

Excel Formulas Cheat Sheet for Data Analysts



Quick-reference formulas to solve any
Excel problem faster.

**Excel Data
MasterMind with
GenAI**



Basic Math & Aggregation

- =SUM(A1:A10) → Adds all the values in the range A1 to A10.
- =AVERAGE(A1:A10) → Returns the mean of values in the range.
- =MEDIAN(A1:A10) → Finds the middle value when the range is sorted.
- =MODE(A1:A10) → Returns the most frequently occurring value.
- =MIN(A1:A10) → Returns the smallest value from the range.
- =MAX(A1:A10) → Returns the largest value from the range.
- =COUNT(A1:A10) → Counts the number of numeric entries.
- =COUNTA(A1:A10) → Counts all non-empty cells.
- =COUNTBLANK(A1:A10) → Counts how many cells are empty.
- =ROUND(A1,2) → Rounds value in A1 to 2 decimal places.
- =ROUNDUP(A1,0) → Always rounds a number up.
- =ROUNDDOWN(A1,0) → Always rounds a number down.
- =TRUNC(A1,0) → Truncates number by removing decimals.
- =INT(A1) → Rounds number down to nearest integer.
- =ABS(A1) → Returns the absolute value.
- =POWER(A1,2) → Squares the value in A1.
- =SQRT(A1) → Returns the square root.

Logical & Error Handling

- =IF(A1>50,"Pass","Fail") → Checks if A1 > 50 and returns Pass or Fail.
- =IFERROR(A1/B1,"Error") → Returns Error if calculation fails.
- =AND(A1>0,B1>0) → Returns TRUE if both conditions are true.
- =OR(A1>0,B1>0) → Returns TRUE if either condition is true.
- =NOT(A1>0) → Reverses logical value.
- =ISNUMBER(A1) → Checks if value is a number.
- =ISTEXT(A1) → Checks if value is text.
- =ISBLANK(A1) → Checks if cell is blank.

Lookup & Reference

=VLOOKUP(101,A2:D20,3,TRUE) → Finds 101 in first column and returns value from 3rd column.

=HLOOKUP(101,A1:Z5,4,TRUE) → Finds 101 in first row and returns value from 4th row.

=INDEX(B2:B10,5) → Returns the 5th value from the range B2:B10.

=MATCH(50,A2:A20,0) → Returns the position of 50 in the range.

=INDEX(B2:B10,MATCH(50,A2:A20,0)) → INDEX + MATCH combination lookup.

=XLOOKUP(50,A2:A20,B2:B20,"Not Found") → Modern lookup, more flexible than VLOOKUP.

=XMATCH(50,A2:A20,0,1) → Returns the relative position using XMATCH.

=OFFSET(A1,2,3) → Returns reference shifted 2 rows down, 3 columns right.

=INDIRECT("A"&1) → Creates a reference from text string.

=ROW(A1) → Returns the row number of A1.

=COLUMN(A1) → Returns the column number of A1.

=TRANSPOSE(A1:D4) → Converts rows to columns or columns to rows.



Conditional Aggregation

=SUMIF(A1:A10,>50) → Sums numbers greater than 50.

=SUMIFS(B2:B20,A2:A20,"India") → Sums values for rows matching 'India'.

=COUNTIF(A1:A10,"Yes") → Counts cells equal to Yes.

=COUNTIFS(A1:A10,"Yes",B1:B10,>100) → Counts rows where A=Yes and B>100.

=AVERAGEIF(A1:A10,>50) → Averages values greater than 50.

=AVERAGEIFS(B2:B20,A2:A20,"Male") → Averages values matching Male.

=SUMPRODUCT(A1:A5,B1:B5) → Returns the sum of products of two ranges.

=AGGREGATE(1,6,A1:A20) → Performs aggregation ignoring errors/hidden rows.

=SUBTOTAL(9,A1:A10) → Subtotal with SUM function (9 = SUM).

Text Functions

- =LEFT(A1,5) → Returns first 5 characters.
- =RIGHT(A1,3) → Returns last 3 characters.
- =MID(A1,3,4) → Returns 4 characters starting at position 3.
- =LEN(A1) → Returns length of text.
- =TRIM(A1) → Removes extra spaces.
- =CLEAN(A1) → Removes non-printable characters.
- =PROPER(A1) → Capitalizes each word.
- =UPPER(A1) → Converts text to uppercase.
- =LOWER(A1) → Converts text to lowercase.
- =REPLACE(A1,1,3,"New") → Replaces first 3 characters with 'New'.
- =SUBSTITUTE(A1,"old","new") → Replaces all 'old' with 'new'.
- =FIND("x",A1) → Finds position of 'x' (case-sensitive).
- =SEARCH("x",A1) → Finds position of 'x' (not case-sensitive).
- =TEXT(A1,"DD-MMM-YYYY") → Formats number/date as text.
- =TEXTJOIN("-",TRUE,A1:A5) → Joins text with '-' separator.
- =CONCAT(A1,B1) → Combines values from two cells.

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=TODAY() → Returns current date.
 =NOW() → Returns current date and time.
 =YEAR(A1) → Extracts year from date.
 =MONTH(A1) → Extracts month from date.
 =DAY(A1) → Extracts day from date.
 =WEEKDAY(A1) → Returns weekday number.
 =WEEKNUM(A1) → Returns week number.
 =EDATE(A1,3) → Adds 3 months to date.
 =EOMONTH(A1,0) → Returns last day of month.
 =NETWORKDAYS(A1,B1) → Counts workdays between two dates.
 =WORKDAY(A1,5) → Returns date after 5 working days.
 =DATEDIF(A1,B1,"Y") → Returns difference in years (hidden function).

Statistical Functions

=VAR.S(A1:A10) → Sample variance.
 =VAR.P(A1:A10) → Population variance.
 =STDEV.S(A1:A10) → Sample standard deviation.
 =STDEV.P(A1:A10) → Population standard deviation.
 =CORREL(A1:A10,B1:B10) → Correlation coefficient.
 =COVARIANCE.P(A1:A10,B1:B10) → Population covariance.
 =COVARIANCE.S(A1:A10,B1:B10) → Sample covariance.

Dynamic Array Functions (Excel 365+)

=FILTER(A2:C20,B2:B20="India") → Filters rows where column B = India.
 =UNIQUE(A2:A20) → Returns unique values.
 =SORT(A2:A20,1,TRUE) → Sorts range ascending.
 =SORTBY(A2:B20,B2:B20,1) → Sorts based on another column.
 =SEQUENCE(10) → Returns numbers 1 to 10.
 =RANDARRAY(5,1,1,100,TRUE) → Returns 5 random numbers between 1–100.
 =CHOOSECOLS(A1:D10,1,3) → Returns only specified columns.
 =CHOOSEROWS(A1:D10,2,4) → Returns only specified rows.

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