All,

Your second assignment will involve using R to create Linear Regression models for two datasets.

**Effectiveness of Practice Exams:** Practice tests are routinely given before the real exam. The datasets for this problem contain the practice test scores and actual test scores for tests that were given over the past year. Your job is to create a simple linear regression model that can be used to predict the real test score given the practice test score (if possible).

Recommend:

- Clean the data to remove missing scores, “In Progress” (meaning the student did not finish the practice exam), and outliers (practice exam scores below 30, for example).
- Build your model in R, adding nonlinear terms if necessary, based upon the training data
- Then test your model on the Test data; use R² and RSE, along with residual plots to determine the accuracy of your model.
- Provide summary information and plots to indicate your conclusions

**Predicting Car Trade In Value:** This dataset comes from an online car price evaluator, and contains information about the trade-in value of cars based upon various parameters. The Price is the response variable you want to predict; most of the predictor variables are categorical. Your job is to create a linear regression model that will predict the price of a trade-in.

Recommend:

- Build a linear model in R, containing all parameters to start, using the training data
- Eliminate variables you do not think are necessary
- Then test your model on the Test data; use R² and RSE, along with residual plots to determine the accuracy of your model.
- Provide summary information and plots to indicate your conclusions

For this phase, only do a linear model; next week you can look at adding nonlinear terms.

Submit your assignment, including printouts of any plots you create, and any conclusions you can draw from these datasets.

This assignment is due Sunday, January 31, at midnight. You may work in teams of up to 4 people; please make sure to indicate the names of all team members on the front page.

Best,

Dr Semper