DSC 423: Data Analysis and Regression
Assignment 04: Model Building

Your submission must include your name and student ID. Your submission must include the honor statement: "I have completed this work independently. The solutions given are entirely my own work." Your submission must be submitted as a PDF.

1. CARPRICE. Find on the D2L a car price dataset. Use R to perform a regression analysis on the dataset Your submission should take the form of a technical report and should consider the following:
    a. (10 pts.) Paste your final model into your submission (just the R output).
    b. (10 pts.) Describe the model building process through which you generated this model.
    c. (10 pts.) What significant second-order terms did you find, if any? Did you try all second-order terms? Did you look at scatter plots to determine which second-order terms to evaluate? Discuss the benefits and drawbacks of these two strategies.
    d. (10 pts.) What significant interaction terms did you find, if any? Did you try all combinations of interaction terms? Do you think that is an appropriate strategy? What happens to the number of interaction terms as the number of independent terms increases?
    e. (10 pts.) Discuss your final model. Evaluate the t-tests, F-Test and adj-R^2 accordingly. Do you think this is a “good” model? Explain.
    f. Include your code an appendix.