

VB.NET - NESTED LOOPS

http://www.tutorialspoint.com/vb.net/vb.net_nested_loops.htm

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VB.Net allows using one loop inside another loop. Following section shows few examples to illustrate the concept.

Syntax:

The syntax for a **nested For loop** statement in VB.Net is as follows:

```
For counter1 [ As datatype1 ] = start1 To end1 [ Step step1 ]
    For counter2 [ As datatype2 ] = start2 To end2 [ Step step2 ]
        ...
    Next [ counter2 ]
Next [ counter 1]
```

The syntax for a **nested While loop** statement in VB.Net is as follows:

```
While condition1
    While condition2
        ...
    End While
End While
```

The syntax for a **nested Do...While loop** statement in VB.Net is as follows:

```
Do { While | Until } condition1
    Do { While | Until } condition2
        ...
    Loop
Loop
```

A final note on loop nesting is that you can put any type of loop inside of any other type of loop. For example, a for loop can be inside a while loop or vice versa.

Example:

The following program uses a nested for loop to find the prime numbers from 2 to 100:

```
Module loops
    Sub Main()
        ' local variable definition
        Dim i, j As Integer
        For i = 2 To 100
            For j = 2 To i
                ' if factor found, not prime
                If ((i Mod j) = 0) Then
                    Exit For
                End If
            Next j
            If (j > (i \ j)) Then
                Console.WriteLine("{0} is prime", i)
            End If
        Next i
        Console.ReadLine()
    End Sub
End Module
```

When the above code is compiled and executed, it produces the following result:

```
2 is prime
3 is prime
5 is prime
```

```
7 is prime
11 is prime
13 is prime
17 is prime
19 is prime
23 is prime
29 is prime
31 is prime
37 is prime
41 is prime
43 is prime
47 is prime
53 is prime
59 is prime
61 is prime
67 is prime
71 is prime
73 is prime
79 is prime
83 is prime
89 is prime
97 is prime
```