

Consider the SAS code and output for examining the association between yield and amount of fertilizer for three varieties of corn. Answer the following questions.

1. Examine the code on the top of PAGE 3 of the output. For each variety, provide an expression for the mean of y given x_1 , x_2 , x_3 , x_4 , and x_5 .
2. Test the null hypothesis that says that the mean of y does not depend on x_1 , x_2 , x_3 , x_4 , and x_5 .
3. What residual sum of square would you need to know in order to test the null hypothesis that says that slopes of the regression lines relating yield to amount of fertilizer for each variety are identical?
4. The RSS needed for problem 3 is 46.1. Do all three regression lines have the same slope?
5. Provide a 95% confidence interval for the difference between the variety A intercept and the variety C intercept.
6. Is there a significant difference between the variety A slope and the variety C slope?