Homework Data Viz.

Panglukk

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Chart displaying data analysis from the mpg database.

Index

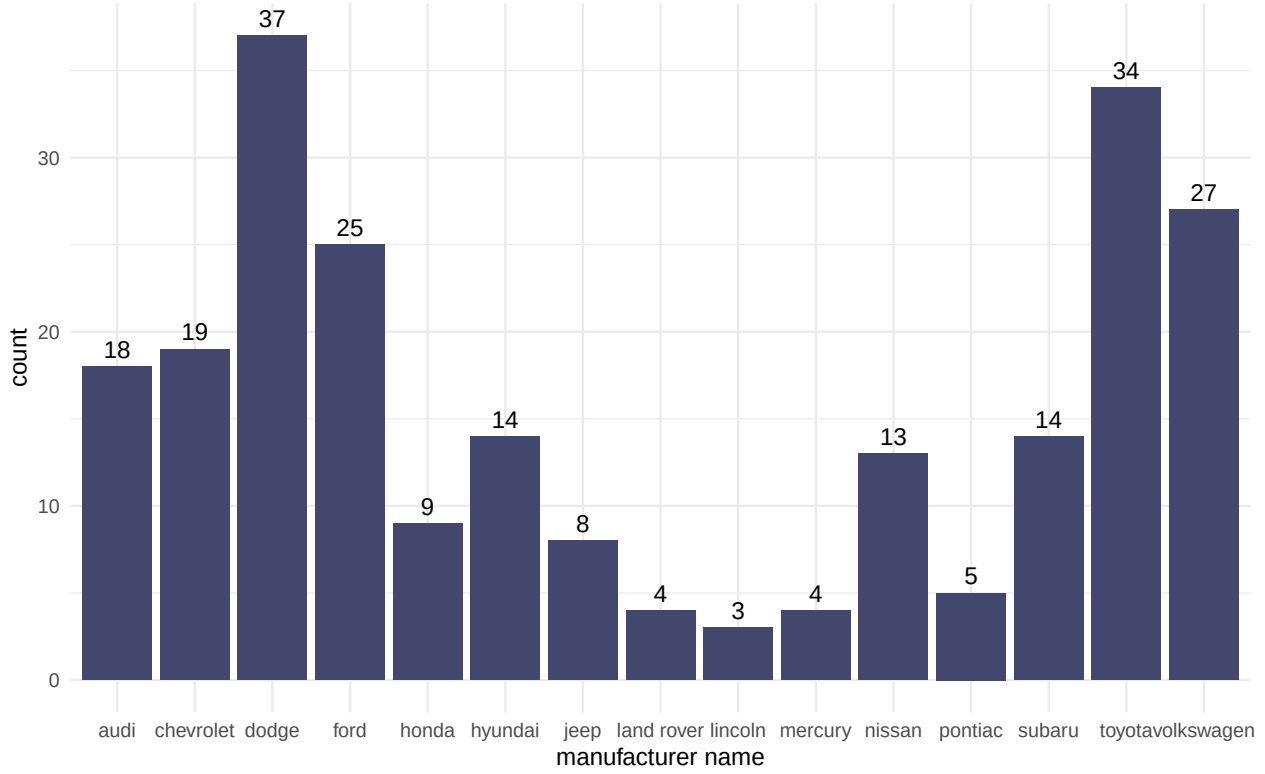
Explor data

```
head(mpg)
```

```
## # A tibble: 6 x 11
##   manufacturer model displ  year   cyl trans      drv     cty   hwy fl    class
##   <chr>        <chr> <dbl> <int> <int> <chr>      <chr> <int> <int> <chr> <chr>
## 1 audi         a4      1.8  1999     4 auto(l5)   f        18    29 p     compa~
## 2 audi         a4      1.8  1999     4 manual(m5) f        21    29 p     compa~
## 3 audi         a4      2    2008     4 manual(m6) f        20    31 p     compa~
## 4 audi         a4      2    2008     4 auto(av)   f        21    30 p     compa~
## 5 audi         a4      2.8  1999     6 auto(l5)   f        16    26 p     compa~
## 6 audi         a4      2.8  1999     6 manual(m5) f        18    26 p     compa~
```

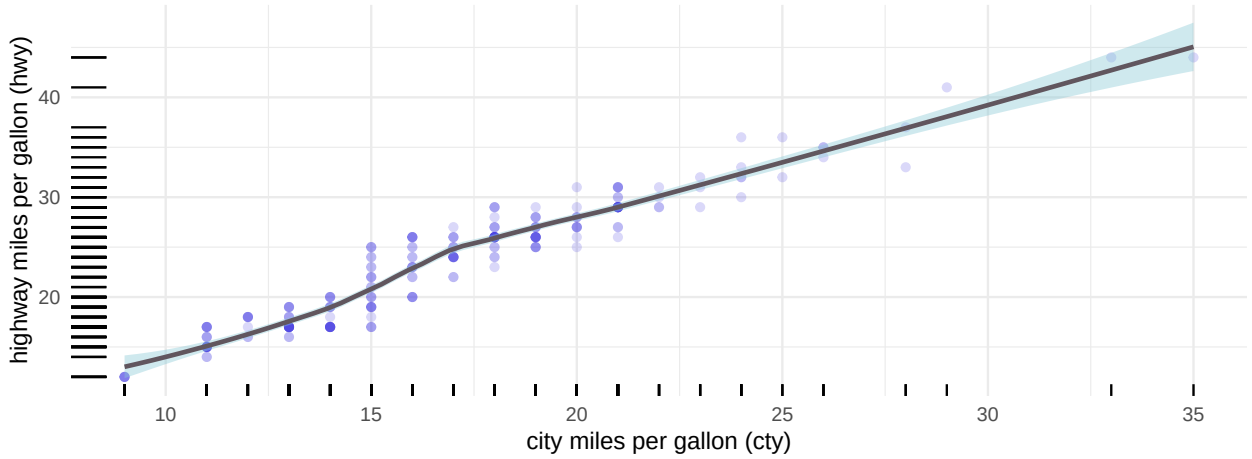
Q1 : Chart showing the number of manufacturers for each brand.

```
ggplot(mpg, aes(manufacturer)) +
  geom_bar(fill = "#43476e") +
  geom_text(stat = "count", aes(label = ..count..), vjust = -0.5) +
  theme_minimal() +
  labs(x = "manufacturer name")
```



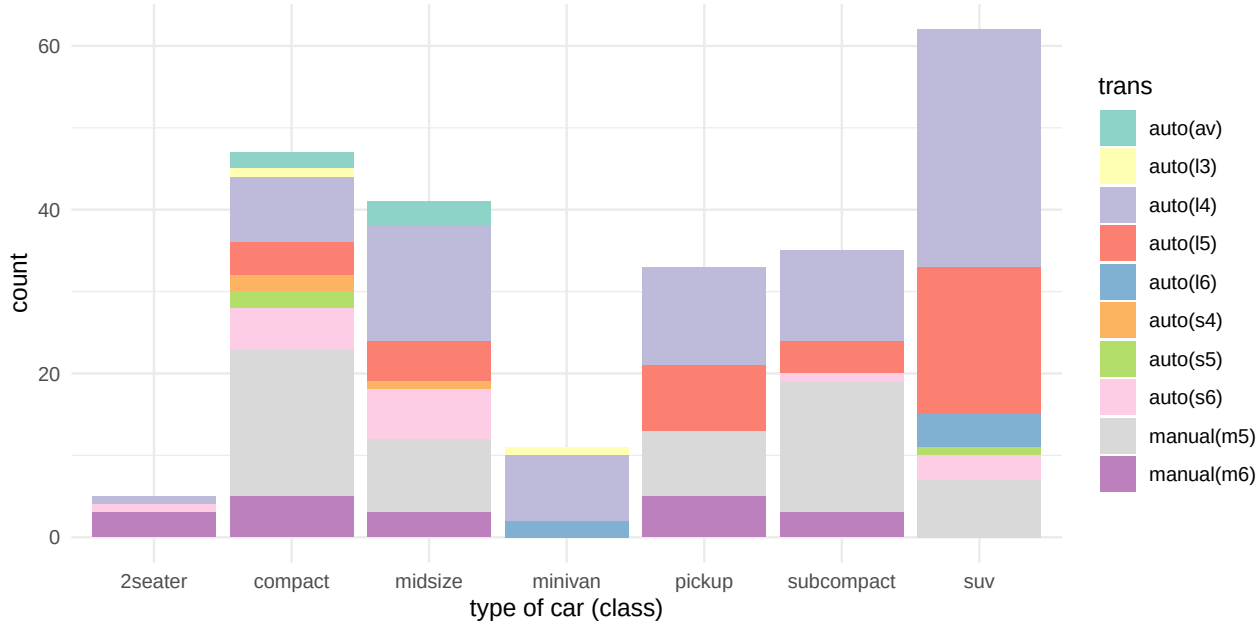
Q2 : Chart showing the relationship between cty and hwy.

```
ggplot(mpg, aes(cty, hwy)) +
  geom_point(alpha = 0.2, color = "#463de3") +
  theme_minimal() +
  geom_smooth(method = "loess", fill = "#89c9d6", color = "#61565e") +
  geom_rug() +
  labs(x = "city miles per gallon (cty)",
       y = "highway miles per gallon (hwy)")
```



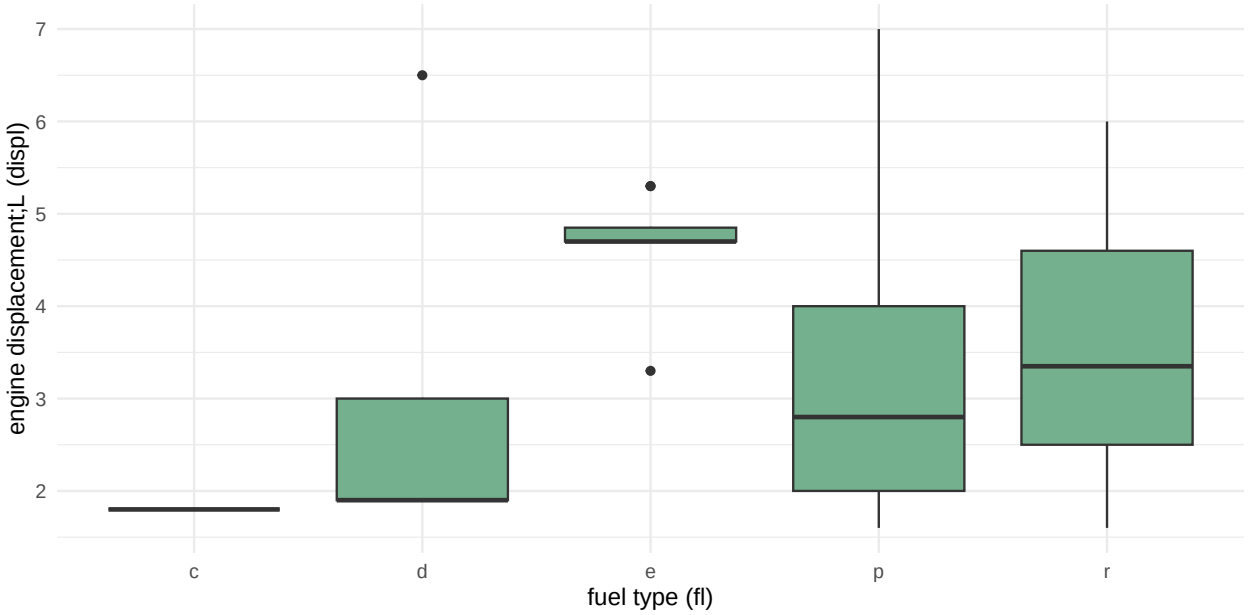
Q3 : Chart showing the usage of transportation types by each type of car.

```
ggplot(mpg, aes(class, fill = trans)) +
  geom_bar() +
  theme_minimal() +
  scale_fill_brewer(palette = "Set3") +
  labs(x = "type of car (class)")
```



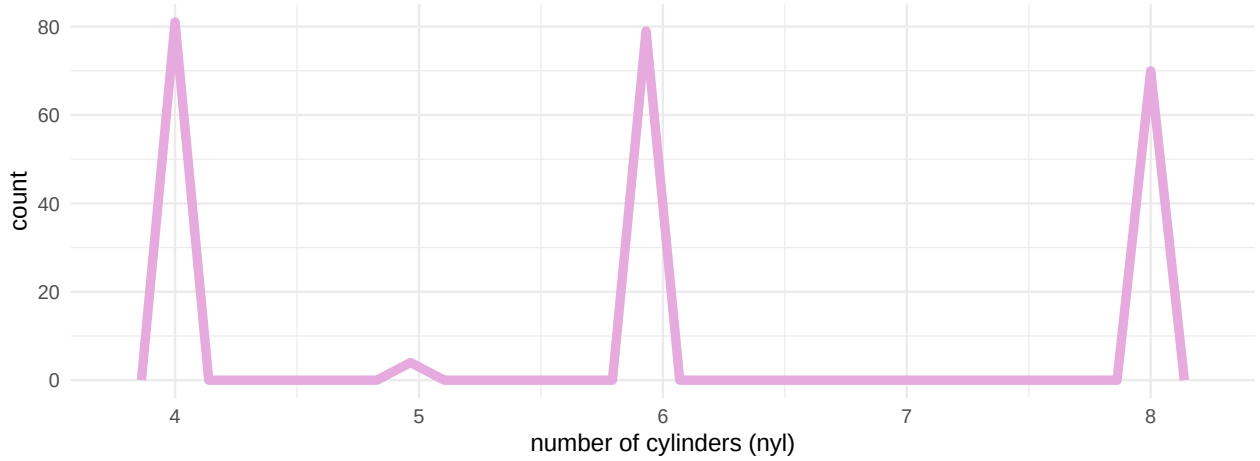
Q4 : Chart showing the fuel consumption for each type of engine displacement.

```
ggplot(mpg, aes(fl, displ)) +
  geom_boxplot(fill = "#74b08d") +
  theme_minimal() +
  labs(x = "fuel type (fl)",
       y = "engine displacement;L (displ)")
```



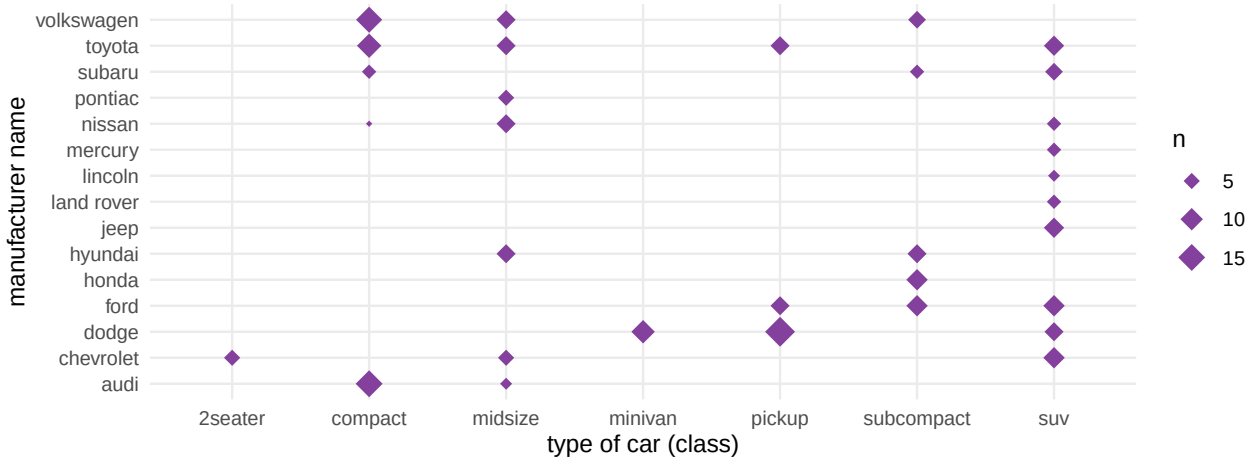
Q5 : Chart showing the number of cylinders used in cars.

```
ggplot(mpg, aes(cyl)) +
  geom_freqpoly(color = "#e6aade", size = 2) +
  theme_minimal() +
  labs(x = "number of cylinders (nyl)")
```



Q6 : Chart showing the names of manufacturers in producing each type of car.

```
ggplot(mpg, aes(class, manufacturer)) +
  geom_count(color = "#83409c", shape ="diamond") +
  theme_minimal() +
  labs(x = "type of car (class)",
       y = "manufacturer name")
```



Q7 : Chart showing the number of cylinders per engine displacement, categorized by transportation type.

```
ggplot(mpg, aes(displ, cyl, color = trans)) +
  geom_point(alpha = 0.4, size = 2) +
  theme_minimal() +
  labs(x = "engine displacement;L (displ)",
       y = "number of cylinders (nyl)")
```