EXPLORING THE MTCARS DATA FRAME

OVERVIEW

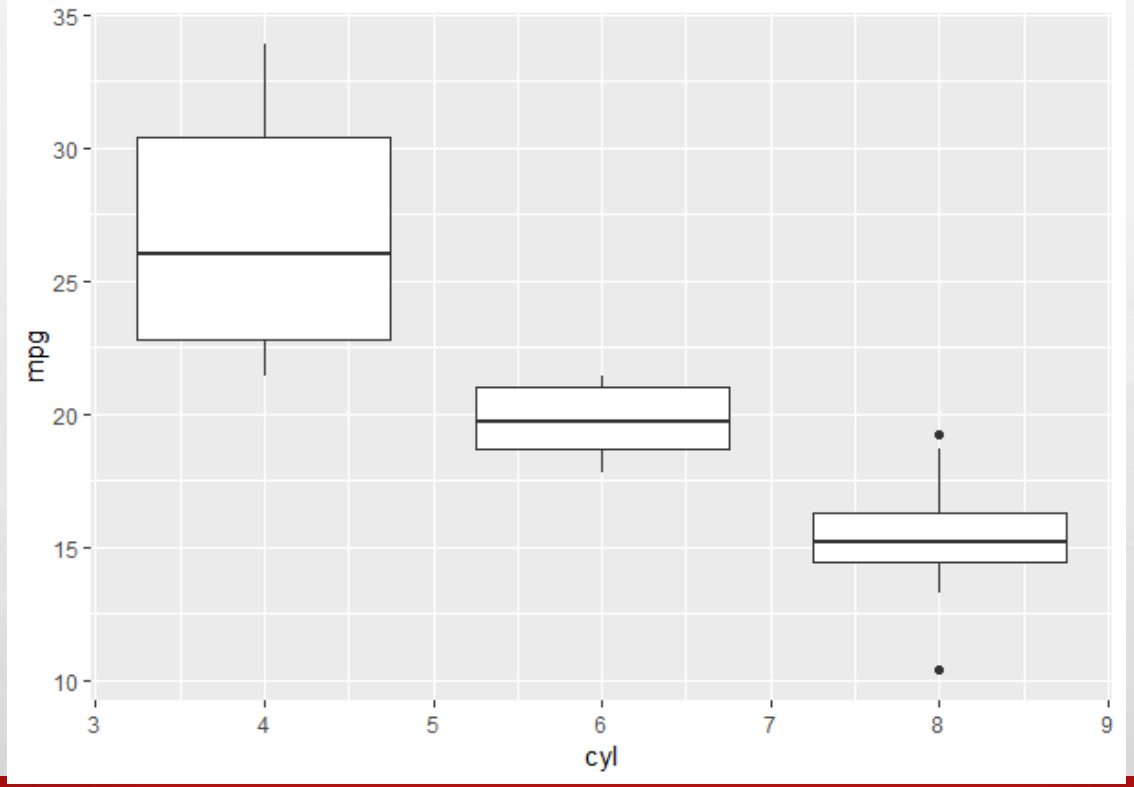
- VIEW THE DATA
- RELATIONSHIP BETWEEN MPG AND NUMBER OF CYLINDERS
- DETERMINE THE FREQUENCY OF EACH CYLINDER TYPE

VIEWING THE DATA

```
> mtcars
                   mpg cyl  disp  hp drat    wt  qsec vs am gear carb
Mazda RX4         21.0   6 160.0 110 3.90 2.620 16.46  0  1    4    4
Mazda RX4 Wag     21.0   6 160.0 110 3.90 2.875 17.02  0  1    4    4
Datsun 710        22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1
Hornet 4 Drive    21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1
Hornet Sportabout 18.7   8 360.0 175 3.15 3.440 17.02  0  0    3    2
Valiant           18.1   6 225.0 105 2.76 3.460 20.22  1  0    3    1
Duster 360        14.3   8 360.0 245 3.21 3.570 15.84  0  0    3    4
Merc 240D         24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2
Merc 230          22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2
Merc 280          19.2   6 167.6 123 3.92 3.440 18.30  1  0    4    4
Merc 280C         17.8   6 167.6 123 3.92 3.440 18.90  1  0    4    4
Merc 450SE        16.4   8 275.8 180 3.07 4.070 17.40  0  0    3    3
```

RELATIONSHIP BETWEEN MPG AND THE NUMBER OF CYLINDERS

WITH MORE CYLINDERS, THE MPG LOWERS




```
library("ggplot2")
ggplot(mtcars, aes(x = cyl, y = mpg)) + geom_boxplot(aes(group=cyl))
```

FREQUENCY OF CYLINDER TYPES

Eight cylinder cars are most common

Four cylinder cars are least common

```
> mtcars %>% group_by(cyl) %>% summarize(count = n())
# A tibble: 3 x 2
    cyl count
  <dbl> <int>
1     4    11
2     6     7
3     8    14
```

SUMMARY AND CONCLUSIONS

- IN THE 1974 MOTOR TREND MAGAZINE, SPORTS CARS WITH EIGHT CYLINDERS WERE MORE LIKELY TO BE MENTIONED THAN CARS WITH OTHER NUMBERS OF CYLINDERS.
- WE CAN SEE THAT AS THE NUMBER OF CYLINDERS INCREASES, THE MPG DECREASES.
- THE CARS IN MOTOR TREND MAGAZINE MAY NOT HAVE BEEN AS POPULAR DURING THE OIL CRISES FOR THIS REASON.