

Practical: 09

■ Compute different types of correlation.

Correlation is a statistical term describing the degree to which two variables move in coordination with one another. If the two variables move in the same direction, then those variables are said to have a positive correlation. If they move in opposite directions, then they have a negative correlation.

In Excel,

“1” represents positive correlation.

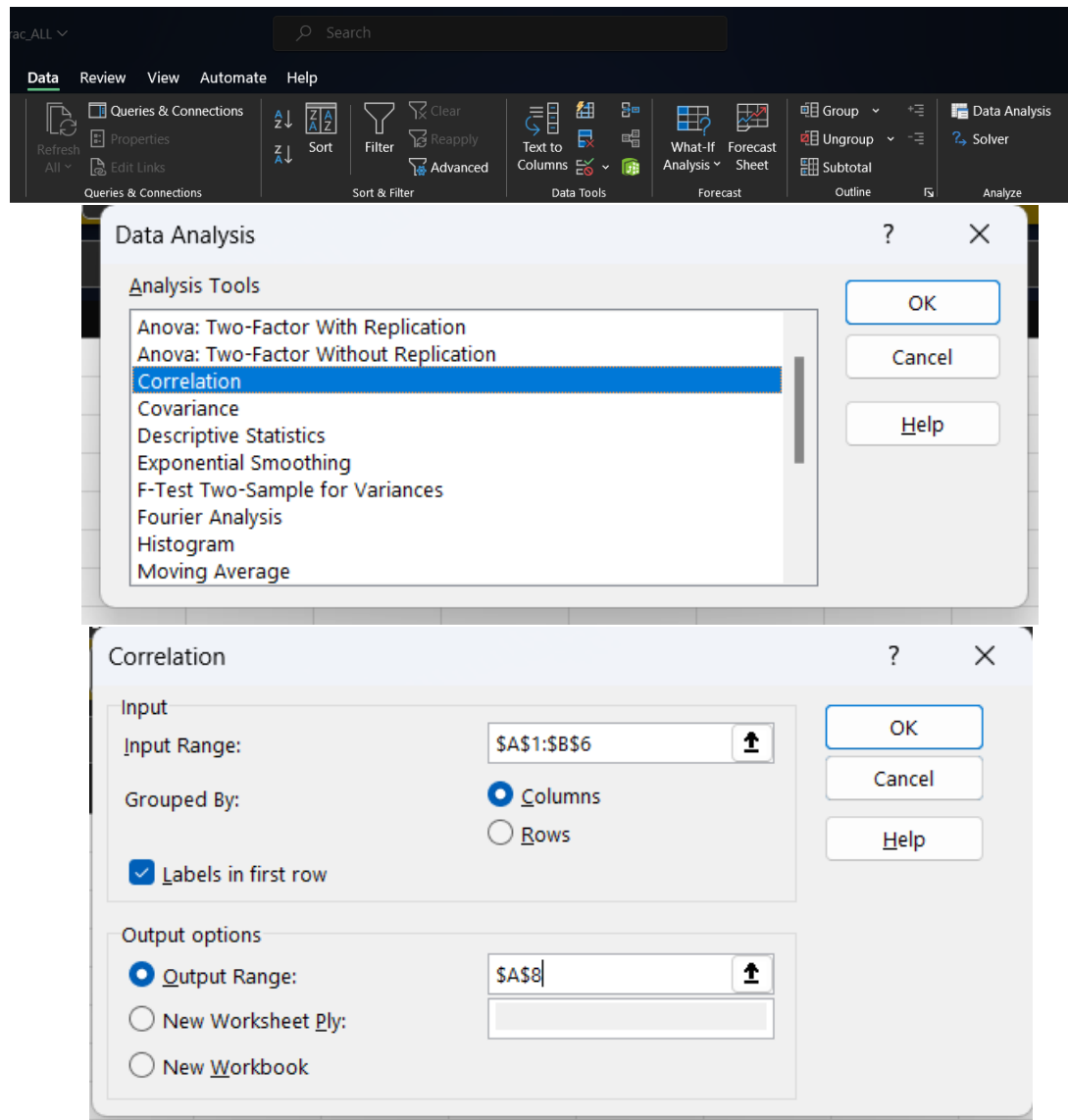
“0” represents no correlation.

“-1” represents negative correlation.

■ Positive correlation

X	Y
0	2
10	12
2	4
12	14
6	8

Go to Data tab > Data Analysis > Correlation > Click Ok.



Select **input range** – A1:B6.

Select radio button Columns.

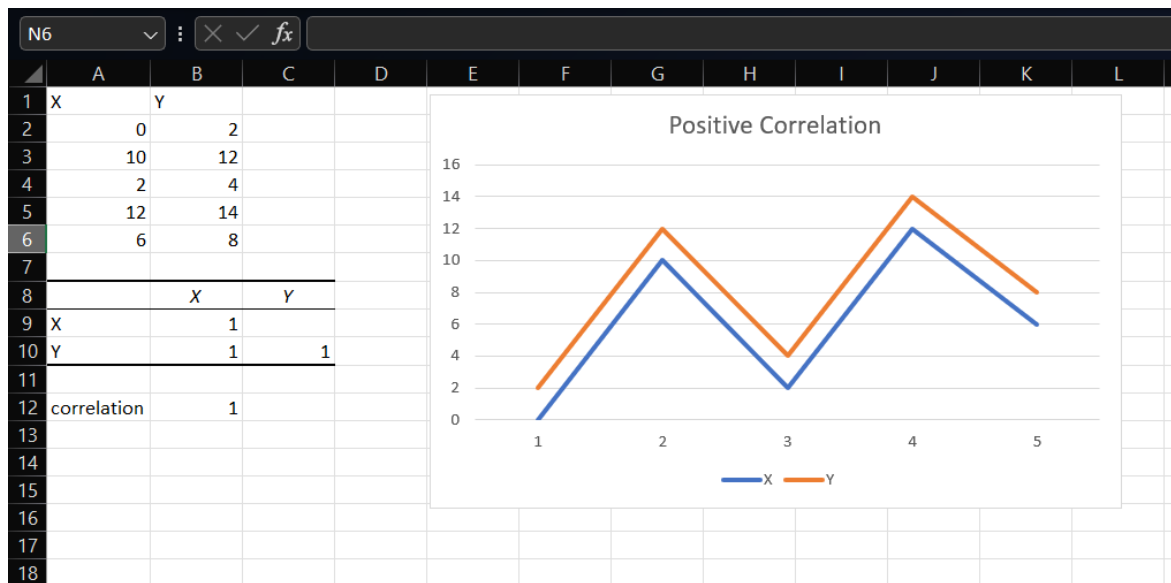
Check checkbox labels in first row.

Select **output range** – A8.

Click on Ok.

Another way to calculate correlation is to type =CORREL(A2:A6,B2:B6) in cell B12.

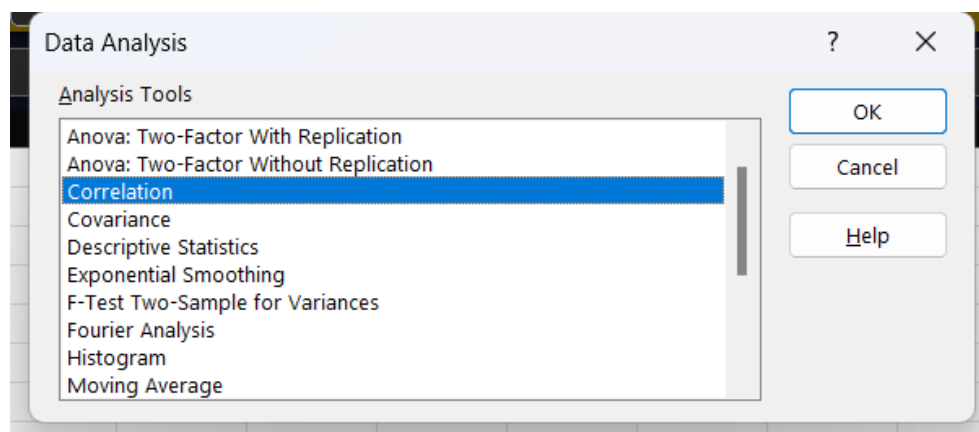
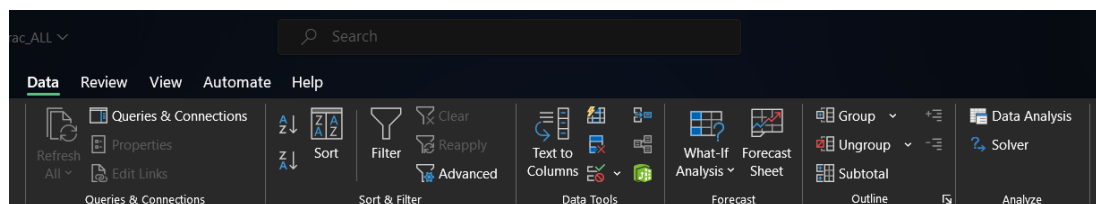
To plot a graph, go to Insert tab > Charts > Line Chart > Line.



■ Negative correlation

X	Z
0	2
10	-8
2	0
12	-10
6	-4

Go to Data tab > Data Analysis > Correlation > Click Ok.



Correlation ? X

Input

Input Range:

Grouped By: ☒ Columns ☐ Rows

☒ Labels in first row

Output options

☒ Output Range:

☐ New Worksheet Ply:

☐ New Workbook

OK Cancel Help

Select input range – A1:B6.

Select radio button Columns.

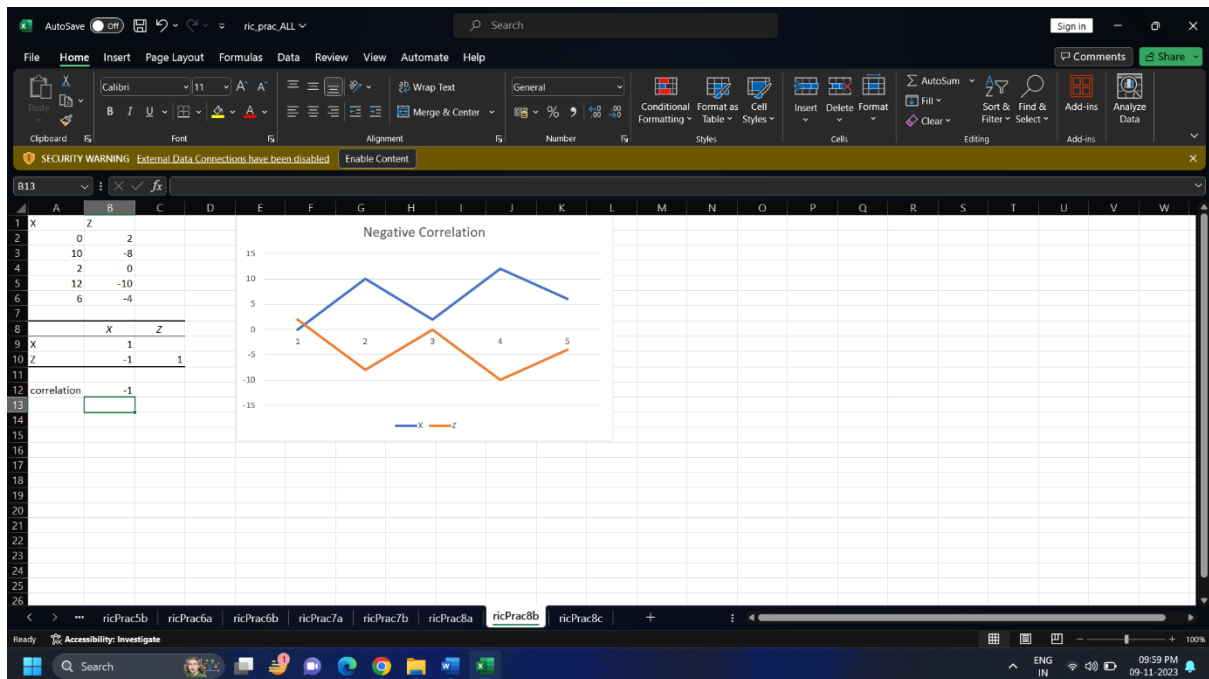
Check checkbox labels in first row.

Select output range – A8.

Click on Ok.

Another way to calculate correlation is to type =CORREL(A2:A6,B2:B6) in cell B12.

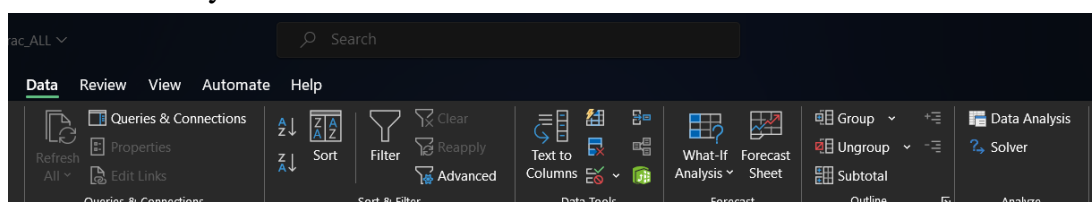
To plot a graph, go to Insert tab > Charts > Line Chart > Line.

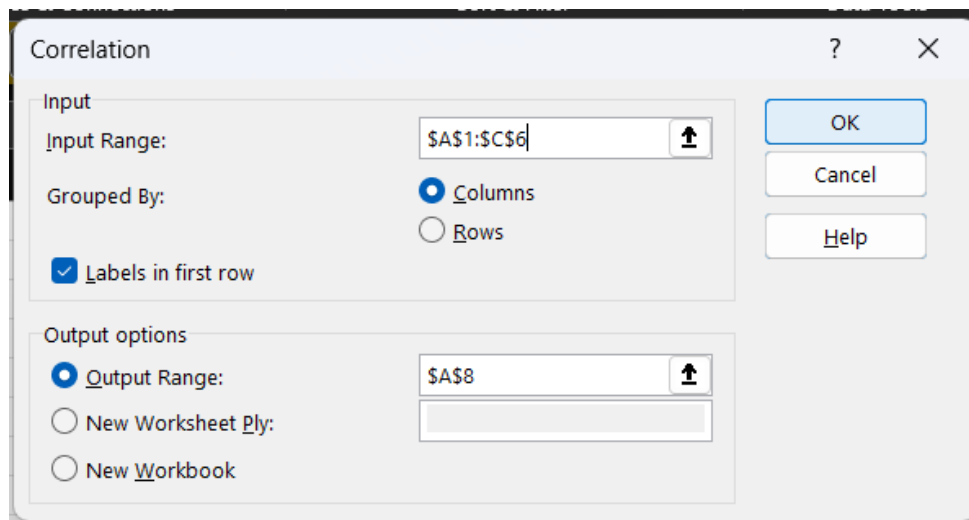
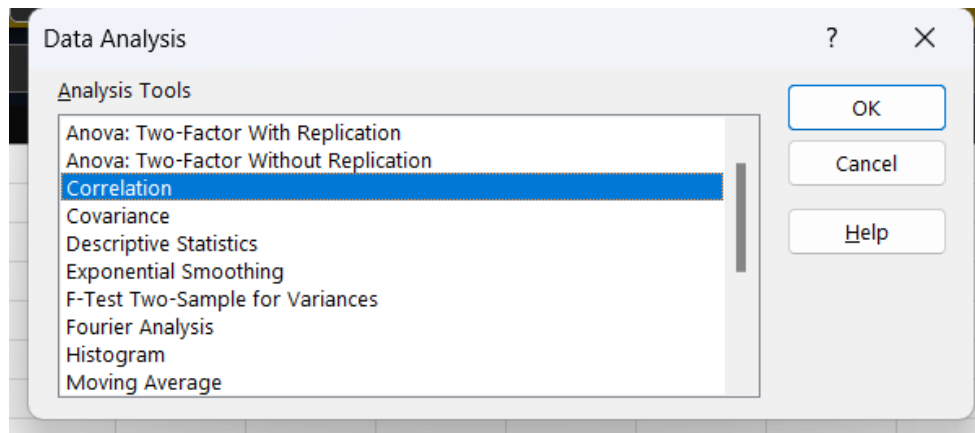


Correlation for three or more variables

A	B	C
0	2	2
14	6	11
1	8	3
10	5	13
5	6	4

Go to Data tab > Data Analysis > Correlation > Click Ok.





Select input range – A1:C6.

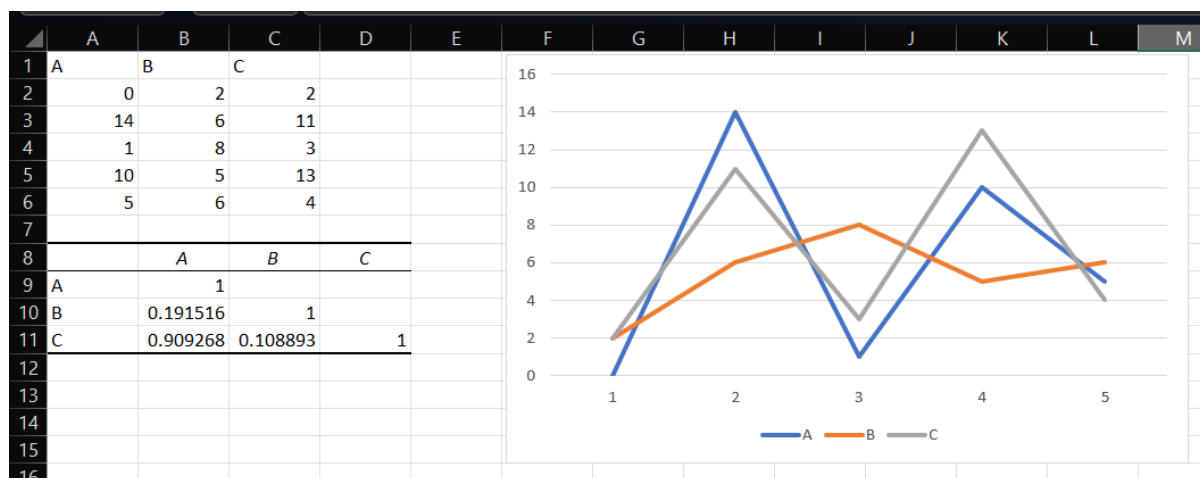
Select radio button Columns.

Check checkbox labels in first row.

Select output range – A8.

Click on Ok.

To plot a graph, go to Insert tab > Charts > Line Chart > Line.



This example represents more real life situations.

Correlation between A and B is near “0”.

Correlation between A and C is near “1”.

Correlation between B and C is near “0”.