

EXCEL CHEAT SHEET



Excel Cheat Sheet

Contents

Keyboard Shortcuts

Navigating Worksheets, Selecting Cells, Editing Cells, Formatting Cells, Editing Data & Formulas, Working with Worksheets & Workbooks, Miscellaneous

The 10% Of Excel Functions You'll Use 99% Of The Time

Date & Time Functions, Financial Functions, Information Functions, Logical Functions, Lookup Functions, Mathematical Functions, Statistical Functions, Text Functions Handy Excel Formula & Function "Recipes"

Offset date values with the DATE function,

Use EOMONTH to return the first day of the months,

Error-proof lookups with IFERROR and VLOOKUP,



<u>Classify a lookup value as "found" or "not found" in a list with ISERROR and</u> <u>MATCH</u>,

Create a multi-level classification with nested IF functions,

Apply complex logical conditions with IF + AND,

Combine INDEX and MATCH for two-way lookups,

Randomly sample data with RANDBETWEEN and INDEX,

Use TEXT to return the name of the current day of the week,

Dynamically extract a person's first name with FIND and LEFT,

Remove multiple characters from a text string with nested SUBSTITUTE functions

Common Formula Errors

Common Formula Errors



Keyboard Shortcuts

Navigating Worksheets

| Excel for Windows | Shortcut Description | Excel for Mac |
|----------------------|---|-----------------------|
| Ctrl+Home | Navigates to cell A1 of the given worksheet. | Fn+Ctrl+Left Arrow |
| Ctrl+Right Arrow | Navigates to the right edge of the current row, in the current data region. | Ctrl+Right Arrow |
| Ctrl+Left Arrow | Navigates to the left edge of the current row, in the current data region. | Ctrl+Left Arrow |
| Ctrl+Up Arrow | Navigates to the top edge of the current column, in the current data region. | Ctrl+Up Arrow |
| Ctrl+Down Arrow | Navigates to the bottom edge of the current column, in the current data region. | Ctrl+Down Arrow |
| Ctrl+End | Navigates to the last cell used in the current worksheet. | Ctrl+End |

Selecting Cells

| Excel for Windows | Excel for Mac | Shortcut Description |
|---------------------------|---------------------------|--|
| Ctrl+Spacebar | Ctrl+Spacebar | Selects an entire worksheet column. |
| Shift+Spacebar | Shift+Spacebar | Selects an entire worksheet row. |
| Ctrl+Shift+Up Arrow | Ctrl+Shift+Up Arrow | Extends the selection of cells to the last cell at the top edge of the current data region. |
| Ctrl+Shift+Down Arrow | Ctrl+Shift+Down Arrow | Extends the selection of cells to the last cell at the bottom edge of the current data region. |
| Ctrl+Shift+Right Arrow | Ctrl+Shift+Right Arrow | Extends the selection of cells to the last cell at the right edge of the current data region. |
| Ctrl+Shift+Left Arrow | Ctrl+Shift+Left Arrow | Extends the selection of cells to the last cell at the left edge of the current data region. |
| Ctrl+Shift+Home | Fn+Ctrl+Right Arrow | Extends the selection of cells up and to the left, to cell A1. |



| Excel for Windows | Excel for Mac | Shortcut Description |
|----------------------|------------------------------|---|
| Ctrl+Shift+End | Fn+Ctrl+Shift+Right Arrow | Extends the selection of cells down and to the right, to the last used cell in the worksheet. |
| Ctrl+A | Command+A | Selects all the cells in the current data region of the worksheet. |

Editing Cells

| Excel for Windows | Excel for Mac | Shortcut Description |
|----------------------|----------------|---|
| Ctrl+C | Command+C | Copies the selected cells or content. |
| Ctrl+V | Command+V | Pastes the copied cells or content. |
| Ctrl+Alt+V | Command+Ctrl+V | Displays the Paste Special dialog box; available only after something has been copied to the clipboard. |
| Ctrl+X | Command+X | Cuts the selected cells or content. |
| Ctrl+F | Command+F | Displays the Find and Replace dialog, with the Find tab selected. |
| Ctrl+H | Ctrl+H | Displays the Find and Replace dialog, with the Replace tab selected. |

Formatting Cells

| Excel for Windows | Excel for Mac | Shortcut Description |
|-------------------|---------------|--|
| Ctrl+1 | Ctrl+1 | Displays the format cells dialog box. |
| Ctrl+B | Command+B | Applies or removes bold formatting. |
| Ctrl+U | Command+U | Applies or removes underline formatting. |
| Ctrl+I | Command+I | Applies or removes italic formatting. |

Editing Data & Formulas

| Excel for Windows | Excel for Mac | Shortcut Description |
|----------------------|--------------------|--|
| Alt+Enter | Ctrl+Option+Return | Moves the cursor to a new line in the cell being edited. |



| Excel for Windows | Excel for Mac | Shortcut Description |
|----------------------|-------------------|--|
| Shift+Right Arrow | Shift+Right Arrow | Selects a character to the right of cursor. |
| Shift+Left Arrow | Shift+Left Arrow | Selects a character to the left of cursor. |
| F2 | Control+U | Edits (places the cursor in) the active cell. |
| F9 | Fn+F9 | Calculates all worksheets in all open workbooks. |
| F4 | F4 | Cycles through combinations of absolute and relative references for the selected cell reference. |

Working With Worksheets & Workbooks

| Excel for Windows | Excel for Mac | Shortcut Description |
|-------------------|---------------|---|
| Ctrl+O | Command+O | Displays the menu for opening a workbook. |
| Ctrl+N | Command+N | Creates a new workbook. |
| Ctrl+W | Command+W | Closes the active workbook window. |
| Ctrl+S | Command+S | Saves the current workbook. |
| Shift+F11 | Fn+Shift+F11 | Inserts a new worksheet. |

Miscellaneous

| Excel for Windows | Excel for Mac | Shortcut Description |
|----------------------|---------------------|---|
| Ctrl+Z | Command+Z | Undo last action. |
| Ctrl+Y | Command+Y | Redo last action. |
| Ctrl+Shift+L | Command+Shift +F | Adds or removes Autofilters from the current data region. |
| Ctrl+T | Ctrl+T | Inserts a table based on either the current selection or the current data region. |
| Alt+F11 | Fn+Option+F11 | Displays the VBA Editor. |
| F1 | F1 | Displays the Excel Help task pane. |
| F7 | F7 | Displays the Spellcheck dialog box. |



The 10% of Excel Functions You'll Use 99% of the Time

Brackets surrounding an argument in function syntax (e.x., [argument1]) indicate that the argument is optional.

Date & Time Functions

| Function | Description | Syntax |
|-------------|---|---|
| DATE | Returns a date based on inputs of year, month, and day. | DATE(year,month,day) |
| DATEDIF | Calculates the number of days, months, or years between two dates. | DATEDIF(start_date,end_date,unit) |
| DAY | Converts a date value to a day of the month. | DAY(serial_number) |
| EOMONTH | Returns the date value of the last day of the month before or after a specified number of months. | EOMONTH(start_date, months) |
| MONTH | Converts a date value to a month. | MONTH(serial_number) |
| NETWORKDAYS | Returns the number of whole workdays between two dates. | NETWORKDAYS(start_date, end_date, [holidays]) |
| NOW | Returns the current date and time. | NOW() - The NOW function syntax has no arguments. |
| TODAY | Returns today's date. | TODAY() - The TODAY function syntax has no arguments. |
| WEEKDAY | Converts a date value to a day of the week. | WEEKDAY(serial_number, [return_type]) |
| YEAR | Converts a date value to a year. | YEAR(date_value) |

Financial Functions

| Function | Description | Syntax |
|----------|--|---|
| FV | Returns the future value of an investment based on periodic, constant payments and a constant interest rate. | FV(rate,num_periods,payment, [present_value],[type]) |



| Function | Description | Syntax |
|----------|---|---|
| РМТ | Calculates the payment on a loan based on constant payments and a constant interest rate. | PMT(rate, num_periods, present_value, [future_value], [type]) |

Information Functions

| Function | Description | Syntax |
|----------|--|-----------------|
| ISBLANK | Checks whether a value is blank, and returns TRUE or FALSE. | ISBLANK(value) |
| ISERROR | Checks whether a value is an error, and returns TRUE or FALSE. | ISERROR(value) |
| ISNUMBER | Checks whether a value is a number, and returns TRUE or FALSE. | ISNUMBER(value) |

Logical Functions

| Function | Description | Syntax |
|----------|---|---|
| AND | Tests whether all arguments are TRUE, and returns TRUE if so, FALSE if not. | AND(logical1,logical2,) |
| IF | Returns one value if a specified logical condition is met, and an alternate value if it is not. | IF(logical_test,value_if_true,value_if_false) |
| IFERROR | Returns a value you specify if a formula evaluates to an error; otherwise, returns the result of the formula. | IFERROR(value, value_if_error) |
| NOT | Changes FALSE to TRUE, and TRUE to FALSE. | NOT(logical) |
| OR | Tests whether any arguments are TRUE, and returns TRUE if so, FALSE if not. | OR(logical1,logical2,) |



Lookup Functions

| Function | Description | Syntax |
|----------|--|--|
| HLOOKUP | Searches for a lookup value in the top row of an range; if a match is found, HLOOKUP returns the value of a cell in the same column, but offset a specified number of rows down. | HLOOKUP(lookup_value, table_array, row_index_num, [range_lookup]) |
| INDEX | Uses an index to choose a value from a reference or array. | INDEX(array, row_num, [column_num]) |
| MATCH | Looks up values in a reference or array, and returns their position. | MATCH(lookup_value, lookup_array, [match_type]) |
| VLOOKUP | Searches for a lookup value in the first column of a range; if a match is found, VLOOKUP returns the value of a cell in the same row, but offset a specified number of columns to the right. | VLOOKUP (lookup_value, table_array, col_index_num, [range_lookup]) |

Mathematical Functions

| Function | Description | Syntax |
|-------------|--|--|
| ABS | Returns the absolute value of a number. | ABS(number) |
| MOD | Returns the remainder after a number is divided by another number. | MOD(number, divisor) |
| ROUND | Rounds a number to a specified number of digits. | ROUND(number, num_digits) |
| ROUNDDOWN | Rounds a number down, toward zero. | ROUNDDOWN(number, num_digits) |
| ROUNDUP | Rounds a number up, away from zero. | ROUNDUP(number, num_digits) |
| RAND | Returns a random real number between 0 and 1. | The RAND function syntax has no arguments. |
| RANDBETWEEN | Returns a random integer between two integers you specify. | RANDBETWEEN(bottom, top) |



| Function | Description | Syntax |
|------------|--|--|
| SUM | Adds all the numbers in a range of cells. | SUM(number1,[number2],) |
| SUMIF | Sums the values in a range that meet criteria that you specify. | SUMIF(range, criteria, [sum_range]) |
| SUMIFS | Adds all of its arguments that meet multiple criteria. | SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2],) |
| SUMPRODUCT | Returns the sum of the products of corresponding ranges or arrays. | SUMPRODUCT(array1, [array2], [array3],) |

Statistical Functions

| Function | Description | Syntax |
|------------|---|--|
| AVERAGE | Returns the average (arithmetic mean) of the arguments. | AVERAGE(number1, [number2],) |
| AVERAGEIF | Returns the average (arithmetic mean) of all the cells in a range that meet a given criteria. | AVERAGEIF(range, criteria, [average_range]) |
| AVERAGEIFS | Returns the average (arithmetic mean) of all cells that meet multiple criteria. | AVERAGEIFS(average_range, criteria_range1, criteria1, [criteria_range2, criteria2],) |
| COUNT | Counts how many numbers are in the list of arguments. | COUNT(value1, [value2],) |
| COUNTA | Counts how many values (numeric and non-numeric) are in the list of arguments. | COUNTA(value1, [value2],) |
| COUNTBLANK | Count the number of empty cells in a range of cells. | COUNTBLANK(range) |
| COUNTIF | Counts the number of cells within a range that meet the given criteria. | COUNTIF(range, criteria) |
| COUNTIFS | Counts the number of cells within a range that meet multiple criteria. | COUNTIFS(criteria_range1, criteria1 [criteria_range2, criteria2]) |
| MAX | Returns the maximum value in a list of arguments. | MAX(number1, [number2],) |
| MEDIAN | Returns the median of the given numbers. | MEDIAN(number1, [number2],) |



| Function | Description | Syntax |
|----------|---|-----------------------------|
| MIN | Returns the minimum value in a list of arguments. | MIN(number1, [number2],) |
| STDEV.P | Calculates standard deviation based on the entire population, given as arguments. | STDEV.P(number1,[number2],) |

Text Functions

| CONCATENATEJoins two or more text strings into one string.CONCATENATE(text1, [text2],)FINDReturns the starting position of one text string within another text string (case sensitive).FIND(find_text, within_text, [start_num])LEFTReturns the first character or characters in a text string, based on the number of characters you specify.LEFT(text, [num_chars])LENReturns the number of characters in a text string.LEFT(text, [num_chars])LOWERConverts text to lowercase.LOWER(text)MIDReturns a specific number of characters from a text string, starting at the position you specify, based on the number of characters you specify.MID(text, start_num, num_chars)PROPERCapitalizes the first letter in each word of a text string.RIGHT(text)SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, [instance_num])TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text)UPPERConverts text to uppercase.UPPER(text) | Function | Description | Syntax |
|--|-------------|--|---------------------|
| FINDReturns the starting position of one text string within another text string (case sensitive).within_text, [start_num])LEFTReturns the first character or characters in a text string, based on the number of characters you specify.LEFT(text, [num_chars])LENReturns the number of characters in a text string.LER(text)LOWERConverts text to lowercase.LOWER(text)MIDReturns a specific number of characters from a text string, starting at the position you specify, based on the number of characters you specify.MID(text, start_num, num_chars)PROPERCapitalizes the first letter in each word of a text string.PROPER(text)SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, old_text, new_text, [instance_num])TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | CONCATENATE | Joins two or more text strings into one string. | |
| LEFTstring, based on the number of characters you specify.LEFT(text, [num_chars])LENReturns the number of characters in a text string.LEN(text)LOWERConverts text to lowercase.LOWER(text)MIDReturns a specific number of characters from a text string, starting at the position you specify, based on the number of characters you specify.MID(text, start_num, num_chars)PROPERCapitalizes the first letter in each word of a text string.PROPER(text)RIGHTReturns the rightmost characters from a text string.SUBSTITUTE(text, old_text, new_text, (instance_num))SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, old_text, new_text, (instance_num))TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | FIND | | within_text, |
| LOWERConverts text to lowercase.LOWER(text)MIDReturns a specific number of characters from a text string, starting at the position you specify, based on the number of characters you specify.MID(text, start_num, num_chars)PROPERCapitalizes the first letter in each word of a text string.PROPER(text)RIGHTReturns the rightmost characters from a text string.RIGHT(text)SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, old_text, new_text, (instance_num))TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | LEFT | string, based on the number of characters you | |
| MIDReturns a specific number of characters from a text string, starting at the position you specify, based on the number of characters you specify.MID(text, start_num, num_chars)PROPERCapitalizes the first letter in each word of a text string.PROPER(text)RIGHTReturns the rightmost characters from a text string.RIGHT(text)SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, old_text, new_text, [instance_num])TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | LEN | Returns the number of characters in a text string. | LEN(text) |
| MIDstring, starting at the position you specify, based on the number of characters you specify.MID(text, start_num, num_chars)PROPERCapitalizes the first letter in each word of a text string.PROPER(text)RIGHTReturns the rightmost characters from a text string.RIGHT(text)SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, old_text, new_text, [instance_num])TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | LOWER | Converts text to lowercase. | LOWER(text) |
| PROPERstring.PROPER(text)RIGHTReturns the rightmost characters from a text string.RIGHT(text)SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, old_text, new_text, [instance_num])TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | MID | string, starting at the position you specify, based on | |
| SUBSTITUTESubstitutes new text for old text in a text string.SUBSTITUTE(text, old_text, new_text, [instance_num])TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | PROPER | - | PROPER(text) |
| SUBSTITUTESubstitutes new text for old text in a text string.old_text, new_text, [instance_num])TEXTChanges the way a number appears by applying formatting to it with format codes.TEXT(value, text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | RIGHT | Returns the rightmost characters from a text string. | RIGHT(text) |
| TEX1formatting to it with format codes.text_format)TRIMRemoves all spaces from text except for single spaces between words.TRIM(text) | SUBSTITUTE | Substitutes new text for old text in a text string. | old_text, new_text, |
| Spaces between words. | TEXT | | |
| UPPER Converts text to uppercase. UPPER(text) | TRIM | | TRIM(text) |
| | UPPER | Converts text to uppercase. | UPPER(text) |



Handy Excel Formula & Function "Recipes"

Offset date values with the DATE function

| Scenario | Syntax |
|--|--|
| Dynamically calculate a date 3 months from the current date. | =DATE(YEAR(TODAY()),MONTH(TODAY())+3,DAY(TODAY())) |

Use EOMONTH to return the first day of the month

| Scenario | Syntax | |
|--|------------------------|--|
| Dynamically return the first day of the current month. | =EOMONTH(TODAY(),-1)+1 | |

Error-proof lookups with IFERROR and VLOOKUP

| Scenario | Syntax |
|--|---|
| Return a customized error message if VLOOKUP can't find a value. | =IFERROR(VLOOKUP(A2,Sheet2!A:B,2,FALSE),"Value not found.") |

Classify a lookup value as "found" or "not found" in a list with ISERROR and MATCH

| Scenario | Syntax |
|---|---|
| Return "Found" if the keyword "Excel" is found in a list of names in column A, and "Not found" otherwise. | =IF(ISERROR(MATCH("Excel",A:A,0)),"Not found","Found") |

Create a multi-level classification with nested IF functions

| Scenario | Syntax |
|--|--|
| Classify a product price in cell A1 as "High" (> \$1,000), "Medium" (>= \$200), or "Low" (< \$200) | =IF(A1>1000,"High",IF(A1>=200,"Medium","Low")) |



Apply complex logical conditions with IF + AND

| Scenario | Syntax |
|---|---------------------------------------|
| Calculate whether a salesperson qualified for a bonus by testing whether they exceeded their sales goal of \$1,000,000 <i>and</i> their new accounts goal of 20. The value for sales is in cell A1, while the value for new accounts is in cell B1. | =IF(AND(A1>1000000,B1>20),"Yes","No") |

Combine INDEX and MATCH for two-way lookups

| Scenario | Syntax |
|--|--|
| Return a grade from a two-way matrix (column AND row headers) of student names and class names in cells A1:J10, at the intersection of "Excel" (rows) and "Travis" (columns). | =INDEX(A1:J10,MATCH("Excel",A1:A10,0),MATCH("Travis",A1:J1,0)) |

Randomly sample data with RANDBETWEEN and INDEX

| Scenario | Syntax |
|---|----------------------------------|
| Randomly select a name from a list of 10 names in cells A1:A10. | =INDEX(A1:A10,RANDBETWEEN(1,10)) |

Use TEXT to return the name of the current day of the week

| Scenario | Syntax |
|---|-----------------------|
| Return the name of the current day of the week. | =TEXT(TODAY(),"dddd") |

Dynamically extract a person's first name with FIND and LEFT

| Scenario | Syntax |
|---|-------------------------|
| Return the first name from a person's name stored in cell A1, regardless of length. | =LEFT(A1,FIND("",A1)-1) |



Remove multiple characters from a text string with nested SUBSTITUTE functions

| Scenario | Syntax |
|--|---|
| Remove all periods and commas from a text string in cell A1. | =SUBSTITUTE(SUBSTITUTE(A1,".",""),",","") |

Common Formula Errors

Common Formula Errors

| Error | Description |
|---------|---|
| #DIV/0 | The formula attempts to divide a number by zero. |
| #NAME? | Some part of the formula references a name (for example, a function name) that Excel doesn't recognize. |
| #VALUE! | One or more function arguments have been supplied with data that is incompatible with the argument. |
| #REF! | The formula references a cell that no longer exists. |
| ####### | The value is too wide to fit within its column. |

Back To Top