

Statistics 110/201

Homework assigned 10/21/09, due Wed 10/28/09

- Do Problem 6.1 in the textbook.
- Use the data for Problem 6.9 in the textbook (also linked to the class website), to do the following analysis. These are basically the steps done in class on October 21 for the height data, so if you follow what was done in the handout (including the graphs on the website) it will help you with this analysis.
  1. Make appropriate plots before running a regression analysis. Comment on whether you see any problems.
  2. Even if you thought there were problems from step 1 (this isn't a hint as to whether or not you should have found any), use all of the data to perform a regression analysis. Write out the regression equation you found.
  3. Explain the results, including:
    - a. Interpretation of each of the coefficients in the context of this example
    - b. A test for each coefficient, with an explanation in words of the test and the results
    - c.  $R^2$  and what it means
    - d. Root MSE and what it means
    - e. An overall test for whether regression is useful in this example
  4. Provide appropriate plots of residuals and comment on them.