

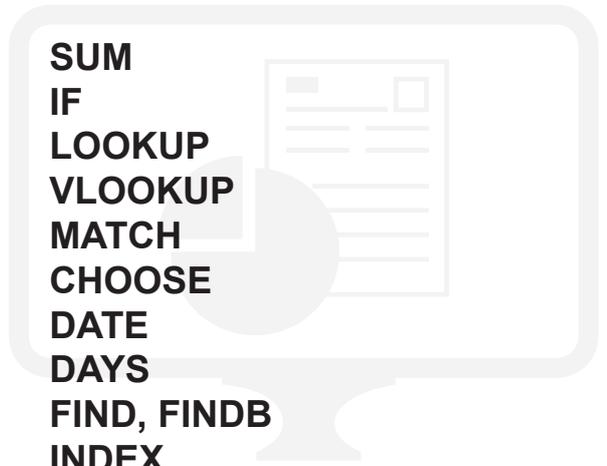
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Excel Online
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Excel for Android tablets
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Excel Starter 2010



Functions

SUM
IF
LOOKUP
VLOOKUP
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DAYS
FIND, FINDB
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Using This Cheat Sheet

Function(required,optional) Sample ➔ Result ! Tip/Note

Description

10 Most Popular Functions

SUM(number1,number2,...)

This is the second number you want to add. You can specify up to 255 numbers in this way.

The first number you want to add. The number can be like 4, a cell reference like B6, or a cell range like B2:B8.

| | | | |
|-------------|---|----|------------|
| =SUM(A1,B2) | ➔ | 13 | (5+8) |
| =SUM(A1:B2) | ➔ | 26 | (5+10+3+8) |

| | A | B |
|---|---|----|
| 1 | 5 | 10 |
| 2 | 3 | 8 |

The SUM function, one of the math and trig functions, adds values. You can add individual values, cell references or ranges or a mix of all three.

IF(logical_test,value_if_true,value_if_false)

The value that is displayed if logical_test is false.

The value that is displayed if logical_test is true.

A value or expression that is tested to see if it is true or false.

| | | |
|----------------------|---|-----|
| =IF(A1=5,"YES","NO") | ➔ | YES |
| =IF(A1=6,"YES","NO") | ➔ | NO |
| =IF(B1>9,"C","J") | ➔ | C |

| | A | B |
|---|---|----|
| 1 | 5 | 10 |

Use this function to return one value if a condition is true and another value if it's false.

LOOKUP(lookup_value,lookup_vector,result_vector) Vector Form

A range that contains only one row or column. The result_vector argument must be the same size as lookup_vector. It has to be the same size.

A range that contains only one row or one column. The values in lookup_vector can be text, numbers, or logical values.

A value that LOOKUP searches for in the first vector. Lookup_value can be a number, text, a logical value, or a name or reference that refers to a value.

The values in lookup_vector must be placed in ascending order: ..., -2, -1, 0, 1, 2, ..., A-Z, FALSE, TRUE; otherwise, LOOKUP might not return the correct value. Uppercase and lowercase text are equivalent.

If the LOOKUP function can't find the lookup_value, the function matches the largest value in lookup_vector that is less than or equal to lookup_value.

If lookup_value is smaller than the smallest value in lookup_vector, LOOKUP returns the #N/A error value.

| | A | B |
|---|----|-----------|
| 1 | 5 | Monday |
| 2 | 10 | Tuesday |
| 3 | 15 | Wednesday |
| 4 | 20 | Thursday |

=LOOKUP(15,A1:A4,B1:B4) ➔ Wednesday

Looks up 15 in column A, and returns the value from column B that is in the same row.

Use this form of LOOKUP to search one row or one column for a value. Use the vector form when you want to specify the range that contains the values that you want to match.

LOOKUP(lookup_value,array) Array Form

A range of cells that contains text, numbers, or logical values that you want to compare with lookup_value. The array form of LOOKUP is very similar to the HLOOKUP and VLOOKUP functions. The difference is that HLOOKUP searches for the value of lookup_value in the first row, VLOOKUP searches in the first column, and LOOKUP searches according to the dimensions of array.

- If array covers an area that is wider than it is tall (more columns than rows), LOOKUP searches for the value of lookup_value in the first row.
- If an array is square or is taller than it is wide (more rows than columns), LOOKUP searches in the first column.
- With the HLOOKUP and VLOOKUP functions, you can index down or across, but LOOKUP always selects the last value in the row or column.

A value that LOOKUP searches for in an array. The lookup_value argument can be a number, text, a logical value, or a name or reference that refers to a value.

- If LOOKUP can't find the value of lookup_value, it uses the largest value in the array that is less than or equal to lookup_value.
- If the value of lookup_value is smaller than the smallest value in the first row or column (depending on the array dimensions), LOOKUP returns the #N/A error value.

The values in array must be placed in ascending order: ..., -2, -1, 0, 1, 2, ..., A-Z, FALSE, TRUE; otherwise, LOOKUP might not return the correct value. Uppercase and lowercase text are equivalent.

It is strongly recommended to use VLOOKUP or HLOOKUP instead of the array form. The array form is provided for compatibility with other spreadsheet programs, but it's functionality is limited.

The array form of LOOKUP looks in the first row or column of an array for the specified value and returns a value from the same position in the last row or column of the array. Use this form of LOOKUP when the values that you want to match are in the first row or column of the array.

VLOOKUP(lookup_value,table_array,col_index_num,range_lookup)

The range of cells in which the VLOOKUP will search for the lookup_value and the return value.

The column number (starting with 1 for the left-most column of table-array) that contains the return value.

A logical value that specifies whether you want VLOOKUP to find an approximate or an exact match:

- TRUE assumes the first column in the table is sorted either numerically or alphabetically, and will then search for the closest value. This is the default method if you don't specify one.
- FALSE searches for the exact value in the first column.

The value you want to look up. The value you want to look up must be in the first column of the range of cells you specify in table-array. For example, if table-array spans cells B2:D7, then your lookup_value must be in column B.

| | A | B | C |
|---|----|-----------|--------|
| 1 | 5 | Monday | John |
| 2 | 10 | Tuesday | Jane |
| 3 | 15 | Wednesday | George |
| 4 | 20 | Thursday | Robert |

=VLOOKUP(10,A1:C4,3,FALSE) ➔ Jane

Looks for an exact match (FALSE) of the name for 10 (lookup_value) in the third column (column C) in the A1:C4 range, and returns Jane.

| | A | B | C |
|---|----|-----------|--------|
| 1 | 5 | Monday | John |
| 2 | 10 | Tuesday | Jane |
| 3 | 15 | Wednesday | George |
| 4 | 20 | Thursday | Robert |

=IF(VLOOKUP(5,A1:C4,3,FALSE)="John","OK","NOT OK") ➔ OK

IF checks to see if VLOOKUP returns "John" corresponding to 5 (lookup_value) in the third column (column C) in the A1:C4 range. Because it is "John", the IF condition is true, and "OK" is displayed.

Use VLOOKUP, one of the lookup and reference functions, when you need to find things in a table or a range by row.

MATCH(lookup_value,lookup_array,match_type)

The range of cells being searched.

The number -1, 0, or 1. The match_type argument specifies how Excel matches lookup_value with values in lookup_array. The default value for this argument is 1.

- 1 / 0** MATCH finds the largest value that is less than or equal to lookup_value. The values in the lookup_array argument must be placed in ascending order, for example: ...-2, -1, 0, 1, 2, ..., A-Z, FALSE, TRUE.
- 0** MATCH finds the first value that is exactly equal to lookup_value. The values in the lookup_array argument can be in any order.
- 1** MATCH finds the smallest value that is greater than or equal to lookup_value. The values in the lookup_array argument must be placed in descending order, for example: TRUE, FALSE, Z-A, ...2, 1, 0, -1, -2, ..., and so on.

The value that you want to match in lookup_array. For example, when you look up someone's number in a telephone book, you are using the person's name as the lookup value, but the telephone number is the value you want. The lookup_value argument can be a value (number, text, or logical value) or a cell reference to a number, text, or logical value.

| | A | B | C |
|---|----|-----------|--------|
| 1 | 5 | Monday | John |
| 2 | 10 | Tuesday | Jane |
| 3 | 15 | Wednesday | George |
| 4 | 20 | Thursday | Robert |

```
=MATCH("Robert",C1:C4) → 4
=MATCH("Robert",C1:C4,-1) → #N/A
```

Returns an error because the values in the range C1:C4 are not in descending order.

- Use MATCH instead of one of the LOOKUP functions when you need the position of an item in a range instead of the item itself. For example, you might use the MATCH function to provide a value for the row_num argument of the INDEX function.
- MATCH returns the position of the matched value within lookup_array, not the value itself. For example, MATCH("b",{ "a","b","c"},0) returns 2, which is the relative position of "b" within the array {"a","b","c"}.
- MATCH does not distinguish between uppercase and lowercase letters when matching text values.
- If MATCH is unsuccessful in finding a match, it returns the #N/A error value.
- If match_type is 0 and lookup_value is a text string, you can use the wildcard characters — the question mark (?) and asterisk (*) — in the lookup_value argument. A question mark matches any single character; an asterisk matches any sequence of characters. If you want to find an actual question mark or asterisk, type a tilde (~) before the character.

Use this function to search for an item in a range of cells, and then return the relative position of that item in the range.

CHOOSE(index_num,value1,value2,...)

Value 1 is required, subsequent values are optional. 1 to 254 value arguments from which CHOOSE selects a value or an action to perform based on index_num. The arguments can be numbers, cell references, defined names, formulas, functions, or text.

- Specifies which value argument is selected. Index_num must be a number between 1 and 254, or a formula or reference to a cell containing a number between 1 and 254.
- If index_num is 1, CHOOSE returns value1; if it is 2, CHOOSE returns value2; and so on.
- If index_num is less than 1 or greater than the number of the last value in the list, CHOOSE returns the #VALUE! error value.
- If index_num is a fraction, it is truncated to the lowest integer before being used.

- If index_num is an array, every value is evaluated when CHOOSE is evaluated.
- The value arguments to CHOOSE can be range references as well as single values.

```
=CHOOSE(3,A1,A2,A3) → 15
=CHOOSE(2,B1,B2,B3) → Tuesday
=SUM(2,CHOOSE(1,A1,A2,A3)) → 7
```

| | A | B |
|---|----|-----------|
| 1 | 5 | Monday |
| 2 | 10 | Tuesday |
| 3 | 15 | Wednesday |

Use this function to select one of up to 254 values based on the index number.

DATE(year,month,day)

```
=DATE(2011,5,15) → 40678
```

- Excel stores dates as sequential serial numbers so that they can be used in calculations. January 1, 1900 is serial number 1, and January 1, 2008 is serial number 39448 because it is 39,447 days after January 1, 1900.

Returns the serial number of a particular date

DAYS(end_date,start_date)

```
=DAYS(A2,A1) → 343
=DAYS("3/15/11","2/1/11") → 42
```

| | A |
|---|-----------|
| 1 | 5/15/2011 |
| 2 | 4/22/2012 |

Finds the number of days between the end date (15 MAR 2011) and start date (1 FEB 2011). When you enter a date directly in the function, you need to enclose it in quotation marks.

- Returns a serial number to a day of the month

FIND(find_text,within_text,start_num)

Specifies the character at which to start the search. The first character in within_text is character number 1. If you omit start_num, it is assumed to be 1.

FINDB(find_text,within_text,start_num)

The text containing the text you want to find.

The text you want to find.

```
=FIND("h",A1) → 2
=FIND("h",A1,3) → 11
```

| | A |
|---|--------------|
| 1 | Cheater John |

Position of the first "h" in cell A1

Position of the first "h" in cell A1, starting with the third character

These functions may not be available in all languages.

FIND is intended for use with languages that use the single-byte character set (SBCS), whereas FINDB is intended for use with languages that use the double-byte character set (DBCS). The default language setting on your computer affects the return value in the following way:

- FIND always counts each character, whether single-byte or double-byte, as 1, no matter what the default language setting is.
- FINDB counts each double-byte character as 2 when you have enabled the editing of a language that supports DBCS and then set it as the default language. Otherwise, FINDB counts each character as 1.

The languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

FIND and FINDB are case sensitive and don't allow wildcard characters. If you don't want to do a case sensitive search or use wildcard characters, you can use SEARCH and SEARCHB.

FIND and FINDB locate one text string within a second text string, and return the number of the starting position of the first text string from the first character of the second text string.

INDEX(array,row_num,column_num)

Array Form

Selects the column in array from which to return a value. If column_num is omitted, row_num is required.

Selects the row in array from which to return a value. If row_num is omitted, column_num is required

A range of cells or an array constant.

- If array contains only one row or column, the corresponding row_num or column_num argument is optional.
- If array has more than one row and more than one column, and only row_num or column_num is used, INDEX returns an array of the entire row or column in array.

```
Row Column
=INDEX(A1:B2,2,1) → 10
=INDEX(A1:B2,2,2) → Tuesday
```

| | A | B |
|---|----|---------|
| 1 | 5 | Monday |
| 2 | 10 | Tuesday |

Returns the value of an element in a table or an array, selected by the row and column number indexes. Use the array form if the first argument to INDEX is an array constant.

INDEX(reference,row_num,column_num,area_num)

Reference Form

The number of the row in reference from which to return a reference.

The number of the column in reference from which to return a reference.

Selects a range in reference from which to return the intersection of row_num and column_num. The first area selected or entered is numbered 1, the second is 2, and so on. If area_num is omitted, INDEX uses area 1.

A reference to one or more cell ranges.

- If you are entering a nonadjacent range for the reference, enclose reference in parentheses.
- If each area in reference contains only one row or column, the row_num or column_num argument, respectively, is optional. For example, for a single row reference, use INDEX(reference,,column_num).

```
Row Column
=INDEX((A1:B2,A2:B3),2,2,2) → Mike
```

| | A | B |
|---|----|------|
| 1 | 5 | John |
| 2 | 10 | Jane |
| 3 | 15 | Mike |

Returns the reference of the cell at the intersection of a particular row and column. If the reference is made up of nonadjacent selections, you can pick the selection to look in.



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