Explore and Visualize2

Prof. Eric A. Suess

# Chapter 3 Data Visualization

1. Geometric shapes
2. Multiple smoothing lines
3. Statistical transformations

Today we are going to try some more code from Chapter 3 Data Visualization.

To start we will load the tidyverse. Note that *ggplot2* is the first package loaded!

library(tidyverse)

We will continue to work with the *mpg* dataset that is in the ggplot2 package.

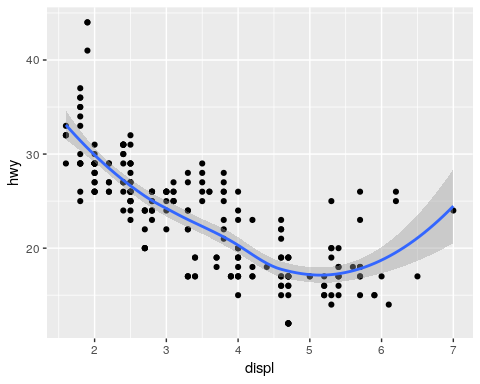
mpg

## # A tibble: 234 x 11  
## manufacturer model displ year cyl trans drv cty hwy fl cla…  
## <chr> <chr> <dbl> <int> <int> <chr> <chr> <int> <int> <chr> <ch>  
## 1 audi a4 1.8 1999 4 auto… f 18 29 p com…  
## 2 audi a4 1.8 1999 4 manu… f 21 29 p com…  
## 3 audi a4 2 2008 4 manu… f 20 31 p com…  
## 4 audi a4 2 2008 4 auto… f 21 30 p com…  
## 5 audi a4 2.8 1999 6 auto… f 16 26 p com…  
## 6 audi a4 2.8 1999 6 manu… f 18 26 p com…  
## 7 audi a4 3.1 2008 6 auto… f 18 27 p com…  
## 8 audi a4 q… 1.8 1999 4 manu… 4 18 26 p com…  
## 9 audi a4 q… 1.8 1999 4 auto… 4 16 25 p com…  
## 10 audi a4 q… 2 2008 4 manu… 4 20 28 p com…  
## # ... with 224 more rows

Make the scatterplot along with the smoothing line.

ggplot(data = mpg) +   
 geom\_point(mapping = aes(x = displ, y = hwy)) +   
 geom\_smooth(mapping = aes(x = displ, y = hwy))

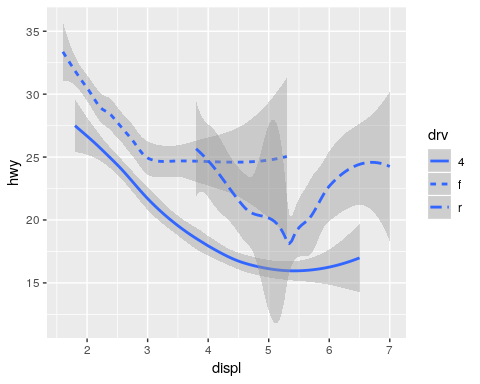
## `geom\_smooth()` using method = 'loess' and formula 'y ~ x'



Multiple smoothing lines.

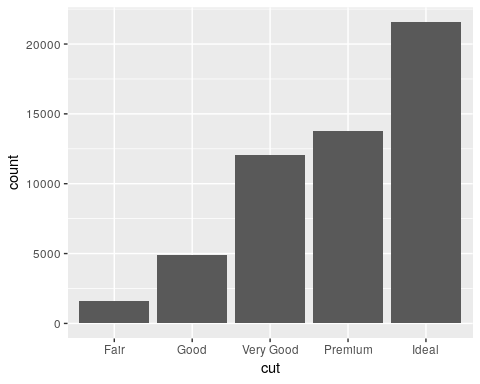
ggplot(data = mpg) +   
 geom\_smooth(mapping = aes(x = displ, y = hwy, linetype = drv))

## `geom\_smooth()` using method = 'loess' and formula 'y ~ x'



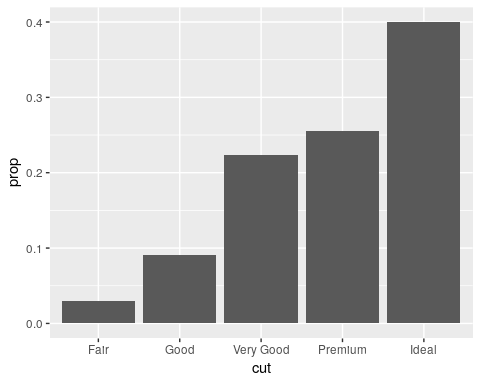
Statistical transformations

ggplot(data = diamonds) +   
 geom\_bar(mapping = aes(x = cut))



Proportions

ggplot(data = diamonds) +   
 geom\_bar(mapping = aes(x = cut, y = ..prop.., group = 1))



Position adjustment

ggplot(data = diamonds) +   
 geom\_bar(mapping = aes(x = cut, fill = clarity), position = "dodge")

