

How can I use the IF function in Excel to perform conditional logic and return different values based on a specified criteria?

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The IF function in Microsoft Excel is a powerful tool that allows users to perform conditional logic and return different values based on a specified criteria. This function evaluates a given condition and returns a specified value if the condition is met, and a different specified value if the condition is not met. This enables users to create dynamic and flexible spreadsheets that can perform different actions based on specific conditions. By using the IF function, users can save time and effort by automating tasks and calculations, making Excel a more efficient and effective tool for data analysis and decision making.

The IF function is one of the most popular functions in Excel, and it allows you to make logical comparisons between a value and what you expect.

So an IF statement can have two results. The first result is if your comparison is True, the second if your comparison is False.

For example, =IF(C2="Yes",1,2) says IF(C2 = Yes, then return a 1, otherwise return a 2).



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Use the IF function, one of the logical functions, to return one value if a condition is true and another value if it's false.

IF(logical_test, value_if_true,)

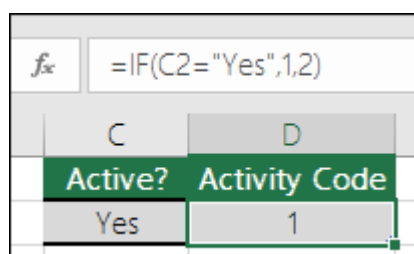
For example:

=IF(A2>B2,"Over Budget","OK")

=IF(A2=B2,B4-A4,"")

Argument name	Description
logical_test (required)	The condition you want to test.
value_if_true (required)	The value that you want returned if the result of logical_test is TRUE.
value_if_false (optional)	The value that you want returned if the result of logical_test is FALSE.

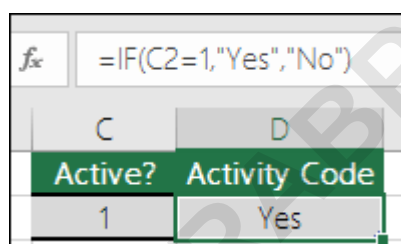
Simple IF examples



	C	D
	Active?	Activity Code
	Yes	1

=IF(C2="Yes",1,2)

In the above example, cell D2 says: IF(C2 = Yes, then return a 1, otherwise return a 2)



	C	D
	Active?	Activity Code
	1	Yes

=IF(C2=1,"Yes","No")

In this example, the formula in cell D2 says: IF(C2 = 1, then return Yes, otherwise return No)As you see, the IF function can be used to evaluate both text and values. It can also be used to evaluate errors. You are not limited to only checking if one thing is equal to another and returning a single result, you can also use mathematical operators and perform additional calculations depending on your criteria. You can also nest multiple IF functions together in order to perform multiple comparisons.

=IF(C2>B2,"Over Budget", "Within Budget")			
B	C	D	E
Budgeted	Actual	Status	Amount Over
\$800.00	\$921.58	Over Budget	\$121.58
\$375.00	\$324.98	Within Budget	\$0.00
\$150.00	\$128.43	Within Budget	\$0.00
\$150.00	\$174.38	Over Budget	\$24.38

=IF(C2>B2,"Over Budget","Within Budget")

In the above example, the IF function in D2 is saying IF(C2 Is Greater Than B2, then return "Over Budget", otherwise return "Within Budget")

=IF(C2>B2,C2-B2,0)			
B	C	D	E
Budgeted	Actual	Status	Amount Over
\$800.00	\$921.58	Over Budget	\$121.58
\$375.00	\$324.98	Within Budget	\$0.00
\$150.00	\$128.43	Within Budget	\$0.00
\$150.00	\$174.38	Over Budget	\$24.38

=IF(C2>B2,C2-B2,0)

In the above illustration, instead of returning a text result, we are going to return a mathematical calculation. So the formula in E2 is saying IF(Actual is Greater than Budgeted, then Subtract the Budgeted amount from the Actual amount, otherwise return nothing).

fx =IF(E7="Yes",F5*0.0825,0)			
C	D	E	F
Item	Quantity	Cost	Total
Widget	2	\$2.90	\$5.80
Doohickey	3	\$8.55	\$25.66
	Sub-Total	\$11.45	\$31.46
	Sales Tax?	Yes	\$2.60
	Total		\$34.05

=IF(E7="Yes",F5*0.0825,0)

In this example, the formula in F7 is saying IF(E7 = "Yes", then calculate the Total Amount in F5 * 8.25%, otherwise no Sales Tax is due so return 0)

Note: If you are going to use text in formulas, you need to wrap the text in quotes (e.g. "Text"). The only exception to that is using TRUE or FALSE, which Excel automatically understands.

Common problems

Problem	What went wrong
0 (zero) in cell	There was no argument for either value_if_true or value_if_False arguments. To see the right value returned, add argument text to the two arguments, or add TRUE or FALSE to the argument.
#NAME? in cell	This usually means that the formula is misspelled.

See Also

[IF function - nested formulas and avoiding pitfalls](#)

[IFS function](#)

[Using IF with AND, OR and NOT functions](#)

[COUNTIF function](#)

[How to avoid broken formulas](#)

Overview of formulas in Excel

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