r4ds Chapter 3
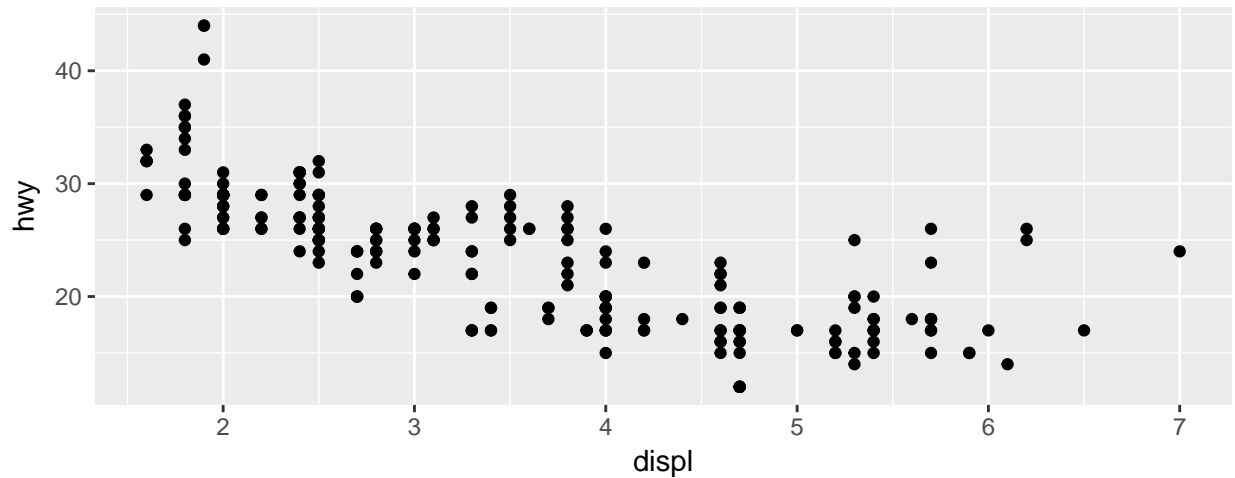
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3.2: First steps

```
ggplot(data = mpg) + geom_point(mapping = aes(x = displ, y = hwy))
```
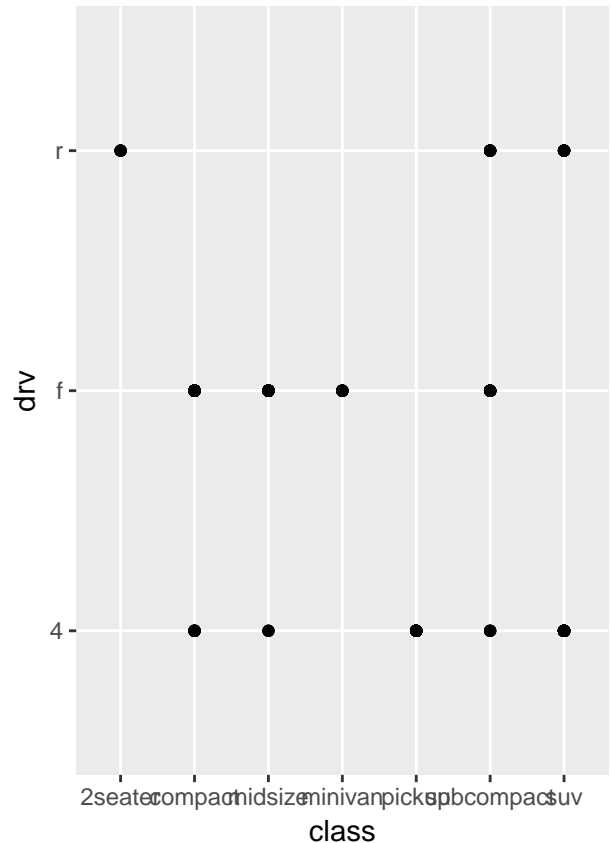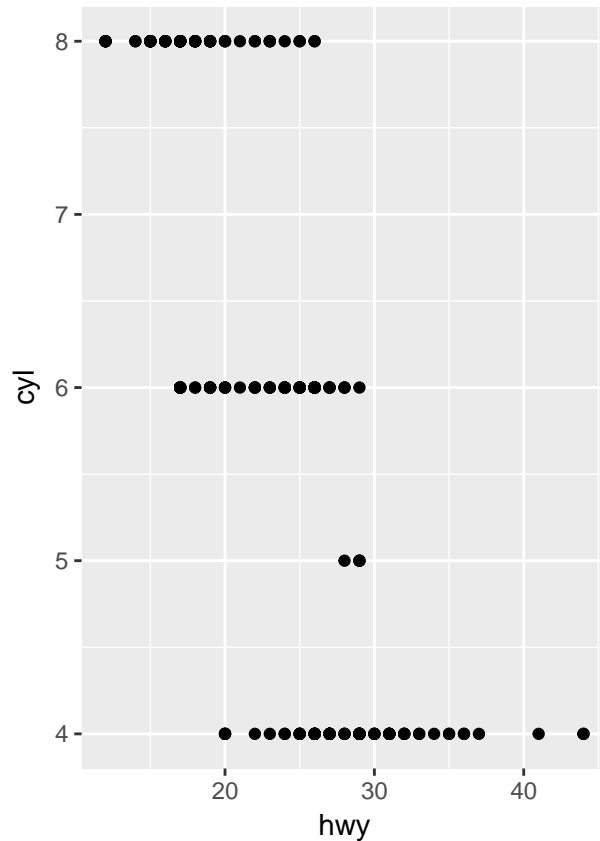

Exercises

```
dim(mpg) # 234 rows, 11 columns
```

drv: f = front-wheel drive, r = rear wheel drive, 4 = 4wd

```
p1 = ggplot(data = mpg) + geom_point(mapping = aes(x = hwy, y = cyl))
p2 = ggplot(data = mpg) + geom_point(mapping = aes(x = class, y = drv))
grid.arrange(p1, p2, ncol = 2)
```

Not useful because we can't see any patterns due to few data points?

3.3: Aesthetic Mappings

```r
p1 = ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy, color = class))

p2 = ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy, size = class))

p3 = ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy, alpha = class))

p4 = ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy, shape = class))

p5 = ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy), color = "blue")

pushViewport(viewport(layout = grid.layout(2, 2)))
print(p1, vp = viewport(layout.pos.row = 1, layout.pos.col = 1))
print(p2, vp = viewport(layout.pos.row = 1, layout.pos.col = 2))

## Warning: Using size for a discrete variable is not advised.
```
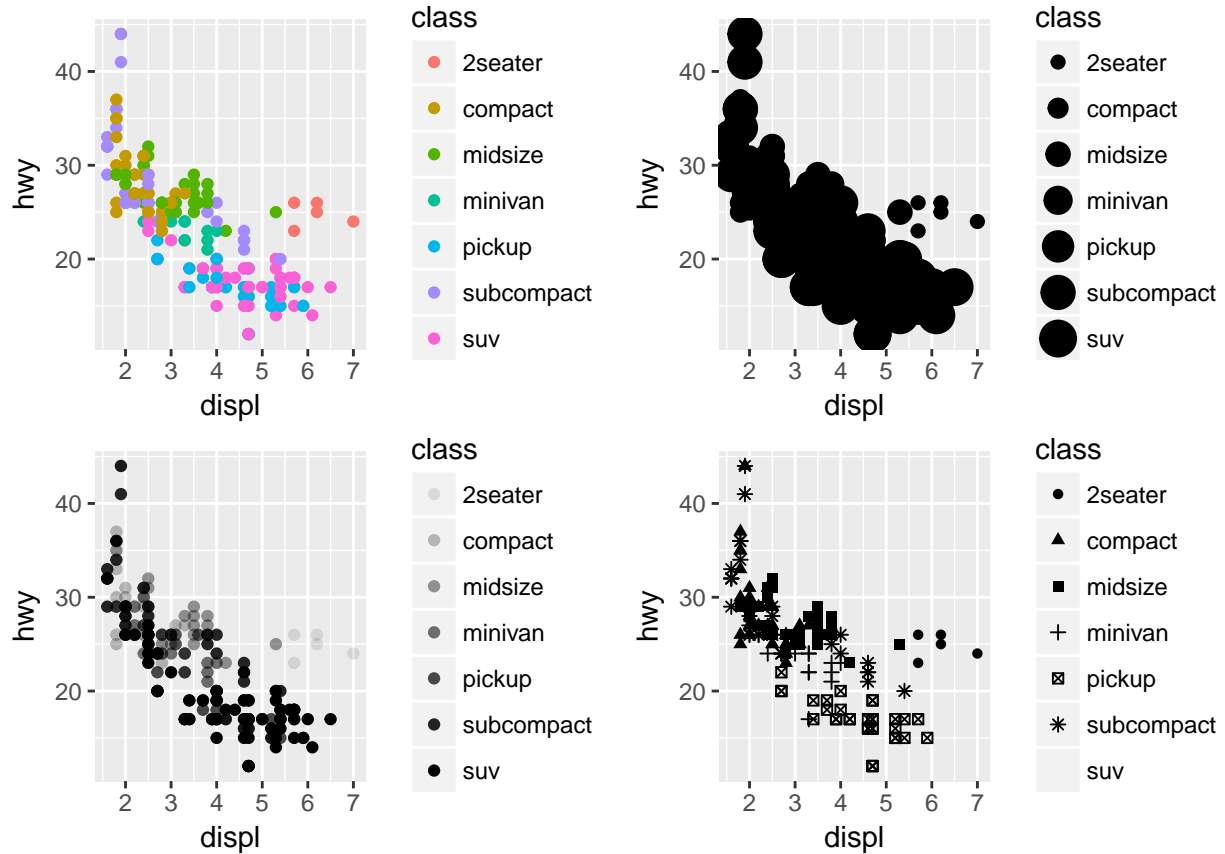
```
print(p3, vp = viewport(layout.pos.row = 2, layout.pos.col = 1))
print(p4, vp = viewport(layout.pos.row = 2, layout.pos.col = 2))
```

Warning: The shape palette can deal with a maximum of 6 discrete values
because more than 6 becomes difficult to discriminate; you have 7.
Consider specifying shapes manually if you must have them.

Warning: Removed 62 rows containing missing values (geom_point).
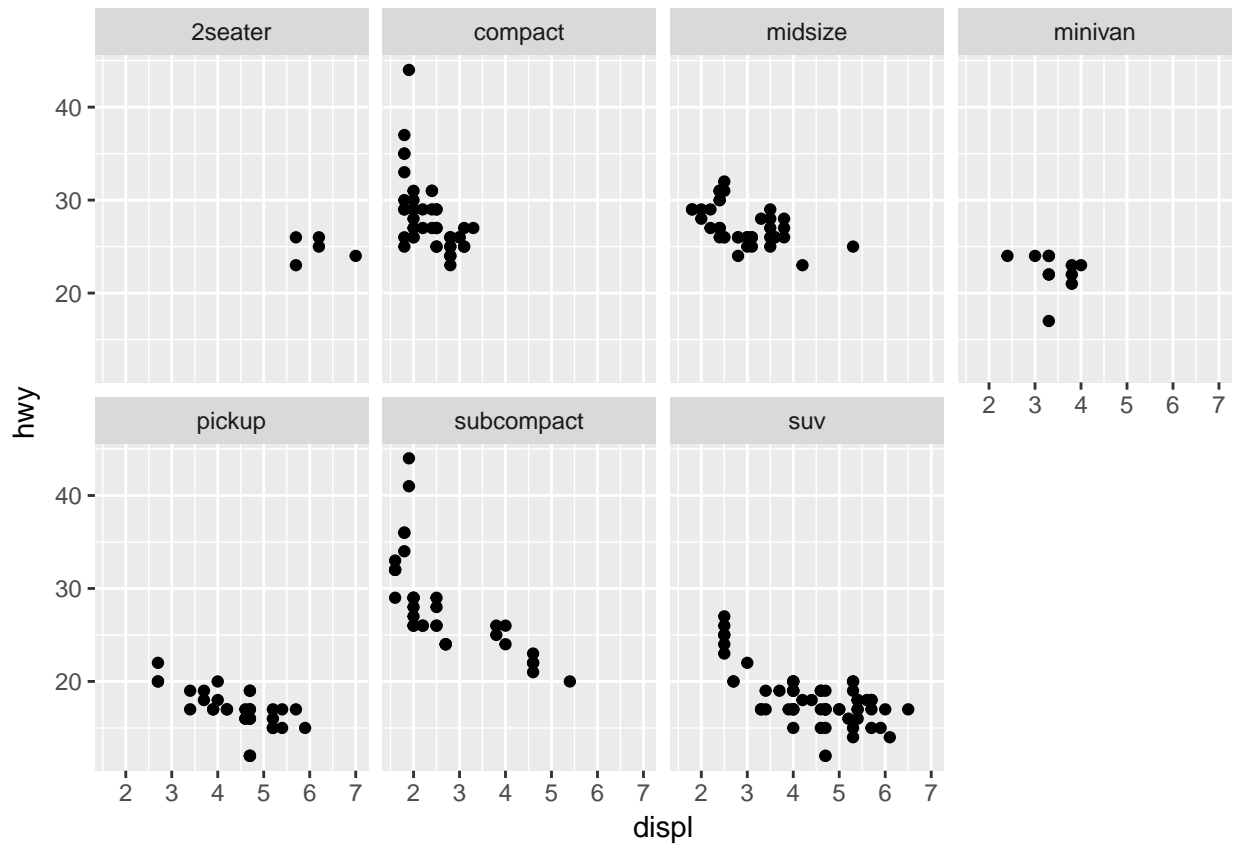


```
show(p5)
```
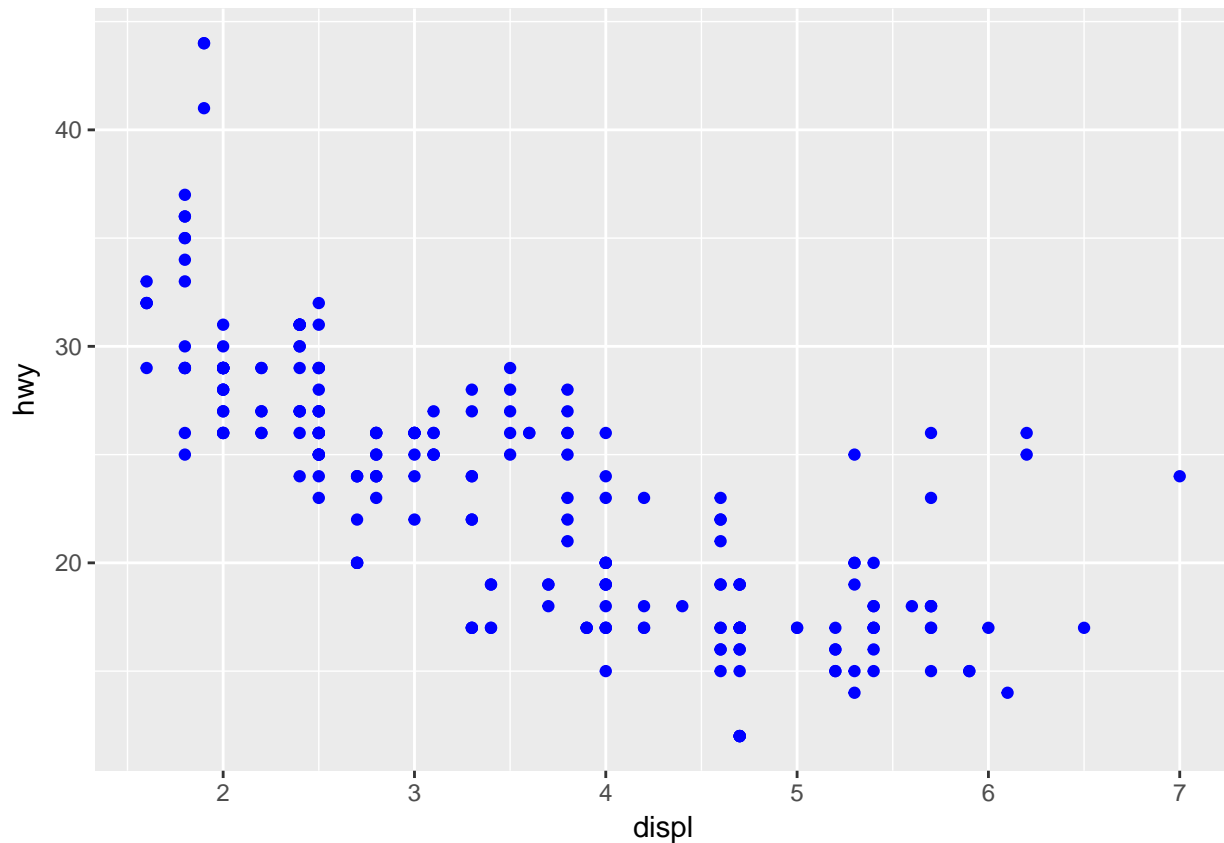
Exercises

1. The correct code is $ggplot(data = mpg) + geom_point(mapping = aes(x = displ, y = hwy), color = "blue")$.

2. categorical vs. continuous

3.

4.

5. stroke: to modify the width of the border of a shape with a border
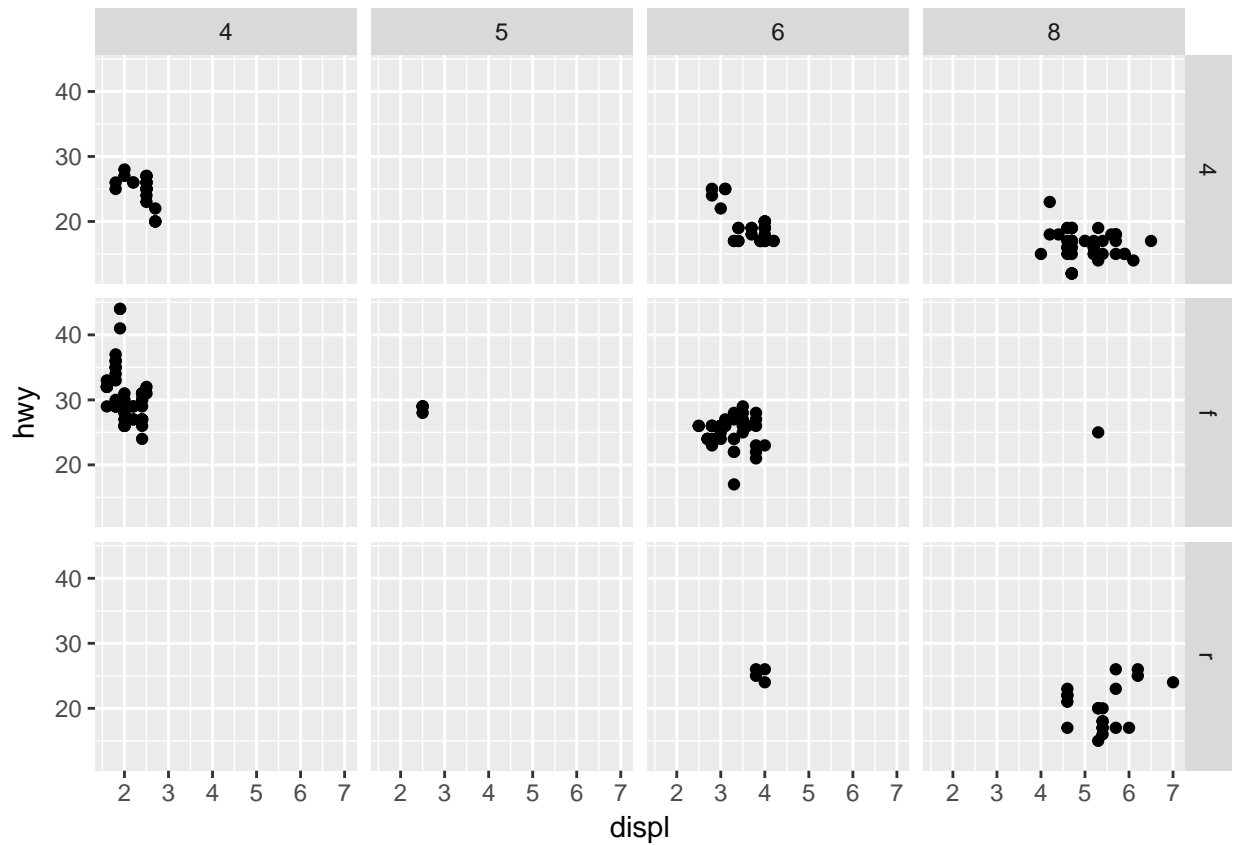
6.

3.4: Common problems

3.5: Facets

A facet is a subplot that displays one subset of the data.

```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy)) +
  facet_wrap(~ class, nrow = 2)
```

facet_grid() to facet my plot on the combo of two variables.

```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy)) +
  facet_grid(drv ~ cyl)
```
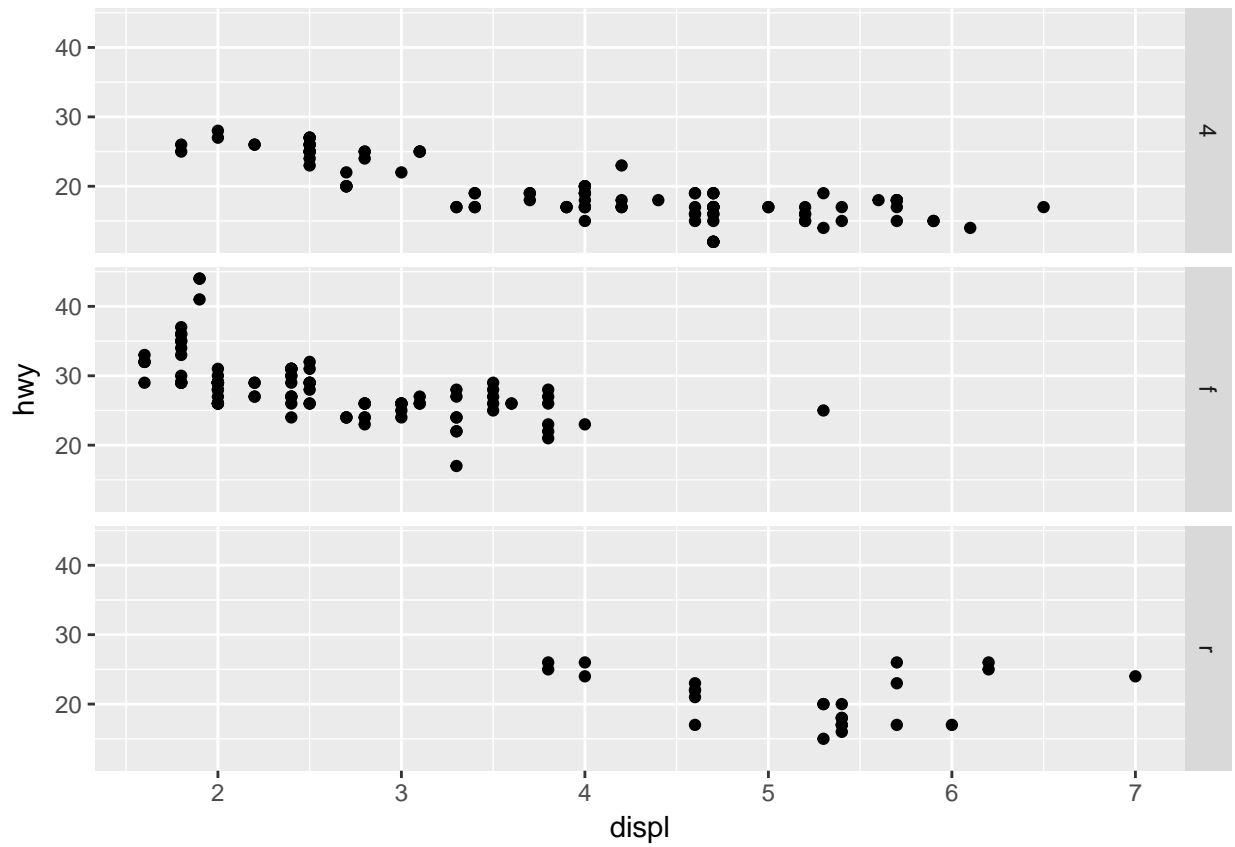
5

```
# facet_grid(. ~ cyl) if you prefer to not facet in the rows of columns direction
```
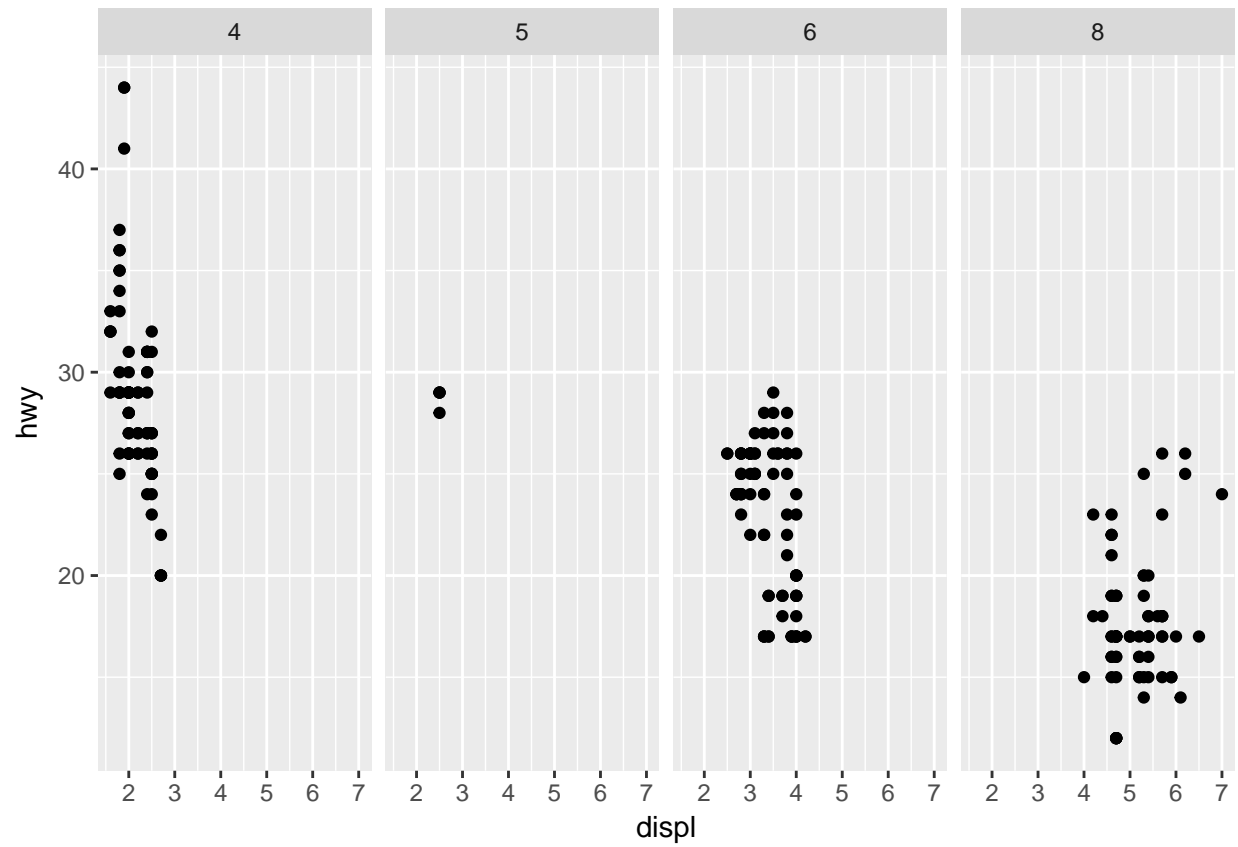
Exercises

1.

2.

3.

```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy)) +
 facet_grid(drv ~ .)
```
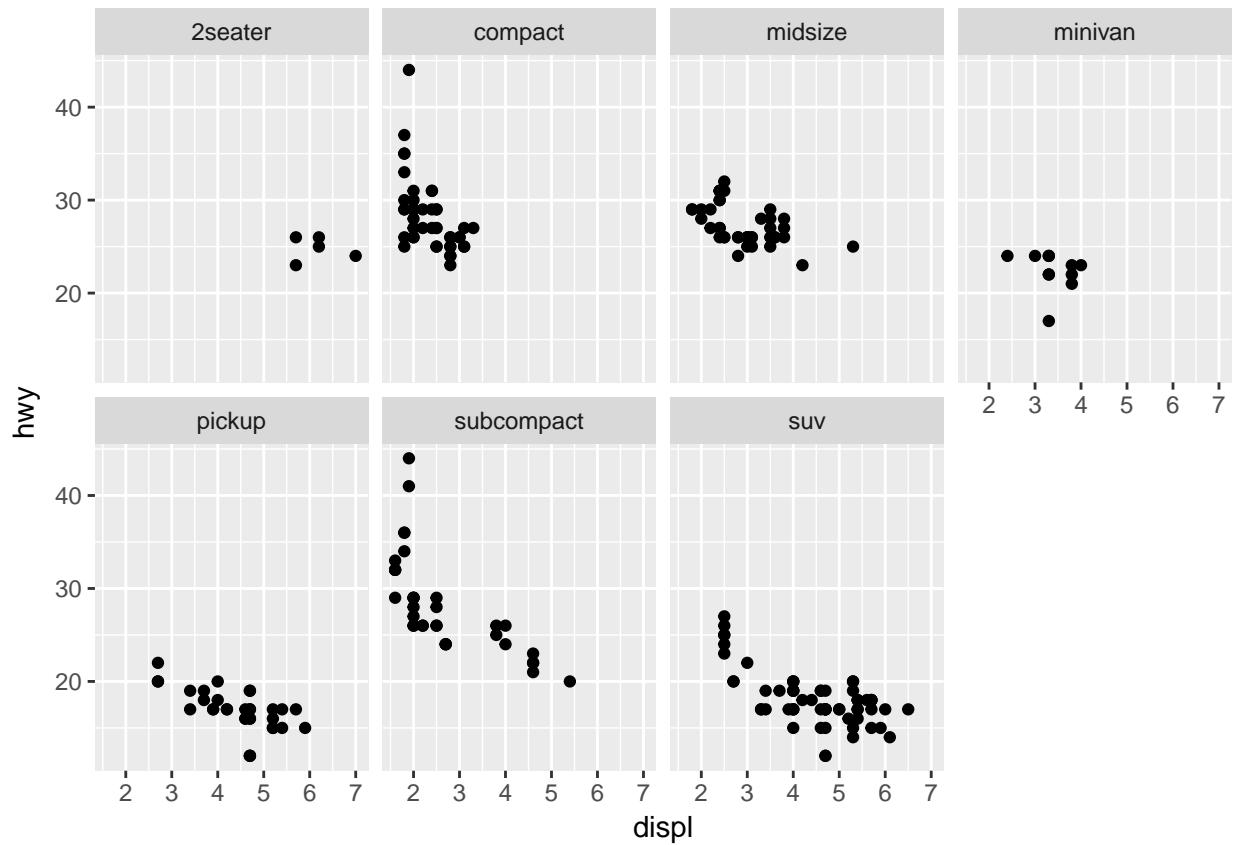
```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy)) +
  facet_grid(. ~ cyl)
```

4.

```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy)) +
  facet_wrap(~ class, nrow = 2)
```

3.6: Geometric objects

3.7: Statistical transformations

3.8: Position adjustments

3.9: Coordinate systems

3.10: