

Lab Assignment #3
Correlation

Note: There is no lab next week!
So when is this due?

Turn it in to your section leader's mailbox
by the time your lab *would* have started, *if* it existed next week

1. Using the four *act* variables...
 - a. Create a scatterplot matrix of the variables
 - b. What are the correlations? What does this tell you about the relationships between the variables?
 - c. Looking at the raw data, are you confident drawing a conclusion from the correlation coefficient? Why or why not?
Hint: We really mean LOOK AT THE RAW DATA. If there is something wrong, what is it? If not, explain how everything looks o.k.

2. Using the variables *avghtemp* and *avgltemp*...
 - a. Create a scatterplot of the variables
 - b. What is the correlation? What does this tell you about the relationship between the variables?
 - c. Looking at the distribution of data on the graph, are you confident drawing a conclusion from the correlation coefficient? Why or why not?
Hint: We really mean LOOK AT THE GRAPH. If there is something wrong, what is it? If not, explain how everything looks o.k.

3. Ben prefers the correlation equation in terms of z-scores that he gave in lecture. Jaime prefers the computational equation Howell gives in the middle of page 182. Dave has a new baby, and so is unconcerned with correlation equations. If you were Dave, which equation (out of the z-score equation, the computational equation, and the covariance equation [p.182, top]) would you prefer and why?

4. Given these data points:

	x_n	y_n
n_1	1	3
n_2	2	3
n_3	3	2
n_4	4	4

... calculate (and show your work)...

- a. s_x
- b. s_y
- c. r_{xy}