

“How can I calculate the kurtosis of a data set using the KURT function in Excel?”

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June 30, 2024

RECOMMENDED CITATION

stats writer (2024). “How can I calculate the kurtosis of a data set using the KURT function in Excel?”. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=161391>

The KURT function in Excel is a mathematical tool that allows users to calculate the kurtosis of a given data set. Kurtosis is a measure of the shape of a distribution, specifically how peaked or flat it is compared to a normal distribution. By using the KURT function, users can easily determine the kurtosis of their data set, providing valuable insights into the distribution of their data. This function is especially useful for data analysis and statistical purposes. To use the KURT function, simply input the data set into the designated cells and the function will automatically calculate the kurtosis value. This efficient and convenient method saves time and effort in manually calculating kurtosis, making it a valuable tool for data analysis in Excel.

This article describes the formula syntax and usage of the **KURT** function in Microsoft Excel.

Description

Returns the kurtosis of a data set. Kurtosis characterizes the relative peakedness or flatness of a distribution compared with the normal distribution. Positive kurtosis indicates a relatively peaked distribution. Negative kurtosis indicates a relatively flat distribution.

Syntax

KURT(number1, , ...)

The KURT function syntax has the following arguments:

Number1, number2, ... Number1 is required, subsequent numbers are optional. 1 to 255 arguments for which you want to calculate kurtosis. You can also use a single array or a reference to an array instead of arguments separated by commas.

Remarks

Arguments can either be numbers or names, arrays, or references that contain numbers.

Logical values and text representations of numbers that you type directly into the list of arguments are counted.

If an array or reference argument contains text, logical values, or empty cells, those values are ignored; however, cells with the value zero are included.

Arguments that are error values or text that cannot be translated into numbers cause errors.

If there are fewer than four data points, or if the standard deviation of the sample equals zero, KURT returns the #DIV/0! error value.

Kurtosis is defined as:

$$\left\{ \frac{n(n+1)}{(n-1)(n-2)(n-3)} \sum \left(\frac{x_j - \bar{x}}{s} \right)^4 \right\} - \frac{3(n-1)^2}{(n-2)(n-3)}$$

where s is the sample standard deviation.

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