````
---
title: "HW1markdown"
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output: pdf_document
---
This file manipulate the car_viz dataset and use the cars that have mpg<20
to make two graphs. The first one is mph versus disp and the second one is
mph versus cyl.
```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)
```


# call built-in data mtcars and import tidyverse
```{r}
library(tidyverse)
library(ggplot2)
#install.packages('tinytex')
#tinytex::install_tinytex()
data(mtcars)
```

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


# Reduce the variables to mpg, cyl, disp, hp, gears
```{r}
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
```{r}
source(file = "hand_functions.R", echo = TRUE)
```


# Now use the function from hand_functions.R
```{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()
```

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

# We need to firstly inport and activate the esquisser
# library, then we need
````

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