

ویژوال استودیو



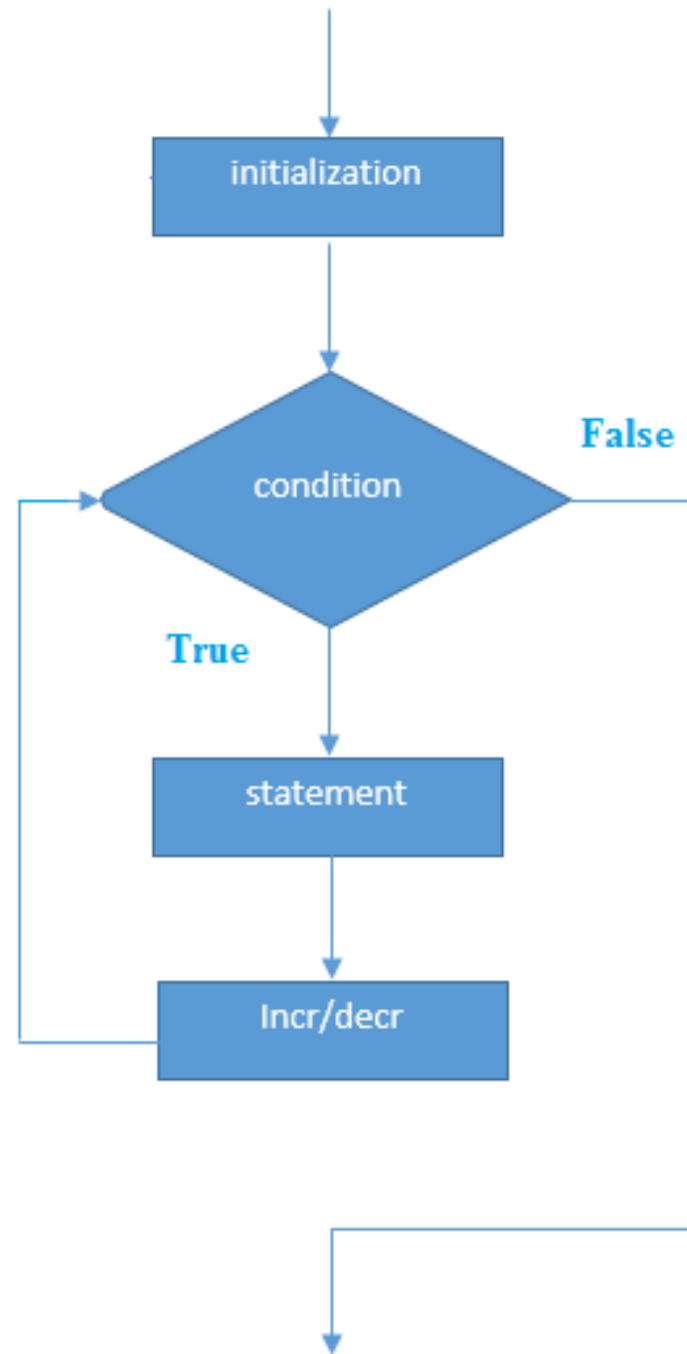
Visual
Studio

کاوه حقیقی

Loops

What is Loop?

C# For Loop

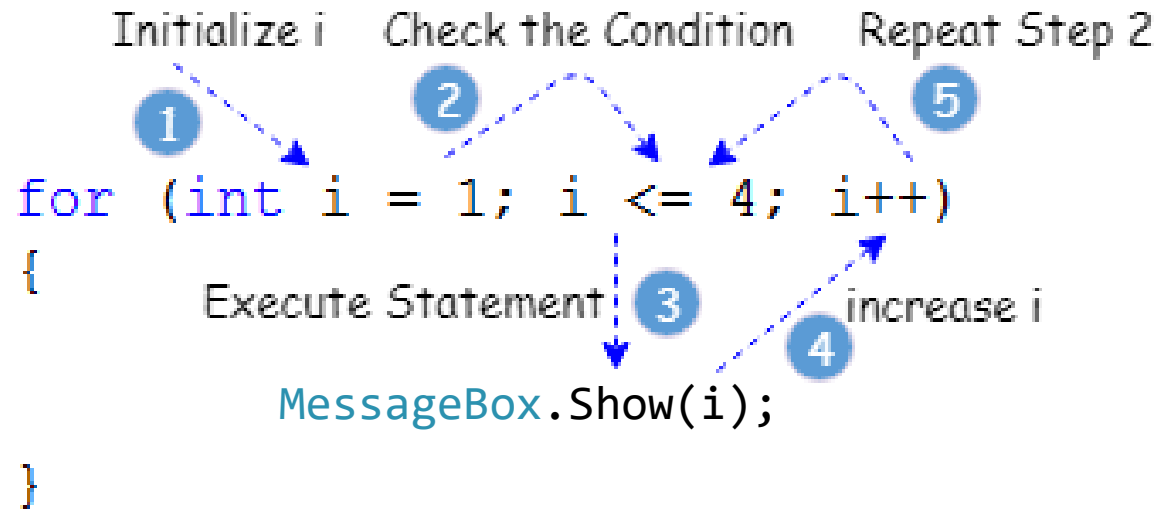


C# For Loop

Syntax

```
for (statement 1; statement 2; statement 3)
{
    // code block to be executed
}
```

C# For Loop



C# For Loop

```
for (int i = 0; i < 5; i++)  
{  
    MessageBox.Show(i);  
}
```

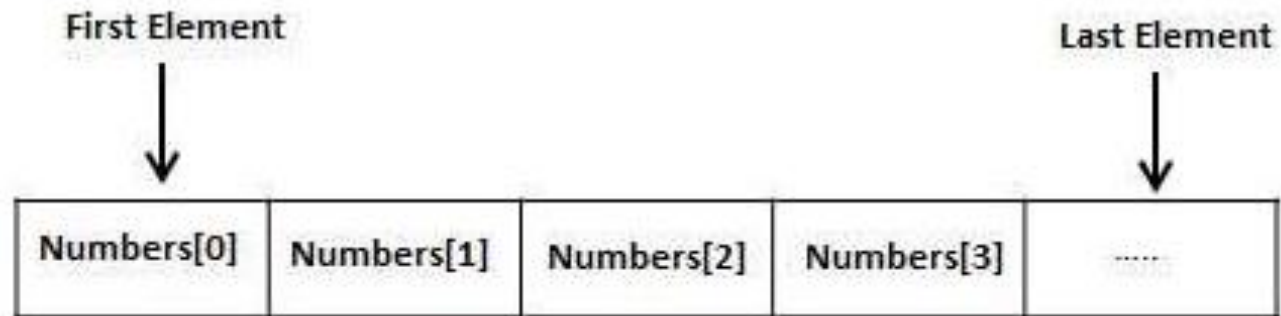
C# For Loop

```
for (int i = 0; i < 5; i+=2)
{
    MessageBox.Show(i);
}
```

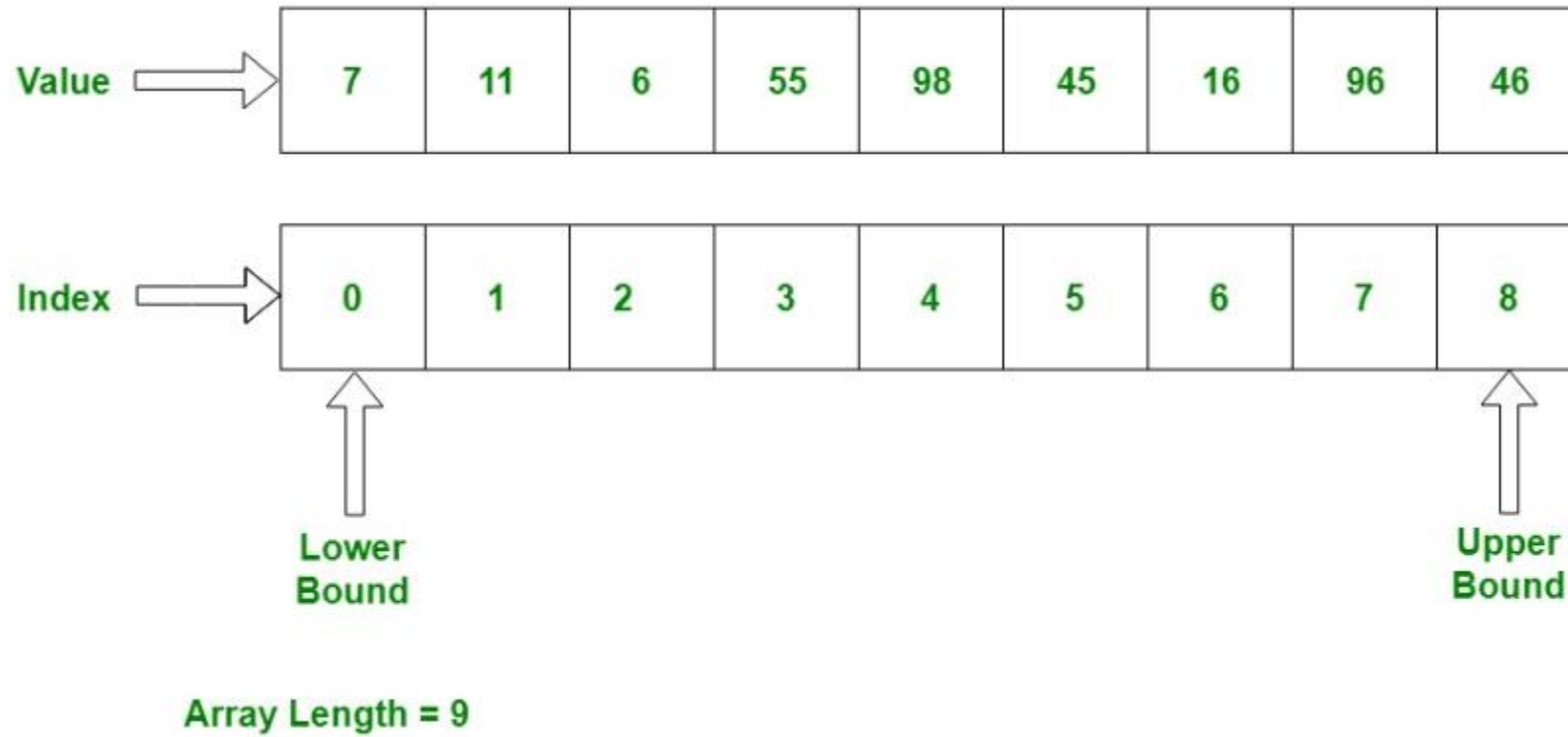
C# Nested For Loop

```
for (int i = 0; i <= 2; i++)  
{  
    for (int j = 0; j <= 3; j++)  
    {  
        MessageBox.Show(i,j);  
    }  
}
```


Arrays



Arrays



C# Array Declaration

```
datatype[] arrayName;
```

C# Array Declaration

```
datatype[] arrayName;
```

C# Array Declaration

```
int[] numbers;
```

C# Array Memory Allocation : 3 Ways

```
int[] numbers = new int[5];  
.  
.  
.  
//initializing array  
numbers[0] = 12;  
numbers[1] = 4;  
numbers[2] = 5;  
numbers[3] = 4;  
numbers[4] = 5;
```

```
int[] numbers;  
.  
.  
.  
numbers = new int[5];  
.  
.  
.  
//initializing array  
numbers[0] = 12;  
numbers[1] = 4;  
numbers[2] = 5;  
numbers[3] = 4;  
numbers[4] = 5;
```

```
int [] numbers = {1, 2, 3, 4, 5};
```

C# Access to Specific Array

```
// access element at index 2  
number[2] = 8;
```

```
// access element at index 4  
number[4] = 10;
```

```
// access element at index 0  
int a = number[0];
```

```
// access element at index 1  
int b = number[1];
```

C# String Array

```
string[] cars = new int[4];  
.  
.  
.  
//initializing array  
cars[0] = "BMW";  
cars[1] = "Benz";  
cars[2] = "Volvo";  
cars[3] = "Toyota";
```

```
string[] cars;  
.  
.  
.  
cars = new string[5];  
.  
.  
.  
//initializing array  
cars[0] = "BMW";  
cars[1] = "Benz";  
cars[2] = "Volvo";  
cars[3] = "Toyota";
```

```
string[] cars = {"BMW", "Benz", "Volvo", "Toyota"};
```


C# Get min, max and sum Array

```
int[] myNumbers = {5, 1, 8, 9};
```

C# Get min, max and sum Array

```
int[] myNumbers = { 5, 1, 8, 9 };  
  
MessageBox.Show(myNumbers.Max().ToString());  
  
MessageBox.Show(myNumbers.Min().ToString());  
  
MessageBox.Show(myNumbers.Sum().ToString());
```

نکته: برای استفاده از متدهای بالا، باید کتابخانه System.Linq به فرم اضافه شود.

C# Sort Array

```
int[] myNumbers = {5, 1, 8, 9};  
Array.Sort(myNumbers);  
for (int i=0; i < 4; i++)  
{  
    lbl_sort.Text+=myNumbers[i];  
}
```

C# Sort Array

```
string[] cars = {"Volvo", "BMW", "Ford", "Mazda"};
Array.Sort(cars);
for (int i=0; i < 4; i++)
{
    lbl_sort.Text+= cars[i];
}
```

C# Foreach

```
foreach (type variableName in arrayName)
{
    // code block to be executed
}
```

C# Foreach

```
string[] cars = {"Volvo", "BMW", "Ford", "Mazda"};  
foreach (string i in cars)  
{  
    MessageBox.Show(i);  
}
```

C# While

```
while (condition)
{
    // code block to be executed
}
```

C# While

```
int i = 0;  
while (i < 5)  
{  
    MessegeBox.Show(i);  
    i++;  
}
```