STAT 615 REGRESSION

Classwork/Lab for Week 2

Instructions: On Canvas, post an R markdown file and a Word file that provides all required script R code, and output.

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| **Selling Price (y)** | **Taxes (x)** |
| 279900 | 3104 |
| 146500 | 1173 |
| 237700 | 3076 |
| 200000 | 1608 |
| 159900 | 1454 |
| 499900 | 2997 |
| 265500 | 4054 |
| 289900 | 3002 |

1. The table provided above shows the amount of taxes applied to specific selling prices of a home.
2. Use and show R code to produce a scatter plot for the bivariate data. Indicate if your scatter plot shows an outlier.
3. Use and show R code to produce a linear model for the bivariate data in the table.
4. Use and show R code to produce all of the residuals for your model.
5. Use and show R code to produce a residual plot for the data. Does your residual plot also suggest the existence of an outlier?
6. Execute an F test in order to determine if a linear model is appropriate. Use the steps and procedure illustrated in class by making use of an ANOVA table, the F value, and the F critical number. And of course, indicate if the null hypothesis should be rejected.

Chart, scatter chart

Description automatically generated

1. Which of the two residual plots shown above suggests that a linear model for the associated bivariate data is not appropriate? Provide a brief comment of justification for your answer.