

## GB704 - Homework 5

Due : November 9

*This assignment must be completed individually – conversations with and pointers from classmates are fine, nothing beyond that. It is 100% optional and worth 10 points of homework extra-credit that will be added to your hw total at the end of the semester.*

Download dataset data1D2D.xlsx from my webpage.

1. Regress  $\ln(\text{spending})$  on  $\text{income}$ ,  $\text{age}$  and  $\text{age}^2$  using a statistical package of your choice. (Possibilities include Stata, SAS, R, SPSS, Limdep, Matlab, Gauss, Python . . . .)
2. Produce a 95% confidence interval based on this model for a customer of income \$200,000 and age 30.
3. Produce a 95% prediction interval based on this model for a customer of income \$200,000 and age 30.
4. Produce bootstrapped standard errors for the same regression as above using 50 replications with replacement.