Worksheet functions listed by category

▼ Database

Microsoft Excel includes worksheet functions that analyze data stored in lists or databases. Each of these functions, referred to collectively as the Dfunctions, uses three arguments: database, field, and criteria. These arguments refer to the worksheet ranges that are used by the function.

DAVERAGE Returns the average of selected database entries

DCOUNT Counts the cells that contain numbers in a database

DCOUNTA Counts nonblank cells in a database

DGET Extracts from a database a single record that matches the specified criteria

DMAX Returns the maximum value from selected database entries

DMIN Returns the minimum value from selected database entries

DPRODUCT Multiplies the values in a particular field of records that match the criteria in a database

DSTDEV Estimates the standard deviation based on a sample of selected database entries

DSTDEVP Calculates the standard deviation based on the entire population of selected database entries

DSUM Adds the numbers in the field column of records in the database that match the criteria

DVAR Estimates variance based on a sample from selected database entries

DVARP Calculates variance based on the entire population of selected database entries

GETPIVOTDATA Returns data stored in a PivotTable

▼ Date and Time

DATE Returns the serial number of a particular date

DATEVALUE Converts a date in the form of text to a serial number

DAY Converts a serial number to a day of the month

DAYS360 Calculates the number of days between two dates based on a 360-day year

EDATE Returns the serial number of the date that is the indicated number of months before or after the start date

EOMONTH Returns the serial number of the last day of the month before or after a specified number of months

HOUR Converts a serial number to an hour

MINUTE Converts a serial number to a minute

MONTH Converts a serial number to a month

NETWORKDAYS Returns the number of whole workdays between two dates

NOW Returns the serial number of the current date and time

SECOND Converts a serial number to a second

TIME Returns the serial number of a particular time

TIMEVALUE Converts a time in the form of text to a serial number

TODAY Returns the serial number of today's date

WEEKDAY Converts a serial number to a day of the week

WEEKNUM Converts a serial number to a number representing where the week falls numerically with a year

WORKDAY Returns the serial number of the date before or after a specified number of workdays

YEAR Converts a serial number to a year

YEARFRAC Returns the year fraction representing the number of whole days between start_date and end_date

▼ External

These functions are loaded with add-in programs

EUROCONVERT Converts a number to euros, converts a number from euros to a euro member currency, or converts a number from one euro member currency to another by using the euro as an intermediary (triangulation)

SQL.REQUEST Connects with an external data source and runs a query from a worksheet, then returns the result as an array without the need for macro programming

Engineering

BESSELI Returns the modified Bessel function In(x)

BESSELJ Returns the Bessel function Jn(x)

BESSELK Returns the modified Bessel function Kn(x)

BESSELY Returns the Bessel function Yn(x)

BIN2DEC Converts a binary number to decimal

BIN2HEX Converts a binary number to hexadecimal

BIN2OCT Converts a binary number to octal

COMPLEX Converts real and imaginary coefficients into a complex number

CONVERT Converts a number from one measurement system to another

DEC2BIN Converts a decimal number to binary

DEC2HEX Converts a decimal number to hexadecimal

DEC2OCT Converts a decimal number to octal

DELTA Tests whether two values are equal

ERF Returns the error function

ERFC Returns the complementary error function

GESTEP Tests whether a number is greater than a threshold value

HEX2BIN Converts a hexadecimal number to binary

HEX2DEC Converts a hexadecimal number to decimal

HEX2OCT Converts a hexadecimal number to octal

IMABS Returns the absolute value (modulus) of a complex number

IMAGINARY Returns the imaginary coefficient of a complex number

IMARGUMENT Returns the argument theta, an angle expressed in radians

IMCONJUGATE Returns the complex conjugate of a complex number

IMCOS Returns the cosine of a complex number

IMDIV Returns the quotient of two complex numbers

IMEXP Returns the exponential of a complex number

IMLN Returns the natural logarithm of a complex number

IMLOG10 Returns the base-10 logarithm of a complex number

IMLOG2 Returns the base-2 logarithm of a complex number

IMPOWER Returns a complex number raised to an integer power

IMPRODUCT Returns the product of two complex numbers

IMREAL Returns the real coefficient of a complex number

IMSIN Returns the sine of a complex number

IMSQRT Returns the square root of a complex number

IMSUB Returns the difference between two complex numbers

IMSUM Returns the sum of complex numbers

OCT2BIN Converts an octal number to binary

OCT2DEC Converts an octal number to decimal

OCT2HEX Converts an octal number to hexadecimal

Financial

ACCRINT Returns the accrued interest for a security that pays periodic interest

ACCRINTM Returns the accrued interest for a security that pays interest at maturity

AMORDEGRC Returns the depreciation for each accounting period by using a depreciation coefficient

AMORLINC Returns the depreciation for each accounting period

COUPDAYBS Returns the number of days from the beginning of the coupon period to the settlement date

COUPDAYS Returns the number of days in the coupon period that contains the settlement date

COUPDAYSNC Returns the number of days from the settlement date to the next coupon date

COUPNCD Returns the next coupon date after the settlement date

COUPNUM Returns the number of coupons payable between the settlement date and maturity date

COUPPCD Returns the previous coupon date before the settlement date

CUMIPMT Returns the cumulative interest paid between two periods

CUMPRINC Returns the cumulative principal paid on a loan between two periods

DB Returns the depreciation of an asset for a specified period using the fixed-declining balance method

DDB Returns the depreciation of an asset for a specified period using the double-declining balance method or some other method you specify

DISC Returns the discount rate for a security

DOLLARDE Converts a dollar price, expressed as a fraction, into a dollar price, expressed as a decimal number

DOLLARFR Converts a dollar price, expressed as a decimal number, into a dollar price, expressed as a fraction

DURATION Returns the annual duration of a security with periodic interest payments

EFFECT Returns the effective annual interest rate

FV Returns the future value of an investment

FVSCHEDULE Returns the future value of an initial principal after applying a series of compound interest rates

INTRATE Returns the interest rate for a fully invested security

IPMT Returns the interest payment for an investment for a given period

IRR Returns the internal rate of return for a series of cash flows

ISPMT Calculates the interest paid during a specific period of an investment

MDURATION Returns the Macauley modified duration for a security with an assumed par value of $100

MIRR Returns the internal rate of return where positive and negative cash flows are financed at different rates

NOMINAL Returns the annual nominal interest rate

NPER Returns the number of periods for an investment

NPV Returns the net present value of an investment based on a series of periodic cash flows and a discount rate

ODDFPRICE Returns the price per $100 face value of a security with an odd first period

ODDFYIELD Returns the yield of a security with an odd first period

ODDLPRICE Returns the price per $100 face value of a security with an odd last period

ODDLYIELD Returns the yield of a security with an odd last period

PMT Returns the periodic payment for an annuity

PPMT Returns the payment on the principal for an investment for a given period

PRICE Returns the price per $100 face value of a security that pays periodic interest

PRICEDISC Returns the price per $100 face value of a discounted security

PRICEMAT Returns the price per $100 face value of a security that pays interest at maturity

PV Returns the present value of an investment

RATE Returns the interest rate per period of an annuity

RECEIVED Returns the amount received at maturity for a fully invested security

SLN Returns the straight-line depreciation of an asset for one period

SYD Returns the sum-of-years' digits depreciation of an asset for a specified period

TBILLEQ Returns the bond-equivalent yield for a Treasury bill

TBILLPRICE Returns the price per $100 face value for a Treasury bill

TBILLYIELD Returns the yield for a Treasury bill

VDB Returns the depreciation of an asset for a specified or partial period using a declining balance method

XIRR Returns the internal rate of return for a schedule of cash flows that is not necessarily periodic

XNPV Returns the net present value for a schedule of cash flows that is not necessarily periodic

YIELD Returns the yield on a security that pays periodic interest

YIELDDISC Returns the annual yield for a discounted security; for example, a Treasury bill

YIELDMAT Returns the annual yield of a security that pays interest at maturity

Information

CELL Returns information about the formatting, location, or contents of a cell

COUNTBLANK Counts the number of blank cells within a range

ERROR.TYPE Returns a number corresponding to an error type

INFO Returns information about the current operating environment

ISBLANK Returns TRUE if the value is blank

ISERR Returns TRUE if the value is any error value except #N/A

ISERROR Returns TRUE if the value is any error value

ISEVEN Returns TRUE if the number is even

ISLOGICAL Returns TRUE if the value is a logical value

ISNA Returns TRUE if the value is the #N/A error value

ISNONTEXT Returns TRUE if the value is not text

ISNUMBER Returns TRUE if the value is a number

ISODD Returns TRUE if the number is odd

ISREF Returns TRUE if the value is a reference

ISTEXT Returns TRUE if the value is text

N Returns a value converted to a number

NA Returns the error value #N/A

TYPE Returns a number indicating the data type of a value

Logical

AND Returns TRUE if all its arguments are TRUE

FALSE Returns the logical value FALSE

IF Specifies a logical test to perform

NOT Reverses the logic of its argument

OR Returns TRUE if any argument is TRUE

TRUE Returns the logical value TRUE

Lookup and Reference

ADDRESS Returns a reference as text to a single cell in a worksheet

AREAS Returns the number of areas in a reference

CHOOSE Chooses a value from a list of values

COLUMN Returns the column number of a reference

COLUMNS Returns the number of columns in a reference

HLOOKUP Looks in the top row of an array and returns the value of the indicated cell

HYPERLINK Creates a shortcut or jump that opens a document stored on a network server, an intranet, or the Internet

INDEX Uses an index to choose a value from a reference or array

INDIRECT Returns a reference indicated by a text value

LOOKUP Looks up values in a vector or array

MATCH Looks up values in a reference or array

OFFSET Returns a reference offset from a given reference

ROW Returns the row number of a reference

ROWS Returns the number of rows in a reference

RTD Retrieves real-time data from a program that supports COM automation

TRANSPOSE Returns the transpose of an array

VLOOKUP Looks in the first column of an array and moves across the row to return the value of a cell

▼ Math and Trigonometry

ABS Returns the absolute value of a number

ACOS Returns the arccosine of a number

ACOSH Returns the inverse hyperbolic cosine of a number

ASIN Returns the arcsine of a number

ASINH Returns the inverse hyperbolic sine of a number

ATAN Returns the arctangent of a number

ATAN2 Returns the arctangent from x- and y-coordinates

ATANH Returns the inverse hyperbolic tangent of a number

CEILING Rounds a number to the nearest integer or to the nearest multiple of significance

COMBIN Returns the number of combinations for a given number of objects

COS Returns the cosine of a number

COSH Returns the hyperbolic cosine of a number

COUNTIF Counts the number of nonblank cells within a range that meet the given criteria

DEGREES Converts radians to degrees

EVEN Rounds a number up to the nearest even integer

EXP Returns *e* raised to the power of a given number

FACT Returns the factorial of a number

FACTDOUBLE Returns the double factorial of a number

FLOOR Rounds a number down, toward zero

GCD Returns the greatest common divisor

INT Rounds a number down to the nearest integer

LCM Returns the least common multiple

LN Returns the natural logarithm of a number

LOG Returns the logarithm of a number to a specified base

LOG10 Returns the base-10 logarithm of a number

MDETERM Returns the matrix determinant of an array

MINVERSE Returns the matrix inverse of an array

MMULT Returns the matrix product of two arrays

MOD Returns the remainder from division

MROUND Returns a number rounded to the desired multiple

MULTINOMIAL Returns the multinomial of a set of numbers

ODD Rounds a number up to the nearest odd integer

PI Returns the value of pi

POWER Returns the result of a number raised to a power

PRODUCT Multiplies its arguments

QUOTIENT Returns the integer portion of a division

RADIANS Converts degrees to radians

RAND Returns a random number between 0 and 1

RANDBETWEEN Returns a random number between the numbers you specify

ROMAN Converts an arabic numeral to roman, as text

ROUND Rounds a number to a specified number of digits

ROUNDDOWN Rounds a number down, toward zero

ROUNDUP Rounds a number up, away from zero

SERIESSUM Returns the sum of a power series based on the formula

SIGN Returns the sign of a number

SIN Returns the sine of the given angle

SINH Returns the hyperbolic sine of a number

SQRT Returns a positive square root

SQRTPI Returns the square root of (number * pi)

SUBTOTAL Returns a subtotal in a list or database

SUM Adds its arguments

SUMIF Adds the cells specified by a given criteria

SUMPRODUCT Returns the sum of the products of corresponding array components

SUMSQ Returns the sum of the squares of the arguments

SUMX2MY2 Returns the sum of the difference of squares of corresponding values in two arrays

SUMX2PY2 Returns the sum of the sum of squares of corresponding values in two arrays

SUMXMY2 Returns the sum of squares of differences of corresponding values in two arrays

TAN Returns the tangent of a number

TANH Returns the hyperbolic tangent of a number

TRUNC Truncates a number to an integer

▼ Statistical

AVEDEV Returns the average of the absolute deviations of data points from their mean

AVERAGE Returns the average of its arguments

AVERAGEA Returns the average of its arguments, including numbers, text, and logical values

BETADIST Returns the cumulative beta probability density function

BETAINV Returns the inverse of the cumulative beta probability density function

BINOMDIST Returns the individual term binomial distribution probability

CHIDIST Returns the one-tailed probability of the chi-squared distribution

CHIINV Returns the inverse of the one-tailed probability of the chi-squared distribution

CHITEST Returns the test for independence

CONFIDENCE Returns the confidence interval for a population mean

CORREL Returns the correlation coefficient between two data sets

COUNT Counts how many numbers are in the list of arguments

COUNTA Counts how many values are in the list of arguments

COVAR Returns covariance, the average of the products of paired deviations

CRITBINOM Returns the smallest value for which the cumulative binomial distribution is less than or equal to a criterion value

DEVSQ Returns the sum of squares of deviations

EXPONDIST Returns the exponential distribution

FDIST Returns the F probability distribution

FINV Returns the inverse of the F probability distribution

FISHER Returns the Fisher transformation

FISHERINV Returns the inverse of the Fisher transformation

FORECAST Returns a value along a linear trend

FREQUENCY Returns a frequency distribution as a vertical array

FTEST Returns the result of an F-test

GAMMADIST Returns the gamma distribution

GAMMAINV Returns the inverse of the gamma cumulative distribution

GAMMALN Returns the natural logarithm of the gamma function, Γ(x)

GEOMEAN Returns the geometric mean

GROWTH Returns values along an exponential trend

HARMEAN Returns the harmonic mean

HYPGEOMDIST Returns the hypergeometric distribution

INTERCEPT Returns the intercept of the linear regression line

KURT Returns the kurtosis of a data set

LARGE Returns the k-th largest value in a data set

LINEST Returns the parameters of a linear trend

LOGEST Returns the parameters of an exponential trend

LOGINV Returns the inverse of the lognormal distribution

LOGNORMDIST Returns the cumulative lognormal distribution

MAX Returns the maximum value in a list of arguments

MAXA Returns the maximum value in a list of arguments, including numbers, text, and logical values

MEDIAN Returns the median of the given numbers

MIN Returns the minimum value in a list of arguments

MINA Returns the smallest value in a list of arguments, including numbers, text, and logical values

MODE Returns the most common value in a data set

NEGBINOMDIST Returns the negative binomial distribution

NORMDIST Returns the normal cumulative distribution

NORMINV Returns the inverse of the normal cumulative distribution

NORMSDIST Returns the standard normal cumulative distribution

NORMSINV Returns the inverse of the standard normal cumulative distribution

PEARSON Returns the Pearson product moment correlation coefficient

PERCENTILE Returns the k-th percentile of values in a range

PERCENTRANK Returns the percentage rank of a value in a data set

PERMUT Returns the number of permutations for a given number of objects

POISSON Returns the Poisson distribution

PROB Returns the probability that values in a range are between two limits

QUARTILE Returns the quartile of a data set

RANK Returns the rank of a number in a list of numbers

RSQ Returns the square of the Pearson product moment correlation coefficient

SKEW Returns the skewness of a distribution

SLOPE Returns the slope of the linear regression line

SMALL Returns the k-th smallest value in a data set

STANDARDIZE Returns a normalized value

STDEV Estimates standard deviation based on a sample

STDEVA Estimates standard deviation based on a sample, including numbers, text, and logical values

STDEVP Calculates standard deviation based on the entire population

STDEVPA Calculates standard deviation based on the entire population, including numbers, text, and logical values

STEYX Returns the standard error of the predicted y-value for each x in the regression

TDIST Returns the Student's t-distribution

TINV Returns the inverse of the Student's t-distribution

TREND Returns values along a linear trend

TRIMMEAN Returns the mean of the interior of a data set

TTEST Returns the probability associated with a Student's t-test

VAR Estimates variance based on a sample

VARA Estimates variance based on a sample, including numbers, text, and logical values

VARP Calculates variance based on the entire population

VARPA Calculates variance based on the entire population, including numbers, text, and logical values

WEIBULL Returns the Weibull distribution

ZTEST Returns the two-tailed P-value of a z-test

▼ Text and Data

ASC Changes full-width (double-byte) English letters or katakana within a character string to half-width (single-byte) characters

BAHTTEXT Converts a number to text, using the ß (baht) currency format

CHAR Returns the character specified by the code number

CLEAN Removes all nonprintable characters from text

CODE Returns a numeric code for the first character in a text string

CONCATENATE Joins several text items into one text item

DOLLAR Converts a number to text, using the $ (dollar) currency format

EXACT Checks to see if two text values are identical

FIND Finds one text value within another (case-sensitive)

FIXED Formats a number as text with a fixed number of decimals

JIS Changes half-width (single-byte) English letters or katakana within a character string to full-width (double-byte) characters

LEFT Returns the leftmost characters from a text value

LEN Returns the number of characters in a text string

LOWER Converts text to lowercase

MID Returns a specific number of characters from a text string starting at the position you specify

PHONETIC Extracts the phonetic (furigana) characters from a text string

PROPER Capitalizes the first letter in each word of a text value

REPLACE Replaces characters within text

REPT Repeats text a given number of times

RIGHT Returns the rightmost characters from a text value

SEARCH Finds one text value within another (not case-sensitive)

SUBSTITUTE Substitutes new text for old text in a text string

T Converts its arguments to text

TEXT Formats a number and converts it to text

TRIM Removes spaces from text

UPPER Converts text to uppercase

VALUE Converts a text argument to a number