Cars Analysis - Toolbox Assignment

Boris HD

5/9/2021

Overview

This file "Cars Analysis.Rmd" is an R Markdown document as part of the "Peer-graded Assignment: Assemble your toolbox" for the Coursera "Data Scientist Toolbox" assignment.

The Coursera-DS-Toolbox.Rproj file contains the RStudio project file. The Cars-Analysis.pdf file is the result of using the **Knit** button. This document includes both content as well as the output of any embedded R code chunks within this file document.
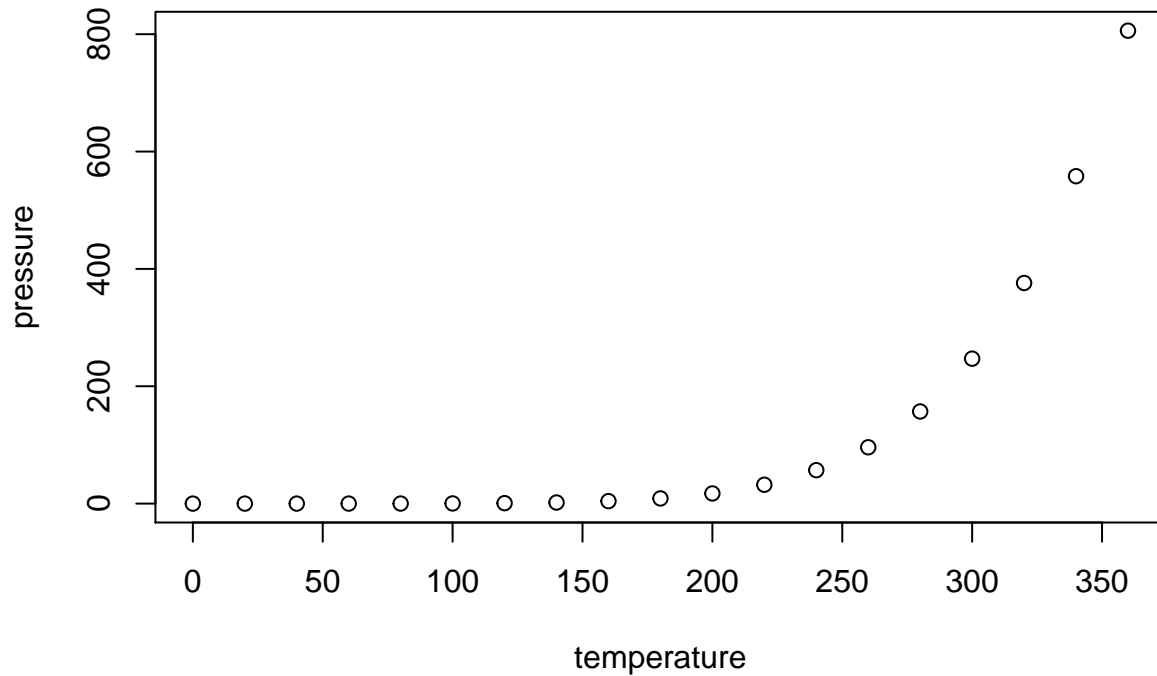
Loading cars data

The code below loads the "cars" dataset and displays a summary of the "speed" and "dist" attributes:

```
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

Simple Plot

The simple plot chart below displays the pressure as a function of the temperature:

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Additional content

Below is the additional content used to provide more information on cars data using the ggplot2 package. *Please make sure the "ggplot2" package is installed, using the "install.packages("ggplot2')" command*

The chart below displays a scatter-plot where the mpg on a highway is a function of the displacement 'displ' of the engine. Additionally, the plots are categorized by the class of the car. Each class is represented by a different color.
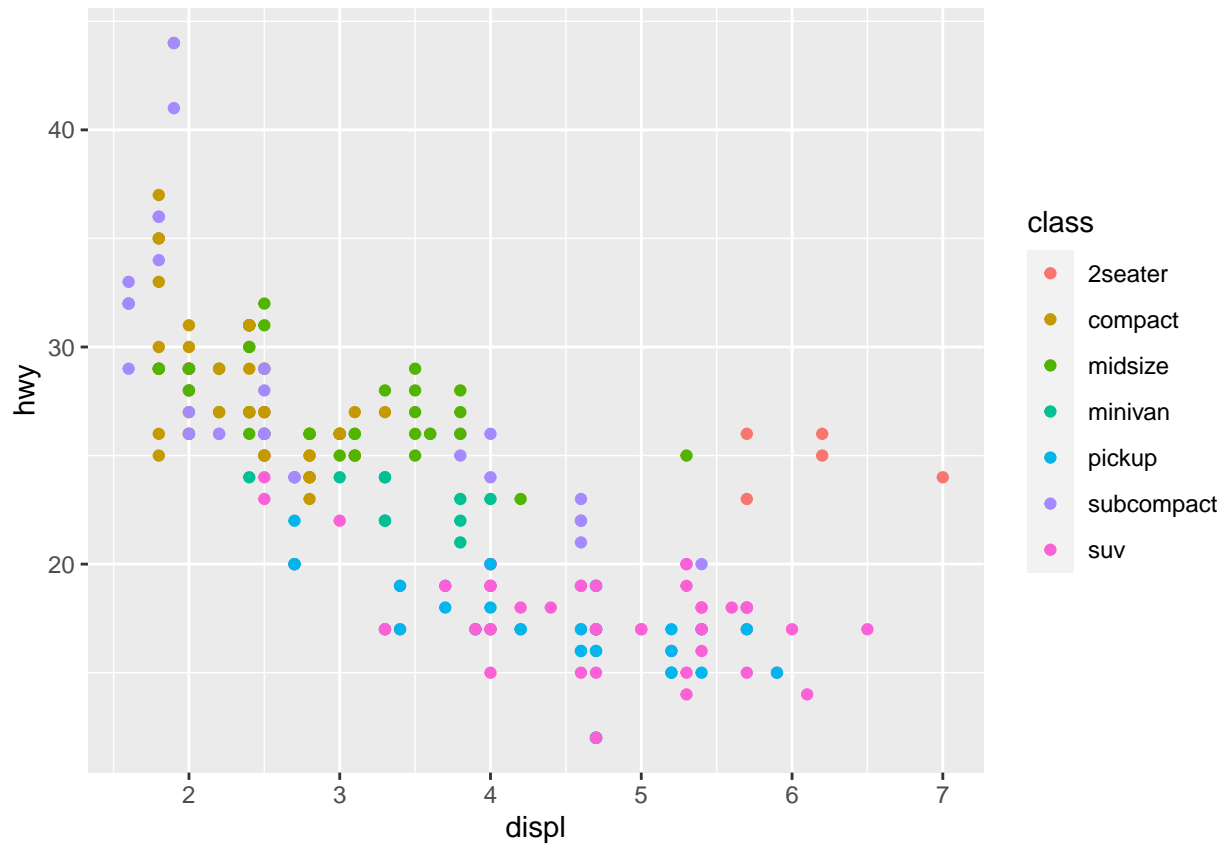
Through the chart we can identify a correlation between the displacement and the highway mpg, where the bigger the displacement, the lower the mpg. We can also identify another correlation, between the size of the car and the displacement, where the bigger the car the bigger the engine displacement. One notable exception, the "2seater" class; while being small cars tend to have a high displacement, yet a lower highway mpg compared to other car classes with a similar displacement.