

SLOPE function - The function returns the slope of a linear regression line through data points in Excel

SLOPE function: The function returns the slope of a linear regression line through data points. The slope is the vertical distance divided by the horizontal distance between any two points on that line, the rate of change along the regression line. Syntax: SLOPE (known_ys, known_xs)

The following article introduces you to the **SLOPE** function - one of the functions in the group of statistical functions that is very popular in Excel.

Hàm SLOPE

Description: The function returns the slope of a linear regression line through data points. The slope is the vertical distance divided by the horizontal distance between any two points on that line, the rate of change along the regression line.

Syntax: SLOPE (known_y's, known_x's)

Inside:

- **known_y's** : An independent data point array or range.
- **known_x's**: The set of independent data points.

Attention:

- The value of the argument must be a number, name, array or reference containing numbers.
- If **known_y's** and **known_x's** are empty or have a different number of data points -> the function returns the #N/A error value .
- If the argument is a reference array containing text values ??or logic -> these values ??are ignored, but the value 0 is still counted.
- If argument values ??use invalid data types -> the function returns the #VALUE! Error value
- The slope equation for the regression line is:

$$b = \frac{\sum \left((x - \overline{x}) \left(y - \overline{y} \right) \right)}{\sum \left((x - \overline{x})^2 \right)}$$

Where **x** and **y** are the sample mean **AVERAGE (known_x's)** and **AVERAGE (known_y's)**

For example:

Calculate the slope of the linear regression line through data points in the following data table:

STT	Y đã biết	X đã biết
1	26	29
2	19	26
3	38	102
4	46	11
5	28	3

- In the cell to calculate enter the formula : = **SLOPE (C6: C10, D6: D10)**

STT	Y đã biết	X đã biết
1	26	29
2	19	26
3	38	102
4	46	11
5	28	3

=SLOPE(C6:C10, D6:D10)

- Press **Enter** -> slope of the linear regression line through the above data points is:

STT	Y đã biết	X đã biết
1	26	29
2	19	26
3	38	102
4	46	11
5	28	3

Độ dốc của đường hồi quy tuyến tính qua các điểm dữ liệu trên là: 0.05556

Above are instructions and some specific examples when using **SLOPE** function in Excel.

Good luck!

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