How can I use the MAXIFS function in Excel to find the maximum value based on multiple criteria?

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The MAXIFS function in Excel allows users to find the maximum value in a range of cells that meet specific criteria. This function is particularly useful when working with large data sets and wanting to identify the highest value based on multiple conditions. By specifying the criteria in the formula, the user can easily filter through the data and obtain the desired maximum value. This function is a powerful tool for data analysis and can greatly streamline the process of finding the highest value within a set of data.

The MAXIFS function returns the maximum value among cells specified by a given set of conditions or criteria.

Note: This feature is available on Windows or Mac if you have Office 2019, or if you have a Microsoft 365 subscription. If you are a Microsoft 365 subscriber, make sure you have the latest version of Office.

Syntax

MAXIFS(max_range, criteria_range1, criteria1, , ...)

Argument	Description
max_range (required)	The actual range of cells in which the maximum will be determined.
criteria_range1 (required)	Is the set of cells to evaluate with the criteria.
criteria1 (required)	Is the criteria in the form of a number, expression, or text that defines which cells will be evaluated as maximum. The same set of criteria works for the MINIFS, SUMIFS, and AVERAGEIFS functions.
criteria_range2, criteria2, ...(optional)	Additional ranges and their associated criteria. You can enter up to 126 range/criteria pairs.

Remarks

The size and shape of the max_range and criteria_rangeN arguments must be the same, otherwise these functions return the #VALUE! error.

Examples

Copy the example data in each of the following tables, and paste it in cell A1 of a new Excel worksheet. For formulas to show results, select them, press F2, and then press Enter. If you need to, you can adjust the column widths to see all the data.

Example 1

Grade	Weight
89	1
93	2
96	2
85	3
91	1
88	1
Formula	**Result**
=MAXIFS(A2:A7,B2:B7,1)	91 In criteria_range1 the cells B2, B6, and B7 match the criteria of 1. Of the corresponding cells in max_range, A6 has the maximum value. The result is therefore 91.

Example 2

Weight	Grade
10	b
1	a
100	a
1	b
1	a
1	a
Formula	**Result**
=MAXIFS(A2:A5,B3:B6,"a")	10 **Note:** The criteria_range and max_range aren't aligned, but they are the same shape and size. In criteria_range1, the 1st, 2nd, and 4th cells match the criteria of "a." Of the corresponding cells in max_range, A2 has the maximum value. The result is therefore 10.

Example 3

Weight	Grade	Class	Level
10	b	Business	100

Weight	Grade	Class	Level
1	a	Technical	100
100	a	Business	200
1	b	Technical	300
1	a	Technical	100
50	b	Business	400
Formula	**Result**		
=MAXIFS(A2:A7,B2:B7,"b",D2:D7,">100")	50 In criteria_range1, B2, B5, and B7 match the criteria of "b." Of the corresponding cells in criteria_range2, D5 and D7 match the criteria of >100. Finally, of the corresponding cells in max_range, A7 has the maximum value. The result is therefore 50.		

Example 4

Weight	Grade	Class	Level
10	b	Business	8
1	a	Technical	8
100	a	Business	8
11	b	Technical	0
1	a	Technical	8
12	b	Business	0
Formula	**Result**		
=MAXIFS(A2:A7,B2:B7,"b",D2:D7,A8)	12 The criteria2 argument is A8. However, because A8 is empty, it is treated as 0 (zero). The cells in criteria_range2 that match 0 are D5 and D7. Finally, of the corresponding cells in max_range, A7 has the maximum value. The result is therefore 12.		

Example 5

Weight	Grade
10	b
1	a
100	a
1	b
1	a
1	a
Formula	**Result**
=MAXIFS(A2:A5,B2:c6,"a")	#VALUE! Because the size and shape of the max_range and criteria_range aren't the same, MAXIFS returns the #VALUE! error.

Example 6

Weight	Grade	Class	Level
10	b	Business	100
1	a	Technical	100
100	a	Business	200
1	b	Technical	300
1	a	Technical	100
1	a	Business	400
Formula	**Result**		
=MAXIFS(A2:A6,B2:B6,"a",D2:D6,">200")	0 No cells match the criteria.		

See Also

MINIFS function

SUMIFS function

AVERAGEIFS function

COUNTIFS function