STATS 500 - Homework 5

Due **Tuesday**, March 22

1. Using the `sat` data, fit a model with `total` as the response and `takers, ratio, salary` and `expend` as predictors using the following methods:

   (a) Ordinary least squares

   (b) Least absolute deviations

   (c) Huber's robust regression

   Compare the results. In each case, comment on the significance of predictors.

2. Use the `prostate` data with `lpsa` as the response and the other variables as predictors. Implement the following variable selection methods to determine the "best" model:

   (a) Backward Elimination

   (b) Adjusted R^2

   (c) Mallows' C_p

   Comment on the models selected (similarities and/or differences). Compare the fits of the full model and those selected by the methods above.