

Cheatsheet - Excel Functions & Keyboard Shortcuts

BEGINNER BUSINESS ANALYTICS CHEATSHEET EXCEL

Introduction

What is the most commonly used tool in data industry? You might have guessed it because of the title of the article – it is Excel. It is by far the most widely used tool for several reasons. Easy UI / UX for any one to start with, great features for doing simple exploratory and statistical analysis and almost universal availability make it a must have tool in your repository.

However, not many people realize the power of Excel. At times, it is surprising to see people using R / Python for simple financial and business analysis, just because they are not comfortable with Excel. They fail to realize how much power Pivot tables, conditional formating and simple formulas can deliver. Check out this article for some of these tricks: [simple yet powerful tricks for analyzing data](#).

With that in mind, we thought we would share a cheat sheet for excel formulas and shortcuts. Below are the cheat sheets!

EXCEL FUNCTION CHEAT SHEET

1 TEXT FUNCTIONS

| Function | Definition | Syntax | Example |
|-------------|---|--|-----------------------------------|
| Left | Returns The Specified Number Of Characters From Start Of The String | Left(string, Number Of Characters) | =left("amit",2) |
| Right | Returns The Specified Number Of Characters From End Of The String | Right(string, Number Of Characters) | =right("amit",2) |
| Mid | Returns The Specified Number Of Characters From The String Starting From Given Position | Mid(string,start Position, Number Of Characters) | =mid("amit",2,1) |
| LEN | Returns the number of characters in text string | LEN(String) | =len("amit") |
| LOWER | Converts All Characters In Text String To Lower Case | Lower(String) | =lower("amit") |
| PROPER | Converts all characters in text string to Proper case | Proper(String) | =proper("amit") |
| Upper | Converts All Characters In Text String To Upper Case | Upper(string) | =upper("amit") |
| Rept | Repeat String A Given Number Of Times | Rept(string, Number Of Times) | =rept("am",5) |
| Concatenate | Join Multiple Text String Into One | Concatenate (string1,string2, String3....) | =concatenate ("am","it"," Kumar") |
| Find | Returns Starting Position Of Sub String Within Another String, It Is Case Sensitive And By Default It Starts Searching From First Position (it Is Optional) | Find(find_string, String,[start Position]) | =find("a","amit") |
| Search | Returns Starting Position Of Sub String Within Another String, By Default It Starts Searching From First Position (it Is Optional) | Search(find_string, string,[start Position]) | =search ("a","amit") |
| Trim | Removes Duplicate Spaces, And Spaces At The Start And End Of A Text String | Trim(string) | =trim (" Te Rt ") |
| Value | Convert A Text Value Into Number | Value(text) | =value("45") |

2 MATHEMATICAL FUNCTION

| Function | Definition | Syntax | Example |
|----------|---|-------------------------------|-----------------|
| Sum | Adds all the numbers given as an argument | Sum(Numerical Aruguments) | =SUM(d2:d5) |
| Product | Multiply all the numbers given as an argument | Product(Numerical Aruguments) | =product(c2:d2) |
| SQRT | Return square root of a number | SQRT(Number) | =SQRT(81) |

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|---------|---|--|---|
| Ceiling | Rounds a number up to the nearest multiple of significance | Ceiling(number, significance) | =ceiling(11,7) |
| Floor | Rounds a number down to the nearest multiple of significance | Floor(number, Significance) | =floor(11,7) |
| INT | Round a number down to nearest integer | INT(Number) | =INT(14.55) |
| Round | Round a number to specified number of digits | Round(number, num_digits) | =round(14.55,1) |
| Fact | Return the factorial of a number | Fact(number) | =fact(3) |
| Sumif | Add the value of given cells based on given single condition | Sumif(Criteria Range, Criteria, Sum Range) | =sumif(b2:b5, "female",d2:d5) |
| Sumifs | Add the value of given cells based on given multiple conditions | Sumifs(Sum range,Criteria Range1, Criteria1, Criteria Range2, Criteria2,...) | =sumifs(d2:d5, b2:b5, "female", c2:c5, "student") |

3 STATISTICAL FUNCTION

| Function | Definition | Syntax | Example |
|-----------|---|---|---|
| Average | Return average of numbers given as an argument | Average (Numerical Arguments) | =average(d2:d5) |
| Min | Return minimum number of given set of values | Min | =Min(D2:D5) |
| Median | Return median of numbers given as an argument | Median (Numerical Arguments) | =Median(D2:D5) |
| Count | Count the number of cells contains numerical values | Count(Range of Cells) | =count(c1:c5) |
| Counta | Count the number of non empty cells | CountA (Range of Cells) | =counta(c1:c5) |
| Countif | Count number of cells that meet given single condition | Countif(Criteria Range, Criteria) | =Countif(B2:B5, "Female") |
| Countifs | Count number of cells that meet given multiple conditions | Countifs(Criteria Range1, Criteria1, Criteria Range2, Criteria2,...) | =Countifs(B2:B5, "Female",C2:C5, "Student") |
| Averageif | Return the average of cells based on given single condition | Averageif(Criteria Range, Criteria, Average Range) | =averageif(b2:b5, "female",d2:d5) |
| Averageif | Return the average of cells based on given single condition | Averageifs (Average range, Criteria Range1, Criteria1,Criteria Range2, Criteria2,...) | =averageifs(d2:d5,b2:b5,"female",c2:c5,"student") |
| Quartile | Return the quartile of dataset | Quartile (Range,Quartile) | =quartile(d2:d5,1) |
| Stdev | Return standard deviation based on dataset | Stdev(dataset) | =stdev(d2:d5) |

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DATE TIME FUNCTION

| Function | Definition | Syntax | Example |
|----------|---|--|-----------------------------------|
| Month | Return numerical identification of month (between 1 to 12) of any date argument | Month (Date argument) | =month(e2) |
| Day | Return numerical identification of day (between 1 to 31) of any date argument | Day (Date argument) | =Day(E3) |
| Year | Return year of any date argument | Year (Date argument) | =Year(E4) |
| Date | Return date based on Year, month and day as an argument | Year (Date argument) | =Year(E4) |
| Now | Return Current Date and Time | Now() | =now() |
| Datedif | Return the year, month and day difference between two dates | Datedif(Old date, Recent date, <Y/M/D>), Y for Year, M for Month and D for Days difference | =datedif(e2,date (2014,7,17),"y") |
| Weekday | Return the day of week e.g. 1 for Sunday | Weekday(date) | =weekday(date (2013,1,1)) |
| Weeknum | Return the week number of week in a year | Weeknum(date) | =weeknum(date (2014,6,1)) |
| Eomonth | Return the last day of month before and after specified number of months | Eomonth(date, specified Number Of Months) | =eomonth(date (2014,6,1),0) |

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LOGICAL FUNCTION

| Function | Definition | Syntax | Example |
|----------|---|--|------------------------------|
| And | Return TRUE, if all condition are TRUE else FALSE | And(Condition1, Condition2...) | =and(d2>=5000, c2>=8) |
| Or | Return TRUE, if any of condition are TRUE | Or(Condition1, Condition2...) | =Or(C2>12, D2>6000) |
| If | It is conditional function, execute TRUE statement if condition is TRUE else execute FALSE statement | IF(Condition, TRUE Statement, FALSE Statement) | =If(D2>=7000,E4+100, E4-100) |
| Exact | Tests if two supplied text strings are exactly the same and if so, returns TRUE; Otherwise, returns FALSE. (case-sensitive) | Exact (Text1,Text2) | =Exact ("Amit","Amit") |
| Iserror | Tests if an initial supplied value (or expression) returns an error and if so, returns TRUE; Otherwise returns FALSE | Iserror(value) | =iserror(4/0) |
| Isnumber | Tests if a supplied value is a number, and if so, returns | Isnumber(value) | =isnumber(45) |

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|----------|--|-----------------|---------------|
| IsNumber | TRUE; Otherwise, returns FALSE | IsNumber(value) | =IsNumber(45) |
| ISText | Tests if a supplied value is text, and if so, returns TRUE; Otherwise, returns FALSE | ISText(Value) | =ISText(45) |

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LOOKUP FUNCTION

| Function | Definition | Syntax | Example |
|----------|--|--|-----------------------------------|
| Match | Return a relative position of a value in an array that matches with given criteria | Match(Lookup Value,Lookup array,match type (0/1)) | =MATCH ("Anil", \$B\$3:\$B\$45,0) |
| Vlookup | Looks for a value in left most column of the table, and then returns a value in the same row from a column you specify | Vlookup (LookupValue, Table Array, Column_Index_Number [, TRUE FALSE]) | =Vlookup (A2, A4:D16,2,0) |
| Hlookup | Looks for a value in top row of the table, and then returns a value in the same column from a row you specify | Hlookup (LookupValue, Table Array, Row_Index_Number [, TRUE FALSE]) | =Hlookup (A2, A4:D16,2,0) |

Here is the cheatsheet for all shortcuts (on Windows):



EXCEL KEYBOARD SHORTCUTS CHEATSHEET



| Function | Definition |
|---------------|---|
| CTRL+1 | Displays the Format Cells dialog box. |
| CTRL+2 | Applies or removes bold formatting. |
| CTRL+3 | Applies or removes italic formatting. |
| CTRL+4 | Applies or removes underlining. |
| CTRL+5 | Applies or removes strikethrough. |
| CTRL+B | Applies or removes bold formatting. |
| CTRL+I | Applies or removes italic formatting. |
| CTRL+R | Uses the Fill Right command to copy the contents and format of the leftmost cell of a selected range into the cells to the right. |
| CTRL+U | "Applies or removes underlining. CTRL+SHIFT+U switches between expanding and collapsing of the formula bar." |
| CTRL+SHIFT+- | Applies the General number format. |
| CTRL+SHIFT+\$ | Applies the Currency format with two decimal places (negative numbers in parentheses). |
| CTRL+SHIFT+% | Applies the Percentage format with no decimal places. |
| CTRL+SHIFT+^ | Applies the Exponential number format with two decimal places. |
| CTRL+SHIFT+# | Applies the Date format with the day, month, and year. |
| CTRL+SHIFT+@ | Applies the Time format with the hour and minute, and AM or PM. |
| CTRL+SHIFT+! | Applies the Number format with two decimal places, thousands separator, and minus sign (-) for negative values. |
| CTRL+SHIFT+! | Applies the Number format with two decimal places, thousands separator, and minus sign (-) for negative values. |

MISCELLANEOUS

| Function | Definition |
|--------------|--|
| CTRL+6 | Alternates between hiding objects, displaying objects, and displaying placeholders for objects. |
| CTRL+T | Displays the Create Table dialog box. |
| CTRL+SHIFT+; | Enters the current time. |
| CTRL+; | Enters the current date. |
| CTRL+` | Alternates between displaying cell values and displaying formulas in the worksheet. |
| CTRL+' | Copies a formula from the cell above the active cell into the cell or the Formula Bar. |
| F1 | Displays the Microsoft Office Excel Help task pane. |
| F6 | "Switches between the worksheet, Ribbon, task pane, and Zoom controls. In a worksheet that has been split (View menu, Manage This Window, Freeze Panes, Split Window command), F6 includes the split panes when switching between panes and the Ribbon area. CTRL+F6 switches to the next workbook window when more than one workbook window is open." |
| F7 | "Displays the Spelling dialog box to check spelling in the active worksheet or selected range. CTRL+F7 performs the Move command on the workbook window when it is not maximized. Use the arrow keys to move the window, and when finished press ENTER, or ESC to cancel." |
| F10 | "Turns key tips on or off. SHIFT+F10 displays the shortcut menu for a selected item." |
| ESC | Cancels an entry in the cell or Formula Bar. |
| Spacebar | In a dialog box, performs the action for the selected button, or selects or clears a check box. |

NAVIGATION

| Function | Definition |
|-----------|--|
| CTRL+F | Displays the Find and Replace dialog box, with the Find tab selected. |
| CTRL+G | Displays the Go To dialog box. |
| CTRL+H | Displays the Find and Replace dialog box, with the Replace tab selected. |
| CTRL+K | Displays the Insert Hyperlink dialog box for new hyperlinks or the Edit Hyperlink dialog box for selected existing hyperlinks. |
| CTRL+PgUp | Switches between worksheet tabs, from left-to-right. |
| CTRL+PgDn | Switches between worksheet tabs, from right-to-left. |
| F3 | "Displays the Paste Name dialog box. SHIFT+F3 displays the Insert Function dialog box." |
| F5 | "Displays the Go To dialog box. CTRL+F5 restores the window size of the selected workbook window." |

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| Arrow Keys | Move one cell up, down, left, or right in a worksheet. |
| End | Moves to the cell in the lower-right corner of the window when SCROLL LOCK is turned on. |
| Home | Moves to the beginning of a row in a worksheet. |
| Page Down | Moves to the beginning of a row in a worksheet. |
| Page Up | Moves one screen up in a worksheet. |
| TAB | Moves one cell to the right in a worksheet. |

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SELECTION

| Function | Definition |
|---------------|--|
| CTRL+A | "Selects the entire worksheet. If the worksheet contains data, CTRL+A selects the current region. Pressing CTRL+A a second time selects the current region and its summary rows. Pressing CTRL+A a third time selects the entire worksheet." |
| CTRL+ SHIFT+* | "Selects the current region around the active cell (the data area enclosed by blank rows and blank columns). In a PivotTable, it selects the entire PivotTable report." |
| F8 | "Turns extend mode on or off. In extend mode, Extended Selection appears in the status line, and the arrow keys extend the selection. SHIFT+F8 enables you to add a non-adjacent cell or range to a selection of cells by using the arrow keys." |

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CELL OPERATIONS

| Function | Definition |
|-----------------------|--|
| CTRL+9 | Hides the selected rows. |
| CTRL+0 | Hides the selected columns. |
| CTRL+ SHIFT+ (| Unhides any hidden rows within the selection. |
| CTRL+ SHIFT+) | Unhides any hidden columns within the selection. |
| CTRL+ SHIFT+ & | Applies the outline border to the selected cells. |
| CTRL+ SHIFT+ _ | Removes the outline border from the selected cells. |
| CTRL+ SHIFT+ " | Copies the value from the cell above the active cell into the cell or the Formula Bar. |
| CTRL+ SHIFT+ Plus (+) | Displays the Insert dialog box to insert blank cells. |
| CTRL+ Minus (-) | Displays the Delete dialog box to delete the selected cells. |
| F2 | "Edits the active cell and positions the insertion point at the end of the cell contents. It also moves the insertion point into the Formula Bar when editing in a cell is turned off. SHIFT+F2 adds or edits a cell comment." |

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| F9 | "Calculates all worksheets in all open workbooks.SHIFT+F9 calculates the active worksheet.CTRL+ALT+F9 calculates all worksheets in all open workbooks, regardless of whether they have changed since the last calculation." |
| Backspace | Deletes one character to the left in the Formula Bar. |
| Delete | Removes the cell contents (data and formulas) from selected cells without affecting cell formats or comments. |
| Enter | Completes a cell entry from the cell or the Formula Bar, and selects the cell below (by default). |



WORKBOOK OPERATION.

| Function | Definition |
|----------|---|
| CTRL+8 | Displays or hides the outline symbols. |
| CTRL+C | Copies the selected cells. |
| CTRL+D | Uses the Fill Down command to copy the contents and format of the topmost cell of a selected range into the cells below. |
| CTRL+N | Creates a new, blank workbook. |
| CTRL+O | "Displays the Open dialog box to open or find a file.CTRL+SHIFT+O selects all cells that contain comments." |
| CTRL+P | "Displays the Print dialog box.CTRL+SHIFT+P opens the Format Cells dialog box with the Font tab selected." |
| CTRL+S | Saves the active file with its current file name, location, and file format. |
| CTRL+V | "Inserts the contents of the Clipboard at the insertion point and replaces any selection. Available only after you have cut or copied an object, text, or cell contents. CTRL+ALT+V displays the Paste Special dialog box. Available only after you have cut or copied an object, text, or cell contents on a worksheet or in another program." |
| CTRL+W | Closes the selected workbook window. |
| CTRL+X | Cuts the selected cells. |
| CTRL+Y | Repeats the last command or action, if possible. |
| CTRL+Z | "Uses the Undo command to reverse the last command or to delete the last entry that you typed.CTRL+SHIFT+Z uses the Undo or Redo command to reverse or restore the last automatic correction when AutoCorrect Smart Tags are displayed." |
| F4 | "Repeats the last command or action, if possible.When a cell reference or range is selected in a formula, F4 cycles through the various combinations of absolute and relative references.CTRL+F4 closes the selected workbook window." |
| F11 | "Creates a chart of the data in the current range.SHIFT+F11 inserts a new worksheet." |
| F12 | Displays the Save As dialog box. |

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Sunil Ray

I am a Business Analytics and Intelligence professional with deep experience in the Indian Insurance industry. I have worked for various multi-national Insurance companies in last 7 years.