Statistical functions in

EXCEL

Sum of numbers $s = x_1 + x_2 + \ldots + x_n$

$\color{red}{\text{SUM}(x_1, x_2, \ldots, x_n)}$ $\qquad\qquad\qquad$ $\color{red}{\text{SUM}(x_1 : x_n)}$

Average of numbers $m = (x_1 + x_2 + \ldots + x_n) / n$

$\color{red}{\text{AVERAGE }(x_1, x_2, \ldots, x_n)}$ $\qquad\qquad$ $\color{red}{\text{AVERAGE }(x_1 : x_n)}$

Minimum value of numbers $x_1, x_2, \ldots, x_n$

$\color{red}{\text{MIN }(x_1, x_2, \ldots, x_n)}$ $\qquad\qquad\qquad$ $\color{red}{\text{MIN }(x_1 : x_n)}$

Maximum value of numbers $x_1, x_2, \ldots, x_n$

$\color{red}{\text{MAX }(x_1, x_2, \ldots, x_n)}$ $\qquad\qquad\qquad$ $\color{red}{\text{MAX }(x_1 : x_n)}$

Number of cells with numerical values

COUNT (val_1, val_2, ... , val_n)   COUNT (val_1: val_n)

Number of cells with character (text) data type

COUNTA (val_1, val_2, ... , val_n)   COUNTA (val_1 : val_n)

Number of cells with blank cells

COUNTBLANK (val_1, val_2, ... , val_n)   COUNTBLANK (val_1 : val_n, 7)

COUNTBLANK (val_1 : val_n, "white")

Number of cells with data which fullfill a certain condition, into a domain)

COUNTIF (val_1, val_2, ... , val_n)   COUNTIF (val_1 : val_n , "<5")

Median of numerical series

MEDIAN (val_1, val_2, ... , val_n)   MEDIAN (val_1: val_n)

Mode of numeric series

MODE (val_1, val_2, ... , val_n)   MODE (val_1 : val_n)

Skewness (simmetry indicator) of numeric series

SKEW (val_1, val_2, ... , val_n)   SKEW (val_1: val_n)

kurtosiss (measure of the "peakedness") of numeric series

KURT (val_1, val_2, ... , val_n)   KURT (val_1 : val_n)

Estimated standard deviation based on a sample

STDEV (val_1, val_2, ... , val_n)   STDEV ($val_1 : val_n$)

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

STDEVA (val_1, val_2, ... , val_n)   STDEVA ($val_1 : val_n$)

Calculated standard deviation based on entire population

STDEVP (val_1, val_2, ... , val_n)   STDEVP ($val_1 : val_n$)

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

STDEVPA (val_1, val_2, ... , val_n)   STDEVPA ($val_1 : val_n$)

Returns the **confidence interval** for a population mean

CONFIDENCE (*alpha, standard_dev, size*)

Returns the **correlation coefficient** between two data sets

CORREL (*domeniu$_1$, domeniu$_2$*) $$Correl(X,Y) = \frac{\sum (x-\bar{x})(y-\bar{y})}{\sqrt{\sum (x-\bar{x})^2 \sum (y-\bar{y})^2}}$$

Estimated variance based on a sample

VAR (*val$_1$, val$_2$, ... , val$_n$*)   VAR (*val$_1$: val$_n$*) $$\frac{\sum (x-\bar{x})^2}{(n-1)}$$

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

VARA (*val$_1$, val$_2$, ... , val$_n$*)   VARA (*val$_1$: val$_n$*)

Calculated variance based on the entire population

VARP (*val₁, val₂, ... , valₙ*)   VARP (*val₁ : valₙ*)

the *sum of squares of deviations*

DEVSQ (*val₁, val₂, ... , valₙ*)   DEVSQ (*val₁ : valₙ*)

$$\mathrm{DEVSQ} = \sum (x - \bar{x})^2$$

The *covariance*, the average of the products of paired deviations

COVAR (*domeniu₁, domeniu₂*)

$$Cov(X,Y) = \frac{\sum (x - \bar{x})(y - \bar{y})}{n}$$

the *frequency* distribution as a vertical array

FREQUENCY (*domeniu, domeniu_valori(bins)*)

Standard Variance based on a sample

VAR.S ($val_1 : val_n$)

Covariance based on entire population

COVARIANCE ($domeniu_1, domeniu_2$)

COVARIANCE.S ($domeniu_1, domeniu_2$)

Percentila *k* in a numerical series

PERCENTILE (domeniu,*k*)

Cuartila *quart* in a numerical series

QUARTILE (domeniu, *quart*)

0 – minimum value
1 – 1st quartile (25th percentile)
2 – 2nd quartile (50th percentile)
3 – 3rd quartile (75th percentile)
4 – maximum value