static void Main(string[] args)
        {
            //variable declaraton
            int i,a,b;

            // read the input from user

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

            Console.WriteLine("Enter the second number ");
            b = Convert.ToInt32(Console.ReadLine());

            for (i = a; i <= b; i++)
            {
                if (IsArmstrong(i))
                    Console.WriteLine("{0} is a ARMSTRONG number. ", i); //print output
            }

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

Output:

```
Enter the first number
1
Enter the second number
1000
1 is a ARMSTRONG number.
153 is a ARMSTRONG number.
370 is a ARMSTRONG number.
371 is a ARMSTRONG number.
407 is a ARMSTRONG number.
```

15) To Read number from user and print sum of digits.

Code:

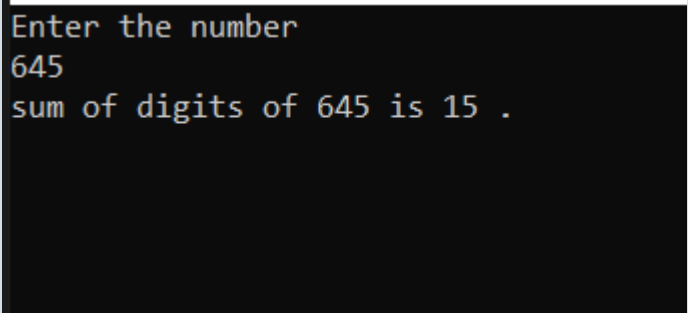
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

/// </summary>
namespace practice_programs
{
    // To read a number from user and print sum of digits.
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int i,m, n, rem, sum = 0; ;

            // read the input from user

            Console.WriteLine("Enter the number ");
            n = Convert.ToInt32(Console.ReadLine());
            //logical
            m = n;
            while(m>0)
            {
                rem = m % 10;
                m = m / 10;
                sum = sum + rem;
            }
            // print output
            Console.WriteLine("sum of digits of {0} is {1} .", n, sum);
            Console.ReadLine();
        }
    }
}
```

Output:



```
Enter the number
645
sum of digits of 645 is 15 .
```


16) To read a number from user and print REVERSE of given number.

Code:

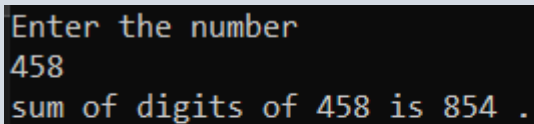
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

/// </summary>
namespace practice_programs
{
    // To read a number from user and print REVERSE of given number .
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int i,m, n, rem, rev = 0;

            // read the input from user

            Console.WriteLine("Enter the number ");
            n = Convert.ToInt32(Console.ReadLine());
            //logical
            m = n;
            while(m>0)
            {
                rem = m % 10;
                m = m / 10;
                rev =rev*10+rem;
            }
            // print output
            Console.WriteLine("sum of digits of {0} is {1} .", n, rev);
            Console.ReadLine();
        }
    }
}
```

Output:



```
Enter the number
458
sum of digits of 458 is 854 .
```

17) To read a number from user and check if it's a PALINDROME Number

Code:

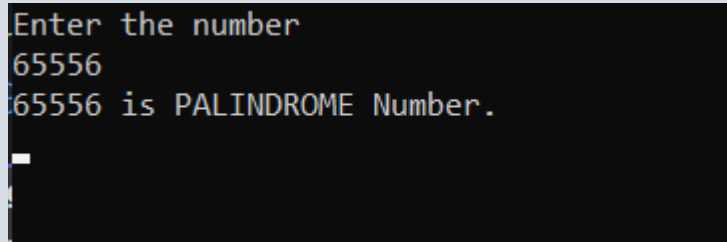
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

/// </summary>
namespace practice_programs
{
    // To read a number from user and check if it's a PALINDROME Number .
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int i,m, n, rem, rev = 0;

            // read the input from user

            Console.WriteLine("Enter the number ");
            n = Convert.ToInt32(Console.ReadLine());
            //logical
            m = n;
            while(m>0)
            {
                rem = m % 10;
                m = m / 10;
                rev =rev*10+rem;
            }
            // print output
            if (n == rev)
                Console.WriteLine("{0} is PALINDROME Number.",n);
            else
                Console.WriteLine("{0} is NOT PALINDROME Number.", n);
            Console.ReadLine();
        }
    }
}
```

Output:



```
Enter the number
65556
65556 is PALINDROME Number.
```

18) To SWAP Data of two variables by using third variable.

Code:

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

/// </summary>
namespace practice_programs
{
    // To SWAP data of two variables by using third Variable.
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int a = 3, b = 6, t;

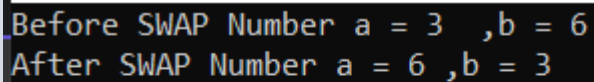
            Console.WriteLine("Before SWAP Number a = {0} ,b = {1} ", a, b);

            //logical
            t = a;
            a = b;
            b = t;

            // print output
            Console.WriteLine("After SWAP Number a = {0} ,b = {1}", a, b);

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

Output:

A screenshot of a console window showing the output of the program. The first line is "Before SWAP Number a = 3 ,b = 6" and the second line is "After SWAP Number a = 6 ,b = 3".

```
Before SWAP Number a = 3 ,b = 6
After SWAP Number a = 6 ,b = 3
```

19) To SWAP data two variables by using without third variable.

Code:

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

/// </summary>
namespace practice_programs
{
    // To SWAP data of two variables by without using third Variable.
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int a = 3, b = 6, t;

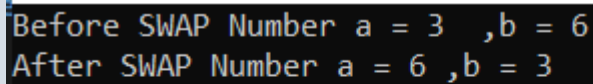
            Console.WriteLine("Before SWAP Number a = {0} ,b = {1} ", a, b);

            //logical
            a = a + b;
            b = a - b;
            a = a - b;

            // print output
            Console.WriteLine("After SWAP Number a = {0} ,b = {1}", a, b);

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

Output:



```
Before SWAP Number a = 3 ,b = 6
After SWAP Number a = 6 ,b = 3
```

20) To Print Stars (*) Pattern in given format.

Code:

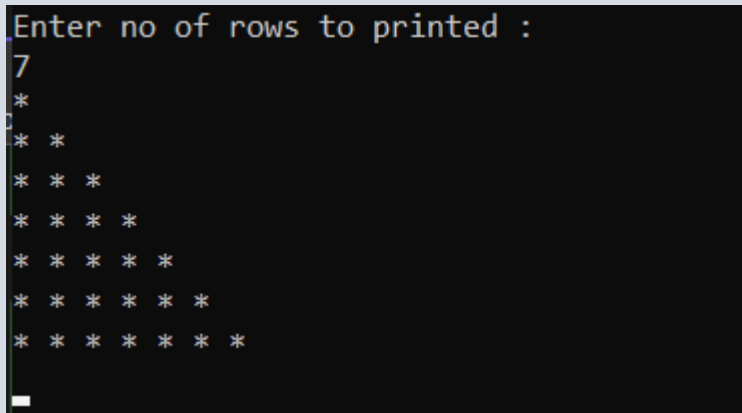
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

/// </summary>
namespace practice_programs
{
    // To Print Stars(*) in pattern given format.
    internal class Program
    {
        static void Main(string[] args)
        {
            //variable declaraton
            int n, i, j;

            Console.WriteLine("Enter no of rows to printed :");
            n = Convert.ToInt32(Console.ReadLine());

            //logical
            for (i=1;i<=n;i++)
            {
                for (j = 1; j <= i; j++)
                {
                    Console.Write("* ");
                }
                Console.WriteLine();
            }
            Console.ReadLine();
        }
    }
}
```

Output:



```
Enter no of rows to printed :
7
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * * *
```

