How do you write the SUMIF and SUMIFS functions in VBA?

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The SUMIF and SUMIFS functions in VBA are used to calculate the sum of a specific range of cells based on certain criteria. To write the SUMIF function, you need to specify the range of cells to be evaluated, the criteria to be met, and the range of cells to be summed. For the SUMIFS function, you can specify multiple criteria by using additional range and criteria pairs. These functions can be written using the VBA code editor by defining the necessary variables, setting the range and criteria, and using the built-in SUM function to calculate the sum. The result can then be displayed using the MsgBox function or assigned to a variable for further use. These functions are useful for automating calculations in Excel and making data analysis more efficient.

VBA: Write SUMIF and SUMIFS Functions

You can use the following methods to write SUMIF and SUMIFS functions using VBA in Excel:

Method 1: SUMIF Function in VBA

```
Sub Sumif_Function()
Range("E2") = WorksheetFunction.Sumif(Range("A2:A12"), "Mavs", Range("B2:B12"))
End Sub
```

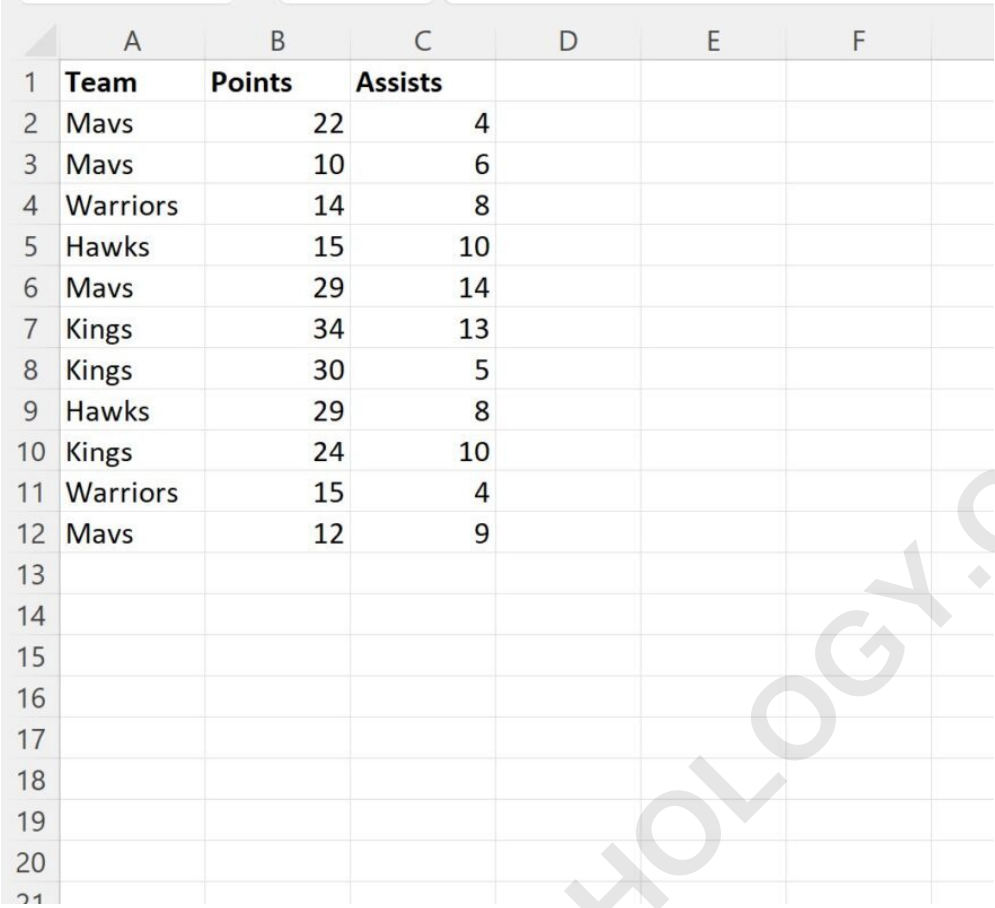
This particular example will sum the values in the range B2:B12 only where the corresponding value in the range A2:A12 is equal to "Mavs" and assign the result to cell E2.

Method 2: SUMIFS Function in VBA

```
Sub Sumifs_Function()
Range("E2") = WorksheetFunction.SumIfs(Range("C2:C12"), Range("A2:A12"), "Mavs", Range("B2:B12"), ">20")
End Sub
```

This particular example will sum the values in the range C2:C12 only 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						

Example 1: SUMIF Function in VBA

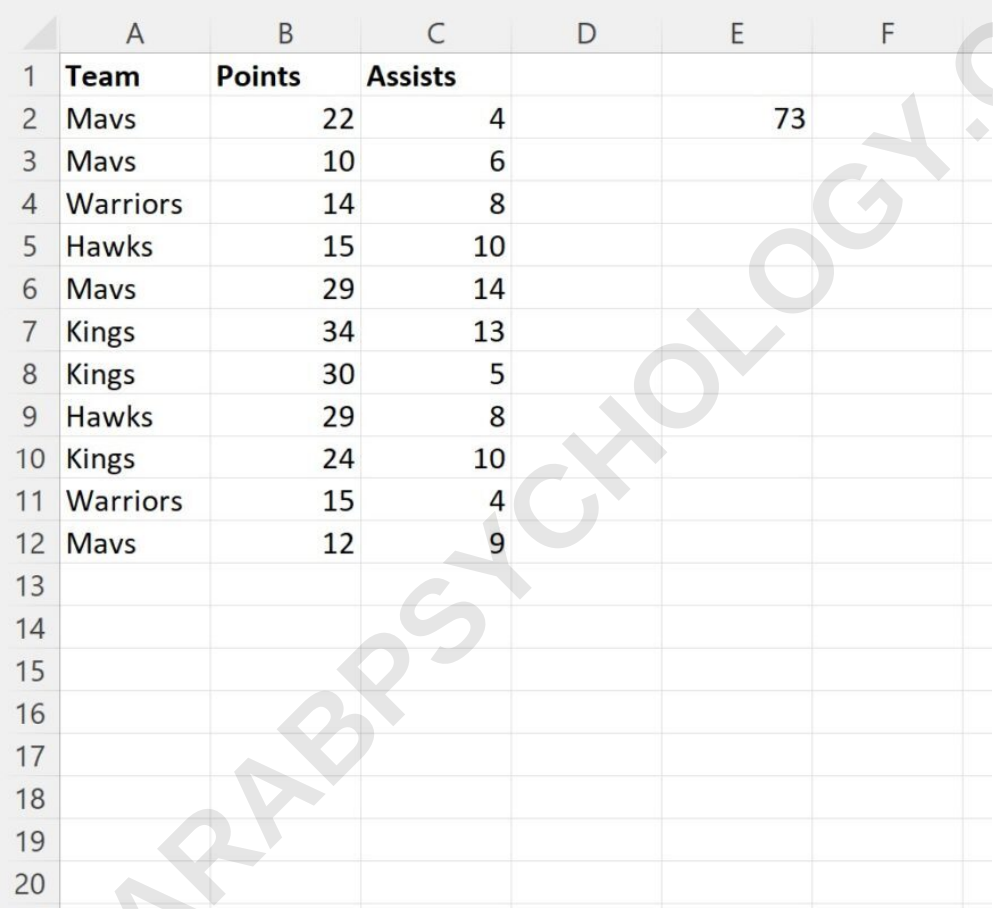
Suppose we would like to calculate the sum of values in the points column only for the players who are on the Mavs team.

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

```
Sub Sumif_Function()
Range("E2") = WorksheetFunction.Sumif(Range("A2:A12"), "Mavs",
```

```
Range("B2:B12"))
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		73	
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						

Notice that cell E2 contains a value of 73.

This represents the sum of values in the points column for player on the Mavs team.

Sum of Points for Mavs players: 22 + 10 + 29 + 12 = 73.

Example 2: SUMIFS Function in VBA

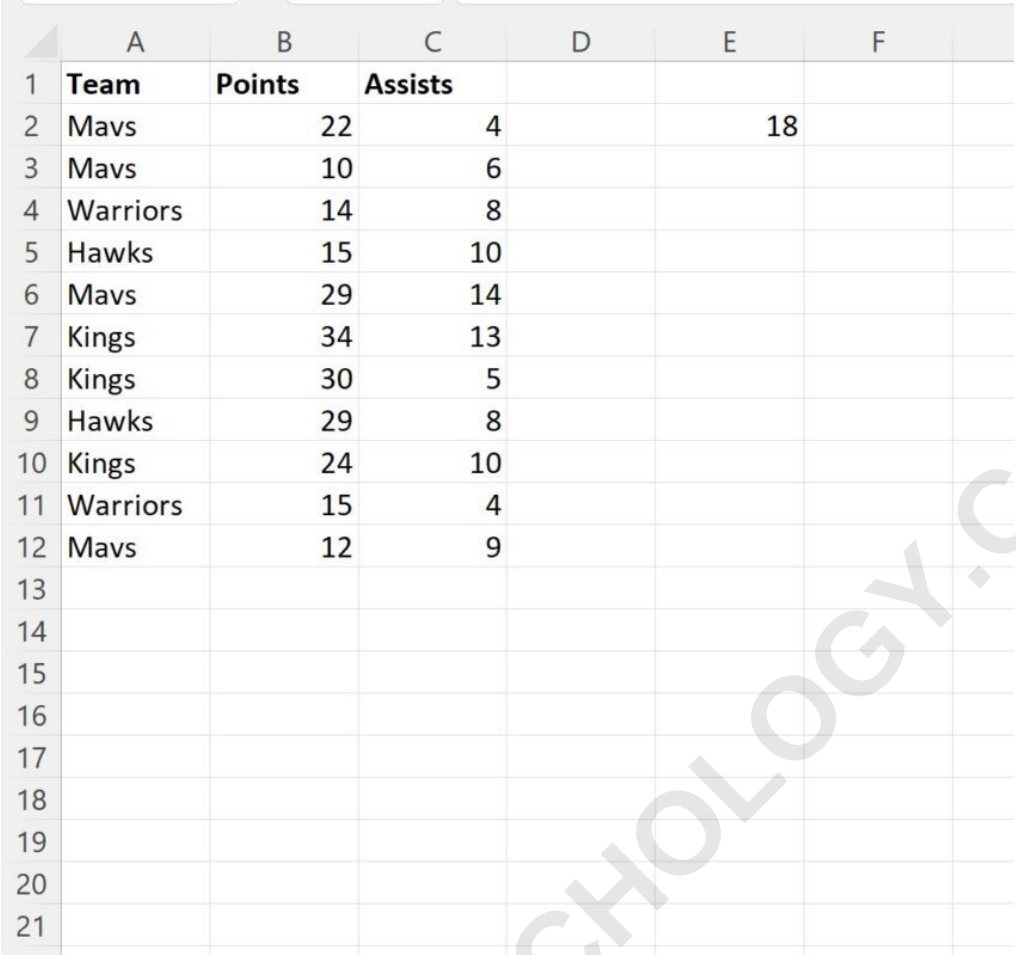
Suppose we would like to calculate the sum of values in the assists column only for the players who meet the following criteria:

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

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

```
Sub Sumifs_Function()
Range("E2") = WorksheetFunction.SumIfs(Range("C2:C12"), 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		18	
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 18.

This represents the sum of values in the points column for players on the Mavs team who scored more than 20 points.

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