

assignment_1

```
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 = "~/Downloads/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

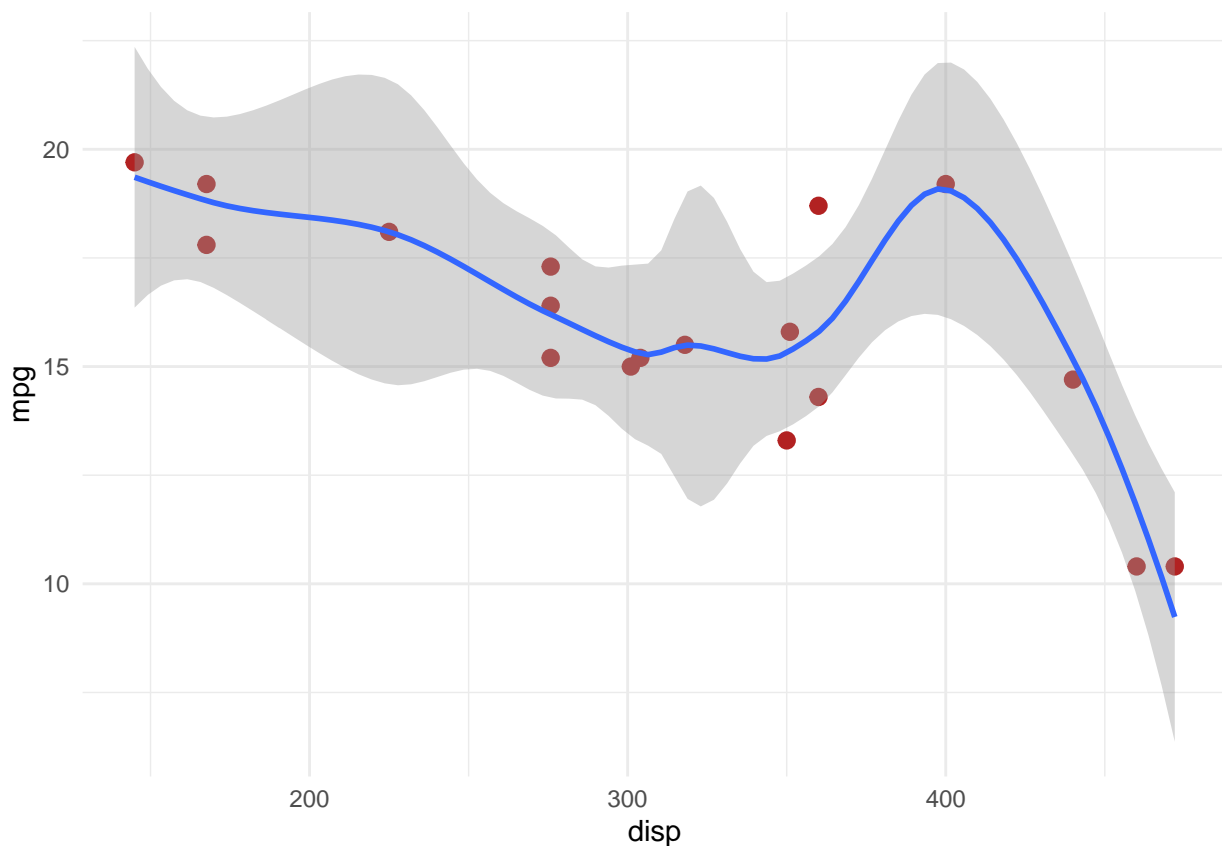
```
sp_out <- sum_special(mtcars_mpg2)
```

```
library(esquisse)
```

```
esquisser(data = mtcars_mpg2, viewer = "browser")
```

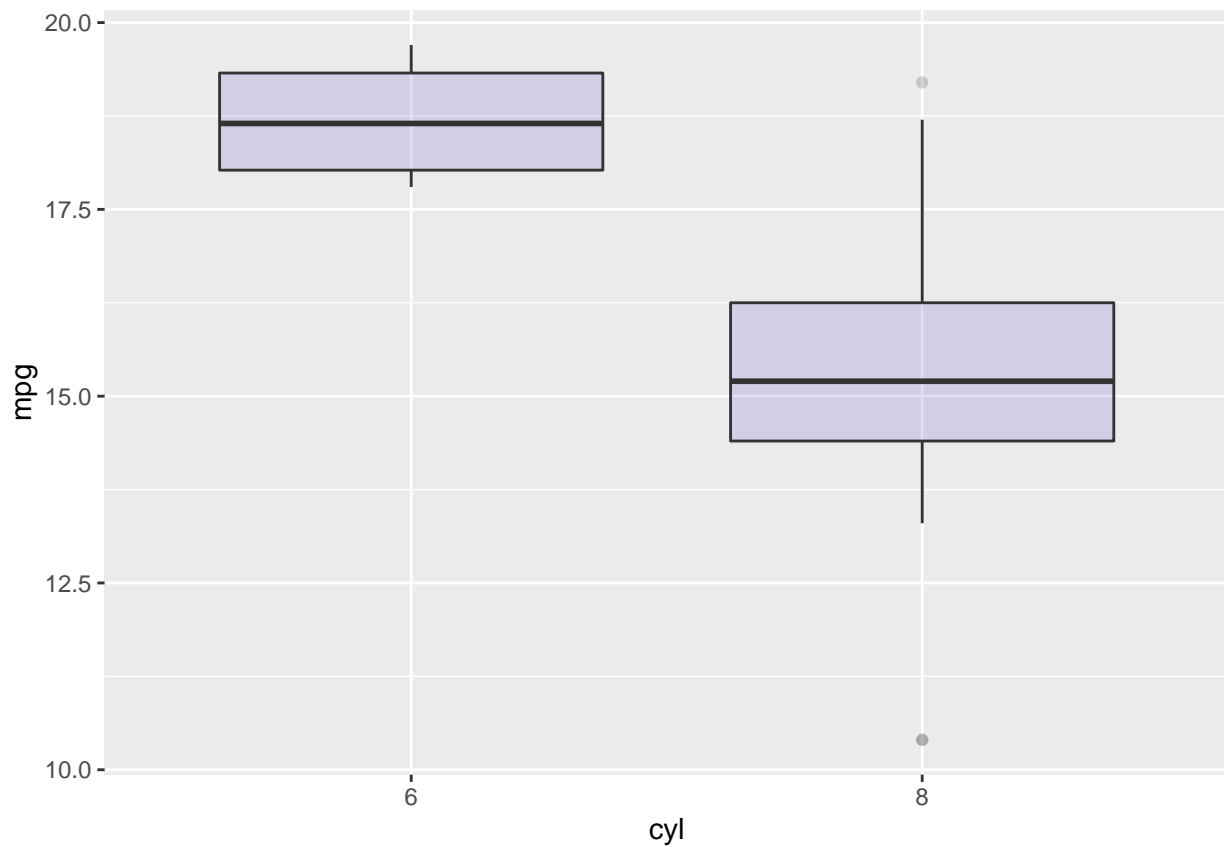
```
ggplot(mtcars_mpg2) +  
  aes(x = disp, y = mpg) +  
  geom_point(shape = "bullet", size = 4L, colour = "#B22222") +  
  geom_smooth(span = 0.5) +  
  theme_minimal()
```

```
## `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")
```



`x=as.factor(cyl)` should change to equal a categorical value, first I will creat a value `cyl = as.factor(mtcars_mpg$cyl)`, then change `x=as.factor(cyl)` as `x= cyl`.