2.6: Multiple Inference and Multicollinearity

Dr. Bean - Stat 5100

Think of an real-world example of where a "subset" F test might be useful.

Example: Bodyfat Dataset (Handout 2.6.1) Y = body, X_1 = triceps, X_2 = thigh, X_3 = midarm

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

How would you describe the hypothesis $H_0 : \beta_2 = \beta_3 = 0$ in an English sentence?

True or False (and explain): Because the Type I SS associated with X_1 is greatest, it means that X_1 is the most significant coefficient in the model.

What other advantages (besides help with multicollinearity) might standardizing our variables provide us?

True or False: Eliminating multicollinearity should improve the predictive power of my linear model.

True or False: The p-value for the model F-test is unreliable when the model contains multicollinearity.