

ma615_hw1_car_viz

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R Markdown

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5    v purrr   0.3.4
## v tibble  3.1.4    v dplyr   1.0.7
## v tidyr   1.1.3    v stringr 1.4.0
## v readr   2.0.1    v forcats 0.5.1
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```

```
# call built-in data mtcars.
data(mtcars)
```

```
# Select only car models where mpg < 20
mtcars_mpg2 <- mtcars[mtcars$mpg < 20,]
```

```
# Reduce the variables to mpg, cyl, disp, hp, gears
mtcars_mpg2 <- mtcars_mpg2[, c(1,2,3,4,10)]
```

```
# read the R file hand_functions.R so that it can be used
# notice that with echo = TRUE
source(file = "hand_functions.R", echo = TRUE)
```

```
##
## > sum_special <- function(df_x) {
## +   try(if (!is.data.frame(df_x))
## +     stop("Input data must be a data frame. "))
## +   sp_means <- apply(df_ .... [TRUNCATED]
```

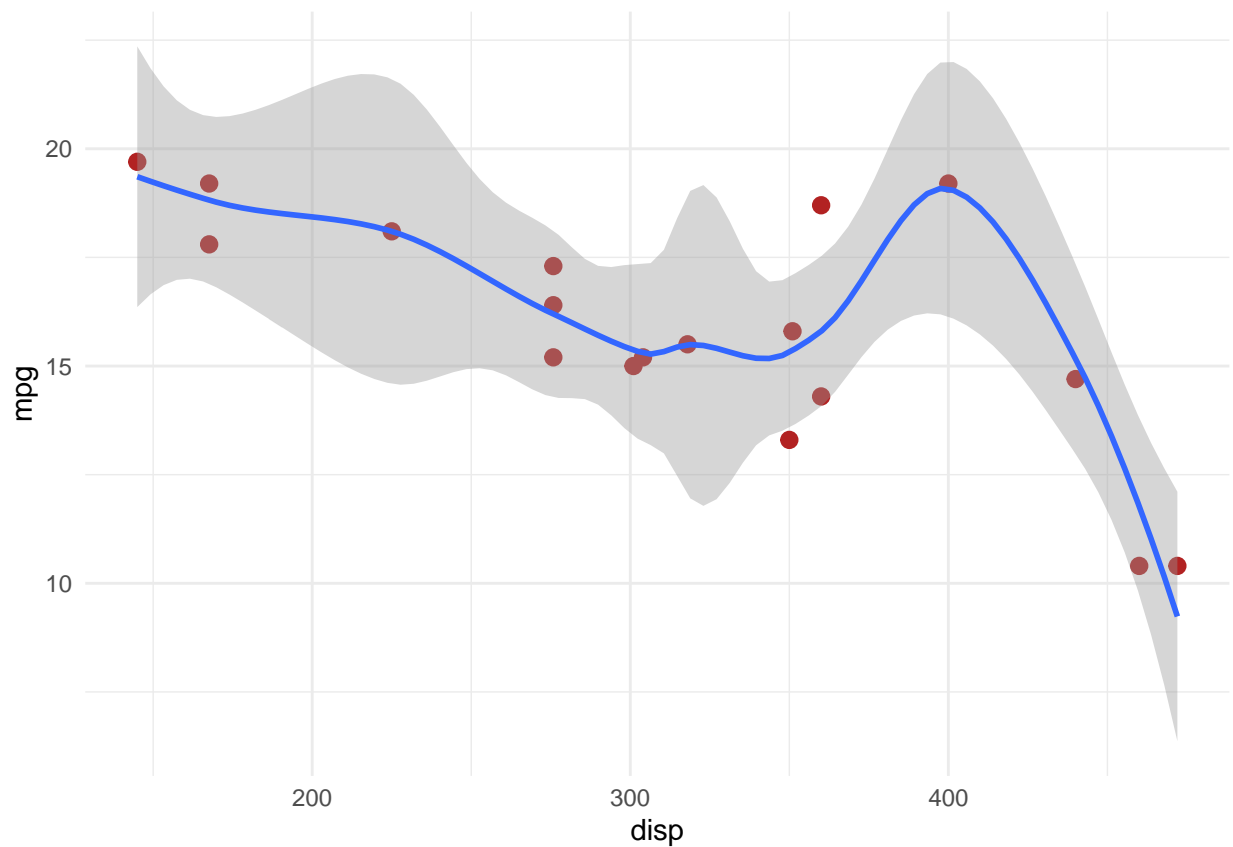
```
# Now use the function from hand_functions.R
```

```
sp_out <- sum_special(mtcars_mpg2)
```

```
# library(esquisse)
#
# esquisser(data = mtcars_mpg2, viewer = "browser")

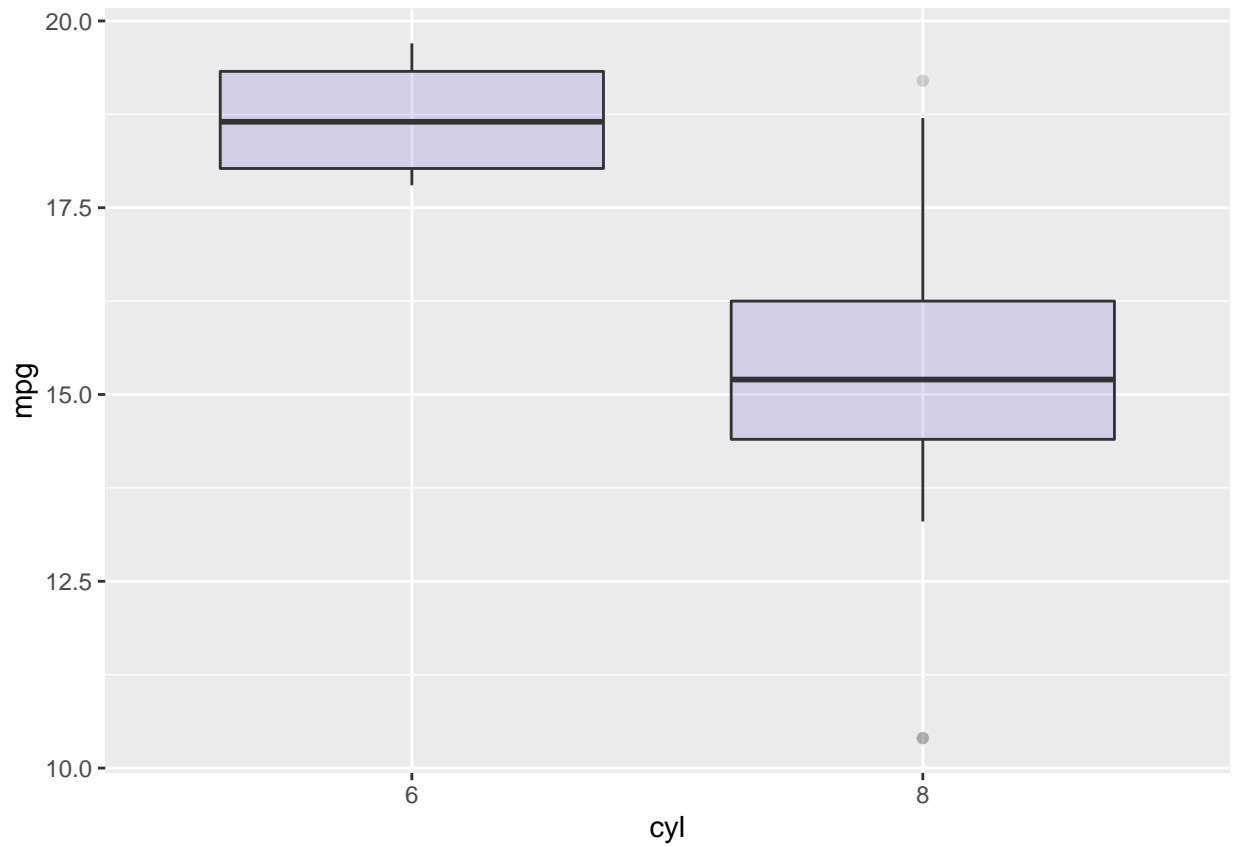
ggplot(mtcars_mpg2) +
  aes(x = disp, y = mpg) +
  geom_point(shape = "bullet", size = 4L, colour = "#B22222") +
  geom_smooth(span = 0.5) +
  theme_minimal()
```

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

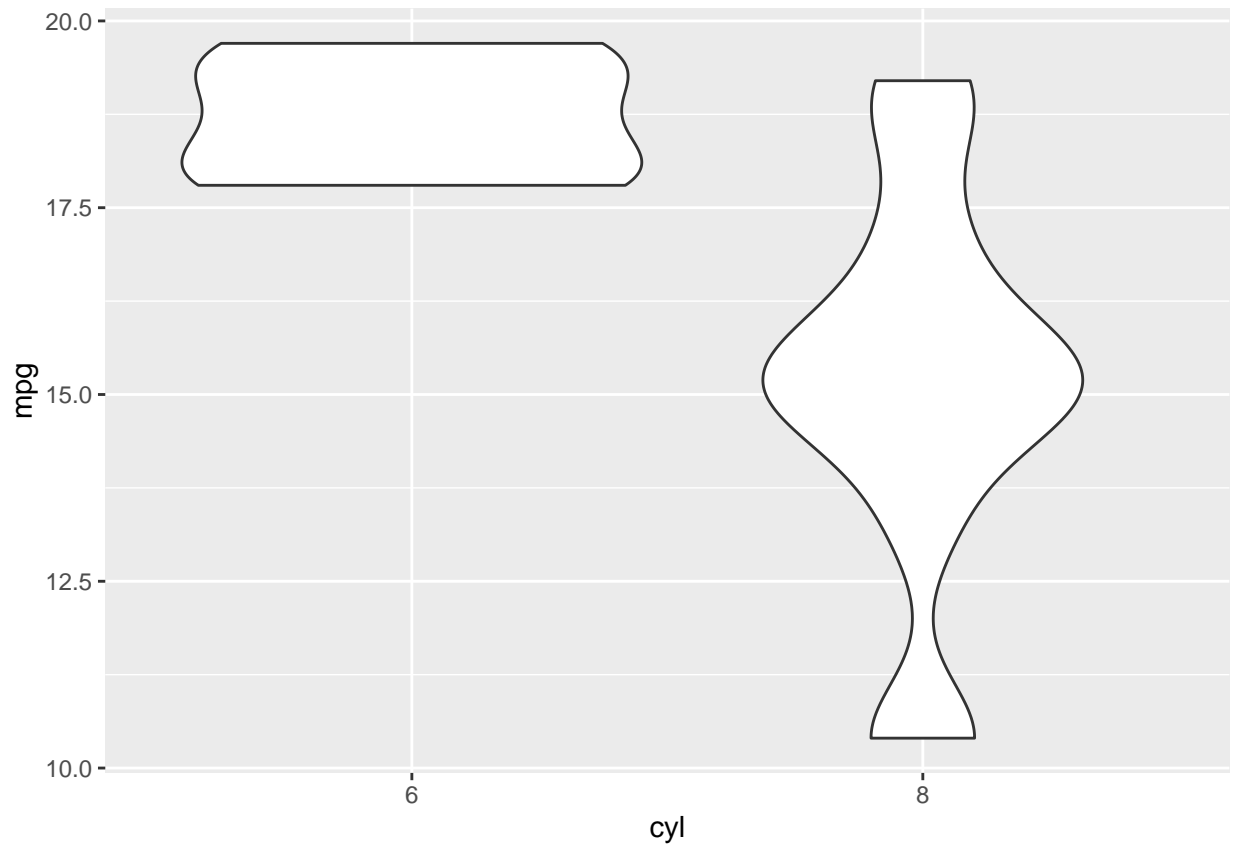


*# note that this boxplot cannot be made with esquisse() unless
the data is adjusted. What adjustment is needed?*

```
ggplot(mtcars_mpg2, aes(x=as.factor(cyl), y=mpg)) +
  geom_boxplot(fill="slateblue", alpha=0.2) +
  xlab("cyl")
```



```
ggplot(mtcars_mpg2, aes(x=as.factor(cyl), y=mpg)) +  
  geom_violin() +  
  xlab("cyl")
```



answer: The adjustment is to coerces the argument of `mtcars$cyl` to a factor, which has a set of interger with a “level” attribute.