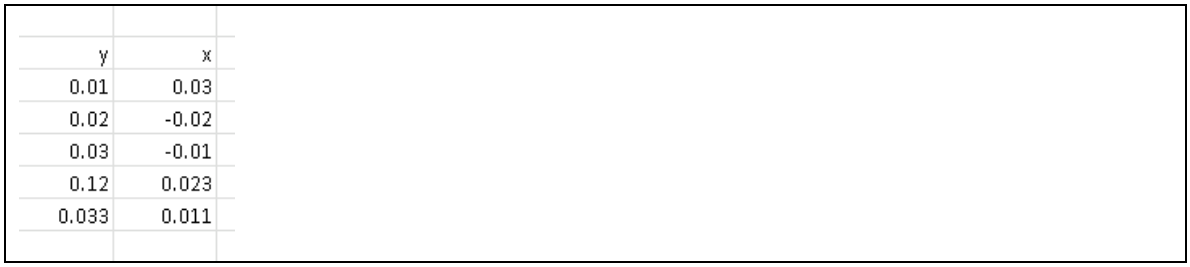
How to run a linear regression to estimate beta?

Assume we have the following y and x columns.

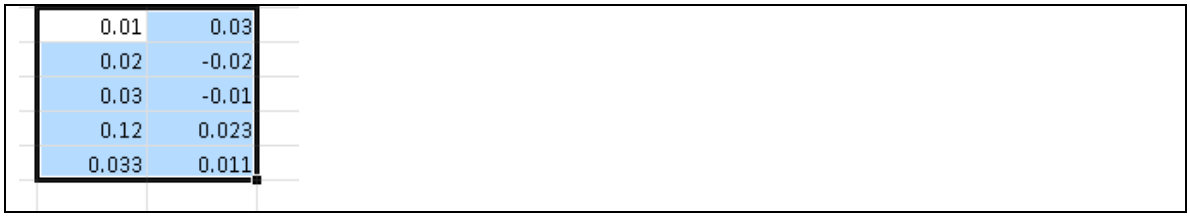


y	x
0.01	0.03
0.02	-0.02
0.03	-0.01
0.12	0.023
0.033	0.011

We want to run the following linear regression

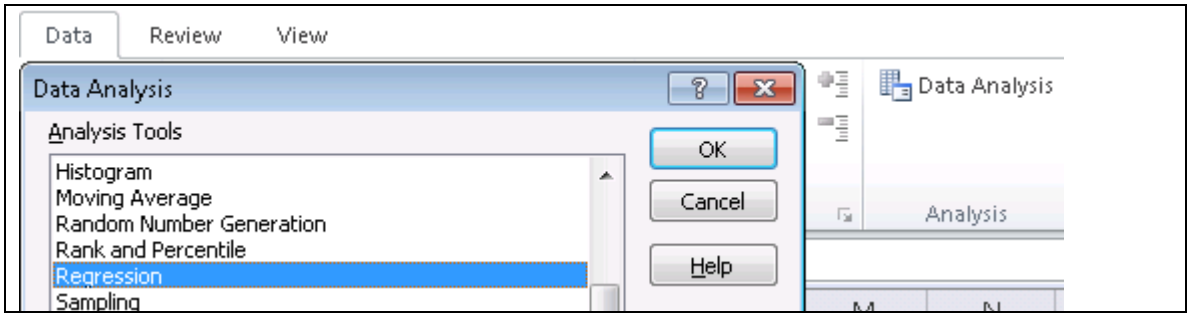
$$y = \alpha + \beta x \tag{1}$$

Step 1: Highlight data set, see below. (note: I didn't include labels of y and x)



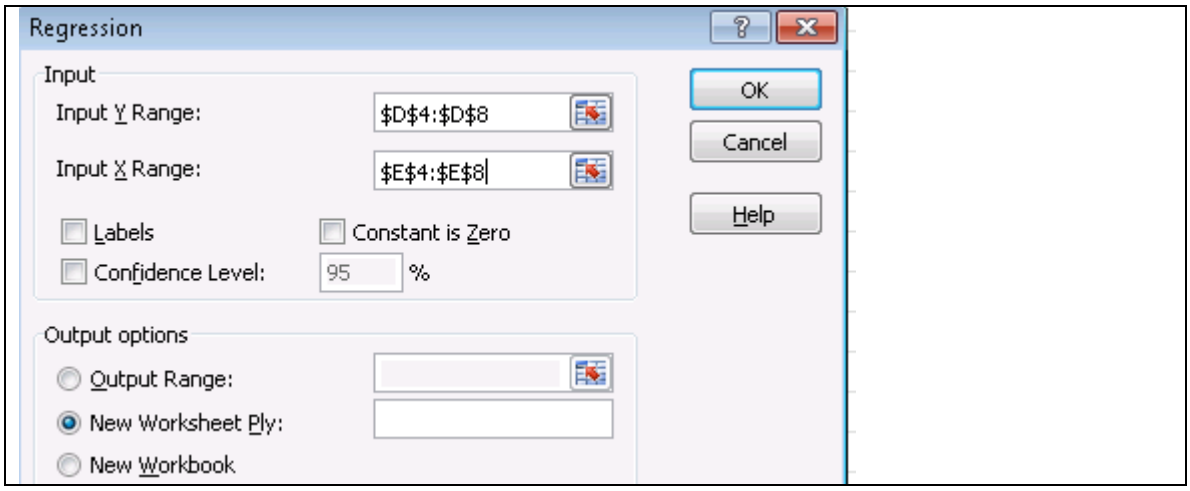
0.01	0.03
0.02	-0.02
0.03	-0.01
0.12	0.023
0.033	0.011

Step 2: Click "Data", then "Data Analysis",[1] then choose "Regression"



Step 3: choose y and x data ranges, see below.

[1] If "Data Analysis" is not available on the menu bar, see V) on page 9.



Below is the final result. The beta will be 0.7

	A	B	C	D	E	F	G	H	I
1	SUMMARY OUTPUT								
2									
3	*Regression Statistics*								
4	Multiple F	0.338074							
5	R Square	0.114294							
6	Adjusted I	-0.18094							
7	Standard E	0.048035							
8	Observati	5							
9									
10	ANOVA								
11		*df*	*SS*	*MS*	*F*	*gnificance F*			
12	Regressio	1	0.000893	0.000893	0.387128	0.577897			
13	Residual	3	0.006922	0.002307					
14	Total	4	0.007815						
15									
16		*Coefficients*	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
17	Intercept	0.037835	0.022806	1.658959	0.195706	-0.03475	0.110414	-0.03475	0.110414
18	X Variable	0.700792	1.12632	0.622196	0.577897	-2.88366	4.285245	-2.88366	4.285245

Note 1: if you choose label in Step 1, then you have to click "Labels" in Step 3.

Note 2: you can choose to include the output within the same spreadsheet (output options).

Note 3: You could use *slope()* function to estimate beta as well.

Note: If Data Analysis is not available

1. Click the Microsoft Office Button  , and then click Excel Options.
2. Click Add-Ins, and then in the Manage box, select Excel Add-ins.
3. Click Go.
4. In the Add-Ins available box, select the Analysis ToolPak check box, and then click OK.

   a) **Tip** If Analysis ToolPak is not listed in the Add-Ins available box, click Browse to locate it.

   b) If you get prompted that the Analysis ToolPak is not currently installed on your computer, click **Yes** to install it.

5 After you load the Analysis ToolPak, the Data Analysis command is available in the Analysis group on the Data tab.