Project 7   **Due Friday, March 31**
Math 222

1. The Great Britain Office of Population Census and Surveys once collected data on a random sample of 170 married couples in Britain, recording the age (in years) and heights (in inches) of the husbands and wives. The data is in the file marriedHeights.csv

   (a) Plot the relationship between the heights of husbands and wives in the data set. How strong is the correlation?

   (b) Find the least squares regression line. Add a plot of the least squares regression line to the plot in part (a), and also give the formula for the least squares regression line.

   (c) What is the slope of the least squares regression line? Explain what it means in words for this example.

   (d) Is the slope in part (c) significantly greater than zero? State your hypotheses and carry-out the appropriate hypothesis test to find out. Clearly explain your conclusions.

   (e) How tall are the wives of men who are 6 feet tall, on average? Express your answer using a confidence interval.

   (f) If Bob is 6 ft. tall, you cannot be 95% sure that his wife is in the confidence interval above. Make a prediction interval for the height of his wife, and explain how it differs from the confidence interval in part (e).