

# VB.NET - LOGICAL/BITWISE OPERATORS

[http://www.tutorialspoint.com/vb.net/vb.net\\_logical\\_operators.htm](http://www.tutorialspoint.com/vb.net/vb.net_logical_operators.htm)

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Following table shows all the logical operators supported by VB.Net. Assume variable A holds Boolean value True and variable B holds Boolean value False, then:

Operator	Description	Example
And	It is the logical as well as bitwise AND operator. If both the operands are true, then condition becomes true. This operator does not perform short-circuiting, i.e., it evaluates both the expressions.	<i>AAndB</i> is False.
Or	It is the logical as well as bitwise OR operator. If any of the two operands is true, then condition becomes true. This operator does not perform short-circuiting, i.e., it evaluates both the expressions.	<i>AOrB</i> is True.
Not	It is the logical as well as bitwise NOT operator. Used to reverse the logical state of its operand. If a condition is true, then Logical NOT operator will make false.	<i>NotAAndB</i> is True.
Xor	It is the logical as well as bitwise Logical Exclusive OR operator. It returns True if both expressions are True or both expressions are False; otherwise, it returns False. This operator does not perform short-circuiting, it always evaluates both expressions and there is no short-circuiting counterpart of this operator	<i>A Xor B</i> is True.
AndAlso	It is the logical AND operator. It works only on Boolean data. It performs short-circuiting.	<i>AAndAlsoB</i> is False.
OrElse	It is the logical OR operator. It works only on Boolean data. It performs short-circuiting.	<i>AOrElseB</i> is True.
IsFalse	It determines whether an expression is False.	
IsTrue	It determines whether an expression is True.	

Try the following example to understand all the logical/bitwise operators available in VB.Net:

```
Module logicalOp

    Sub Main()
        Dim a As Boolean = True
        Dim b As Boolean = True
        Dim c As Integer = 5
        Dim d As Integer = 20
        'logical And, Or and Xor Checking
        If (a And b) Then
            Console.WriteLine("Line 1 - Condition is true")
        End If
        If (a Or b) Then
            Console.WriteLine("Line 2 - Condition is true")
        End If
        If (a Xor b) Then
            Console.WriteLine("Line 3 - Condition is true")
        End If
        'bitwise And, Or and Xor Checking
```

```

If (c And d) Then
    Console.WriteLine("Line 4 - Condition is true")
End If
If (c Or d) Then
    Console.WriteLine("Line 5 - Condition is true")
End If
If (c Or d) Then
    Console.WriteLine("Line 6 - Condition is true")
End If
'Only logical operators
If (a AndAlso b) Then
    Console.WriteLine("Line 7 - Condition is true")
End If
If (a OrElse b) Then
    Console.WriteLine("Line 8 - Condition is true")
End If

' lets change the value of a and b
a = False
b = True
If (a And b) Then
    Console.WriteLine("Line 9 - Condition is true")
Else
    Console.WriteLine("Line 9 - Condition is not true")
End If
If (Not (a And b)) Then
    Console.WriteLine("Line 10 - Condition is true")
End If
Console.ReadLine()
End Sub
End Module

```

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

```

Line 1 - Condition is true
Line 2 - Condition is true
Line 3 - Condition is true
Line 4 - Condition is true
Line 5 - Condition is true
Line 6 - Condition is true
Line 7 - Condition is true
Line 8 - Condition is true
Line 9 - Condition is not true
Line 10 - Condition is true

```

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