

Due date: 11/21 by 7:25pm EST.

1. Chapter 9, page 376 9.9.

Only need to work on a and b. for a, no need to show graph, only discuss your pick

- *9.9. Refer to **Patient satisfaction** Problem 6.15. The hospital administrator wishes to determine the best subset of predictor variables for predicting patient satisfaction.

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- a. Indicate which subset of predictor variables you would recommend as best for predicting patient satisfaction according to each of the following criteria: (1) $R^2_{a,p}$, (2) AIC_p , (3) C_p , (4) $PRESS_p$. Support your recommendations with appropriate graphs.
 - b. Do the four criteria in part (a) identify the same best subset? Does this always happen?
 - c. Would forward stepwise regression have any advantages here as a screening procedure over the all-possible-regressions procedure?
2. Chapter 9, page 379 9.17.

Only need to work on a, take a look at b,c,d,e and conceptually understand what are the key differences from b,c,d,e to a
- *9.17. Refer to **Patient satisfaction** Problems 6.15 and 9.9. The hospital administrator was interested to learn how the forward stepwise selection procedure and some of its variations would perform here.
- a. Determine the subset of variables that is selected as best by the forward stepwise regression procedure, using F limits of 3.0 and 2.9 to add or delete a variable, respectively. Show your steps.
 - b. To what level of significance in any individual test is the F limit of 3.0 for adding a variable approximately equivalent here?
 - c. Determine the subset of variables that is selected as best by the forward selection procedure, using an F limit of 3.0 to add a variable. Show your steps.
 - d. Determine the subset of variables that is selected as best by the backward elimination procedure, using an F limit of 2.9 to delete a variable. Show your steps.
 - e. Compare the results of the three selection procedures. How consistent are these results? How do the results compare with those for all possible regressions in Problem 9.9?