

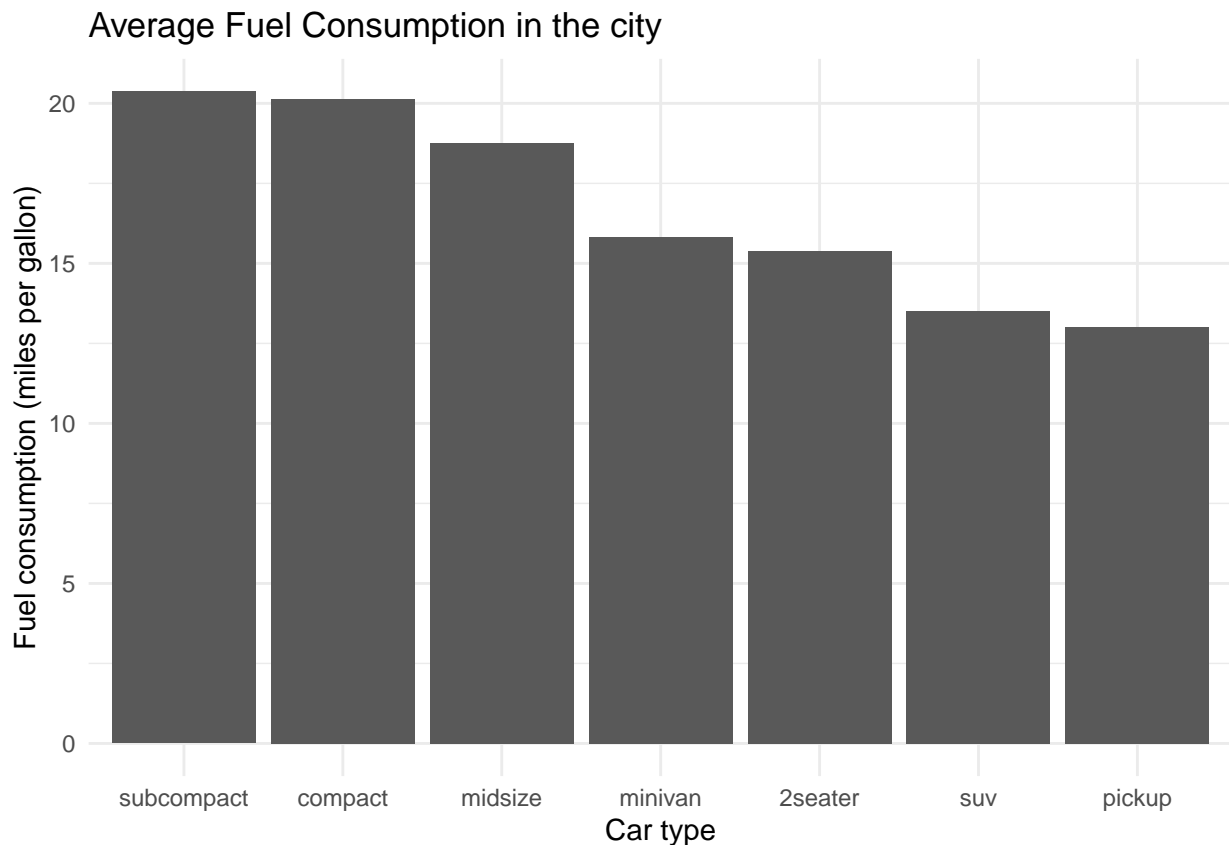
# Data Visualization R

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```
library(dplyr)
library(tidyverse)

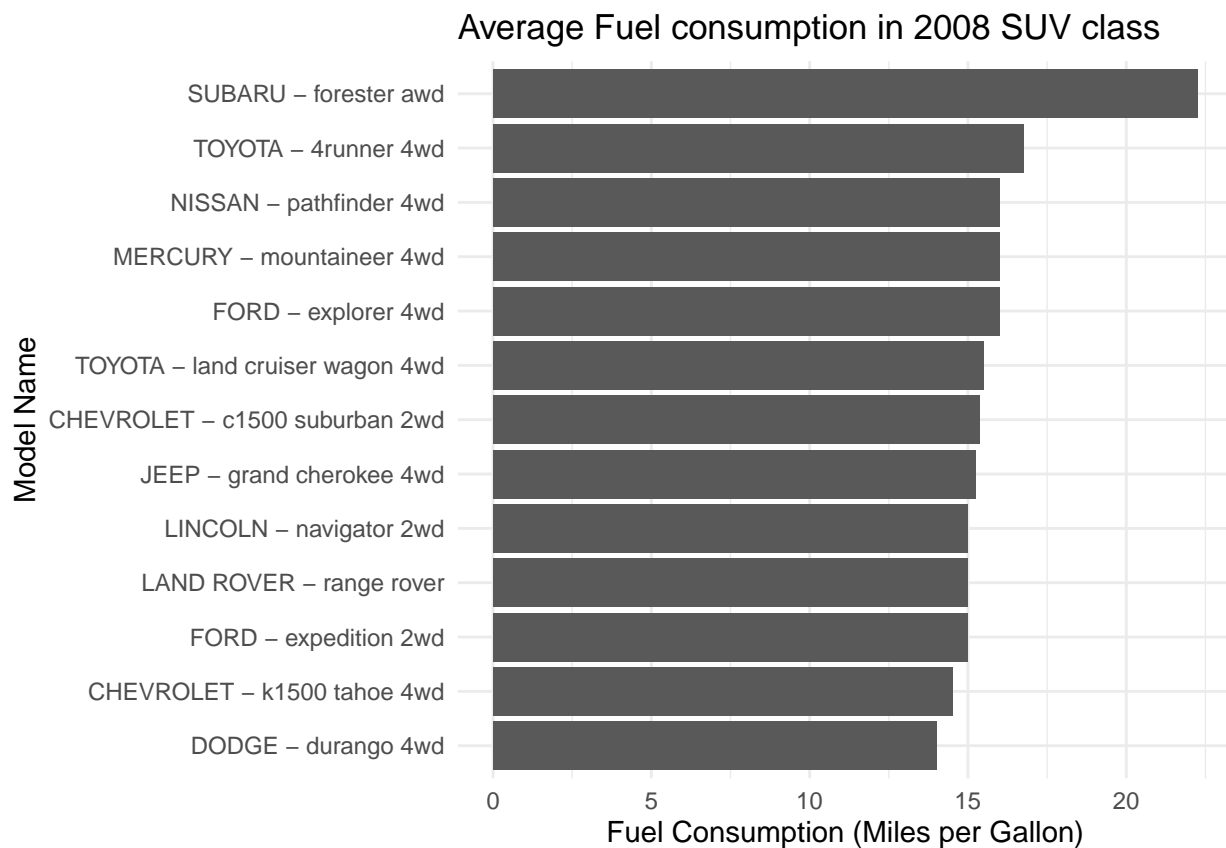
##Q1 Fuel consumption in each car type

mpg_cty <- mpg %>%
  select(class,cty) %>%
  group_by(class) %>%
  summarise(avg_cty = mean(cty)) %>%
  ggplot( aes(x = reorder(class, desc(avg_cty)) , y = avg_cty)) +
  geom_col() +
  theme_minimal() +
  labs( title = "Average Fuel Consumption in the city",
        y = "Fuel consumption (miles per gallon)",
        x = "Car type"
        )
mpg_cty
```

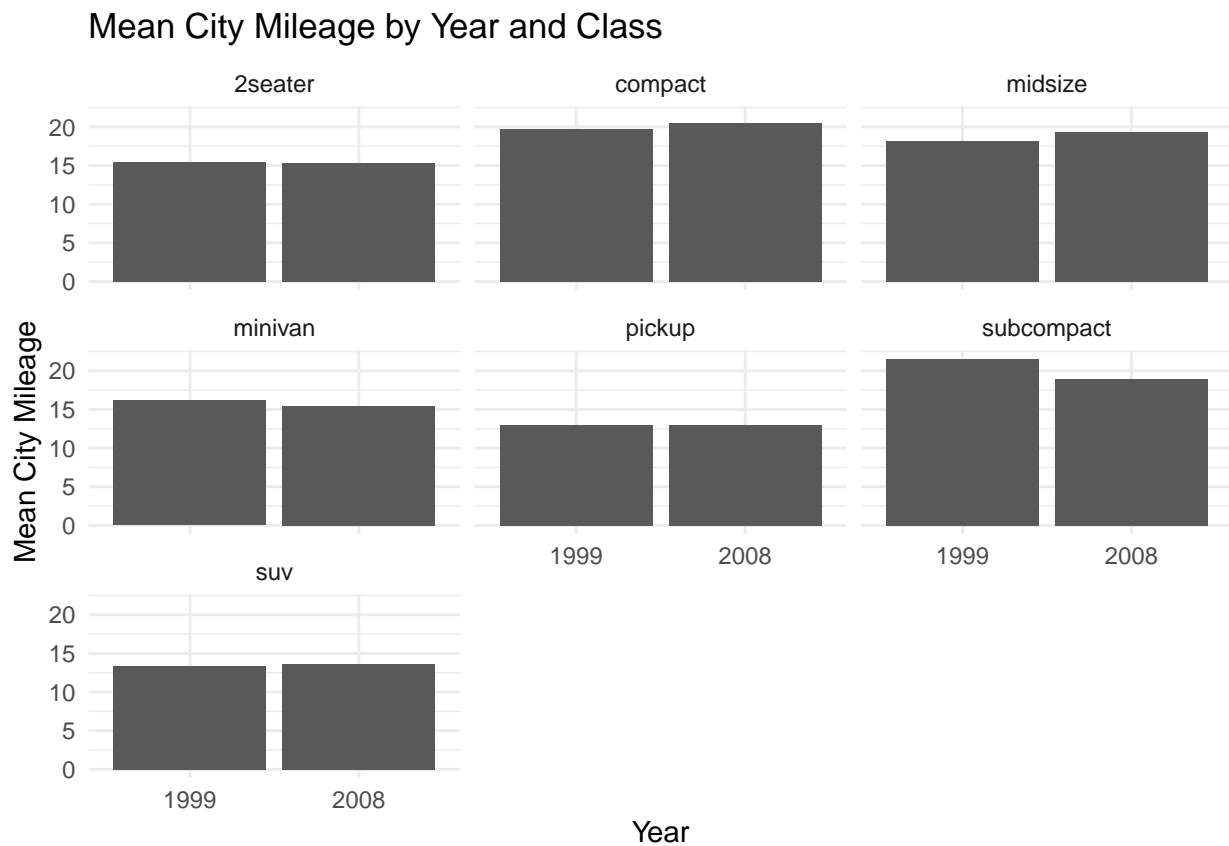


```
##Q2 Average Fuel consumption of SUV in 2008
suv_segment <- mpg %>%
  select(manufacturer, model, displ, year, class, hwy, cty) %>%
  filter(year == 2008 & grepl("suv", class)) %>%
  mutate(manu_upper = toupper(manufacturer),
         full_name = paste(manu_upper, model, sep = " - " )) %>%
  group_by(full_name) %>%
  summarise(mean_hwy = mean(hwy),
            mean_cty = mean(cty),
            avg_cons = (mean_hwy+mean_cty)/2
            ) %>%
  ggplot(aes( y = reorder(full_name, avg_cons), x = avg_cons)) +
  geom_col() +
  theme_minimal() +
  labs( title = "Average Fuel consumption in 2008 SUV class",
        x = "Fuel Consumption (Miles per Gallon)",
        y = "Model Name"
        )

suv_segment
```



```
##Q3 Fuel efficiency comparison between 1999 and 2008
f_eff <- mpg %>%
  select(class, cty, year) %>%
  group_by(year, class) %>%
  summarise(avg_ctyQ3 = mean(cty)) %>%
  ggplot(aes(x = as.factor(year), y = avg_ctyQ3)) +
  geom_bar(stat = "identity") +
  facet_wrap(~class) +
  labs(title = "Mean City Mileage by Year and Class",
       x = "Year",
       y = "Mean City Mileage") +
  theme_minimal()
f_eff
```



```
## Q4 Boxplot to classify diamond in each color range
```

```
diamonds_range <- diamonds %>%  
  ggplot(aes(y= carat, x= color, fill=color)) +  
  geom_boxplot() +  
  scale_fill_brewer(palette = "Greens")
```

diamonds\_range

