Visualizing Car Data with ggplot2 in R

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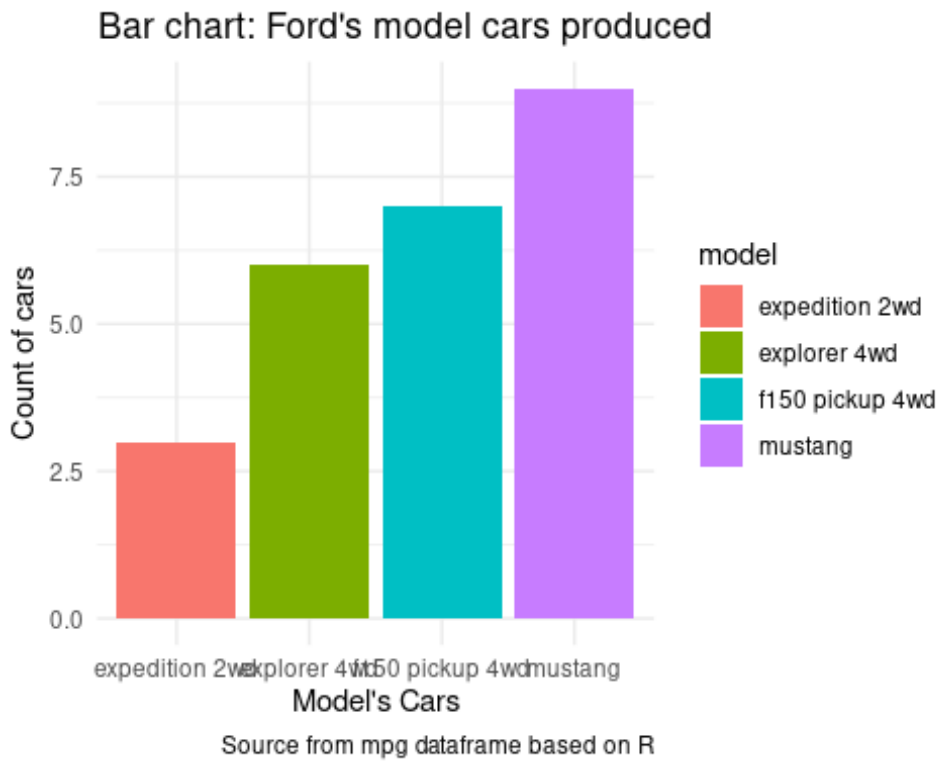
2024-01-09

install packages and call library must using

```
install.packages("ggplot2")
install.packages("tidyverse")

library(ggplot2)
library(tidyverse)
```

Chart 1. Bar plot >>> to find the popular model produced by Ford's cars.

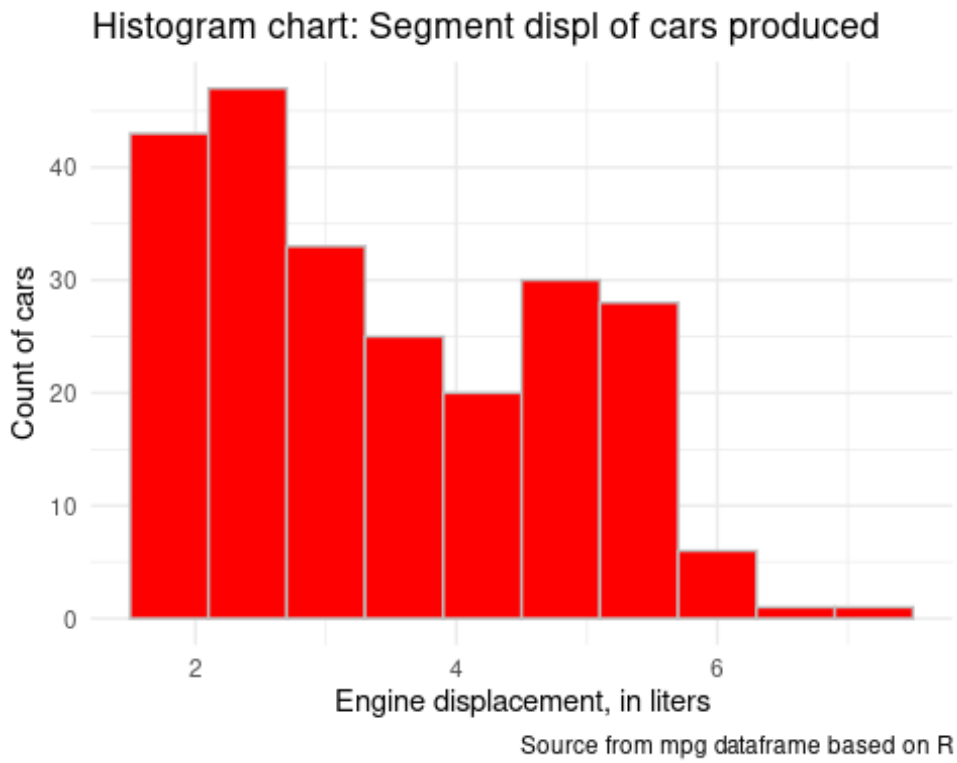
```
ggplot( mpg %>%
          filter( manufacturer
 == "ford" ), aes( x = model, fill = model ) ) +
          geom_bar() +
          theme_minimal() +
          labs( title = "Bar chart: Ford's model cars produced",
                x = "Model's Cars",
                y = "Count of cars",
                caption = "Source from mpg dataframe based on R")
```



insight Chart 1. : The Mustang is the most popular model car produced by Ford's manufacturer.

Chart 2. Histogram plot >>> to Segment 'displ' (or engine displacement, in liters) of cars was produced.

```
ggplot( mpg, aes( x = displ ) ) +
          geom_histogram( bins = 10, fill = "red", col = "grey") +
          theme_minimal() +
          labs( title = "Histogram chart: Segment displ of cars produced",
                x = "Engine displacement, in liters",
                y = "Count of cars",
                caption = "Source from mpg dataframe based on R" )
```

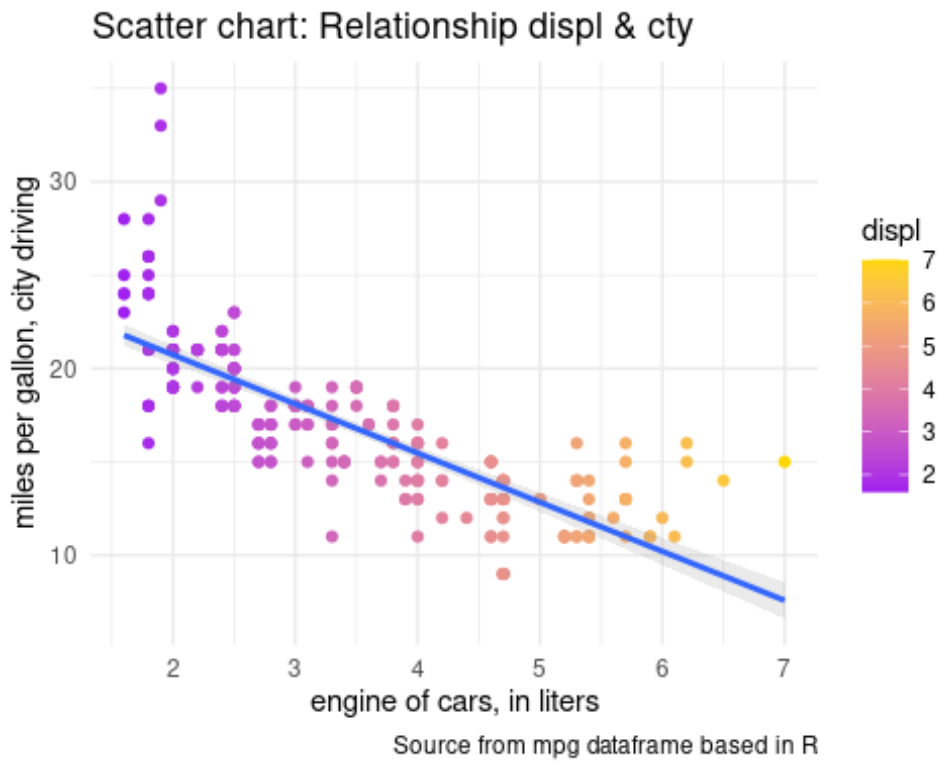


insight: If a car's have 'displ'(or engine displacement) more than 6 liters, it is less was produced.

Chart 3. Scatter plot >>> to find a relationship between 'displ'(or engine displacement, in liters) and 'cty'(or city distance, in miles per gallon).

```
ggplot( mpg, aes( x = displ, y = cty, color = displ) ) +
          geom_point() +
          geom_smooth( method = "lm", alpha = 0.2 ) +
          scale_color_gradient( low = "purple", high = "gold") +
          theme_minimal() +
          labs( title = "Scatter chart: Relationship displ & cty",
                x = "engine of cars, in liters",
                y = "miles per gallon, city driving",
                caption = "Source from mpg dataframe based in R" )
```

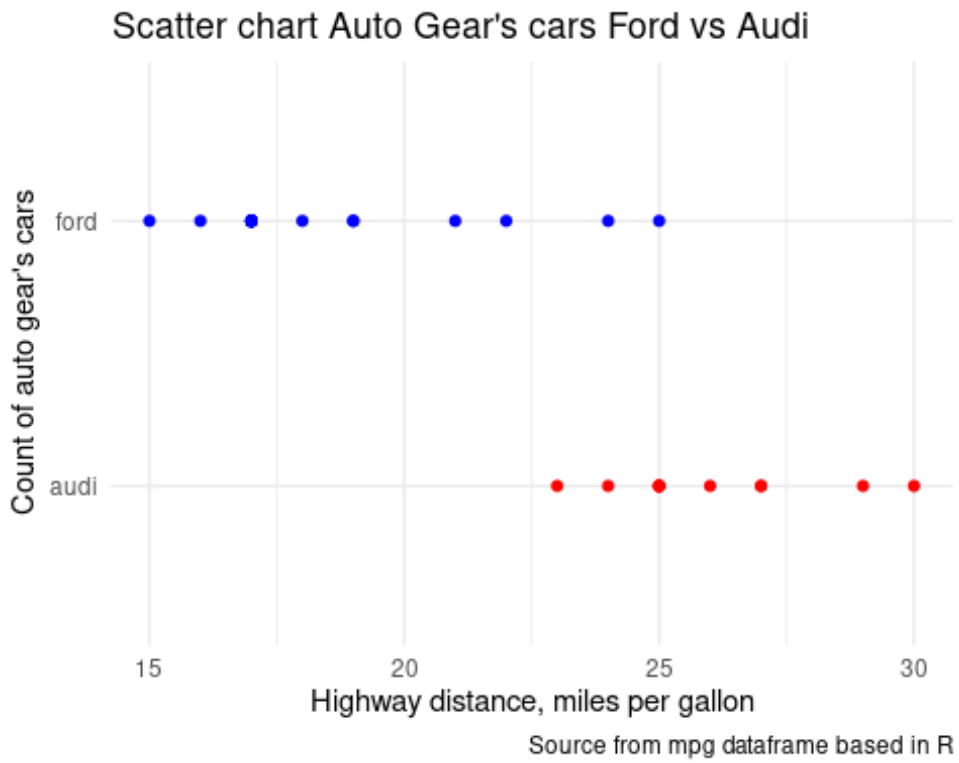
```
## Warning: The following aesthetics were dropped during statistical
transformation: colour
## ℹ This can happen when ggplot fails to infer the correct grouping
structure in
##   the data.
## ℹ Did you forget to specify a `group` aesthetic or to convert a numerical
##   variable into a factor?
```



insight: If a car's 'displ'(or engine displacement) has more liters, it can drive less distance in the city.

Chart 4. Scatter plot by 2 data.frame >>> to compare Ford and Audi by auto gear, which one can drive long distances on highways?

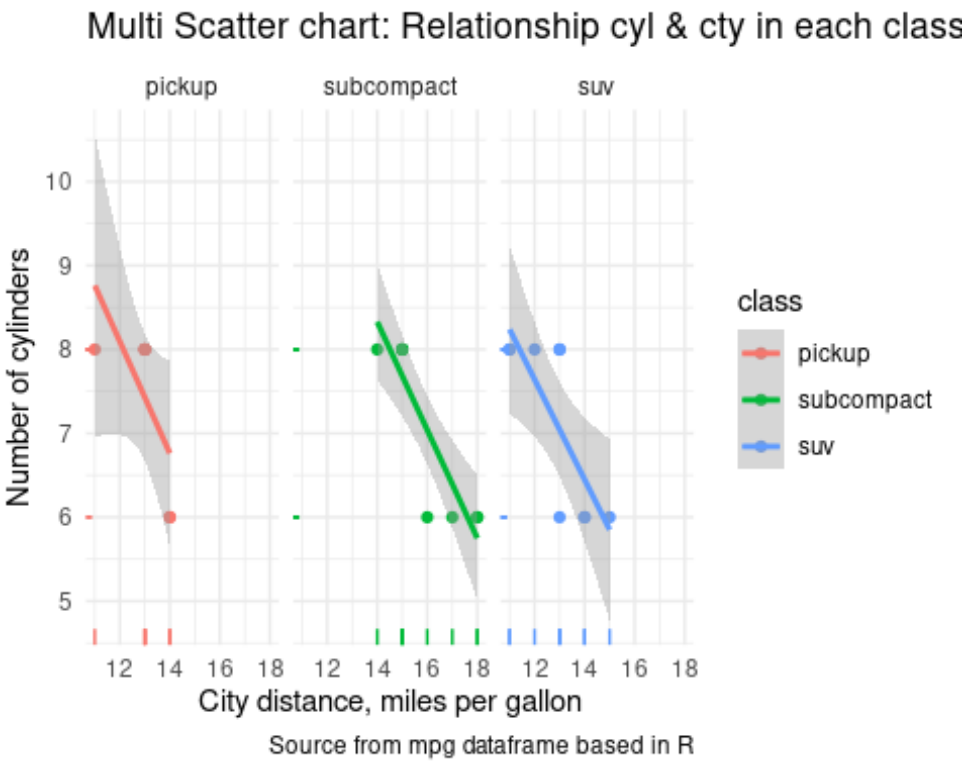
```
ford_auto <- mpg %>%
              select( manufacturer, trans, hwy ) %>%
              filter( manufacturer == "ford" & grepl( "auto", mpg$trans ) )
audi_auto <- mpg %>%
              select( manufacturer, trans, hwy ) %>%
              filter( manufacturer == "audi" & grepl( "auto", mpg$trans ) )

ggplot() +
  geom_point( data = ford_auto, aes( x = hwy , y = manufacturer ), color =
"blue" ) +
  geom_point( data = audi_auto, aes( x = hwy , y = manufacturer ), color =
"red" ) +
  theme_minimal() +
  labs( title = "Scatter chart Auto Gear's cars Ford vs Audi",
        x = "Highway distance, miles per gallon",
        y = "Count of auto gear's cars",
        caption = "Source from mpg dataframe based in R")
```



insight: When comparing two manufacturer's cars with auto gear, Audi can drive on the highway for more distance than Ford.

Chart 5. Scatter plot with Mapping + Facet >>> to find the relationship between 'cyl' (or number of cylinders) and 'cty' (or city distance, in miles per gallon), in each class of cars.

```
ggplot( mpg  %>%
          filter( manufacturer == "ford"),
        aes( x = cty, y = cyl, color = class) ) +
  geom_point() +
  geom_smooth( method = "lm") +
  geom_rug() +
  facet_grid( ~class ) +
  theme_minimal() +
  labs( title = "Multi Scatter chart: Relationship cyl & cty in each class",
        x = "City distance, miles per gallon",
        y = "Number of cylinders",
        caption = "Source from mpg dataframe based in R")
```



insight: The subcompact class of Ford has six cylinders; it's the best Eco's car.