Regression analysis quiz

CSMC320

Name(s): UID(s):

Suppose you have data for CMSC undergraduate students including $X_1 = \text{grade in 351}$ (categorical: A,B,C,D, or F) and (numeric) $X_2 = \text{hours spent learning Java.}$ You want to build a linear regression model of response Y = value of stock options at maturation in first job out of school.

- a. Since grade in 351 is categorical, you need to define a set of dummy predictors to include in the linear regression model. How would you do that? How many dummy predictors would you add, and what would be their value be for students with A, B, C, D, or, F in 351.
- b. Write out the full model (without interactions) in the form $Y = \beta_0 + \beta_1 X_1 + \cdots$. How do you interpret the estimate derived for β_0 and each of the parameters corresponding to the dummy predictors you added in part a.