

# How to use MAXIFS function in Excel 2016

MAXIFS function in Excel is a statistical function that returns the largest value based on one or more conditions from the specified cells. MAXIFS function was introduced in MS Excel 2016.

## What is MAXIFS function?

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### Recipe

```
= MAXIFS (max_range, criteria_range1, criterial, [criteria_range2, criteria2],
```

Argument:

1. **Max\_range** (required argument) - The actual range of cells to which the maximum value will be determined.
2. **Criteria\_range** (required argument) - The set of cells evaluated according to the criteria.
3. **Criterial** (mandatory argument) can be a numeric value, an expression or text that determines which cell will be rated as max.
4. **Criteria\_range2** - Optional argument in which an additional scope and their related criteria can be specified.

You can use up to 126 criteria.

## How to use MAXIFS function in Excel

This is a built-in function that is used as a worksheet function in Excel. Consider some of the following examples:

### Example 1:

Suppose below is a table of quarterly revenue data for the three business areas. We will find the maximum revenue of the Northern region with the following formula:

```
= MAXIFS ($ D $ 5: $ D $ 33, B $ 5: B $ 33, "North")
```

IRR    :    X    ✓    fx    =MAXIFS( \$D\$5:\$D\$33, B\$5:B\$33, "North" )

	A	B	C	D	E	F	G	H	I
1									
2		<b>MAXIFS Function</b>							
3									
4		Area	Nature of Expense	Sales					
5		North	Rent	45,000	=MAXIFS( \$D\$5:\$D\$33, B\$5:B\$33, "North" )				
6		South	Rent	67,000					
7		West	Rent	90,000					
8		Northeast	Rent	35,000					
9		Southwest	Rent	25,000					
10		East	Rent	78,000					
11		North	Misc Expense	3,500					
12		South	Misc Expense	500					
13		West	Misc Expense	6,700					
14		Northeast	Misc Expense	3,200					
15		Southwest	Misc Expense	1,000					
16		East	Misc Expense	1,200					
17		North	Electricity	15,000					
18		South	Electricity	25,000					
19		West	Electricity	22,000					



In the above example, the MAXIFS function determines the rows with values ??in column B equal to North and returns the largest value from the corresponding values ??in column D.

E5    :    X    ✓    fx    =MAXIFS( \$D\$5:\$D\$33, B\$5:B\$33, "North" )

	A	B	C	D	E	F
1						
2		<b>MAXIFS Function</b>				
3						
4		Area	Nature of Expense	Sales		
5		North	Rent	45,000	45,000.00	
6		South	Rent	67,000		
7		West	Rent	90,000		



**Example 2:**

In this example, we will find the area with the highest print and stationery sales with the following formula:

= MAXIFS ( \$ D \$ 5 : \$ D \$ 33, C \$ 5 : C \$ 33, "Printing & Stationary" )

E5    :    X    ✓    f<sub>x</sub>    =MAXIFS( \$D\$5:\$D\$33, C\$5:C\$33, "Printing & Stationary" )

	A	B	C	D	E	F	G	
1								
2		<b>MAXIFS Function</b>						
3								
4		Area	Nature of Expense	Sales				
5		North	Rent	45,000	1,500.00			
6		South	Rent	67,000				
7		West	Rent	90,000				
8		Northeast	Rent	35,000				
9		Southwest	Rent	25,000				
10		East	Rent	78,000				
11		North	Misc Expense	3,500				
12		South	Misc Expense	500				
13		West	Misc Expense	6,700				
14		Northeast	Misc Expense	3,200				
15		Southwest	Misc Expense	1,000				
16		East	Misc Expense	1,200				
17		North	Electricity	15,000				
18		South	Electricity	25,000				
19		West	Electricity	22,000				

The formula will return the highest amount of printing and stationery sales.

### Example 3:

In this example, we will find the highest score for students earning Distinction scores for all subjects.

	A	B	C	D	E
1					
2		<b>MAXIFS Function</b>			
3					
4					
5		Marks	Grade	Subject	Level
6		25	C	Maths	Pass
7		25	C	English	Pass
8		35	B	Economics	Pass
9		22	C	Statistics	Pass
10		42	A	Management	Distinction
11		50	A	Business Studies	Distinction
12		5	D	Accounts	Fail
13		35	B	Maths	Pass
14		22	C	English	Pass
15		32	B	Economics	Pass
16		42	A	Statistics	Distinction

The formula will be:

= MAXIFS (B6: B16, C6: C16, "A", E6: E16, "= Distinction")

IRR : X ✓ fx =MAXIFS(B6:B16,C6:C16,"A",E6:E16,"=Distinction")

	A	B	C	D	E	F	G	H	I	J	K	
1												
2		<b>MAXIFS Function</b>										
3												
4												
5		Marks	Grade	Subject	Level							
6		25	C	Maths	Pass	=MAXIFS(B6:B16,C6:C16,"A",E6:E16,"=Distinction")						
7		25	C	English	Pass							
8		35	B	Economics	Pass							
9		22	C	Statistics	Pass							
10		42	A	Management	Distinction							
11		50	A	Business Studie	Distinction							
12		5	D	Accounts	Fail							
13		35	B	Maths	Pass							
14		22	C	English	Pass							
15		32	B	Economics	Pass							
16		42	A	Statistics	Distinction							

In criteria\_range1, C10, C11 and C16 match the criterion 'A' of the corresponding cells in criteria\_range2; E10, E11 and E16 satisfy Distinction criteria. Finally, the corresponding cells in max\_range, B11 give the largest value. The result is 50.

F6 : X ✓ fx =MAXIFS(B6:B16,C6:C16,"A",E6:E16,"=Distinction")

	A	B	C	D	E	F	G	
1								
2		<b>MAXIFS Function</b>						
3								
4								
5		Marks	Grade	Subject	Level			
6		25	C	Maths	Pass	50		
7		25	C	English	Pass			
8		35	B	Economics	Pass			
9		22	C	Statistics	Pass			
10		42	A	Management	Distinction			
11		50	A	Business Studie	Distinction			
12		5	D	Accounts	Fail			
13		35	B	Maths	Pass			
14		22	C	English	Pass			
15		32	B	Economics	Pass			
16		42	A	Statistics	Distinction			

**Example 4:**

With the data table below, we will use MAXIFS with the array function to return the latest date to open the task for each project in column E.

	A	B	C	D	E
1					
2		<b>MAXIFS Function</b>			
3					
4	Project A	Task 1	01/01/17	Complete	
5	Project A	Task 2	01/02/17	Open	
6	Project A	Task 2	01/03/17	Complete	
7	Project A	Task 1	01/01/17	Open	
8	Project A	Task 1	01/02/17	Open	
9	Project A	Task 1	01/01/17	Open	
10	Project A	Task 2	01/02/17	Complete	
11	Project A	Task 1	01/03/17	Open	
12	Project B	Task 1	01/02/17	Open	
13	Project B	Task 1	01/05/17	Open	
14	Project C	Task 2	01/01/17	Complete	
15	Project C	Task 2	01/01/17	Open	

The formula is used as below:


The screenshot shows the Excel formula bar with the following formula: `=MAX((($B$4:$B$15=B4)*($C$4:$C$15=C4)*($E$4:$E$15="Open"))*($D$4:$D$15))`. Below the formula bar, the spreadsheet displays the same data as the first image, with the formula result (01/02/17) appearing in cell F4. The formula is also visible in the F4 cell of the data table.

	A	B	C	D	E	F
1						
2		<b>MAXIFS Function</b>				
3						
4	Project A	Task 1	01/01/17	Complete		=MAX(((\$B\$4:\$B\$15=B4)*(\$C\$4:\$C\$15=C4)*(\$E\$4:\$E\$15="Open"))*(\$D\$4:\$D\$15))
5	Project A	Task 2	01/02/17	Open		01/02/17
6	Project A	Task 2	01/03/17	Complete		01/02/17
7	Project A	Task 1	01/01/17	Open		01/03/17
8	Project A	Task 1	01/02/17	Open		01/03/17
9	Project A	Task 1	01/01/17	Open		01/03/17
10	Project A	Task 2	01/02/17	Complete		01/02/17
11	Project A	Task 1	01/03/17	Open		01/03/17
12	Project B	Task 1	01/02/17	Open		01/05/17
13	Project B	Task 1	01/05/17	Open		01/05/17
14	Project C	Task 2	01/01/17	Complete		01/01/17
15	Project C	Task 2	01/01/17	Open		01/01/17

For parentheses, we need to press **Ctrl + Shift + Enter** the first time because it only works as an array function. After that, we can drag it over the range to use.

F4    {=MAX((\$B\$4:\$B\$15=B4)\*(\$C\$4:\$C\$15=C4)\*(\$E\$4:\$E\$15="Open")\*(\$D\$4:\$D\$15))}

	A	B	C	D	E	F	G	H	I	J	K	
1												
2		<b>MAXIFS Function</b>										
3												
4		Project A	Task 1	01/01/17	Complete	01/03/17						
5		Project A	Task 2	01/02/17	Open	01/02/17						
6		Project A	Task 2	01/03/17	Complete	01/02/17						
7		Project A	Task 1	01/01/17	Open	01/03/17						
8		Project A	Task 1	01/02/17	Open	01/03/17						
9		Project A	Task 1	01/01/17	Open	01/03/17						
10		Project A	Task 2	01/02/17	Complete	01/02/17						
11		Project A	Task 1	01/03/17	Open	01/03/17						
12		Project B	Task 1	01/02/17	Open	01/05/17						
13		Project B	Task 1	01/05/17	Open	01/05/17						
14		Project C	Task 2	01/01/17	Complete	01/01/17						
15		Project C	Task 2	01/01/17	Open	01/01/17						



Therefore, for the above data, we will see March 1, 2017 in Column F on all rows for Project A; 01/05/2017 for all rows of Project B; and 01/01/2017 for all rows of Project C.

## Things to note about MAXIFS function

1. Error #VALUE! is returned when the size and shape of the max\_range and criteria\_rangeN arguments are not the same.
2. If you use an earlier version of Excel, you can use array functions based on MAX and IF to find the minimum value that meets the criteria.
3. #NAME? Error? occurs when using an older version of Excel (before Excel 2016).
4. MAXIFS will include hidden goods.

I wish you all success!

See more:

1. How to use the SWITCH function in Excel 2016
2. How to use the IFS function in Excel 2016
3. How to use the TEXTJOIN function in Excel 2016

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