

How do you write the COUNTIF and COUNTIFS functions in VBA?

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The COUNTIF and COUNTIFS functions in VBA are used to count the number of cells in a range that meet a specific criteria. To write these functions, first specify the range of cells to be counted, followed by the criteria to be met. The COUNTIF function is used for a single criteria, while the COUNTIFS function allows for multiple criteria to be specified. Both functions can be written using the "Application.WorksheetFunction" command in VBA. The syntax for the COUNTIF function is "=Application.WorksheetFunction.CountIf(range, criteria)", while the syntax for the COUNTIFS function is "=Application.WorksheetFunction.Countifs(range1, criteria1, range2, criteria2, ...)". These functions are useful for analyzing and manipulating data in VBA.

VBA: Write COUNTIF and COUNTIFS Functions

You can use the following methods to write COUNTIF and COUNTIFS functions using VBA in Excel:

Method 1: COUNTIF Function in VBA

```
Sub Countif_Function()  
Range("E2") =  
WorksheetFunction.Countif(Range("B2:B12"), ">20")  
End Sub
```

This particular example will count the number of values in the range B2:B12 that are greater than 20 and assign the result to cell E2.

Method 2: COUNTIFS Function in VBA

```
Sub Countifs_Function()
```

```
Range("E2") =  
WorksheetFunction.Countifs(Range("A2:A12"), "Mavs",  
Range("B2:B12"), ">20")  
End Sub
```

This particular example will count the number of rows where the value in the range A2:A12 is equal to "Mavs" *and* the value in the range B2:B12 is greater than 20 and then assign the result to cell E2.

The following examples shows how to use each of these methods in practice with the following dataset in Excel that contains information about various basketball players:

	A	B	C	D	E	F
1	Team	Points	Assists			
2	Mavs	22	4			
3	Mavs	10	6			
4	Warriors	14	8			
5	Hawks	15	10			
6	Mavs	29	14			
7	Kings	34	13			
8	Kings	30	5			
9	Hawks	29	8			
10	Kings	24	10			
11	Warriors	15	4			
12	Mavs	12	9			
13						
14						
15						
16						
17						
18						
19						
20						
21						

Example 1: COUNTIF Function in VBA

Suppose we would like to count the number of values in the points column that are greater than 20.

We can create the following macro to perform this COUNTIF function:

```
Sub Countif_Function()
```

```
Range("E2")
```

```
=
```

```
WorksheetFunction.Countif(Range("B2:B12"), ">20")
```

End Sub

When we run this macro, we receive the following output:

	A	B	C	D	E	F
1	Team	Points	Assists			
2	Mavs	22	4		6	
3	Mavs	10	6			
4	Warriors	14	8			
5	Hawks	15	10			
6	Mavs	29	14			
7	Kings	34	13			
8	Kings	30	5			
9	Hawks	29	8			
10	Kings	24	10			
11	Warriors	15	4			
12	Mavs	12	9			
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Notice that cell E2 contains a value of 6.

This tells us that there are 6 values in the points column that are greater than 20.

Example 2: COUNTIFS Function in VBA

Suppose we would like to count the number of rows that meet the following criteria:

Player is on the Mavs team. Player scored more than 20 points.

We can create the following macro to perform this COUNTIFS function:

```
Sub Countifs_Function()  
Range("E2") =  
WorksheetFunction.Countifs(Range("A2:A12"), "Mavs",  
Range("B2:B12"), ">20")  
End Sub
```

When we run this macro, we receive the following output:

	A	B	C	D	E	F
1	Team	Points	Assists			
2	Mavs	22	4		2	
3	Mavs	10	6			
4	Warriors	14	8			
5	Hawks	15	10			
6	Mavs	29	14			
7	Kings	34	13			
8	Kings	30	5			
9	Hawks	29	8			
10	Kings	24	10			
11	Warriors	15	4			
12	Mavs	12	9			
13						
14						
15						
16						
17						
18						
19						
20						
21						

Notice that cell E2 contains a value of 2.

This tells us that there are two rows where the player is on the Mavs team *and* the player scored more than 20 points.

Note: In this example, we created a COUNTIFS function using two criteria ranges but you can use as many criteria ranges as you'd like within the `WorksheetFunction.Countifs` method.

VBA: How to Count Number of Rows in Range

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