

Array in VB.NET

Visual Basic .NET

Array

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- در ویژول بسیک دات نت برای ایجاد صف از شکل املائی ذیل استفاده میکنیم:
- **Dim starray As Integer()**
 - قبل از اینکه Array استفاده شود باید Size آن و حافظه مورد ضرورت آن تخصیص شود. یا به عبارت دیگر آبجکت آن باید ایجاد شود. اینکار به کمک کلمه کلیدی New صورت میگیرد.
 - دستور ذیل حافظه را به Array تخصیص میدهد:
- **Starray = New Integer(15) {}**
 - 15 عبارت از Uper Bound بوده و {} را بنام دهنده قیمت اولیه (Initializer) یاد میکند. تعریف ذیل نیز درست میباشد:
- **Dim starray as Integer() = New Integer(15) {}**

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■ مثال ذیل استفاده از Array را نشان میدهد:

```
Public Class Form1
```

```
    Dim starray As Integer()
```

```
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e  
        As System.EventArgs) Handles Button1.Click
```

```
        starray = New Integer(10) {}
```

```
        Dim randomnumber As New System.Random
```

```
        For i = 0 To 10
```

```
            starray(i) = randomnumber.Next(0, 100)
```

```
        Next
```

```
    End Sub
```

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```
Private Sub Button2_Click(ByVal sender As  
System.Object, ByVal e As System.EventArgs)  
Handles Button2.Click
```

```
    TextBox1.Text = " "
```

```
    For i = 0 To 10
```

```
        TextBox1.Text += starray(i) & vbCrLf
```

```
    Next i
```

```
End Sub
```

```
End Class
```

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■ مثال دوم:

```
Public Class Form1
```

```
    Dim starray As Integer()
```

```
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e  
        As System.EventArgs) Handles Button1.Click
```

```
        starray = New Integer(10) {}
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```
        Dim randomnumber As New System.Random
```

```
        For i = 0 To 10
```

```
            starray(i) = randomnumber.Next(0, 100)
```

```
        Next
```

```
    End Sub
```

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```
Private Sub Button2_Click(ByVal sender As System.Object,  
    ByVal e As System.EventArgs) Handles Button2.Click
```

```
    Dim output As String
```

```
    output = "Number" & vbTab & "Square Root" & vbCrLf
```

```
    For i = 0 To 10
```

```
        output &= i & vbTab & (i) ^ (1 / 2) & vbCrLf
```

```
    Next i
```

```
    MessageBox.Show(output)
```

```
End Sub
```

```
End Class
```

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■ پروگرام ذیل مجموعه عناصر Array را نشان میدهد:

```
Public Class Form1
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles Button1.Click
    Dim array As Integer() = New Integer() {2, 4, 6, 8, 10, 12, 14, 16,
18, 20}
    Dim total As Integer = 0, i As Integer = 0
    For i = 0 To array.GetUpperBound(0)
        total += array(i)
    Next
    MessageBox.Show("Total of array elements: " & total, _
        "Sum the elements of an Array", MessageBoxButtons.OK, _
        MessageBoxIcon.Information)
End Sub
End Class
```

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■ پروگرام ذیل عناصر از نوع String را داخل Array مینماید:

```
Public Class Form1
```

```
    Dim i As Byte
```

```
    Dim class3 As String()
```

```
    Dim sname As String
```

```
    Dim classnames As String
```

```
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e  
        As System.EventArgs) Handles Button1.Click
```

```
        class3 = New String(6) {}
```

```
        For i = 0 To 5
```

```
            sname = InputBox("Enter name, to exit type exit")
```

```
            If sname = "exit" Then Exit For
```

```
            class3(i) = sname
```

```
        Next i
```

```
    End Sub
```


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```
Private Sub Button2_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs)
Handles Button2.Click
    For i = 0 To 5
        classnames = classnames & class3(i) & Chr(13)
    Next
    MessageBox.Show(classnames)
End Sub
End Class
```

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```
Public Class Form1
```

```
    Dim i As Byte
```

```
    Dim class3 As student()
```

```
    Dim classnames As String
```

```
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As  
        System.EventArgs) Handles Button1.Click
```

```
        class3 = New student(6) {}
```

```
        Dim st1 As student = New student
```

```
        st1.sname = TextBox1.Text
```

```
        st1.address = TextBox2.Text
```

```
        st1.age = TextBox3.Text
```

```
        If TextBox1.Text <> "" Then
```

```
            class3(i) = st1
```

```
        End If
```

```
        TextBox1.Text = ""
```

```
    End Sub
```

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```
Private Sub Button2_Click(ByVal sender As  
System.Object, ByVal e As System.EventArgs)  
Handles Button2.Click
```

```
    classnames = class3(i).stname
```

```
    MessageBox.Show(classnames)
```

```
End Sub
```

```
End Class
```

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- پروگرام ذیل فریکوینسی عناصر Array را حساب میکند. مثلاً تعداد 90 چند است، 70 چند است، و به همین ترتیب تمام عناصر.

```
Public Class Form1
```

```
Private Sub Button1_Click(ByVal sender As System.Object,  
    ByVal e As System.EventArgs) Handles Button1.Click
```

```
    Dim answer, rating As Integer
```

```
    Dim output As String
```

```
    Dim responses As Integer()
```

```
    responses = New Integer() {76, 80, 85, 90, 92, 100, 45,  
    67, 75, 85, 100}
```

```
    Dim frequency As Integer() = New Integer(10) {}
```

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```
For answer = 0 To responses.GetUpperBound(0)
    frequency(responses(answer)) += 1
Next
output &= "Rating " & vbTab & "Frequency " & vbCrLf
For rating = 1 To frequency.GetUpperBound(0)
    output &= rating & vbTab & frequency(rating) & vbCrLf
Next
MessageBox.Show(output, "Student Poll Program", _
    MessageBoxButtons.OK, MessageBoxIcon.Information)
End Sub
End Class
```

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■ پروگرام ذیل کوچکتین عنصر Array را پیدا میکند:

```
Public Class Form1
```

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As  
System.EventArgs) Handles Button1.Click
```

```
Dim gradeArray As Integer(,) = New Integer(,) _  
{ {90, 35, 80, 73}, {77, 85, 65, 95}, {60, 75, 50, 89} }
```

```
Dim grade As Integer
```

```
Dim lowGrade As Integer = 100
```

```
For Each grade In gradeArray
```

```
    If grade < lowGrade Then
```

```
        lowGrade = grade
```

```
    End If
```

```
Next
```

```
MessageBox.Show("The minimum grade is: {0}" & lowGrade)
```

```
End Sub
```

```
End Class
```

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