

1. Read this article about early polling numbers for the 2016 Presidential Election: <http://fivethirtyeight.com/features/clinton-is-polling-like-an-incumbent-and-that-could-help-her-in-2016/>. How would you go about producing a regression model to estimate the probability of electoral success for likely candidates? Be specific about data you might gather, statistical techniques you think would be useful and how you would report your predictions to the public.
2. Analyze the data posted March 11th under the title, “Midterm Progress Report”. Here’s the link: <http://www.justinholman.com/2014/03/11/midterm-progress-report/>
 - a. Use graphs to illustrate the relationships among “Assign” and “Exam” scores.
 - b. Calculate score averages and generate descriptive statistics for both types of scores.
 - c. Build a regression model to predict “Total” scores using “Assign” and “Exam” as independent variables.
3. Analyze historical monthly stock market prices for the S&P 500 Index using data downloaded from Yahoo Finance (<http://finance.yahoo.com/q/hp?s=%5EGSPC+Historical+Prices>) to answer the following questions.
 - a. What is the relationship, if any, between trading “Volume” and stock prices at “Close”?
 - b. Produce a trend analysis using a quadratic model to forecast stock prices for June 30, 2014, Sep 30, 2014 and Dec 31, 2014.
4. Analyze the Monthly House Price Index data to answer the following questions (use NSA only). http://www.justinholman.com/wp-content/uploads/2014/04/monthlyindex_jan1991_to_latest.xls
 - a. Which two regions are most closely correlated?
 - b. Which region of the country is most closely correlated with the entire USA?
 - c. Build a multiple regression model using Census Division price index variables to estimate USA variables.
 - d. Discuss the potential for multicollinearity in the model.
 - e. Produce a trend analysis using a quadratic model to forecast housing prices for Dec 2014 and Dec 2015.
5. Use the data from problems 3 and 4 to answer the following questions.
 - a. What is the relationship, if any, between housing prices and stock market prices?
 - b. Generate 3 month moving averages for stock market prices.
 - c. Generate a simple Stock Price Index. Use Jan 1, 1991 as the base price.
 - d. Build a regression model to predict “Mountain (NSA)” housing prices.