PROGAM NO. 1

OBJECT:

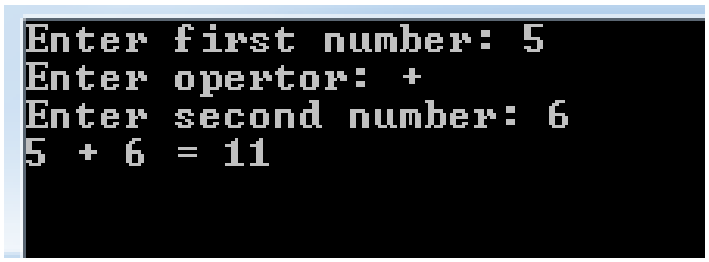
Write a program in C# that takes two number as input, also take operator as an input and perform an operation (+, -, *, /) on them and displays the result of that operator.

Source code

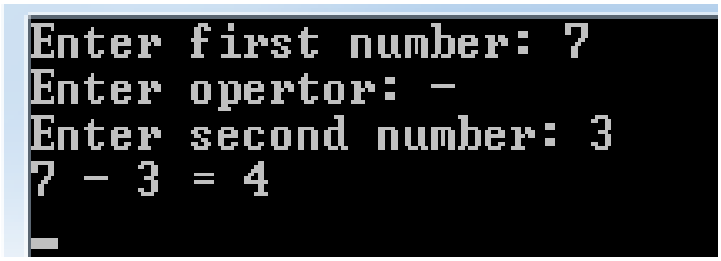
```
{
    Console.Write("Enter first number: ");
    double num1 = Convert.ToDouble(Console.ReadLine());

    Console.Write("Enter opertor: ");
    string opp = Console.ReadLine();

    Console.Write("Enter second number: ");
    double num2 = Convert.ToDouble(Console.ReadLine());

    if (opp == "+")
    {
        double result = num1 + num2;
        Console.WriteLine($"{num1} + {num2} = {result}");
    }

    else if (opp == "-")
    {
        double result = num1 - num2;
        Console.WriteLine($"{num1} - {num2} = {result}");
    }

    else if (opp == "*")
    {
        double result = num1 * num2;
        Console.WriteLine($"{num1} * {num2} = {result}");
    }

    else if (opp == "/")
    {
        double result = num1 / num2;
        Console.WriteLine($"{num1} / {num2} = {result}");
    }

    else
    {
        Console.WriteLine("invalid");
    }
    Console.ReadLine();
}
```

Output:

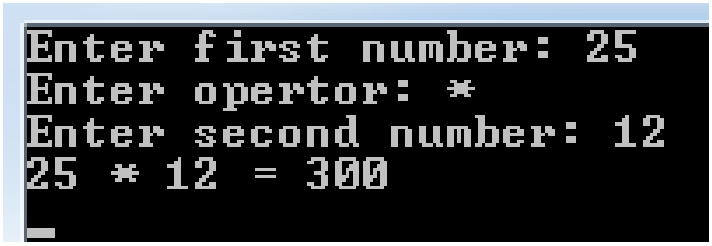
- addition



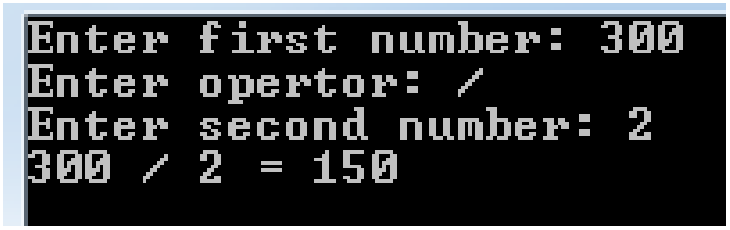
- subtraction



- multiplication



- division



POGRAM NO. 2

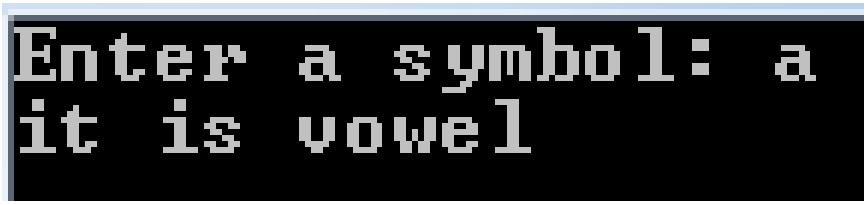
OBJECT:

Write a program in C# that takes a character (lower case) as input, and check that input is a vowel, a digit, or any other symbol.

Source code

```
Console.Write("Enter a symbol: ");
symbol =Convert.ToChar(Console.ReadLine());

if (symbol == 'a' || symbol == 'e' || symbol =='i' || symbol == 'o' || symbol == 'u')
{
    Console.WriteLine("it is vowel");
}
else if ((symbol >= '0') && (symbol <= '9'))
{
    Console.WriteLine("it is digit");
}
else
{
    Console.WriteLine("other symbol");
}

Console.ReadLine();
```

Output:



POGRAM NO. 3

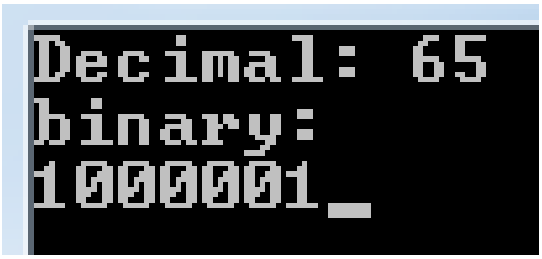
OBJECT:

Write a program in C# that takes a numbers as input and displays its equivalent in binary form.

Source code

```
int n, i;

int[] num = new int[65];
Console.Write("Decimal: ");
n = Convert.ToInt16(Console.ReadLine());

for(i = 0; n > 0; i ++)
{
    num [i] = n % 2;
    n = n / 2;
}
Console.WriteLine("binary: ");
for (i = i-1; i >=0; i--)
{
    Console.Write(num [i]);
}
Console.ReadLine();
```

Output:



POGRAM NO. 4

OBJECT:

Write a program in C# that takes a number and width also a number, as input and then displays a triangle of that width using that number.

Source code

```
static void Main(string[] args)
{
    Console.Write("Enter number: ");
    int num = Convert.ToInt32(Console.ReadLine())

    Console.Write("Enter desired width: ");
    int width = Convert.ToInt32(Console.ReadLine(

    for (int i = 0; i <= width ; i++)
    {
        for (int j = width ; j >= i ; j--)
        {
            Console.Write(num);
        }
        Console.WriteLine();
    }
    Console.ReadLine();
```

Output:

```
Enter number: 6
Enter desired width: 8
66666666
6666666
666666
66666
6666
666
66
6
```

POGRAM NO. 5

OBJECT:

Write a program in C# to create a function/method to calculate the sum of the individual digits of a given number.

Source code

```
static void Main(string[] args)
{
    int b, sum;
    sum = 0;

    Console.Write("enter number: ");
    int num = Convert.ToInt32(Console.ReadLine());

    while (num != 0)
    {
        b = num % 10;
        sum = sum + b;
        num = num / 10;
    }
    Console.WriteLine("The sum of the digits of the given number is : " + sum);
    Console.ReadLine();
```

Output:

```
enter number: 567
The sum of the digits of the given number is : 18
```

POGRAM NO. 6

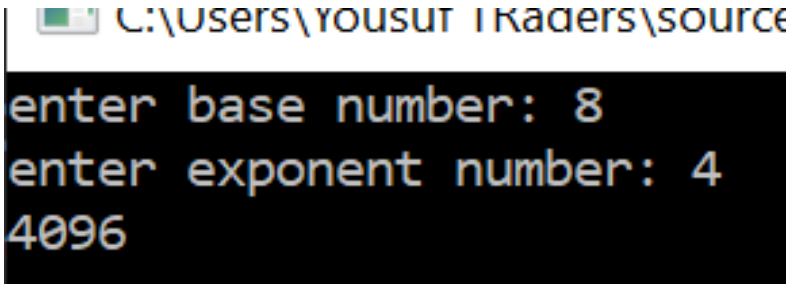
OBJECT:

Write a method/function to calculate the exponent/power of a number.

Source code

```
static void Main(string[] args)
{
    Console.Write("enter base number: ");
    int basenum = Convert.ToInt32(Console.ReadLine());

    Console.Write("enter exponent number: ");
    int exponentnum = Convert.ToInt32(Console.ReadLine(

    Console.WriteLine(Math.Pow(basenum, exponentnum));

    Console.ReadLine();
```

Output:



POGRAM NO. 7

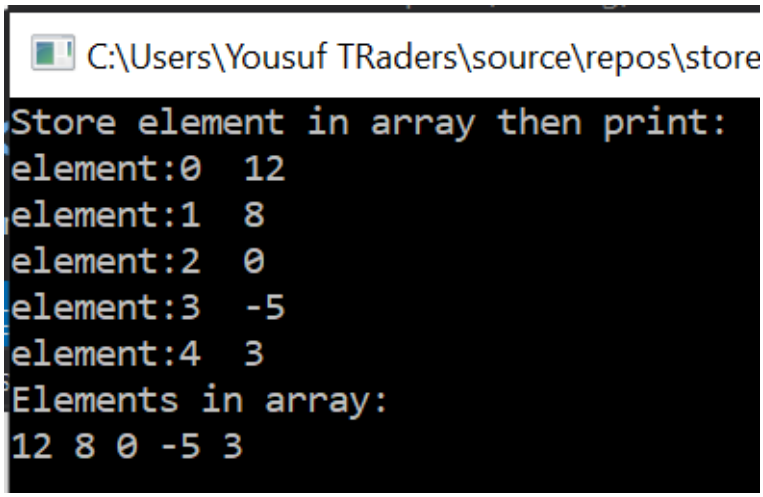
OBJECT:

Write a program in C# to store elements in an array and print it.

Source code

```
static void Main(string[] args)
{
    int[] array = new int[5];
    Console.WriteLine("Store element in array then print: ");

    //for elements individual
    for (int i = 0; i < 5; i++)
    {

        Console.Write("element:{0}  ", i);
        array[i] = Convert.ToInt32(Console.ReadLine());
    }
    //elements store in array
    Console.WriteLine("Elements in array: ");
    for (int i = 0; i < 5; i++)
    {
        Console.Write("{0} ", array[i]);
    }
    Console.ReadLine();
```

Output:



POGRAM NO. 8

OBJECT:

Write a program to read number of values in an array and display it in reverse order.

Source code

```
23          Console.Write("Number of element in array: 5 ");
24          Console.WriteLine();
25          int[] array = new int[5];
26
27          //asking for each element
28          for ( int i = 0; i < 5; i++)
29          {
30              Console.Write("element:{0}  ", i);
31              array[i] = Convert.ToInt32(Console.ReadLine());
32          }
33
34          //to store these element in array
35          Console.WriteLine();
36          Console.WriteLine("Arrays elements are: ");
37
38          for (int i = 0; i < 5 ; i++)
39          {
40              Console.Write(array[i] + " ");
41          }
42
```

```
43          //reverse array
44          int[] x = array.ToArray();
45          Array.Reverse(x);
46
47          Console.WriteLine();
48          Console.WriteLine("Elements in reverse are: ");
49
50          foreach (var item in x)
51          {
52              Console.Write(item+ " ");
53          }
54          Console.ReadLine();
```

Output:

```
Number of element in array: 5
element:0  4
element:1  7
element:2  -9
element:3  0
element:4  12

Arrays elements are:
4 7 -9 0 12
Elements in reverse are:
12 0 -9 7 4
```

POGRAM NO. 9

OBJECT:

Write a program to copy the elements of one array into another array.

Source code

```
13          Console.Write("Number of elements to store in array: ");
14          int n = Convert.ToInt32(Console.ReadLine());
15
16          Console.WriteLine();
17          Console.WriteLine("Input {0} elements in array: ", n);
18          int[] array1 = new int[n];
19          int[] array2 = new int[n];
20
21          //asking for each element
22          for (int i = 0; i < n ; i++)
23          {
24              Console.Write("elements:{0} ", i);
25              array1[i] = Convert.ToInt32(Console.ReadLine());
26          }
27          //store in array
28          Console.WriteLine("Array elements are: ");
29          for (int i = 0; i < n ; i++)
30          {
31              Console.Write(array1[i] + " ");
32          }

33          //declaring array1 = array2
34          for (int i = 0; i < n; i++)
35          {
36              array2[i] = array1[i];
37          }
38          //copied first array into second array
39          Console.WriteLine();
40          Console.Write("The elements copied into second array: ");
41          for (int i = 0; i < n; i++)
42          {
43              Console.Write(array2[i] + " ");
44          }
45          Console.ReadLine();
```

Output:

```
Number of elements to store in array: 3

Input 3 elements in array:
elements:0 6
elements:1 18
elements:2 27
Array elements are:
6 18 27
The elements copied into second array: 6 18 27
```

POGRAM NO. 10

OBJECT:

Write a program in C# to count a total number of duplicate elements in an array

Source code

```
13          Console.WriteLine("Input number of an element to be store in an array: ");
14          int num = Convert.ToInt32(Console.ReadLine());
15          int[] arr = new int[num];
16          int count = 0;
17
18          //asking for each element
19          Console.WriteLine("Enter elements in the array: ");
20          for (int i = 0; i < num; i++)
21          {
22              Console.Write("Element:{0}", i);
23              arr[i] = Convert.ToInt32(Console.ReadLine());
24          }
25
26          //determine duplication in array
27          for (int i = 0; i < num; i++)
28          {
29              for (int j = i + 1; j < num; j++)
30              {
31                  if (arr[i] == arr[j])
32                  {
33                      count++;
34                      break;
35                  }
36              }
37          }
38          Console.WriteLine("Total number of duplicate elements found in array:" + count);
39          Console.ReadLine();
```

Output:

```
Input number of an element to be store in an array:
6
Enter elements in the array:
Element:0  2
Element:1  4
Element:2  9
Element:3  2
Element:4  7
Element:5  4
Total number of duplicate elements found in array:2
```

POGRAM NO. 11

OBJECT:

Write a program in C# Sharp to calculate the sum of elements in an array.

Source code

```
static void Main(string[] args)
{
    Console.Write("Input number of elements to be store in array: ");
    int n = Convert.ToInt32(Console.ReadLine());

    int[] array = new int[n];
    Console.WriteLine("Input {0} elements in array.", n);
    //for each element
    for (int i = 0; i < n; i++)
    {
        Console.Write("elements {0} ", i);
        array[i] = Convert.ToInt32(Console.ReadLine());
    }
    //sum
    Console.WriteLine("Sum of arrays: "+ array.Sum());

    Console.ReadLine();
```

Output:

```
Input number of elements to be store in array: 5
Input 5 elements in array.
elements 0 7
elements 1 2
elements 2 0
elements 3 4
elements 4 6
Sum of arrays: 19
```

POGRAM NO. 12

OBJECT:

Write a program to read no of characters in array ,then take characters as input and count no of vowels in that array.

Source code

```
int count = 0;

Console.Write("Enter number of characters: ");
int n = Convert.ToInt32(Console.ReadLine());

char[] array = new char[n];
for (int i = 0; i < n; i++)
{
    Console.Write("element:{0} ", i);
    array[i] = Convert.ToChar(Console.ReadLine());
}
for (int i = 0; i < n; i++)
{
    for (int j = 0; j < n; j++)
    {
        if (array[i] == 97 || array[i] == 101 || array[i] == 105
            ||array[i] == 111 || array[i] == 117)
        {
            if (array[i] == array[j])
            {
                count++;
            }
        }
    }
}
Console.WriteLine("There are {0} vowels in the given array.", count);
Console.ReadLine();
```

Output:

```
Enter number of characters: 6
element:0 h
element:1 o
element:2 i
element:3 f
element:4 m
element:5 a
There are 3 vowels in the given array.
```