**STA 6707**

**HOMEWORK 1**

**DUE IN CLASS TUESDAY FEB 5**

**Problem 1:**

Read the background and analyze the data set described in

<https://archive.ics.uci.edu/ml/datasets/Residential+Building+Data+Set>

1. Exclude the two output variables in the excel spreadsheet and use PCA to analyze the data.

Specifically, comment on the quality of the solution, provide an interpretation of the PCs and discuss your results.

1. Use the PCs that your analysis in (I) has selected and build a regression model for the two output variables. Comment on the results of your regression model (goodness of fit, significance of regression coefficients, etc.)