

VBA OPERATORS

What is an operator?

Simple answer can be given using expression $4 + 5$ is equal to 9. Here, 4 and 5 are called operands and + is called operator. VBA supports following types of operators:

- Arithmetic Operators
- Comparison Operators
- Logical or Relational Operators
- Concatenation Operators

The Arithmetic Operators

There are following arithmetic operators supported by VBA:

Assume variable A holds 5 and variable B holds 10, then:

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Operator	Description	Example
+	Adds two operands	A + B will give 15
-	Subtracts second operand from the first	A - B will give -5
*	Multiply both operands	A * B will give 50
/	Divide numerator by denominator	B / A will give 2
%	Modulus Operator and remainder of after an integer division	B MOD A will give 0
^	Exponentiation Operator	B ^ A will give 100000

The Comparison Operators

There are following comparison operators supported by VBA:

Assume variable A holds 10 and variable B holds 20, then:

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Operator	Description	Example
==	Checks if the value of two operands are equal or not, if yes then condition becomes true.	A == B is False.
<>	Checks if the value of two operands are equal or not, if values are not equal then condition becomes true.	A <> B is True.
>	Checks if the value of left operand is greater than the value of right operand, if yes then condition becomes true.	A > B is False.
<	Checks if the value of left operand is less than the value of right	A < B is

	operand, if yes then condition becomes true.	True.
\geq	Checks if the value of left operand is greater than or equal to the value of right operand, if yes then condition becomes true.	$A \geq B$ is False.
\leq	Checks if the value of left operand is less than or equal to the value of right operand, if yes then condition becomes true.	$A \leq B$ is True.

The Logical Operators:

There are following logical operators supported by VBA:

Assume variable A holds 10 and variable B holds 0, then:

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Operator	Description	Example
AND	Called Logical AND operator. If both the conditions are True then Expression becomes true.	$a <> 0 \text{ AND } b <> 0$ is False.
OR	Called Logical OR Operator. If any of the two conditions are True then condition becomes true.	$a <> 0 \text{ OR } b <> 0$ is true.
NOT	Called Logical NOT Operator. Use to reverses the logical state of its operand. If a condition is true then Logical NOT operator will make false.	NOT $a <> 0 \text{ OR } b <> 0$ is false.
XOR	Called Logical Exclusion. It is the combination of NOT and OR Operator. If one, and only one, of the expressions evaluates to True, result is True.	$a <> 0 \text{ XOR } b <> 0$ is false.

The Concatenation Operators

There are following Concatenation operators supported by VBA:

Assume variable A holds 5 and variable B holds 10 then:

[Show Examples](#)

Operator	Description	Example
+	Adds two Values as Variable Values are Numeric	$A + B$ will give 15
&	Concatenates two Values	$A & B$ will give 510

Assume variable A="Microsoft" and variable B="VBScript", then:

Operator	Description	Example
+	Concatenates two Values	$A + B$ will give MicrosoftVBScript
&	Concatenates two Values	$A & B$ will give MicrosoftVBScript

Note : Concatenation Operators can be used for both numbers and strings. The Output depends on the context if the variables hold numeric value or String Value.

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