Data Visualization Lab

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.

```
# Load necessary library
library(ggplot2)

# Load the mpg dataset
data(mpg)
```

```
# Convert necessary variables to factors
#mpg$trans <- as.factor(mpg$trans)
#mpg$cyl <- as.factor(mpg$cyl)
#mpg$drv <- as.factor(mpg$drv)
```

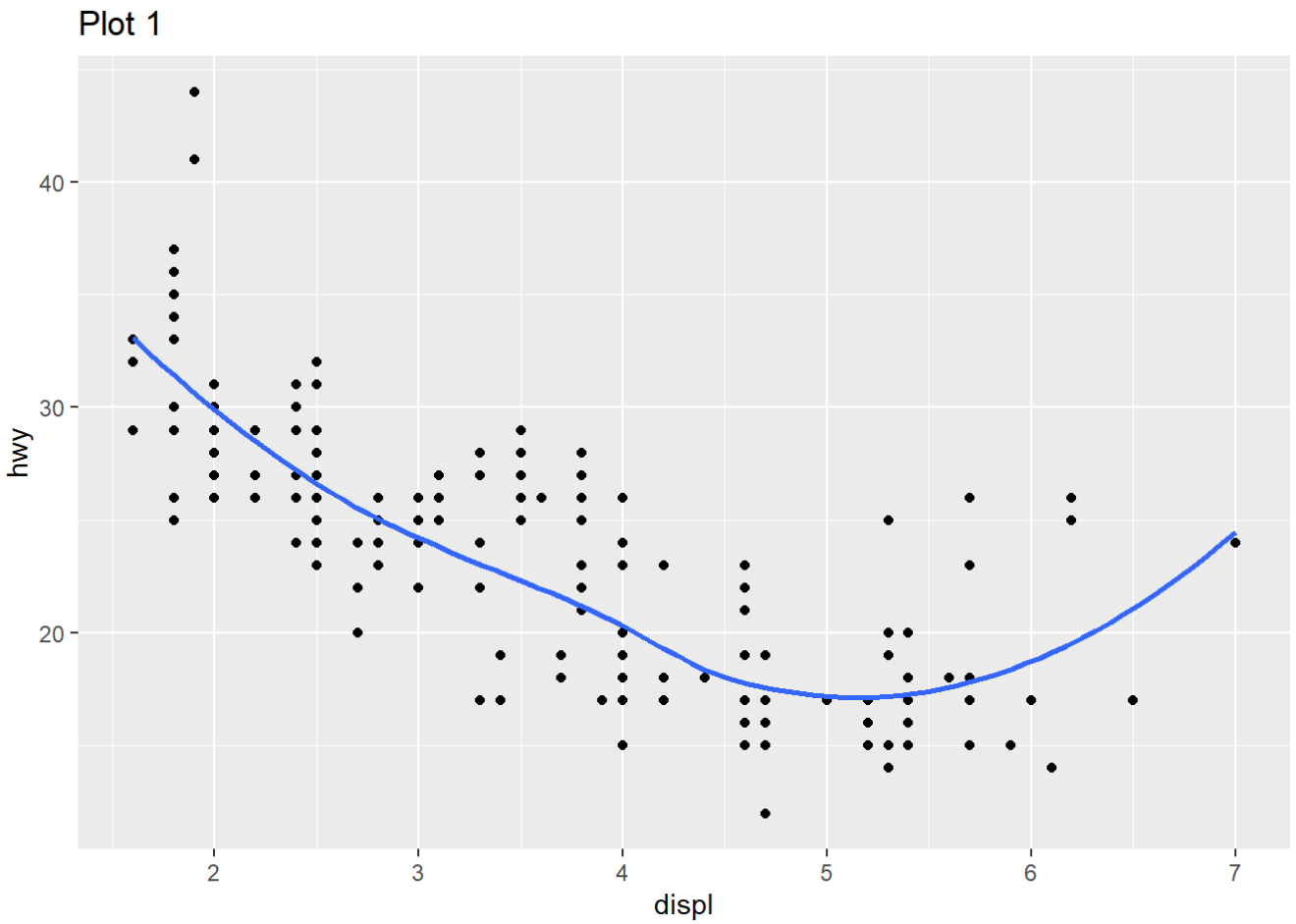
```
View(mpg)
```

Question 1.

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

# Plot 1: Scatter plot with a smooth line
ggplot(mpg, aes(x = displ, y = hwy)) +
  geom_point() +
  geom_smooth(method = "loess", se = FALSE) +
  labs(title = "Plot 1")
```

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

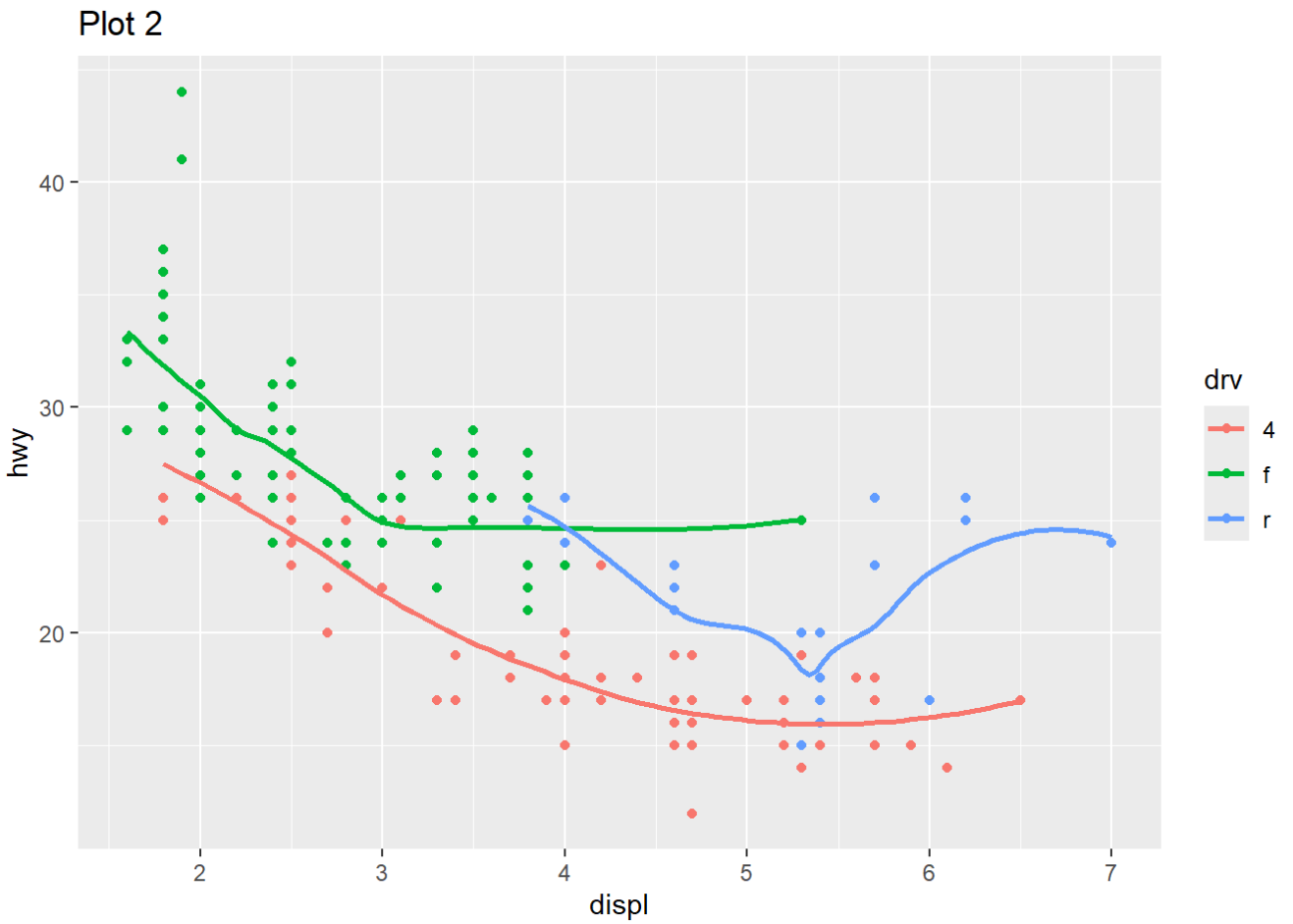



```
#knitr::include_graphics("images/question-1.png")
```

Question 2.

```
## RUN TO VIEW THE GRAPH YOU WILL NEED TO REPRODUCE
# Plot 2: Scatter plot with color based on drv and a smooth line
ggplot(mpg, aes(x = displ, y = hwy, color = drv)) +
  geom_point() +
  geom_smooth(method = "loess", se = FALSE) +
  labs(title = "Plot 2")
```

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



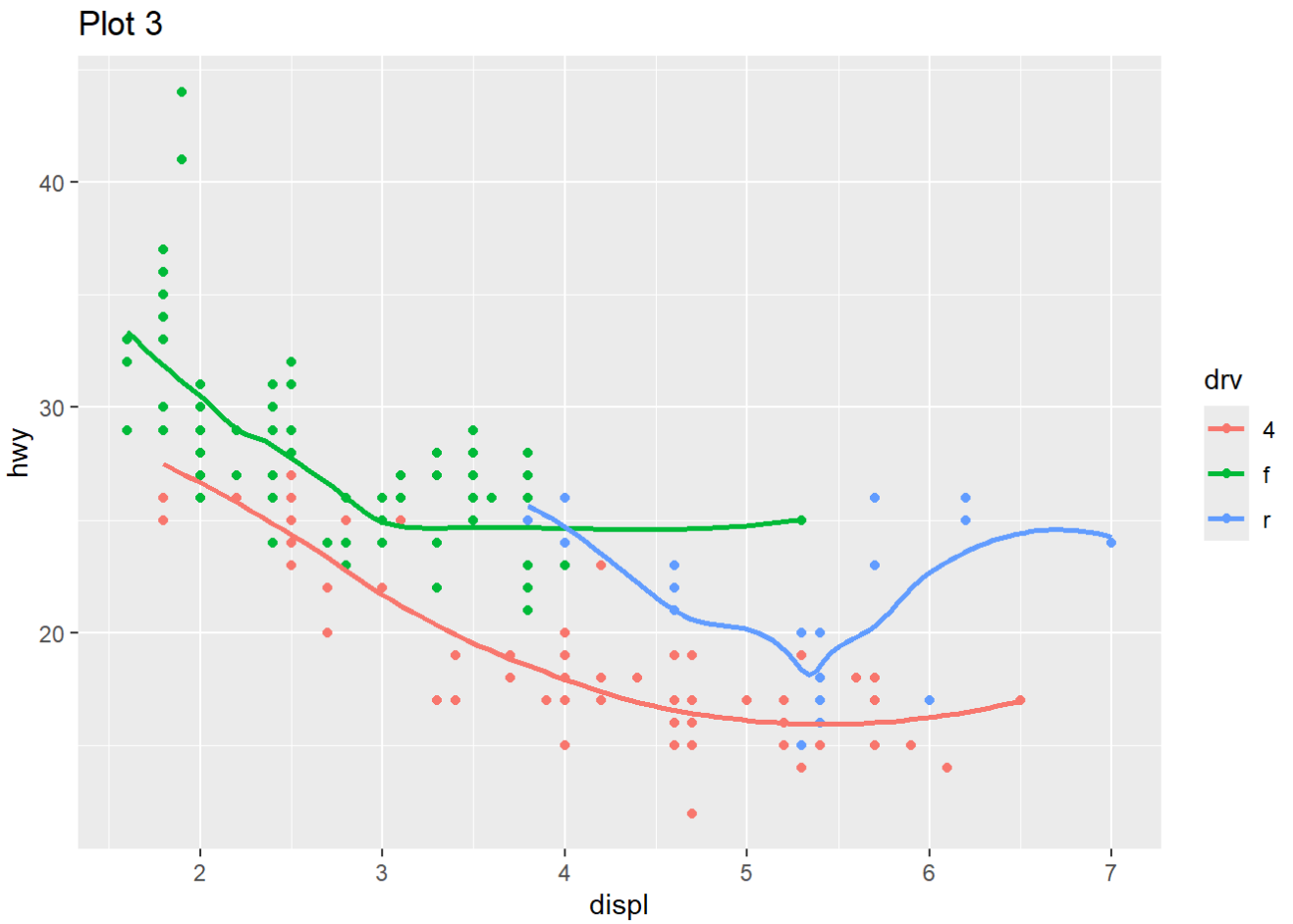

```
#knitr::include_graphics("images/question-2.png")
```

Question 3.

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

# Plot 3: Scatter plot with color based on drv and smooth lines for each drv
ggplot(mpg, aes(x = displ, y = hwy, color = drv)) +
  geom_point() +
  geom_smooth(method = "loess", se = FALSE) +
  labs(title = "Plot 3")
```

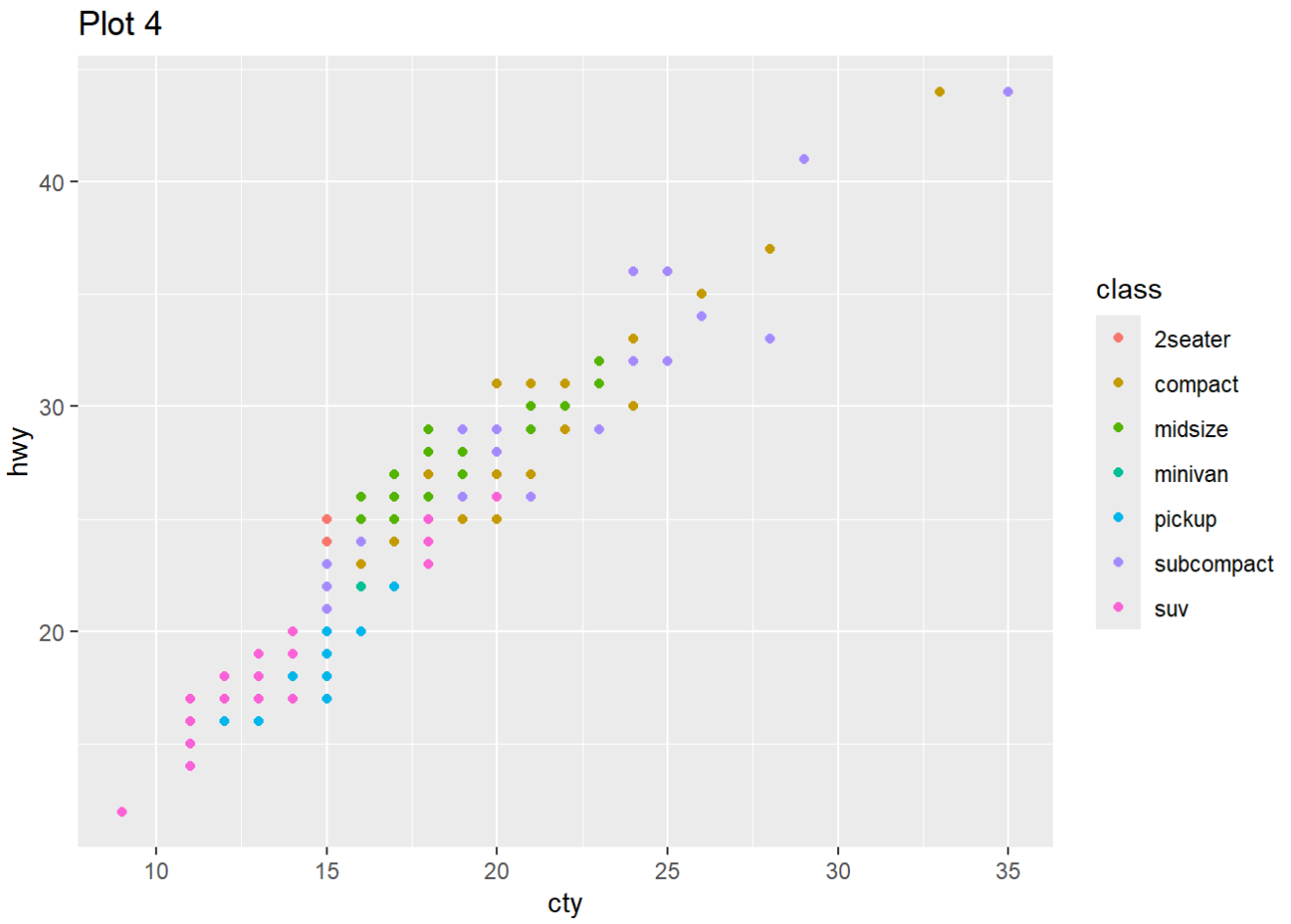
```
## `geom_smooth()` using formula = 'y ~ x'
```




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

Question 4.

```
## RUN TO VIEW THE GRAPH YOU WILL NEED TO REPRODUCE
# Plot 4: Scatter plot with color based on class
ggplot(mpg, aes(x = cty, y = hwy, color = class)) +
  geom_point() +
  labs(title = "Plot 4")
```




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

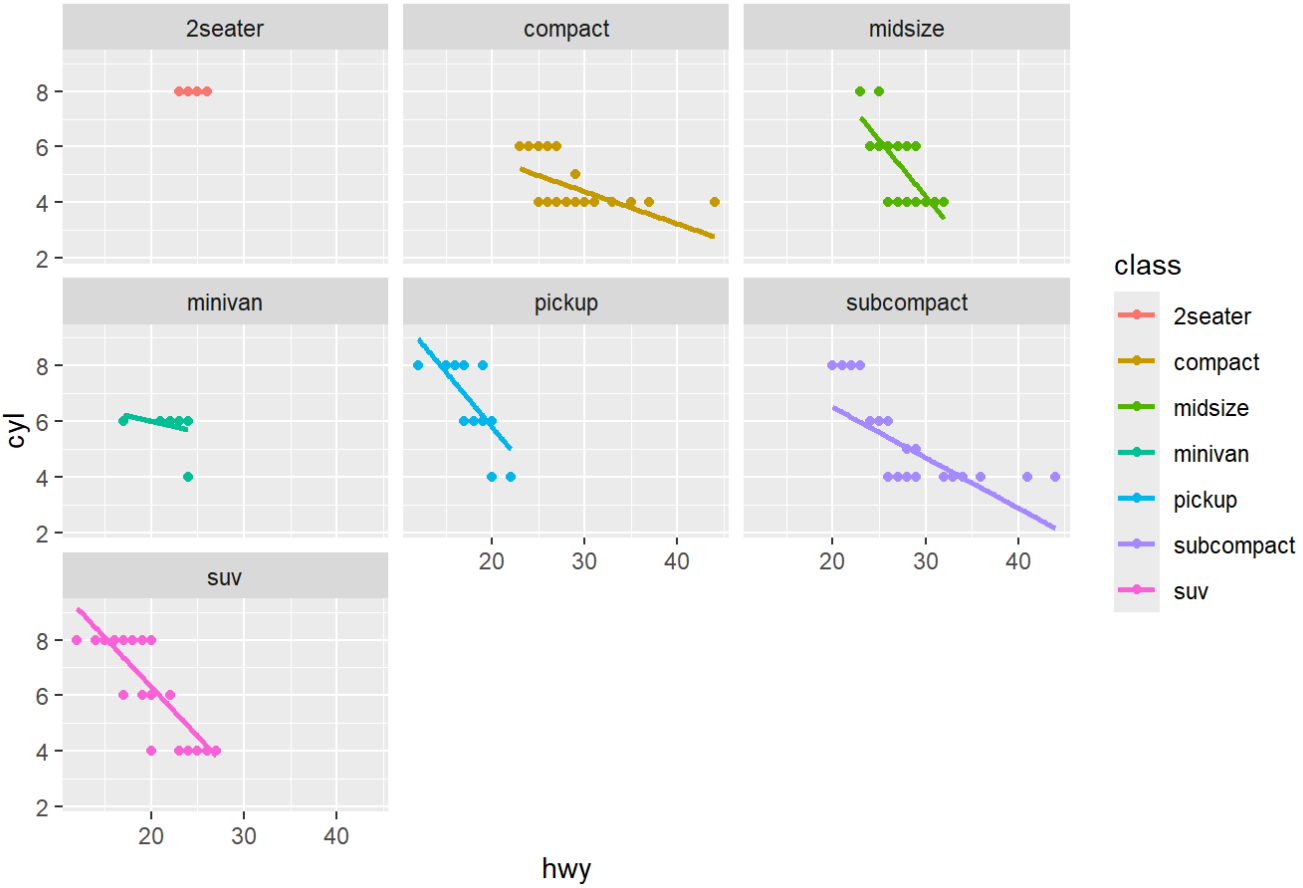
Question 5.

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

# Plot 5: Faceted scatter plot by class with a smooth line
ggplot(mpg, aes(x = hwy, y = cyl, color = class)) +
  geom_point() +
geom_smooth(method = "lm", se = FALSE) +
  facet_wrap(~ class) +
  labs(title = "Plot 5")
```

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

Plot 5




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