Hyperiondev

TASK

Exploratory Data Analysis on the Automobile Data Set

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Introduction

I was given automobile.csv to analyse. This dataset has details about cars. Most of the data in the csv file is numeric in nature. Using various data analysis tools I have explored this dataset and I am presenting the findings in this report.

This report includes findings on the different manufacturers, body types, wheel drive types and the prices of the cars included in the dataset.

DATA CLEANING

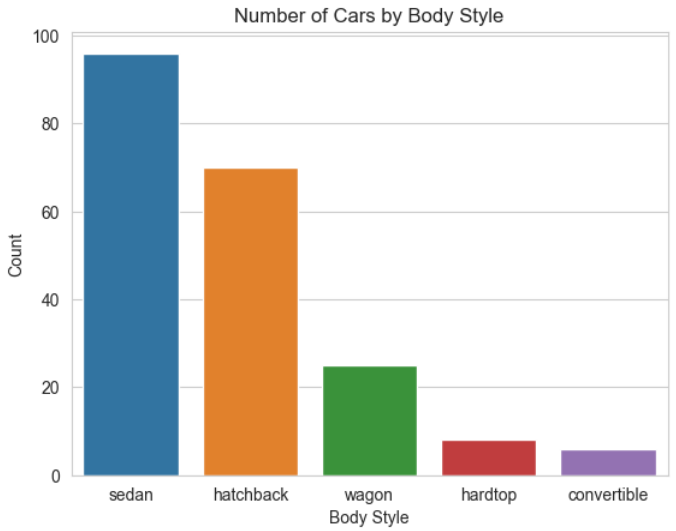
I used pandas to clean my data. Pandas was used to drop rows and columns I did not need, merge rows into different datasets and create new datasets. Matplotlib and Seaborn were used to create visualisations

MISSING DATA

There was a lot of missing data in the symboling and the normalized-losses columns. I have decided to drop these columns and not use them in my analysis.

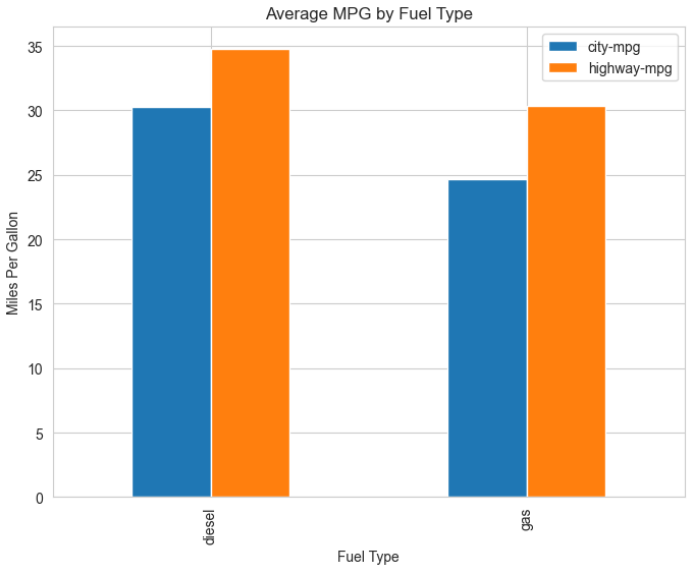
DATA STORIES AND VISUALISATIONS

First I decided to see how many car types are in the dataset and how many of each body type cars are in the dataset. There are five(5) body types in this dataset with sedans making up the largest portion of cars in the dataset.

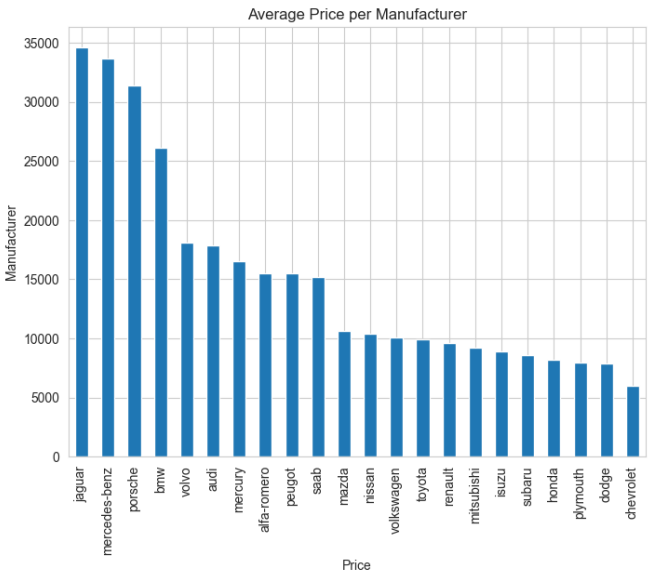


Secondly, I explored the fuel consumption of each fuel type. There are two types of fuel each car in the dataset takes. A car can either use diesel or gas for fuel.

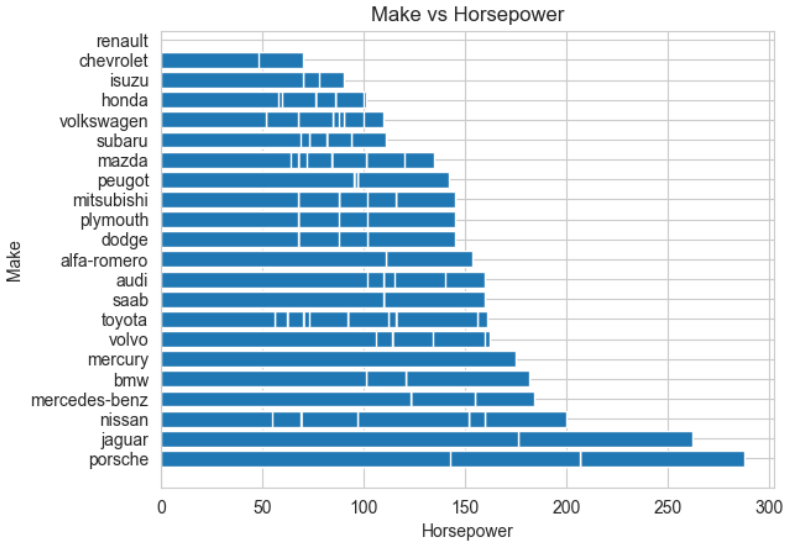
I went on to compare the city miles per gallon and highway miles per gallon to see which fuel type gives you the best fuel consumption. The information in the dataset states that cars that use gas for fuel have a lower highway and city mile per gallon.



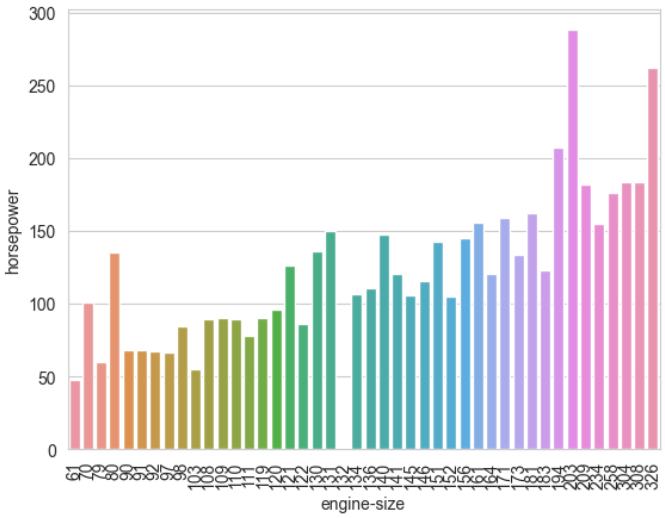
There are multiple car manufacturers that have been included in this dataset. With this dataset I wanted to see which manufacturers make the most expensive cars. The manufacturers of the top five(5) most expensive cars are: Jaguar, Mercedes-Benz, Porsche, BMW and Volvo.



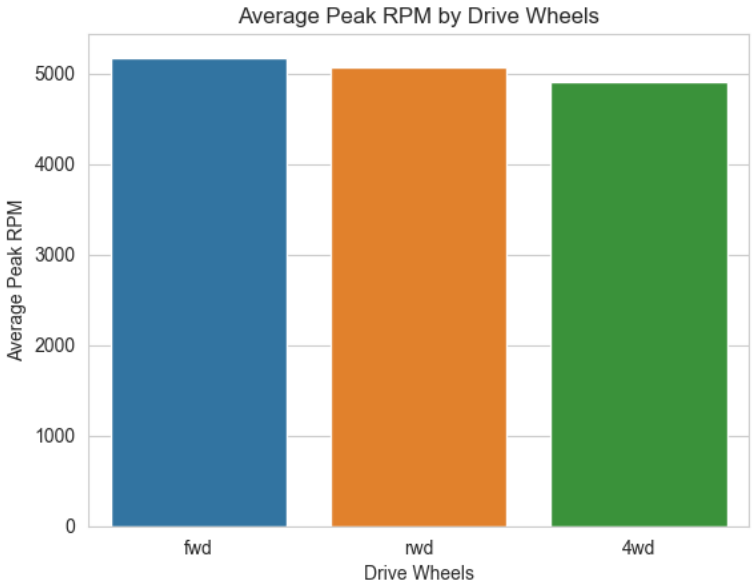
I also went on to explore which cars have the most horsepower. After exploring the dataset I have found out that the cars with the most horsepower are: Porsche with 288 horsepower, Jaguar with 262 horsepower and Porsche with 207 horsepower.



After exploring the manufacturer prices and horsepower I went on to explore which engine sizes have the most horsepower. Using this dataset I have discovered that the engine sizes with the highest average horsepower are: 326, 308, 304, 258 and 234.



Lastly, I went on to explore which wheel drive option has the most horsepower. Using this dataset I have discovered that front wheel drive cars have the most horsepower followed by rear wheel drive and four(4) wheel drive.



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