

AMS 394 Homework 5

1. Use the `d_logret_6stocks` dataset to answer the questions.
 - (1) Regress the return Pfizer on the returns of Exxon (with intercept). Report the estimated coefficients.
 - (2) Generate an ANOVA table to conclude if above regression effects are significant
 - (3) We now ignore the time series features of all returns, and consider them independent we also treat all weekly returns of Pfizer, Exxon and Citigroup as Group 1, 2, and 3, respectively. Perform one-way ANOVA for group 1-3.
 - (4) Test if the proportion of positive returns of 'Citigroup' is 0.5.

2. Use the dataset 'juul' in package 'ISwR' to answer the question.
 - (1) Conduct onw-way ANOVA test to test if the mean of `igf1` of each level of `tanner` are the same?
 - (2) What is the mean of `igf1` in each level of `tanner`?
 - (3) If there is any difference, which ones appear to be different? (Use pairwise t test for each pair of level with bonferroni method)

3. Test the hypothesis whether the students smoking habit (Smoke) is independent of their exercise level(Exer) in dataset `survey`(MASS package) at 0.05 significance level.