GR5205 Section 5 - Homework 5:

Due date: 11/5 by 7:25pm EST.

1. Chapter 7, page 323 7.5.

*7.5. Refer to **Patient satisfaction** Problem 6.15.

a. Obtain the analysis of variance table that decomposes the regression sum of squares into extra sums of squares associated with X_2; with X_1, given X_2; and with X_3, given X_2 and X_1.

b. Test whether X_3 can be dropped from the regression model given that X_1 and X_2 are retained. Use the F^* test statistic and level of significance .025. State the alternatives, decision rule, and conclusion. What is the P-value of the test?

2. Chapter 7, page 323 7.5.

*7.6. Refer to **Patient satisfaction** Problem 6.15. Test whether both X_2 and X_3 can be dropped from the regression model given that X_1 is retained. Use $\alpha = .025$. State the alternatives, decision rule, and conclusion. What is the P-value of the test?