**MGT 6203-TEAM 18**

**Exploratory Analysis and Data Visualization:**

In the Exploratory Analysis, we categorized the variables into numerical variables and character variables. We analyzed the relationship between the numerical variables through a correlation matrix and converted the character variables to factors. With this dataset, we are trying to understand the factors or variables that affects the MSRP of the car. We have taken the dataset of car manufactured in the year of 2015,2016,2018, 2019 and compares 42 car makers with 285 car models.

We also utilized the heap map and ranked cross-correlations to understand the dataset in different ankles. Using the plot function in R we have seen a graphical representation of different car models of same manufacturing company having highest MSRP, Lowest MSRP and Median MSRP of the dataset.

We analyzed the relationship between the numerical independent variable and the response variable- MSRP with the help of scatterplots and utilized the boxplots to view the relationship between character variables and response variables.

A graph of a number of vehicles

Description automatically generated with medium confidence

*Correlation Matrix of numerical variable*

*A chart with numbers and text

Description automatically generated with medium confidence*

*Correlation Matrix of first set of numerical variables in numbers*

*A graph of numbers and a chart

Description automatically generated with medium confidence*

*Correlation Matrix of first set of numerical variables in numbers*

*A graph with red and blue lines

Description automatically generated*

*Ranked Cross-Correlation of top 25 variables with p-value> 0.05*

*A chart with a number of data

Description automatically generated with medium confidence*

*Heat Map of the Numerical Variables*

*A graph of a car

Description automatically generated*

*Graphical representation of Car.Make Vs MSRP*

*A graph of a car model

Description automatically generated*

*Car Models with Highest MSRP*

*A graph with lines and dots

Description automatically generated*

*Car Models with Lowest MSRP*

*A graph with lines and dots

Description automatically generated*

*Car Models with Median MSRP*

*A group of black and white squares

Description automatically generated*

*Scatterplot of Numerical Variables*

*A group of red graphs

Description automatically generated*

*Scatterplot of first set of Numerical Variables*

*A group of red graphs

Description automatically generated with medium confidence*

*Scatterplot of second set of Numerical Variables*

*A graph of different types of cars

Description automatically generated*

*Boxplots of factorial variables*

*A graph of different types of motor parts

Description automatically generated with medium confidence*

*Boxplots of factorial variables*

*A group of graphs showing different types of metal

Description automatically generated*

*Boxplots of factorial variables*

*A group of graphs showing different types of light

Description automatically generated with medium confidence*

*Boxplots of factorial variables*

*Several graphs showing different types of cameras

Description automatically generated with medium confidence*

*Boxplots of factorial variables*