Stat 470/670 Homework 4

Not due.

1. (Problem 24a in Chapter 6 of Tukey's EDA): Using the data at `http://jfukuyama.github.io/teaching/stat670/assignments/mortality_by_latitude.csv`, make a plot of mortality index against mean average temperature. Is it hollow up or hollow down? Try to identify a transformation of one of the variables that will straighten out the relationship, and make a plot of the residuals to check for any remaining patterns.

2. Using the same subset of the diamonds dataset we used in class in lecture 8, make a plot of log price as a function of carat with a loess smoother. Try several values for the span and degree arguments and comment briefly about your choice.

3. Compare the fit of the loess smoother to the fit of the polynomial + step function regression we did in class using a plot of the residuals in the two models. Which one is more faithful to the data?