

Getting Ready for the Midterm – Chapter 4

Topics

You are responsible for the following:

- Compute the correlation coefficient for two sets of quantitative data using StatCrunch.
- Determine if there is a linear association between two quantitative variables.
If there is a linear association, determine if it is positive or negative.
- Calculate a regression equation using StatCrunch.
- Use a regression equation to predict a value of y for a particular value of x .

Practice Problems

You can find the data on the StatCrunch group page. It is titled “Unit 2 Project”.

1) COS students rated 25 math instructors in terms of easiness (column Easiness) and overall quality (column Quality).

a) Create a scatterplot for the data, treating Easiness as the independent variable.

b) Calculate the correlation coefficient.

c) Is there a linear association between the two variables?

Is it positive or negative?

d) Calculate the regression equation for overall quality based on an instructor’s easiness rating.

e) If an instructor has an easiness rating of 3.5, predict the instructor’s overall quality rating.

2) Quiz averages (column Quiz) and test averages (column Test) for 36 COS Math 230 students are provided.

a) Create a scatterplot for the data, treating Quiz as the independent variable.

b) Is there a linear association between the two variables?

Is it positive or negative?

Explain how you determined this.

c) If a student has a quiz average of 75, predict the student’s test average.

d) According to the data, as a student’s quiz average increases the student’s test average increases/decreases/stays the same.

Explain, in your own words, how you determined this.