Data Visualization Lab

```
library(tidyverse)
```

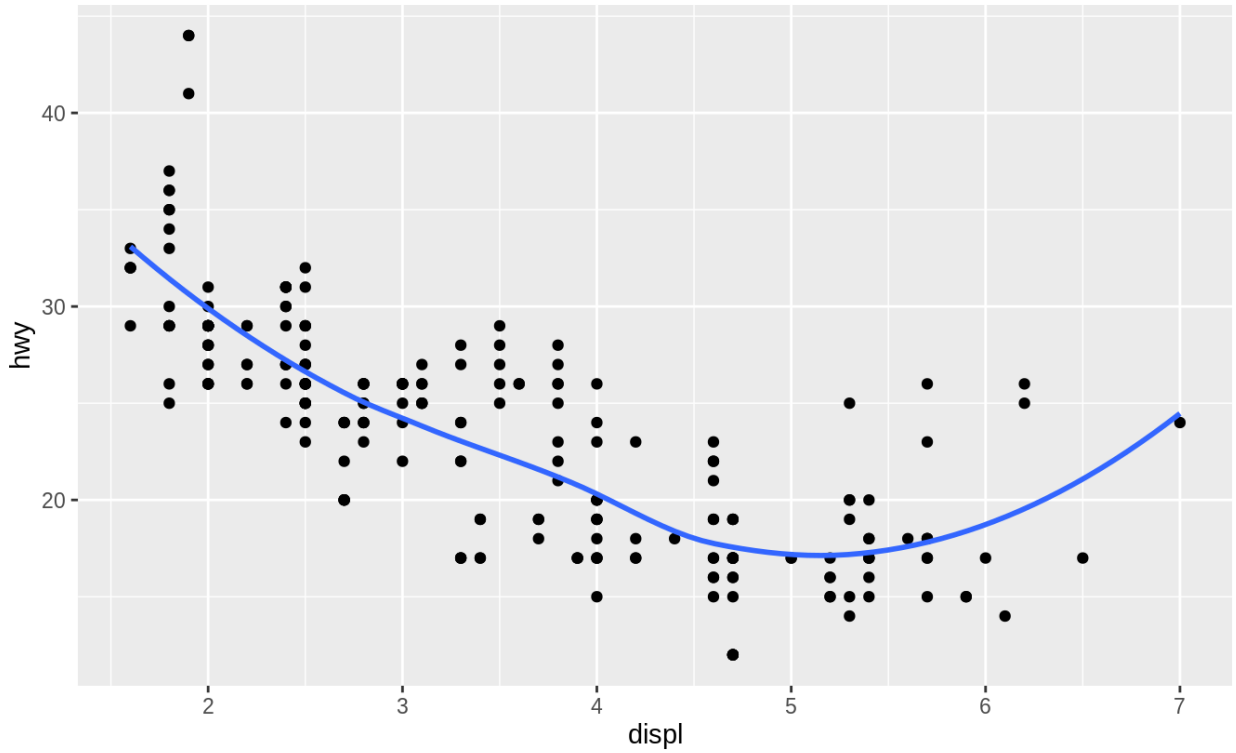
```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.5.1     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.1
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

Assignment Instructions In this assignment you will recreate five graphs using ggplot2 and the mpg dataset. You will need to run the code block for each question to view the graph you will need to reproduce.

After completing the assignment, knit your document, and download both your .Rmd and knitted output. Upload your files for peer review.

For each response, include comments detailing your response and what each argument in the ggplot function does.

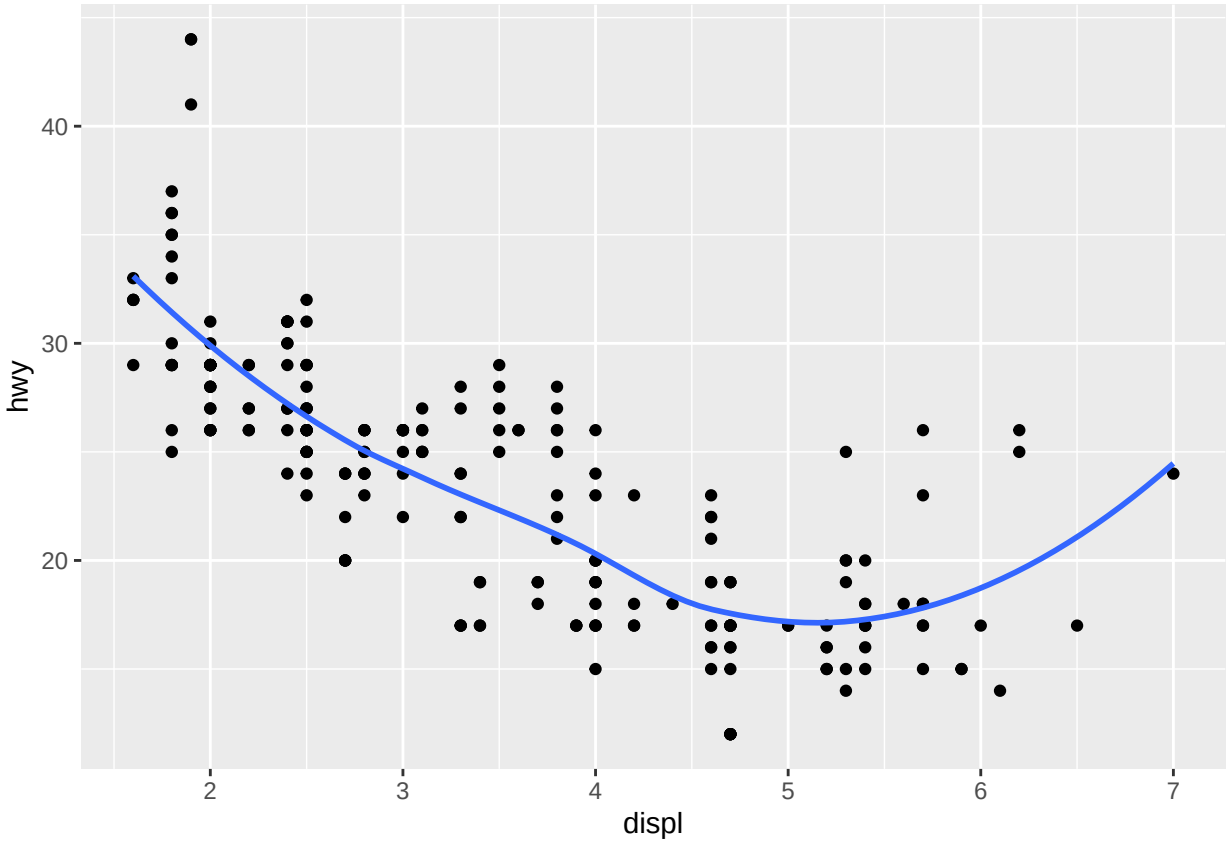
```
## RUN TO VIEW THE GRAPH YOU WILL NEED TO REPRODUCE

knitr::include_graphics("images/question-1.png")
```



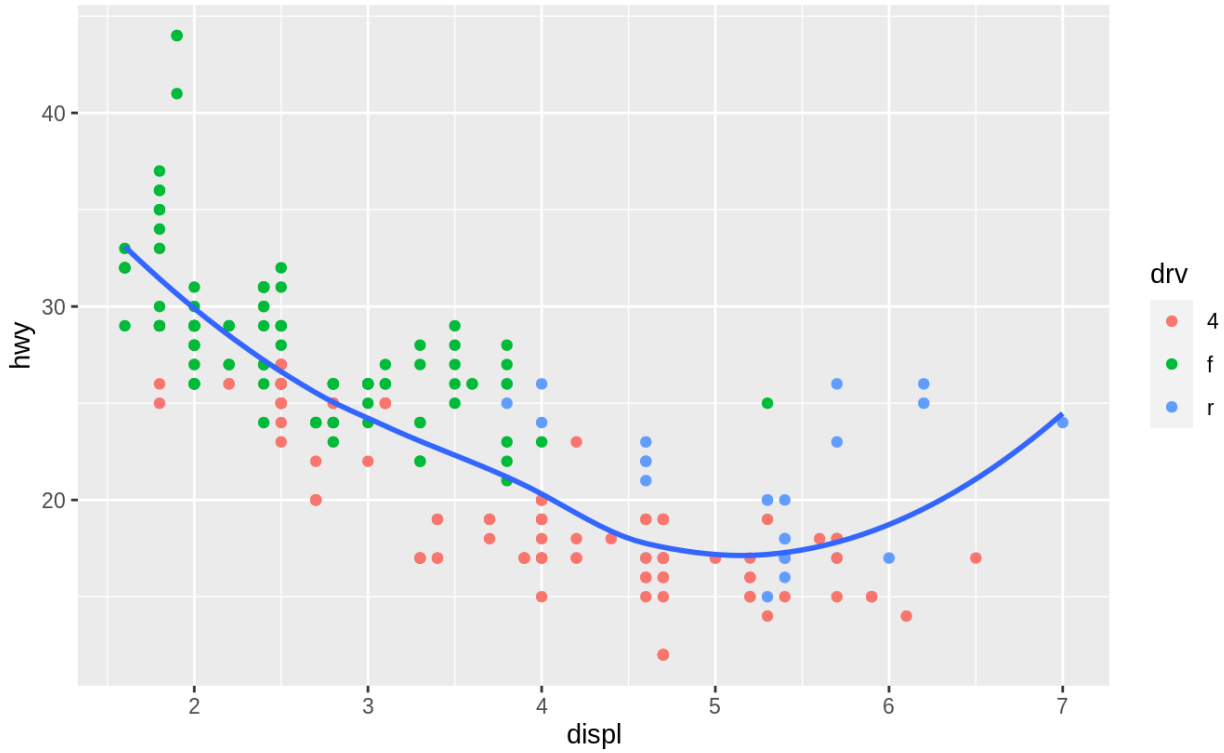
Question 1.

```
# creating a ggplot from the mpg dataset
ggplot(data = mpg, mapping = aes(x = displ, y = hwy)) +
  # create a point geom
  geom_point() +
  # create a smooth geom for the line
  geom_smooth(se = FALSE)
```

```
## `geom_smooth()` using method = 'loess' and formula = 'y ~ x'
```



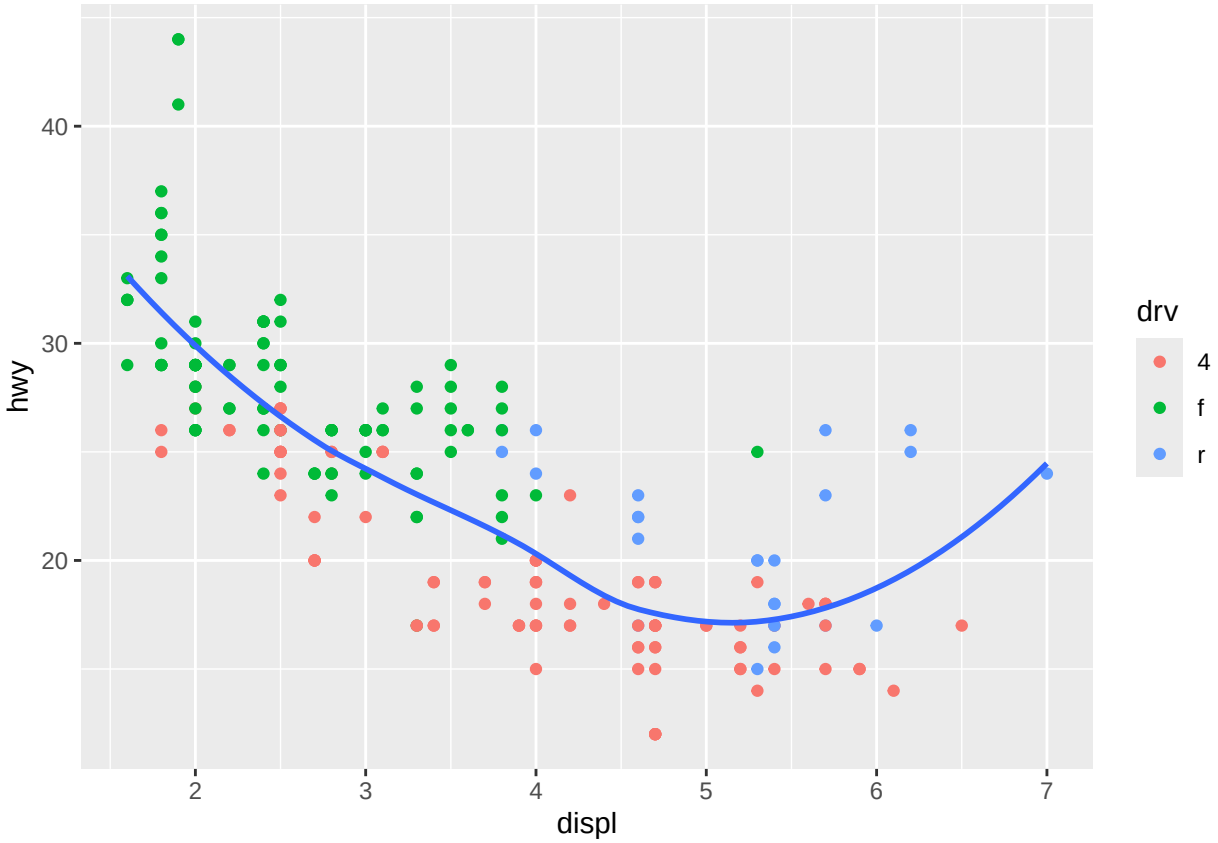

```
## RUN TO VIEW THE GRAPH YOU WILL NEED TO REPRODUCE

knitr::include_graphics("images/question-2.png")
```



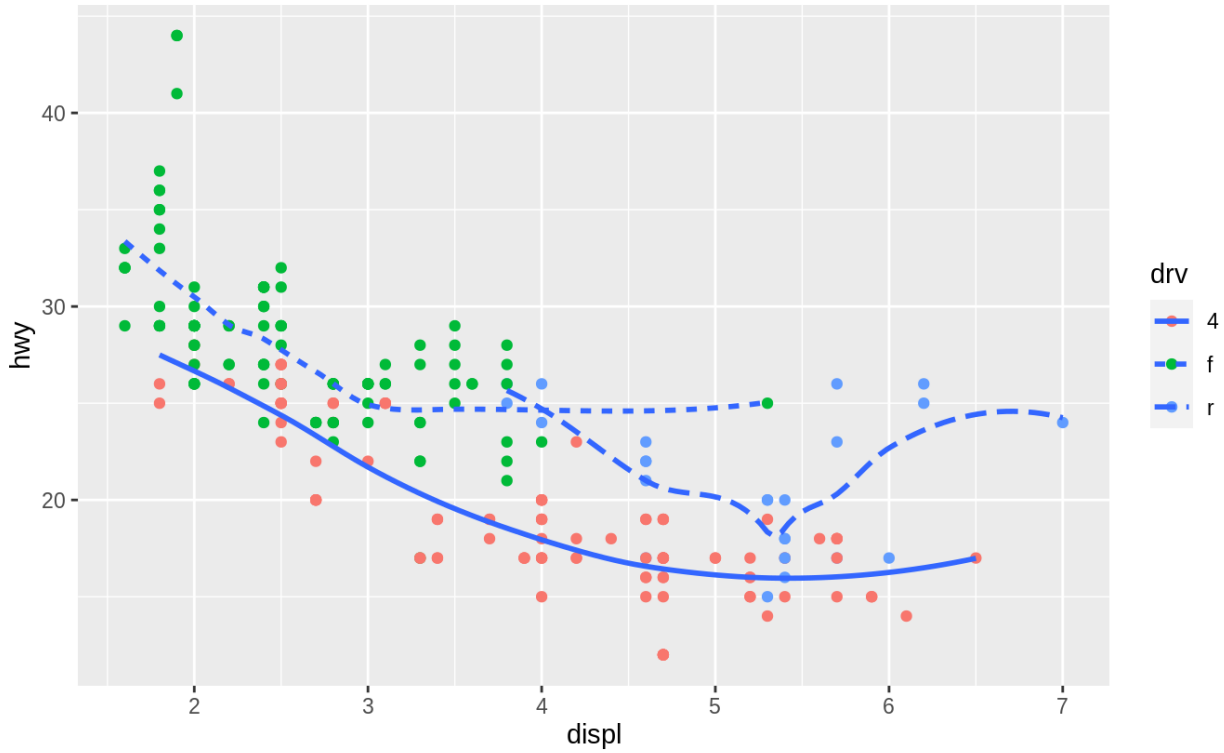
Question 2.

```
# using the ggplot from the first question
ggplot(data = mpg, mapping = aes(x = displ, y = hwy)) +
  # assigning the color for the point geom to drv from the dataset
  geom_point(mapping = aes(color = drv)) +
  geom_smooth(se = FALSE)
```

```
## `geom_smooth()` using method = 'loess' and formula = 'y ~ x'
```



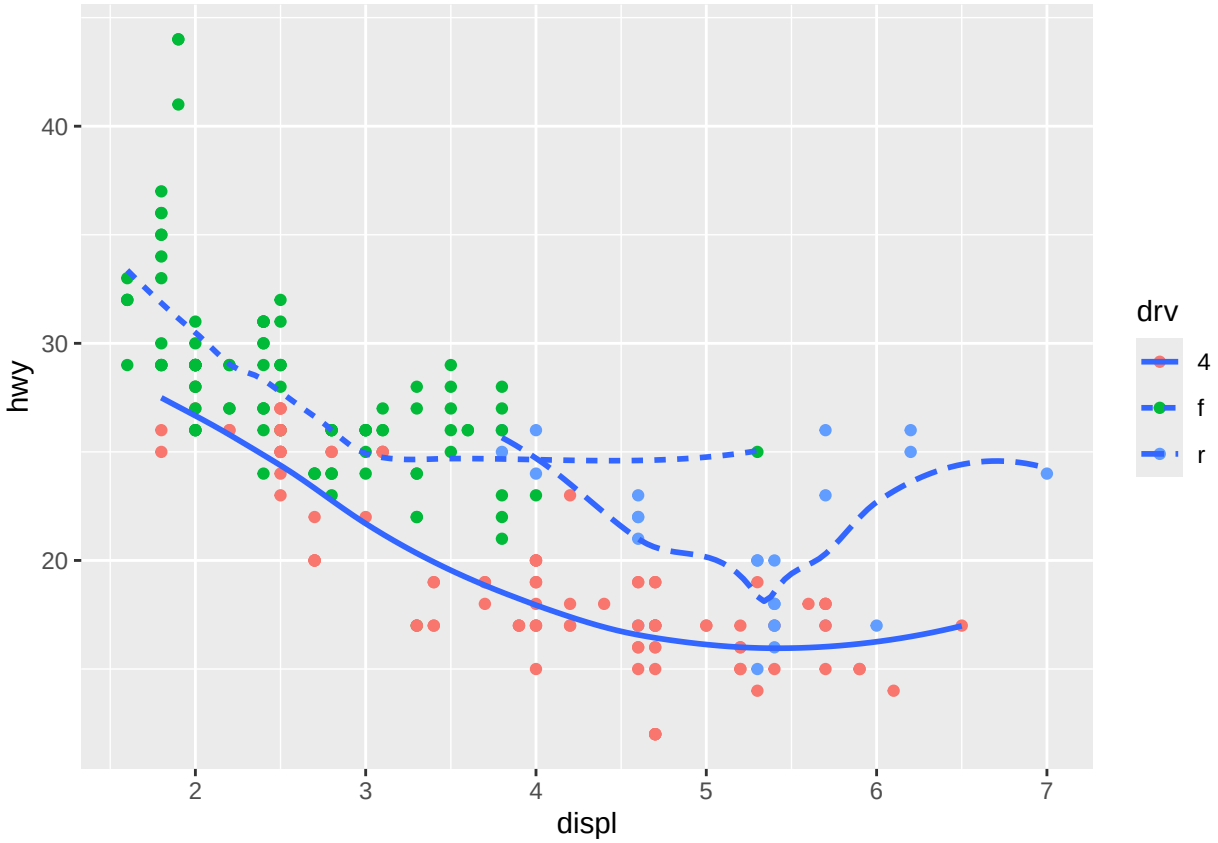

```
## RUN TO VIEW THE GRAPH YOU WILL NEED TO REPRODUCE

knitr::include_graphics("images/question-3.png")
```



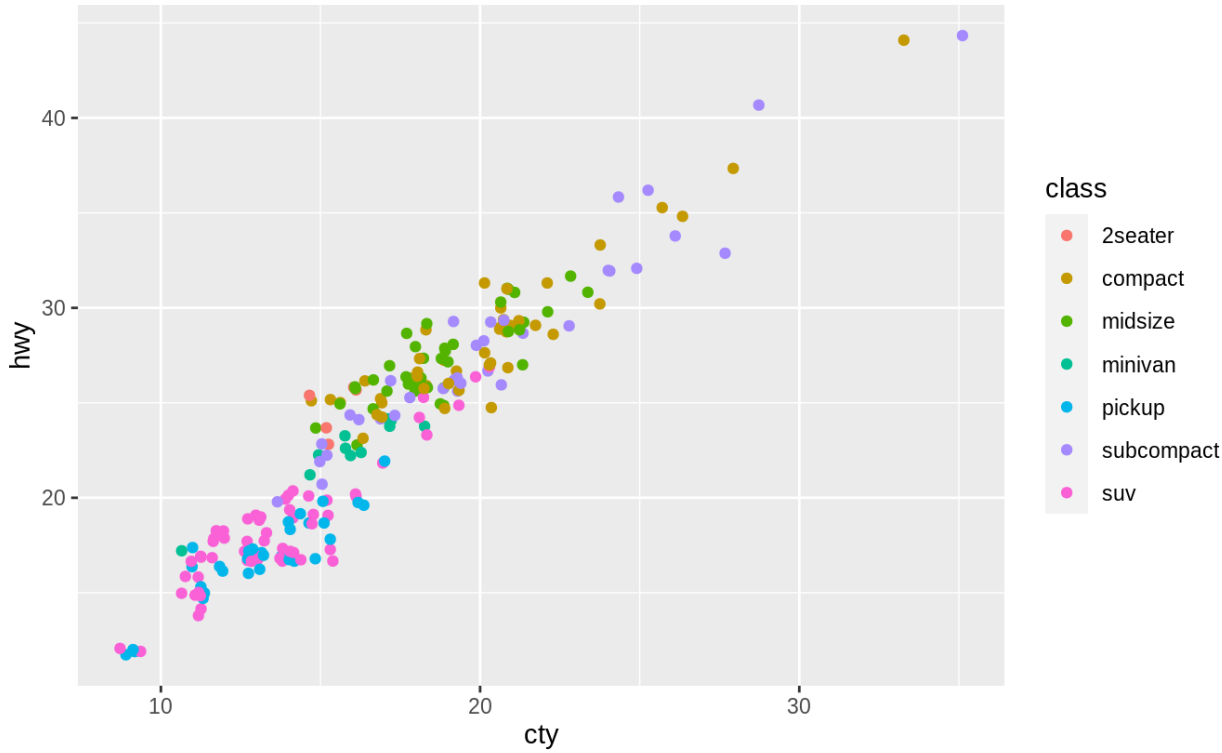
Question 3.

```
# using the ggplot from the second question
ggplot(data = mpg, mapping = aes(x = displ, y = hwy)) +
  geom_point(mapping = aes(color = drv)) +
  # added different mapping of the lines depending on drv
  geom_smooth(mapping = aes(linetype = drv), se = FALSE)
```

```
## `geom_smooth()` using method = 'loess' and formula = 'y ~ x'
```

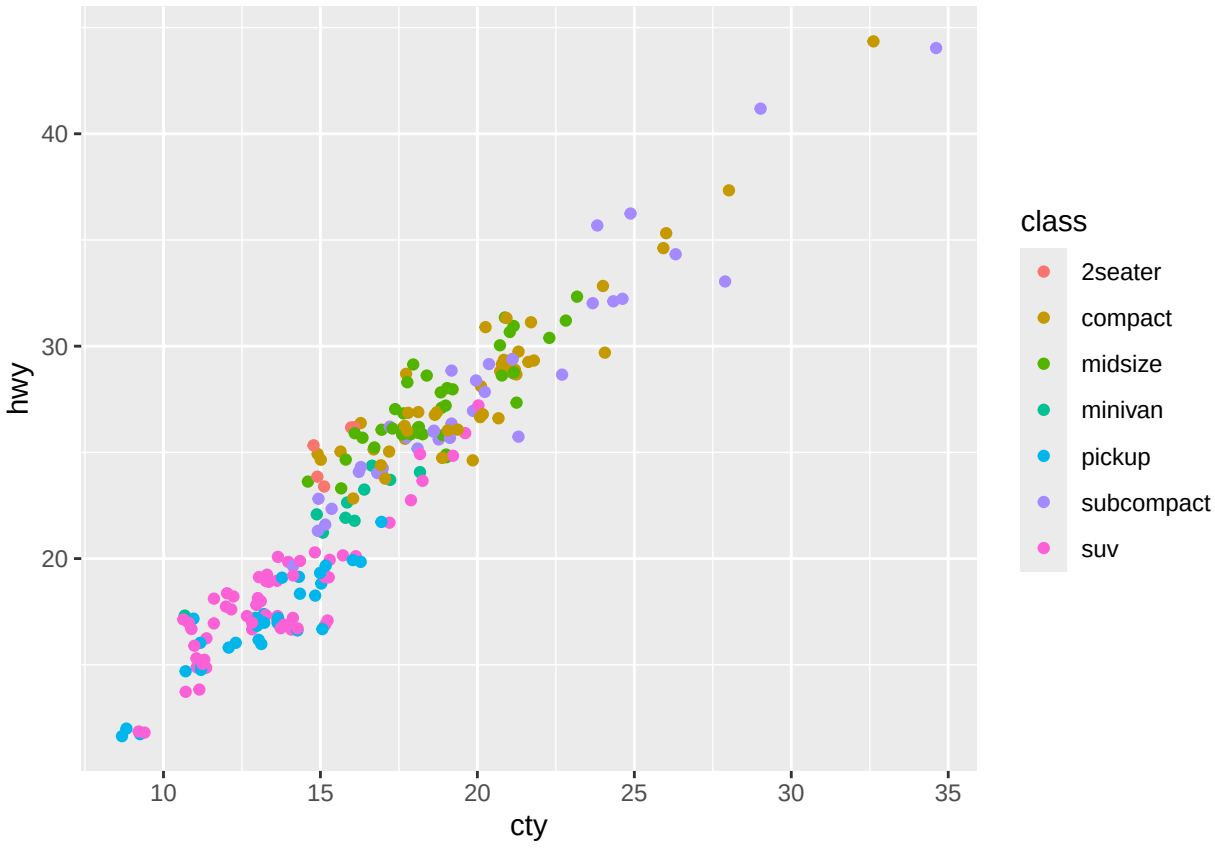



```
## RUN TO VIEW THE GRAPH YOU WILL NEED TO REPRODUCE

knitr::include_graphics("images/question-4.png")
```

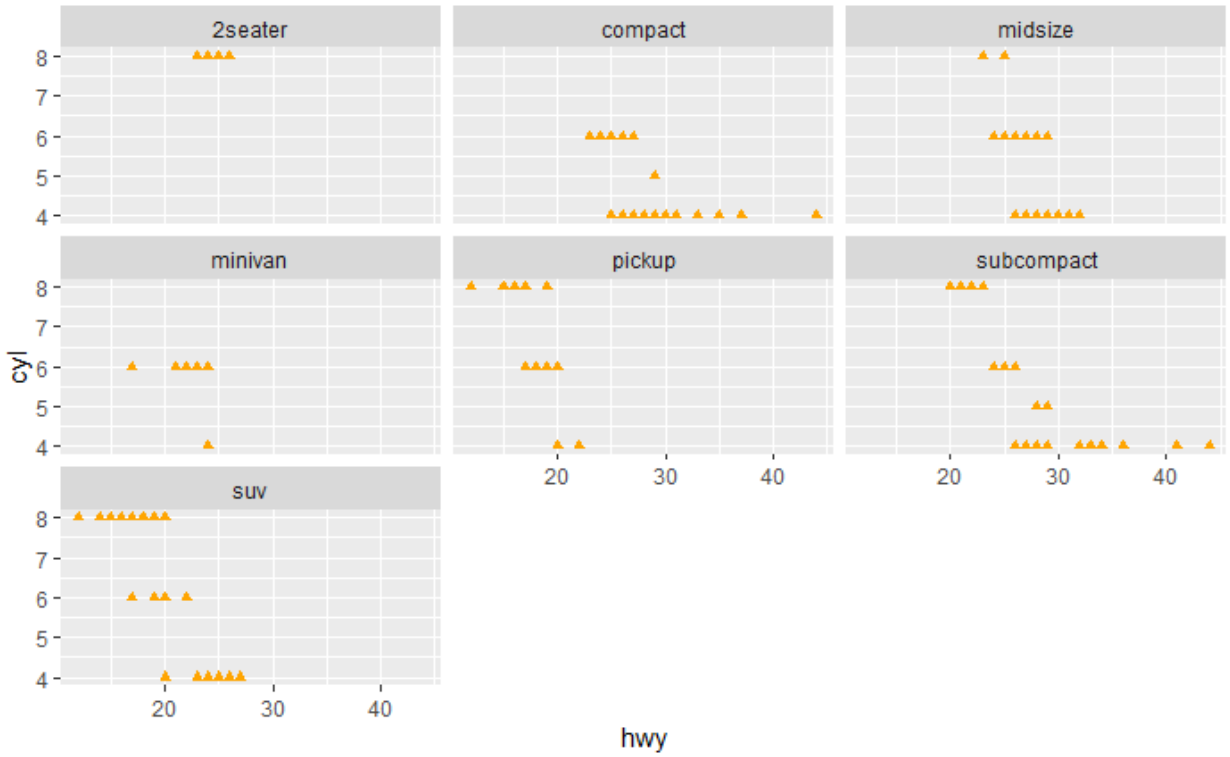


Question 4.

```
# creating ggplot, with cty on x- and hwy on y-axis
ggplot(data = mpg, mapping = aes(x = cty, y = hwy)) +
  # creating point geom, which assigns color to class from dataset
  # added jitter to spread out points
  geom_point(mapping = aes(color = class), position = "jitter")
```

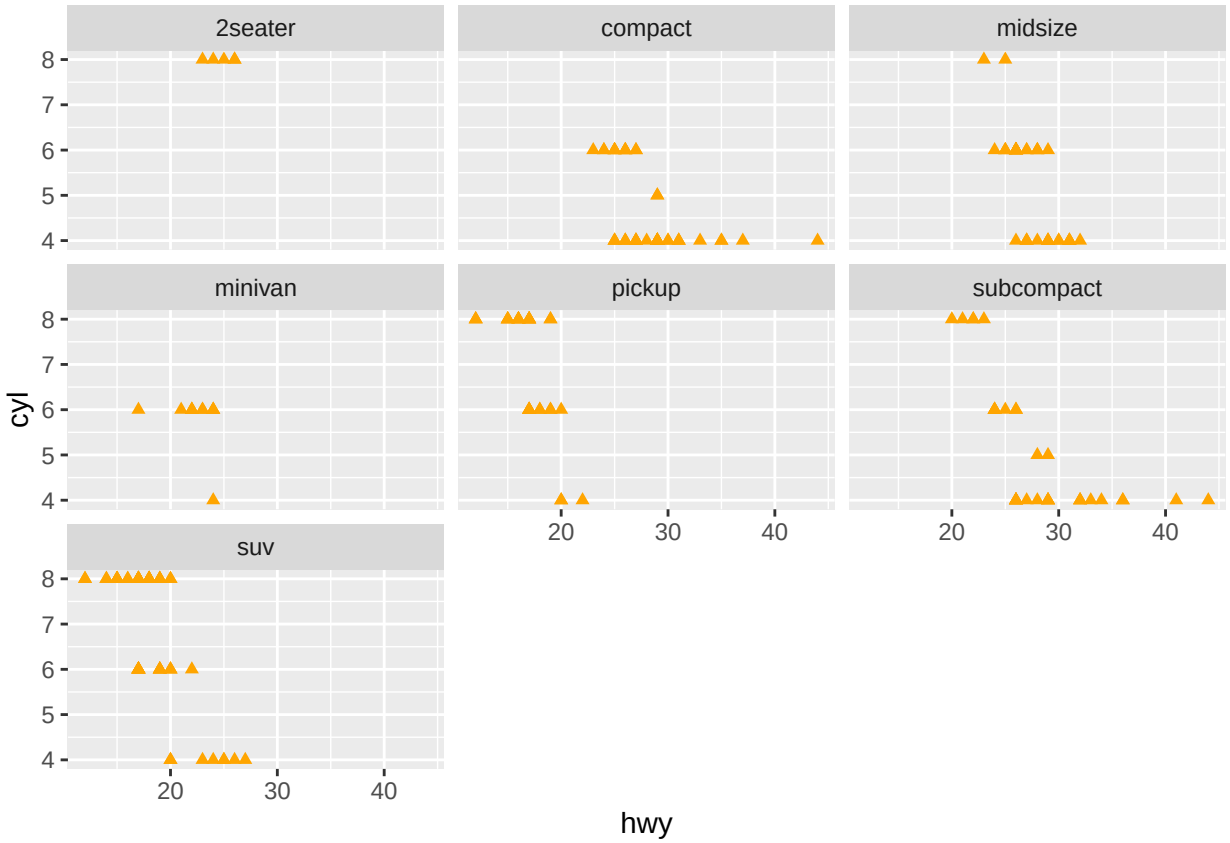



```
## RUN TO VIEW THE GRAPH YOU WILL NEED TO REPRODUCE

knitr::include_graphics("images/question-5.png")
```



Question 5.

```
# creating ggplot, with hwy on x- and cyl on y-axis
ggplot(data = mpg, mapping = aes(x = hwy, y = cyl)) +
  # creating point geom in orange color, the shape of triangles
  # and adjusted size
  geom_point(color = "orange", shape = 17, size = 1.5) +
  # facet the plot by class in 3 rows
  facet_wrap(~ class, nrow = 3)
```


2seater
compact
midsize
minivan
pickup
subcompact
suv
cyl
hwy
8
7
6
5
4
20
30
40