Quiz 24: Multiple Regression

Taken on Thur Dec 4. You may work with a group of as many students as you’d like, submitting one quiz with all names. Please use a half-sheet of paper. You may use your notes.

Some of the statistical inference techniques we have studied include:

A. One-sample $z$-procedures for a proportion
B. Two-sample $z$-procedures for comparing proportions
C. One-sample $t$-procedures for a mean
D. Two-sample $t$-procedures for comparing means
E. Paired-sample $t$-procedures
F. Chi-square procedures for two-way tables
G. One-way ANOVA procedures
H. Simple linear regression procedures
I. Multiple regression procedures

For each of the following research questions, indicate (by letter) the appropriate statistical inference procedure for investigating the question.

1. Can you predict a Cal Poly student’s GPA based on his/her high school GPA, SAT score, and number of hours of employment per week?
2. Do students who have pulled at least one “all-nighter” this quarter tend to have lower GPAs than students who have not pulled any “all-nighters” this quarter?
3. Are students at Cal Poly – SLO more likely to wear clothing that says “Cal Poly” than students at Cal Poly – Pomona?
4. Is there an association between a person’s political viewpoint (liberal, moderate, conservative) and whether or not the person has made a financial contribution to charity in the past year?
5. Do customers at a restaurant tend to spend different amounts on their meal depending on whether classical, contemporary, or no music is playing in the background?