

PROGRAM

Print MULTIPLICATION TABLE of given numbers (Method1)(for loop)

CODE

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

namespace MultiplicationTable1_for_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            /*Multiplication table of a number using concatenation
            and for loop*/

            int input;

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

            for(int i = 1 ; i <= 10 ; i++)
                Console.WriteLine("\n" + input + " * " + i + " = " + input*i);

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

OUTPUT

Enter the number : 6

```
6 * 1 = 6
6 * 2 = 12
6 * 3 = 18
6 * 4 = 24
6 * 5 = 30
6 * 6 = 36
6 * 7 = 42
6 * 8 = 48
6 * 9 = 54
6 * 10 = 60
```

PROGRAM

Print MULTIPLICATION TABLE of given numbers (Method2)(for loop)

CODE

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

namespace MultiplicationTable2_for_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            /* Multiplication table of a number using
            flower bracket format */

            int input;

            Console.Write("Enter the numebr : ");
            input = Convert.ToInt32(Console.ReadLine());

            for (int i = 1; i <= 10; i++)
                Console.Write("\n{0} * {1} = {2}", input, i, input * i);

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

OUTPUT

Enter the numebr : 6

```
6 * 1 = 6
6 * 2 = 12
6 * 3 = 18
6 * 4 = 24
6 * 5 = 30
6 * 6 = 36
6 * 7 = 42
6 * 8 = 48
6 * 9 = 54
6 * 10 = 60
```

PROGRAM

MULTIPLICATION TABLE USING WHILE LOOP(METHOD1)

CODE

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

namespace MultiplicationTable1_while_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            /* Multiplication table of a number using concatenation
            and while loop */

            int input,i=1;

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

            while(i <= 10)
            {
                Console.WriteLine("\n" + input + " * " + i + " = " + input * i);
                i++;
            }

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

OUTPUT

Enter the the number : 7

```
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
```

PROGRAM

MULTIPLICAION TABLE USING WHILE LOOP(METHOD1)

CODE

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

namespace MultiplicationTable2_while_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            /*Multiplication table of a number using
            flower bracket format and while loop*/

            int input,i = 1;

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

            while (i <= 10)
            {
                Console.WriteLine("\n{0} * {1} = {2}", input, i, input * i);
                i++;
            }

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

OUTPUT

Enter the number : 6

```
6 * 1 = 6
6 * 2 = 12
6 * 3 = 18
6 * 4 = 24
6 * 5 = 30
6 * 6 = 36
6 * 7 = 42
6 * 8 = 48
6 * 9 = 54
6 * 10 = 60
```

PROGRAM

FINDING FACTORIAL OF A NUMBER USING FOR LOOP

CODE

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

namespace Factorail_for_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Finding factorial of a number using for loop

            int input, factorial = 1;

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

            for(int i = 1; i <= input ; i++)
                factorial = factorial * i;

            Console.Write("\nFactorial of " + input + " is : " + factorial);
            Console.ReadLine();
        }
    }
}
```

OUTPUT

```
Enter the number : 7

Factorial of 7 is : 5040
```

PROGRAM

FINDING FACTORIAL OF A GIVEN NUMBER USING RECURSION

CODE

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

namespace FindingFactorial_recursion_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Finding factorial using recursion

            int input,result;

            //taking only valid inputs
            Console.Write("\nEnter the number : ");
            input = Convert.ToInt32(Console.ReadLine());

            if (input < 0)
                Console.Write("\nNumber not valid");
            else
            {
                result = FindFactorial(input);
                Console.Write("\nFactorial of given number is : {0} ", result);

                Console.ReadLine();
            }

            //Method to find factorial of given number
            static int FindFactorial(int number)
            {
                if (number > 0)
                    return number * FindFactorial(number - 1);

                else if (number == 0)
                    return 1;

                //anyhow we dont call method for negative numbers
                else
                    return 0;
            }
        }
    }
}
```

OUTPUT

```
Enter the number : 5

Factorial of given number is : 120
```

PROGRAM

SUM OF N NATURAL NUMBERS

CODE

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

namespace Sum_for_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Finding sum of first n natural numbers using for loop

            int input, sum = 0;

            Console.Write("Enter the number of natural numbers to be added : ");
            input = Convert.ToInt32(Console.ReadLine());

            for (int i = 1; i <= input; i++)
                sum = sum + i;

            Console.WriteLine("\nSum of first " + input + " natural numbers is: " + sum);
            Console.ReadLine();
        }
    }
}
```

OUTPUT

```
Enter the number of natural numbers to be added : 7

Sum of first 7 natural numbers is: 28
```

PROGRAM

FACTORS OF GIVEN NUMBER

CODE

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

namespace FindingFactors_for_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Finding factors of a number using for loop

            int input;

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

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

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

OUTPUT

```
Enter the number : 28
1
2
4
7
14
28
```


PROGRAM

POWER OF GIVEN NUMBER

CODE

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

namespace FindExponent_Console_App_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int number, exponent, result = 1;

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

            Console.Write("\nEnter the exponent : ");
            exponent = Convert.ToInt32(Console.ReadLine());

            for(int i = 0; i < exponent; i++)
            {
                result = result * number ;
            }

            Console.WriteLine("\nResult : " + result);

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

OUTPUT

```
Enter the number : 6
Enter the exponent : 3
Result : 216
```

PROGRAM

PRIME NUMBER

CODE

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

namespace PrimeNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Finding if a number is prime or not using for loop

            int input,i;

            Console.Write("\nEnter a number : ");
            input = Convert.ToInt32(Console.ReadLine());

            for (i = 2; i < input; i++)
            {
                if (input % i == 0)
                {
                    Console.WriteLine("\nIt is not a prime number");
                    break;
                }
            }

            if (i == input)
                Console.WriteLine("It is a prime number");

            Console.ReadLine();

        }
    }
}
```

OUTPUT

```
Enter a number : 34

It is not a prime number
```

PROGRAM

PRIME NUMBER(USING FUNCTION)

CODE

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

namespace PrimeNumber_Function_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //checking for prime number using functions
            int input;

            Console.WriteLine("\nEnter a number to be checked : ");
            input = Convert.ToInt32(Console.ReadLine());

            CheckPrimeNumber(input);

            Console.ReadLine();
        }

        //Method to check if the numbwe is prime and print
        static void CheckPrimeNumber(int number)
        {
            for (int i = 2; i < number; i++)
            {
                if (number % i == 0)
                {
                    Console.WriteLine("\nIt is not prime number");
                    break;
                }
                else if (i == number - 1)
                {
                    Console.WriteLine("\nIt is prime number");
                }
            }
        }
    }
}
```

OUTPUT

```
Enter a number to be checked : 78
```

```
It is not prime number
```

PROGRAM

PRIME NUMBERS(WITHIN A RANGE)

CODE

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

namespace PrimeNumbers_Range_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Finding prime numbers in a given range

            int startingNumber, endingNumber;

            Console.Write("\nEnter starting number : ");
            startingNumber = Convert.ToInt32(Console.ReadLine());
            Console.Write("\nEnter ending number : ");
            endingNumber = Convert.ToInt32(Console.ReadLine());

            for (int i=startingNumber; i <= endingNumber; i++)
            {
                for(int j = 2 ; j <= i-1; j++)
                {
                    if (i % j == 0)
                        break;
                    else if (j == i - 1)
                        Console.Write("\n" + i);
                }

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

OUTPUT

```
Enter starting number : 7
Enter ending number : 28

7
11
13
17
19
23
```

PROGRAM

FIBONACCI SERIES

CODE

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

namespace Fibonacci_for_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //printing fibonacci series

            int n, i, firstNumber=0, secondNumber=1,currentNumber=0,input;

            Console.Write("\nenter number of terms to be printed(n>2) : ");
            input = Convert.ToInt32(Console.ReadLine());

            Console.Write("\t\t\t\t\t");
            for(i = 1; i <= input - 2; i++)
            {
                currentNumber = firstNumber + secondNumber;
                firstNumber = secondNumber;
                secondNumber = currentNumber;
                Console.Write("\t\t\t\t\t");
            }

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

OUTPUT

```
enter number of terms to be printed(n>2) : 4
0      1      1      2
```

PROGRAM

ARMSTRONG NUMBER

CODE

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

namespace ArmstrongNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //checking if a number is armstrong

            int n, rem, m, result = 0;

            Console.Write("\nEnter a number : ");
            n = Convert.ToInt32(Console.ReadLine());

            m = n;
            while(m > 0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem * rem * rem;
            }
            if (result == n)
                Console.Write("\n{n} is armstrong number", n);
            else
                Console.Write("\n{n} is not armstrong number", n);

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

OUTPUT

```
Enter a number : 371
371 is armstrong number
```

PROGRAM

ARMSTRONG NUMBER(USING FUNCTION)

CODE

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

namespace ArmstrongNumber_function_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input;
            Console.Write("\nEnter a number : ");
            input = Convert.ToInt32(Console.ReadLine());

            if (isArmstrong(input))
                Console.Write("\nit is armstrong");
            else
                Console.Write("\nit is not armstrong");

            Console.ReadLine();
        }

        static bool isArmstrong(int n)
        {
            int m, result = 0, rem;
            m = n;
            while(m>0)
            {
                rem = m % 10;
                m = m / 10;
                result = result + rem * rem * rem;
            }

            if (result == n)
                return true;
            else
                return false;
        }
    }
}
```

OUTPUT

```
Enter a number : 371
it is armstrong
```

PROGRAM

SUM OF DIGITS OF A NUMBER

CODE

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

namespace SumOfDigits
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int m, input, rem=0, result = 0;
            Console.Write("\nenter a number : ");
            input = Convert.ToInt32(Console.ReadLine());

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

            Console.Write("\nSum of digits of {0} is {1}", input, result);
            Console.ReadLine();
        }
    }
}
```

OUTPUT

```
enter a number : 7865

Sum of digits of 7865 is 26
```


PROGRAM

REVERSE OF A GIVEN NUMBER

CODE

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

namespace ReverseNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //finding reverse of given number

            int input, m, rem, rev = 0;

            Console.Write("\nenter a number : ");
            input=Convert.ToInt32(Console.ReadLine());

            m = input;
            while(m>0)
            {
                rem = m % 10;
                m = m / 10;
                rev = rev * 10 + rem;
            }

            Console.Write("\nReverse of {0} is {1}", input, rev);
            Console.ReadLine();
        }
    }
}
```

OUTPUT

```
enter a number : 675

Reverse of 675 is 576
```

PROGRAM

PALINDROME NUMBER

CODE

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

namespace Palindrome
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, m, rem, rev = 0;
            Console.Write("\nenter a number : ");
            input=Convert.ToInt32(Console.ReadLine());

            m = input;
            while(m>0)
            {
                rem = m % 10;
                m = m / 10;
                rev = rev * 10 + rem;
            }

            if (rev == input)
                Console.Write("\nit is palindrome");
            else
                Console.Write("\nit is not palindrome");

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

OUTPUT

```
enter a number : 6776

it is palindrome
```

PROGRAM

SWAP NUMBERS USING THIRD VARIABLE

CODE

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

namespace SwapNumbers
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //swap numbers using third variable

            int variable1,variable2,variable3;

            Console.Write("\nenter first number : ");
            variable1 =Convert.ToInt32(Console.ReadLine());
            Console.Write("\nenter second number : ");
            variable2 = Convert.ToInt32(Console.ReadLine());

            Console.Write("\nbefor swap:number1={0} and number2={1}",variable1,variable2);

            variable3 = variable1;
            variable1 = variable2;
            variable2 = variable3;

            Console.Write("\nafter swap:number1={0} and number2={1}",variable1,variable2);

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

OUTPUT

```
enter first number : 6
enter second number : 34
befor swap:number1=6 and number2=34
after swap:number1=34 and number2=6
```

PROGRAM

SWAPING NUMBERS WITHOUT USING THIRD VARIABLE

CODE

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

namespace SwapNumbers2
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int variable1, variable2, variable3;

            Console.Write("\nenter first number : ");
            variable1 = Convert.ToInt32(Console.ReadLine());
            Console.Write("\nenter second number : ");
            variable2 = Convert.ToInt32(Console.ReadLine());

            Console.Write("\nbefor swap:number1={0} and number2={1}", variable1, variable2);

            variable1 = variable1+ variable2;
            variable2= variable1-variable2;
            variable1 = variable1- variable2;

            Console.Write("\nafter swap:number1={0} and number2={1}", variable1, variable2);

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

OUTPUT

```
enter first number : 6
enter second number : 68

befor swap:number1=6 and number2=68
after swap:number1=68 and number2=6
```

PROGRAM

PRINTING * PATTERN

CODE

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

namespace Pattern_for_loop_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //print pattern

            int input;
            Console.Write("\nenter number of rows to be printed : ");
            input = Convert.ToInt32(Console.ReadLine());

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

OUTPUT

```
enter number of rows to be printed : 7
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
```

PROGRAM

FACTORIAL(USING FUNCTION)

CODE

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

namespace Factorial_usingMethod_
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Finding factorial using method

            int input,result=0;

            Console.Write("\nenter number : ");
            input = Convert.ToInt32(Console.ReadLine());

            result = FindFactorial(input);

            Console.Write("\nFactorial of {0} is {1}", input, result);

            Console.ReadLine();

        }

        static int FindFactorial(int n)
        {
            int factorial = 1;
            for(int i = 1; i <= n ; i++)
            {
                factorial *= i;
            }
            return factorial;
        }
    }
}
```

OUTPUT

```
enter number : 6

Factorial of 6 is 720
```