Week 1 Suggested Readings and Practice

Suggested readings and practice problems from OpenIntro Statistics, 3rd edition (a free online introductory statistics textbook co-authored by Dr. Cetinkaya-Rundel) for this week:

Suggested reading: Chapter 7, Section 7.1, 7.2

Suggested exercises: (End of chapter exercises from OpenIntro Statistics)

- Relationship between two numerical variables: 7.1, 7.3, 7.7, 7.9, 7.11, 7.13, 7.15

(Reminder: the solutions to the end of chapter exercises are at the end of the *OpenIntro Statistics* book)

Test yourself:

1. A teaching assistant gives a quiz. There are 10 questions on the quiz and no partial credit is given. After grading the papers the TA writes down for each student the number of questions the student got right and the number wrong. What is the correlation of the number of questions right and wrong? Hint: Make up some data for number of questions right, calculate number of questions wrong, and plot them against each other.
2. Suppose you fit a linear regression model predicting score on an exam from number of hours studied. Say you've studied for 4 hours. Would you prefer to be on the line, below the line, or above the line? What would the residual for your score be (0, negative, or positive)?
3. Someone hands you the scatter diagram shown below, but has forgotten to label the axes. Can you calculate the correlation coefficient? Or do you need the labels?