

# CORREL function - The function returns the correlation coefficient between two data sets in Excel

CORREL function: The function returns the correlation coefficient between two data sets. Correlation coefficient is used to determine the relationship between two attributes. Syntax: CORREL (array1, array2)

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

## Hàm CORREL

**Description:** The function returns the correlation coefficient between two data sets. Correlation coefficient is used to determine the relationship between two attributes.

**Syntax:** CORREL (array1, array2)

Inside:

- **array1:** The range of cells containing the values ??of the first dataset .
- **array2:** The range of cells containing the values ??of the second dataset .

**Attention:**

- If data cells or references contain logical values, text or blank cells -> they are ignored.
- If **array1** and **array2** have different data points -> the function returns the # N / A error value .
- If **array1** and **array2** are empty or the standard deviation of the values ??of 2 data sets is 0 -> the function returns the # DIV / 0 error value !
- The function equation used is:

$$C \text{ or } r_{XY} = \frac{\sum (x - \overline{x}) (y - \overline{y})}{\sqrt{\sum (x - \overline{x})^2 \sum (y - \overline{y})^2}}$$

Inside:

( $\overline{x}$ ) and ( $\overline{y}$ ): The average value of samples **AVERAGE (array1)** and **AVERAGE (array2)**.

**For example:**

Calculate the correlation coefficient between the two data sets in the table below:

The screenshot shows an Excel spreadsheet with the following content:

	A	B	C	D	E
3		Hàm CORREL trong Excel			
4		Nhóm hàm thống kê			
5		STT	array1	array2	
6		1	16	9	
7		2	65	55	
8		3	12	38	
9		4	23	21	
10		5	18	21	
11		Hệ số tương quan giữa 2 tập dữ liệu là:		?	
12		ThuThuatPhanMem.vn			

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

The screenshot shows the same Excel spreadsheet as above, but with the formula entered in cell D11:

11		Hệ số tương quan giữa 2 tập dữ liệu là:		=CORREL( C6:C10 , D6: D10 )	
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- Press **Enter** -> the correlation coefficient between 2 data sets is:

D11 : X ✓ fx =CORREL(C6:C10,D6:D10)

	A	B	C	D	E
3			<b>Hàm CORREL trong Excel</b>		
4			<i>Nhóm hàm thống kê</i>		
5		<i>STT</i>	<i>array1</i>	<i>array2</i>	
6		1	16	9	
7		2	65	55	
8		3	12	38	
9		4	23	21	
10		5	18	21	
11		Hệ số tương quan giữa 2 tập dữ liệu là:		0.75583	
12					

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- Case 1 of 2 data sets contains blank values ??-> the function returns the #DIV/0 error value !

D11 : X ✓ fx =CORREL(C6:C10,D6:D10)

	A	B	C	D	E
3			<b>Hàm CORREL trong Excel</b>		
4			<i>Nhóm hàm thống kê</i>		
5		<i>STT</i>	<i>array1</i>	<i>array2</i>	
6		1	16		
7		2	65		
8		3	12		
9		4	23	21	
10		5	18	21	
11		Hệ số tương quan giữa 2 tập dữ liệu là:		#DIV/0!	
12					

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- Where size = 1 -> the function returns the error value #NUM!

Above are instructions and some specific examples when using the CORREL function in Excel.

Good luck!

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