# Introduction

# Data Description

# Exploratory Data Analysis

# Objective 1:

## Restatement of Problem

Model Selection

Type of Selection

Checking Assumptions

Compare Competing Models

Parameter Interpretation

Interpretation

Confidence Intervals

Additional Details on a more complicated regression model

# Objective 2:

## Strategy

## Metrics

## Comparison to Objective 1

# Conclusion & Final Recommendations

# Appendix

***Objective 1: Display the ability to build regression models using the skills and discussions from Unit 1 and 2 with the purpose of identifying key relationships, interpreting those relationships, and making good predictions.***

* Build a model with the main goal to identify key relationships and is highly interpretable. Perform your regression analysis and report the predictive ability of your model using a test set or some other means through CV. Be sure to provide metrics if you compare multiple models.
* Provide interpretation of the regression coefficients in the model including hypothesis testing, interpretation of regression coefficients, and confidence intervals. It’s also good to mention the Practical vs Statistical significance of the predictors.
* Fit a second model with the goal to produce the best predictions possible. Interpretation is no longer important so you can get as complicated as you like. Use feature selection techniques to avoid under/over fitting. Compare this model with your first, highly interpretable model, and comment on if this second model brings additional value or the first model is preferred.

Objective 2:

1. A brief description of your nonparametric model’s strategy to make a prediction. Include Pros and Cons.
2. Provide any additional details that you feel might be necessary to report.
3. Report the test ASE using this nonparametric model so we can see how well it does compared to regression.