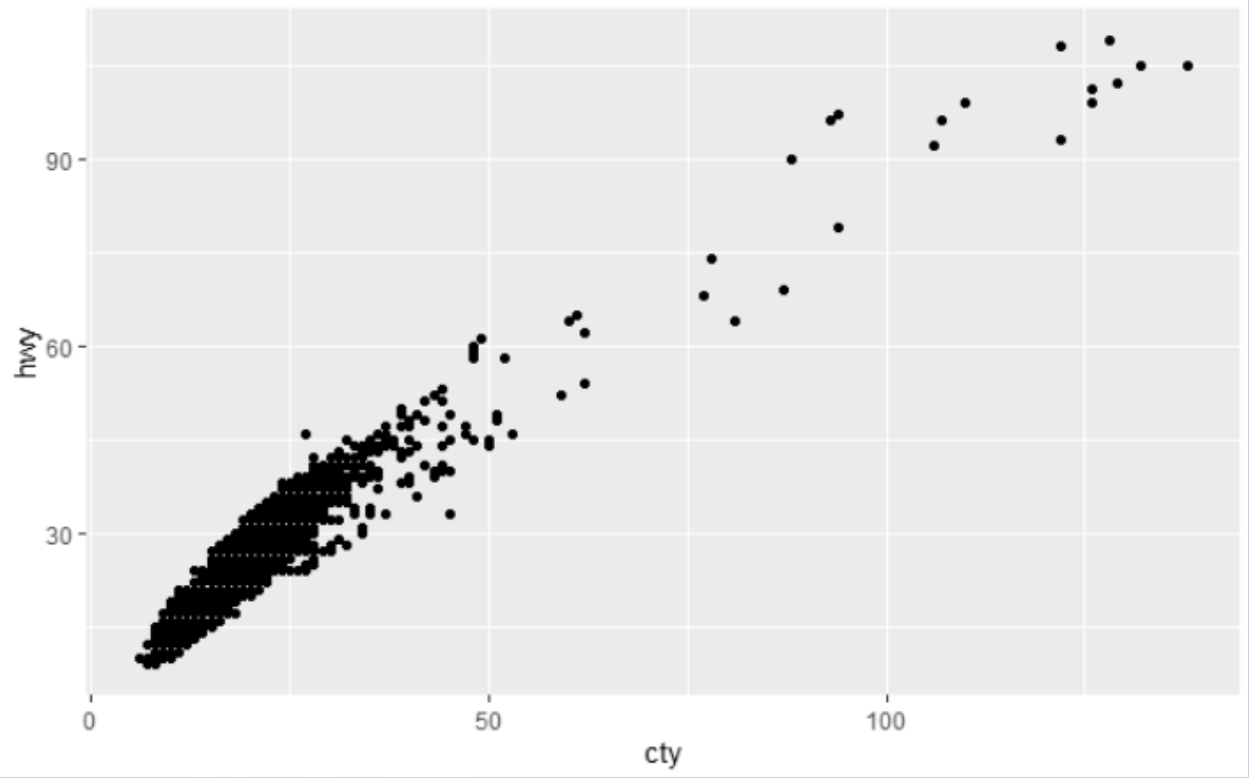
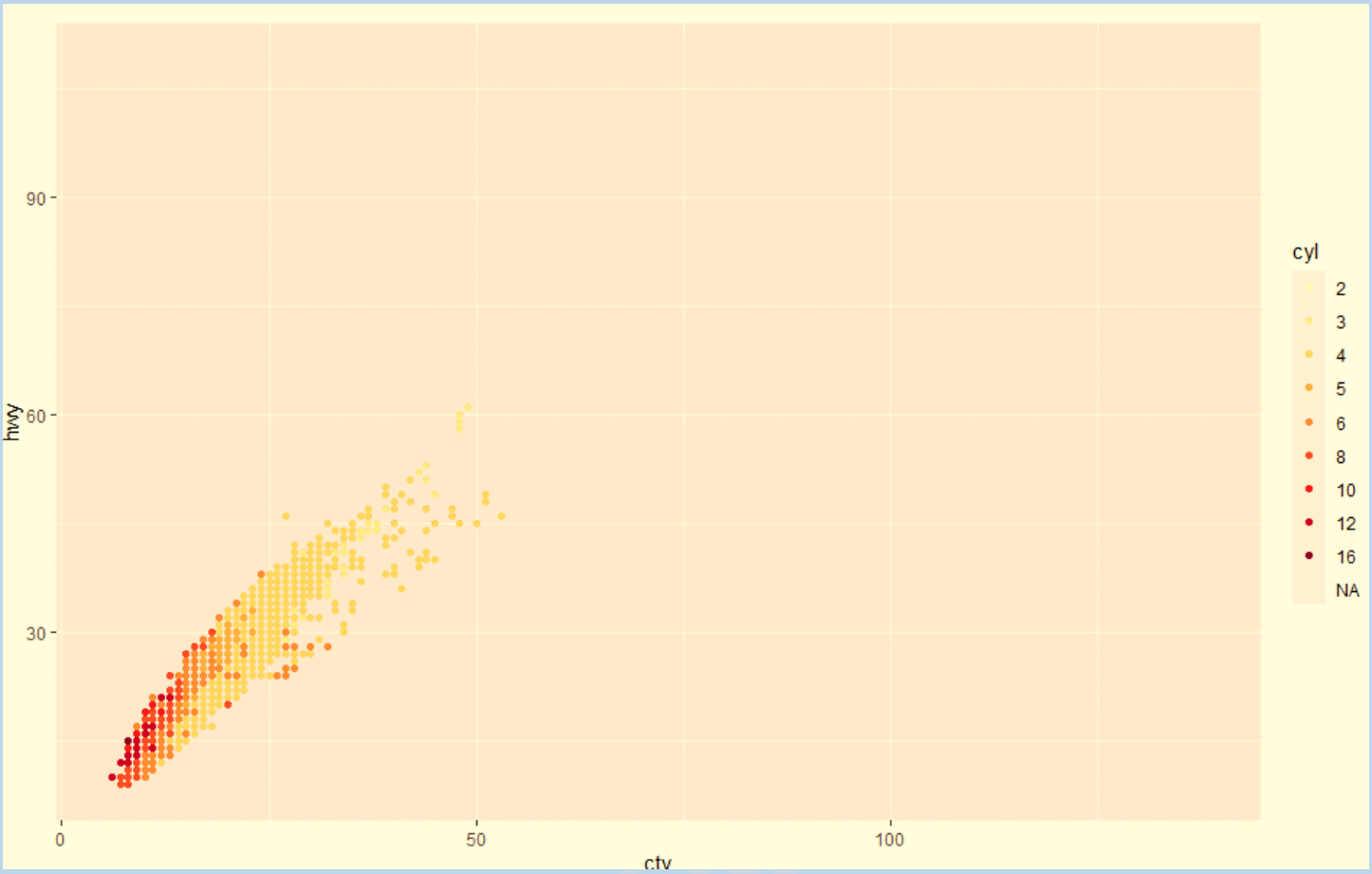
In the name of GOD

Chapter 1

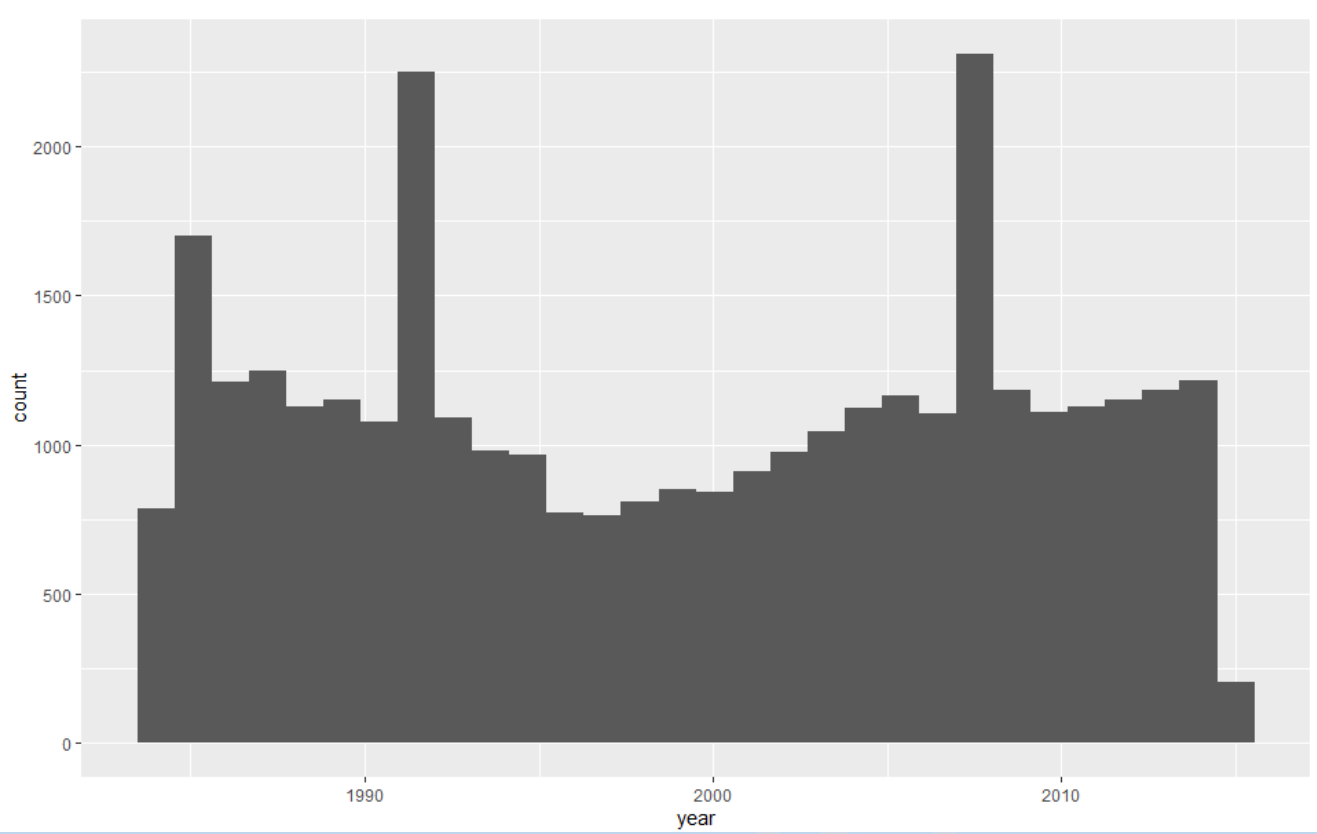
```
> #1#
> library(ggplot2)
> library(fueleconomy)
> data(vehicles)
> #2#
> ggplot(vehicles, aes(x = cty, y = hwy)) +
+   geom_point()
```



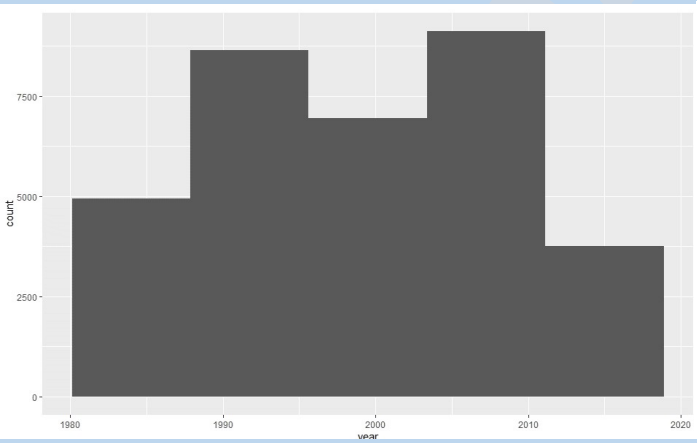

```
> #3#
> vehicles$cyl <- factor(vehicles$cyl)
> #4#
> ggplot(vehicles, aes(x = cty, y = hwy, col = cyl)) +
+   geom_point() +
+   scale_color_brewer(palette = "YlOrRd")
Warning message:
Removed 58 rows containing missing values (geom_point).
>
```

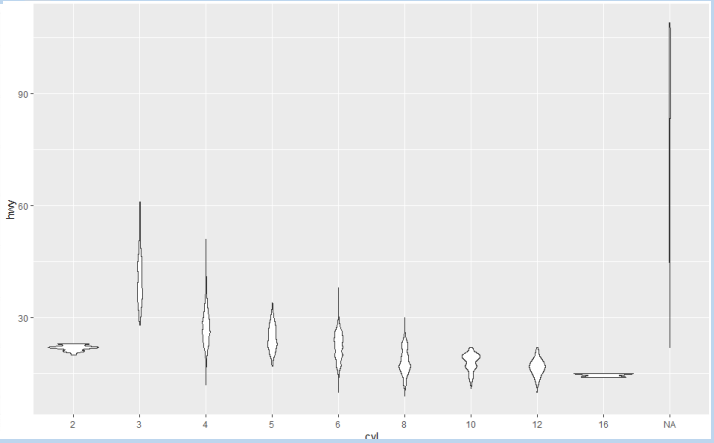



```
> #5#
> ggplot(vehicles, aes(x = year)) +
+   geom_histogram()
`stat_bin()` using `bins = 30`. Pick better value with
`binwidth`.
```



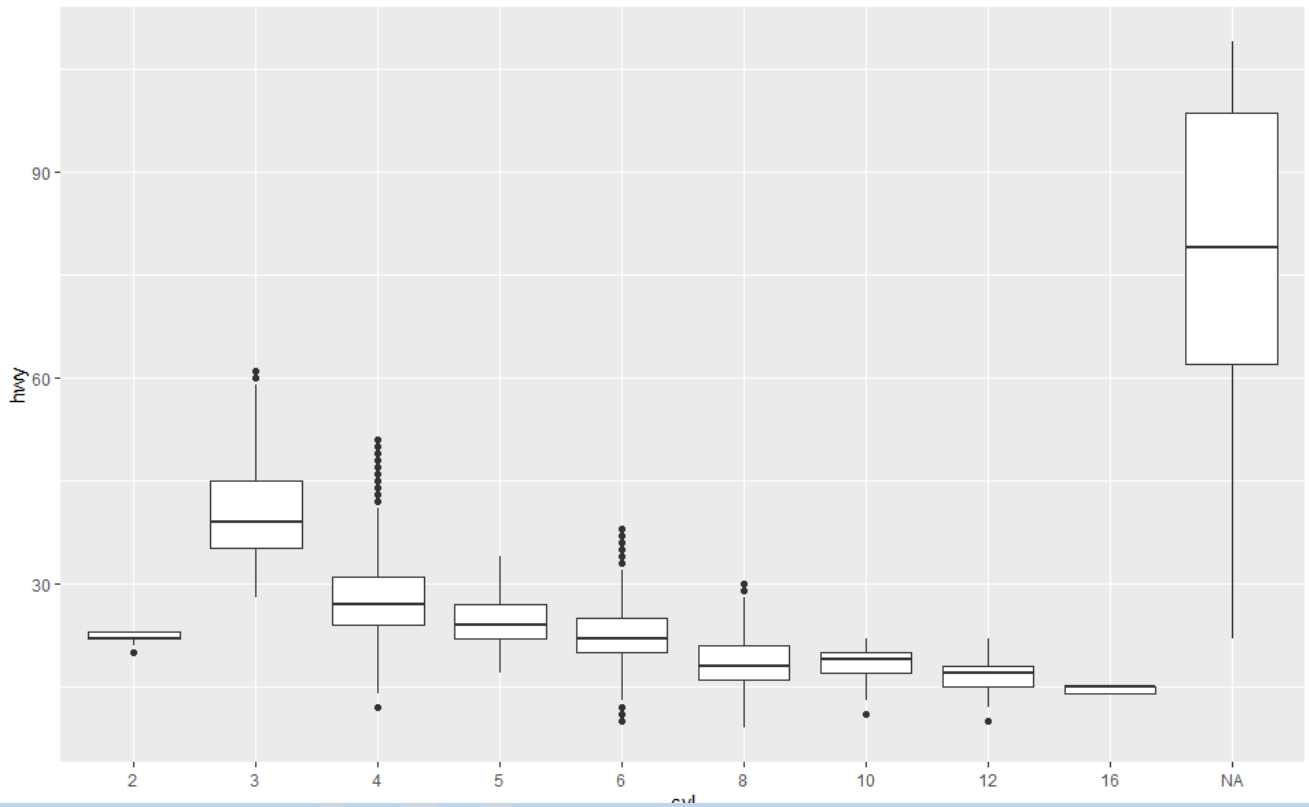

```
> #6#
> ggplot(vehicles, aes(x = year)) +
+   geom_histogram(bins = 5)
> #7#
> ggplot(vehicles, aes(x = cyl, y = hwy)) +
+   geom_violin()
```



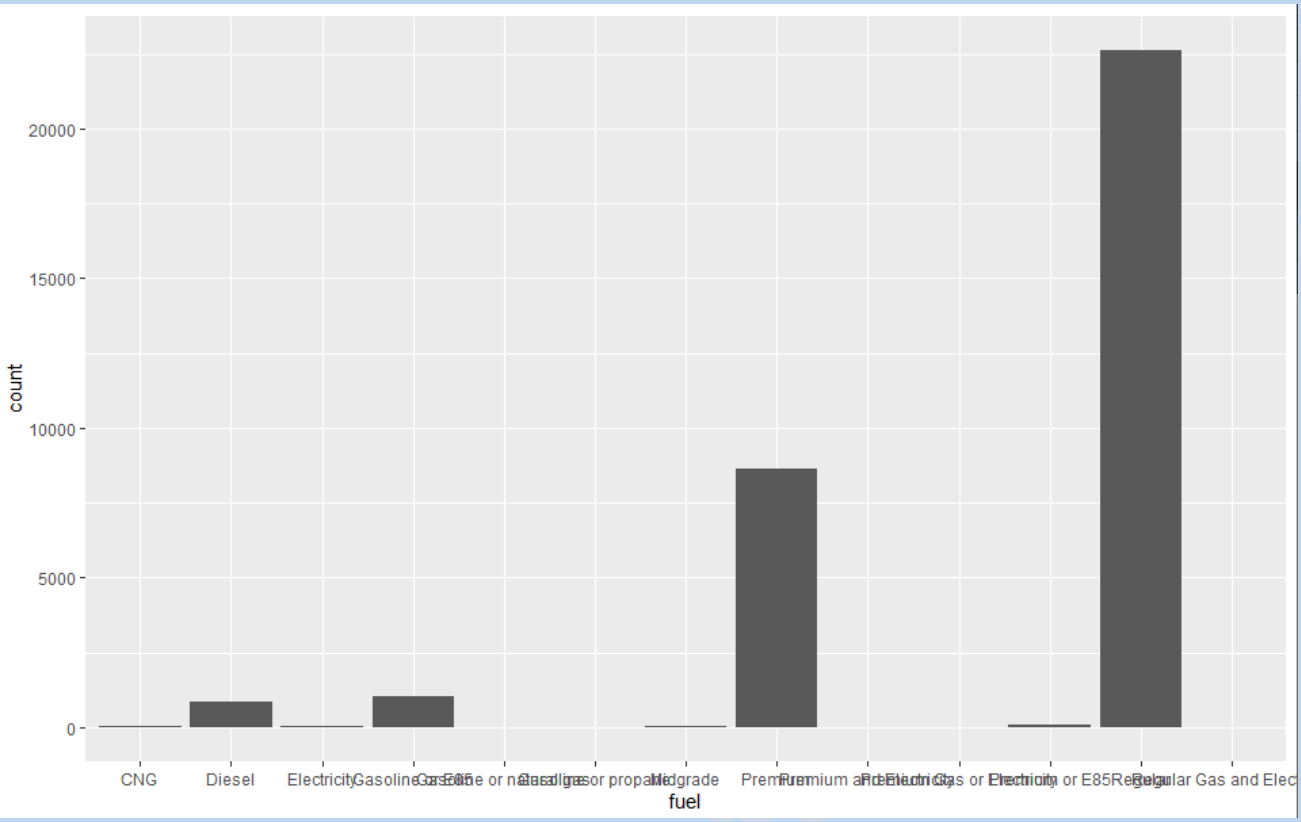


```
> #8#
> ggplot(vehicles, aes(x = cyl, y = hwy)) +
+   geom_boxplot()
> #9#
> ggplot(vehicles, aes(x = fuel)) +
+   geom_bar()
> #10#
> ggplot(vehicles, aes(x = fuel)) +
+   geom_bar() +
+   coord_flip()
```

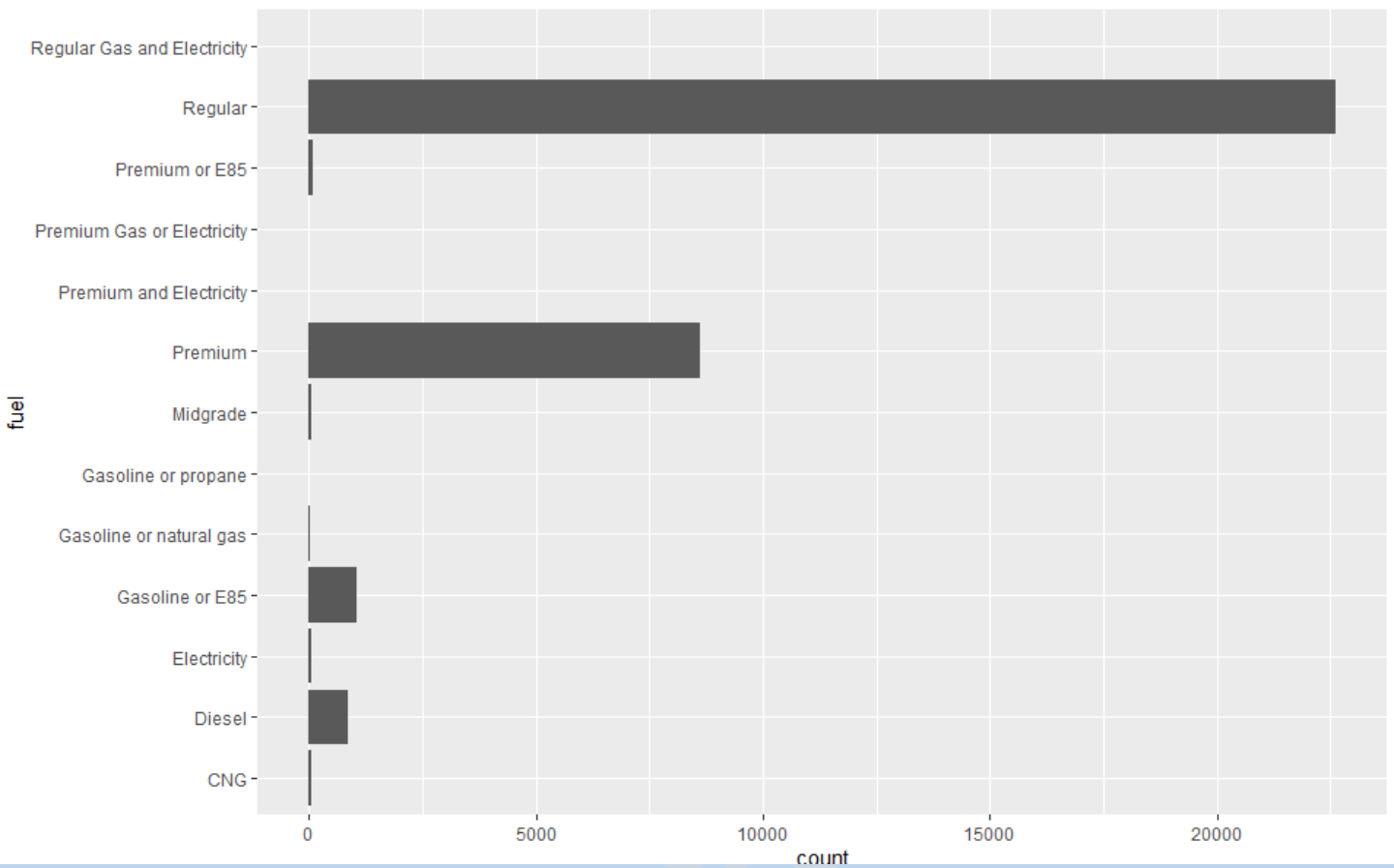
8.



9.

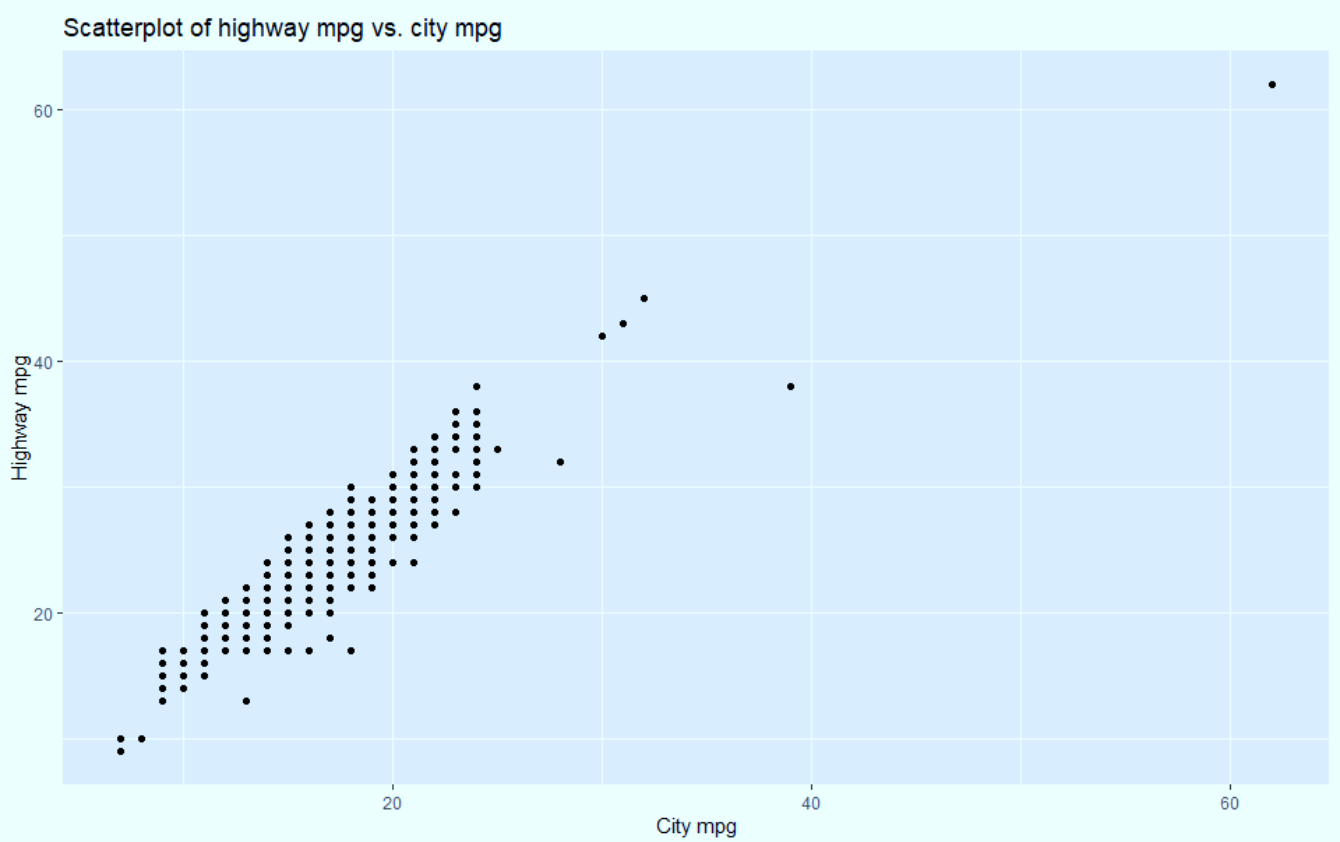

20000
15000
10000
5000
0
count
CNG
Diesel
Electricity
Gasoline or E85
Premium
Regular Gas and Elec
fuel

10.

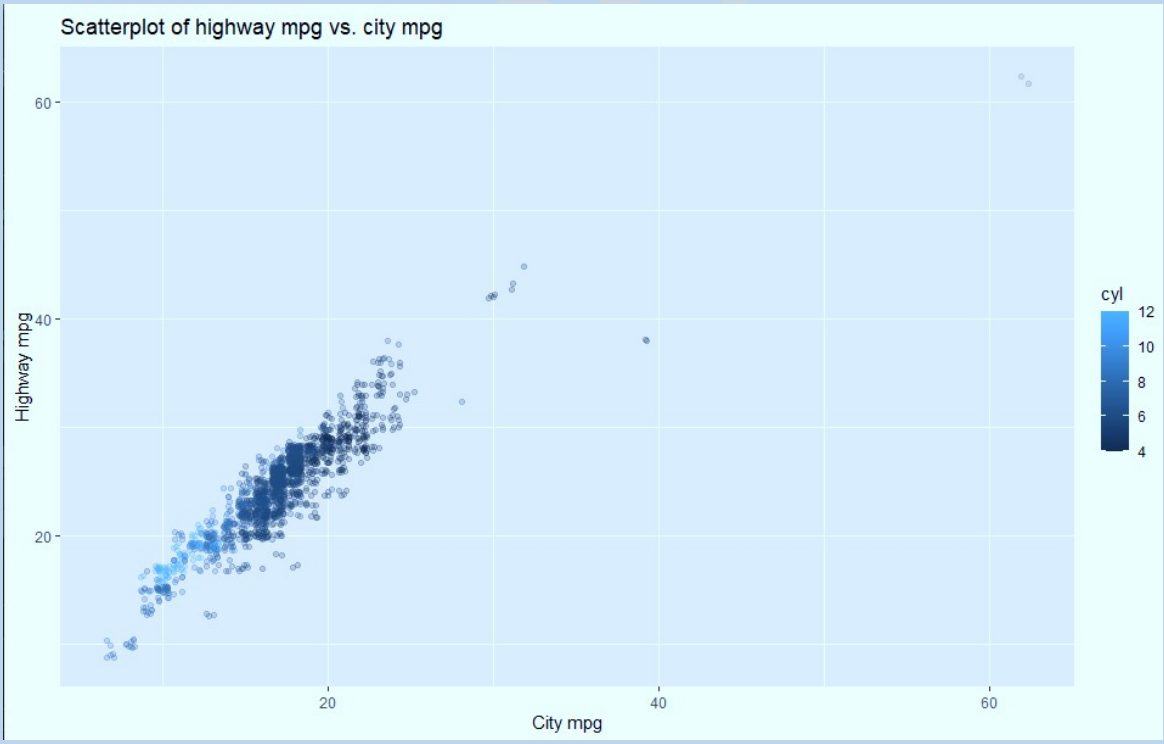


Chapter 2

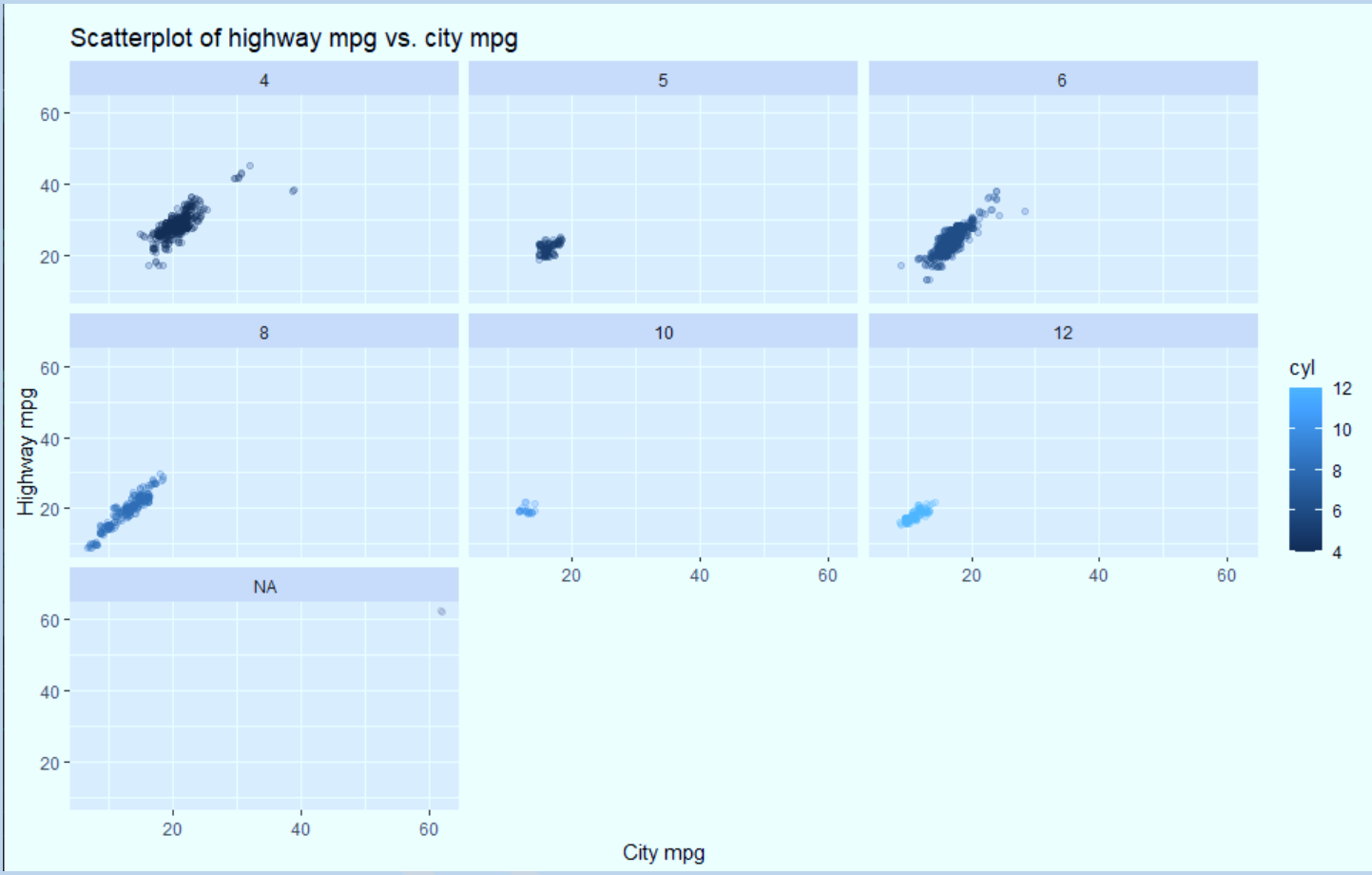
```
> #
> data(vehicles)
> vehicles <- vehicles[1:2000, ]
> #11#
> ggplot(vehicles, aes(x = cty, y = hwy)) +
+   geom_point() +
+   labs(title = "Scatterplot of highway mpg vs. city mpg", x
+        = "City mpg",
+        y = "Highway mpg")
```



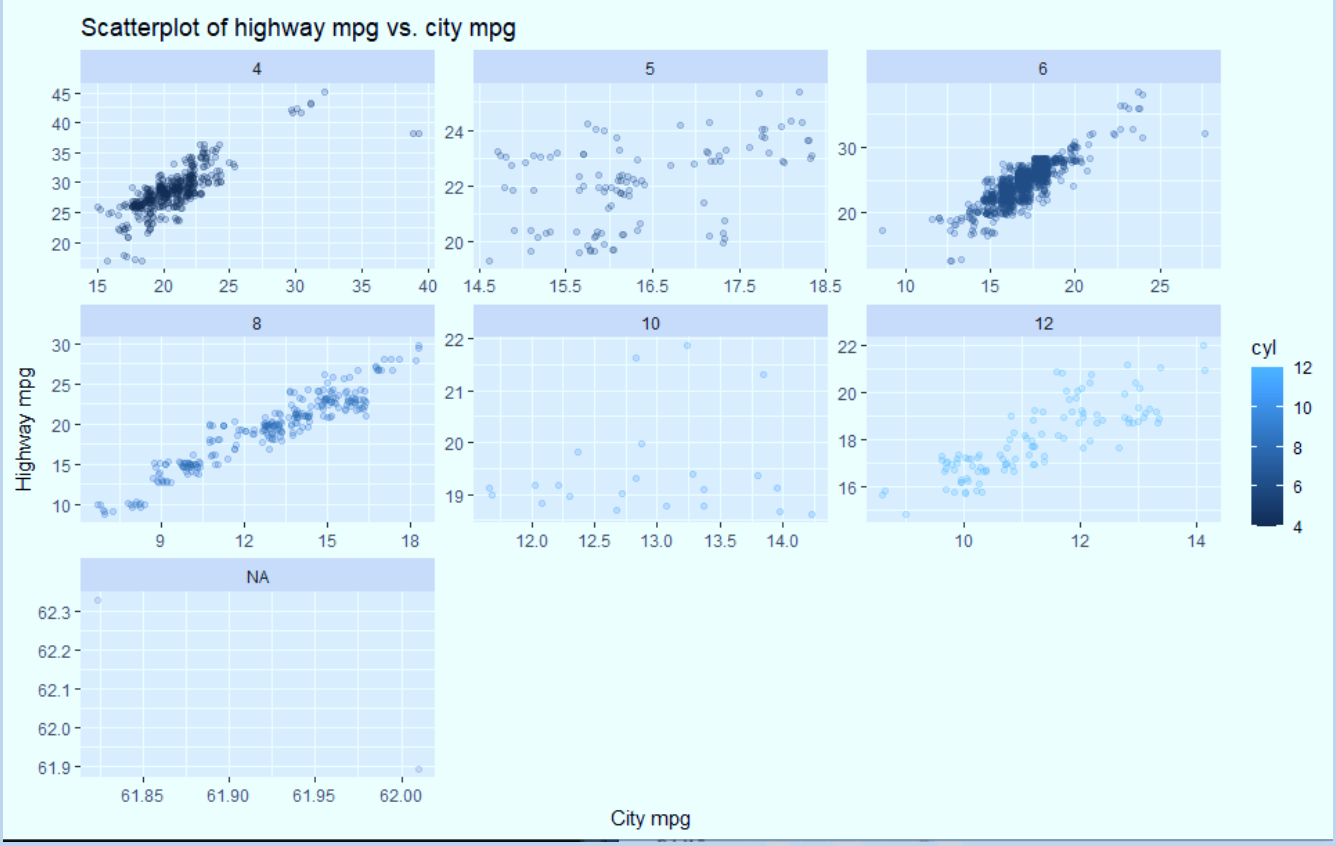

```
> #12#
> ggplot(vehicles, aes(x = cty, y = hwy, col = cyl)) +
+   geom_jitter(alpha = 0.2) +
+   labs(title = "Scatterplot of highway mpg vs. city mpg", x
+        = "City mpg",
+        y = "Highway mpg")
```

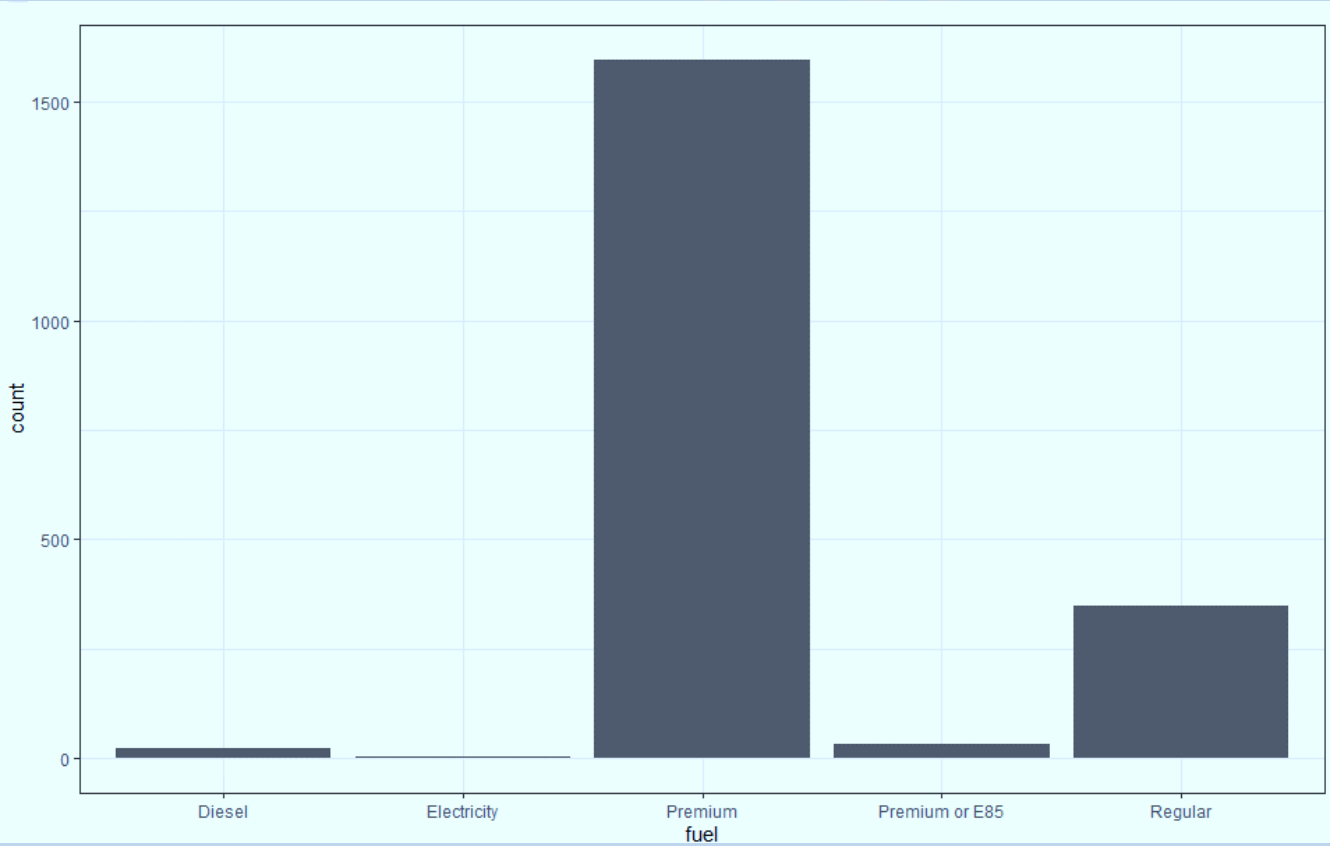


```
> #13#
> ggplot(vehicles, aes(x = cty, y = hwy, col = cyl)) +
+   geom_jitter(alpha = 0.2) +
+   labs(title = "Scatterplot of highway mpg vs. city mpg", x
+        = "City mpg",
+        y = "Highway mpg") +
+   facet_wrap(~ cyl)
```




```
> #14#
> ggplot(vehicles, aes(x = cty, y = hwy, col = cyl)) +
+   geom_jitter(alpha = 0.2) +
+   labs(title = "Scatterplot of highway mpg vs. city mpg", x
+        = "City mpg",
+        y = "Highway mpg") +
+   facet_wrap(~ cyl, scales = "free")
> #14-second #
> ggplot(vehicles, aes(x = fuel)) +
+   geom_bar() +
+   theme_bw()
```


Scatterplot of highway mpg vs. city mpg
4
5
6
8
10
12
NA
Highway mpg
City mpg
cyl
12
10
8
6
4


count
1500
1000
500
0
Diesel
Electricity
Premium
Premium or E85
Regular
fuel

Finish