ST 512 HW 4

All Problems: Due Thursday, February 25^{th} in *lecture* at the beginning of class.

Note: Due to the new format announced in class, there will not be any SAS code submitted via Moodle. Code is now to be printed and included with your typed problems and submitted in class.

11.25 (8 pts)

(a) (3 pts) Be sure to justify your answer.

(b) (5 pts) TYPO: The question should say "... obtain the estimated linear regression model $\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 x$."

11.26 (22 pts)

(a) (3 pts) This can be obtained from two locations in the output - ***provide both***.

(b) (2 pts)

(c) (4 pts)

(d) (13 pts) Be sure to include the hypotheses (2 pts); statement of assumptions (5 pts); test statistic and p-value (1 pt each); decision (1 pt); and conclusion in context (3 pts).

11.41 (6 pts)

(a) (2 pts)

(b) (4 pts)

11.42 (10 pts)

(a) (2 pts)

(b) (4 pts)

(c) (4 pts)

11.52 (9 pts)

(a) (4 pts)

(b) (2 pts)

(c) (3 pts)

The following problems require SAS. Answers to these questions should be included with your answers to the questions above. You do not need to recreate the SAS output in your assignment (e.g. graphs or ANOVA tables) unless specifically requested to do so. However, if you reference a specific number it should be included (e.g. a p-value or CI). Your code should be printed and attached with your in-class submission. *Do not just insert your SAS code into MS Word unless you ensure the formatting is not changed. I strongly suggest printing it directly from SAS!*

11.57 (15 pts)

(a) (3 pts)

(b) (8 pts) In addition to the interval for which you've been asked (4 pts), include an appropriate hypothesis test. Provide the hypotheses (2 pts), test statistic (1 pt), and p-value (1 pt) for the test you select. You do not need to provide an interpretation for the interval or the test.

(c) (4 pts)

11.92 (10 pts) I've posted the data set on Moodle for you.

(a) (3 pts)

(b) (4 pts)

(c) (3 pts)

11.93 (15 pts)

(a) (3 pts)

(b) (6 pts) You can use SAS to obtain the interval, but make sure you could do it without SAS - assuming the standard error (or its components) were provided to you.

(c) (6 pts) Find a 95% CI and PI for the sales when density equals 2. (Again, use SAS but be sure you could do this by hand given the necessary information.)