

CSCI 3900C Project VI (50 points)

Write an R Markdown document to perform and report the analysis described below. Your report should explain (in paragraph form using full sentences) the process you followed, the results you obtained, and some interpretation of those results. Embedded in the report should be the code that was used to obtain the results, as well as appropriate figures and plots to illustrate those results. Each result should have some accompanying verbal explanation (do NOT just show code and results!)

Publish your final compiled html file in RPubS, and submit your work as follows:

- Upload your .Rmd source file to the Project VI D2L drop box.
- With your dropbox submission, include the URL for your published file on RPubS

Download the following files from D2L:

lowaHousing.csv (This is the data file for the assignment)

lowaHousingDocumentation.txt (This explains the columns in the data set)

Analysis Tasks

- Create a multiple regression model to predict the selling price of a house in this area during this time period. The model should adhere to the following criteria.
 - While adhering to the remaining criteria below, your goal is to explain as much of the variability in price as you can. Select your final model based on this goal.
 - There should be at MOST 5 predictors in the model.
 - Every predictor in the model should be statistically significant ($p < .05$).
 - At MOST one predictor should be an interaction.
 - Create the model by adding (or removing) ONE predictor at a time, examining the resulting model, comparing it to previous models, and making a decision about which predictor(s) to retain in your next (or final) model.
- Your report should show the steps you followed to come up with this model. This includes displaying each intermediate model (the model summary) and explaining each change you decided to make before creating your next model (and why you chose to make the change).
- For your FINAL model, include the following items in your report
 - The model summary
 - Appropriate plots that show the relationship between each predictor and the price
 - Plots that show any other noteworthy relationships among any variables in the model
 - Explicitly report (in words, not just program output)
 - The adjusted R^2 for the model and what it means
 - The test statistic and p-value for the model
 - The coefficient of each predictor, and an interpretation of that coefficient