

## Lab 4

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Using statistical software (like Excel, R, Python, SPSS, or Python etc.), we can fit a simple linear regression model using “study hours” as the predictor variable and “exam score” as the **response variable**.

**1. Use the studied python statistics knowledge and google colab software to plot a scatter graph for the following data set**

Study Hours	Exam Score
1	58
1	61
2	62
2	65
1	65
2	68
2	72
3	74
3	78
4	85
4	90
5	95

**2. (a) Carefully following our Lab 3 example on regression, repeat the above and add the regression line for the data relationship.(graph of scatter and line of regression)**

**(b) Use the regression formular we have studied to compute the strength (relationship strength) of the predictor ( study hours) and the response (exam score) values.**

Hint:  $r = 0.959$  (The correlation between hours studied and exam score is 0.959)

**(c) Explain whether or not the professor can confidently use this relationship to predict exam scores for his/her students given the student’s study hours (give reason for your answer)**