

How can I use the AVERAGEIF function in Excel to calculate the average of a range of cells based on specified criteria?

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The AVERAGEIF function in Excel allows users to calculate the average of a range of cells based on specific criteria. This function is useful for analyzing and summarizing data that meets certain conditions. To use it, users must specify the range of cells to be evaluated and the criteria that must be met. The function will then calculate the average of all the cells that meet the specified criteria. This allows for a more targeted and accurate calculation of averages, which can be beneficial in data analysis and decision making.

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

Description

Returns the average (arithmetic mean) of all the cells in a range that meet a given criteria.

Syntax

AVERAGEIF(range, criteria,)

The AVERAGEIF function syntax has the following arguments:

Range Required. One or more cells to average, including numbers or names, arrays, or references that contain numbers.

Criteria Required. The criteria in the form of a number, expression, cell reference, or text that defines which cells are averaged. For example, criteria can be expressed as 32, "32", ">32", "apples", or B4.

Average_range Optional. The actual set of cells to average. If omitted, range is used.

Remarks

Cells in range that contain TRUE or FALSE are ignored.

If a cell in average_range is an empty cell, AVERAGEIF ignores it.

If range is a blank or text value, AVERAGEIF returns the #DIV/0! error value.

If a cell in criteria is empty, AVERAGEIF treats it as a 0 value.

If no cells in the range meet the criteria, AVERAGEIF returns the #DIV/0! error value.

You can use the wildcard characters, question mark (?) and asterisk (*), in criteria. A question

mark matches any single character; an asterisk matches any sequence of characters. If you want to find an actual question mark or asterisk, type a tilde (~) before the character.

Average_range does not have to be the same size and shape as range. The actual cells that are averaged are determined by using the top, left cell in average_range as the beginning cell, and then including cells that correspond in size and shape to range. For example:

If range is	And average_range is	Then the actual cells evaluated are
A1:A5	B1:B5	B1:B5
A1:A5	B1:B3	B1:B5
A1:B4	C1:D4	C1:D4
A1:B4	C1:C2	C1:D4

Note: The AVERAGEIF function measures central tendency, which is the location of the center of a group of numbers in a statistical distribution. The three most common measures of central tendency are:

Average which is the arithmetic mean, and is calculated by adding a group of numbers and then dividing by the count of those numbers. For example, the average of 2, 3, 3, 5, 7, and 10 is 30 divided by 6, which is 5.

Median which is the middle number of a group of numbers; that is, half the numbers have values that are greater than the median, and half the numbers have values that are less than the median. For example, the median of 2, 3, 3, 5, 7, and 10 is 4.

Mode which is the most frequently occurring number in a group of numbers. For example, the mode of 2, 3, 3, 5, 7, and 10 is 3.

For a symmetrical distribution of a group of numbers, these three measures of central tendency are all the same. For a skewed distribution of a group of numbers, they can be different.