Assignment 5

Creating figures

The assignment is about creating an expository figure from an initial exploratory figure. The data used came from FSAdata package.

```
library(tidyverse)

## -- Attaching packages --------------------------------------- tidyverse
1.3.0 --

## v ggplot2 3.3.2     v purrr   0.3.4
## v tibble  3.0.4     v dplyr   1.0.2
## v tidyr   1.1.2     v stringr 1.4.0
## v readr   1.4.0     v forcats 0.5.0

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

library(ggplot2)
library(viridis)

## Loading required package: viridisLite

library(FSAdata)

## ## FSAdata v0.3.8. See ?FSAdata to find data for specific fisheries
analyses.
```

FSAdata

```
head(SiscowetMI2004)

##        locID pnldep mesh fishID  sex age len  wgt
## 1 Deer Park  36.74  2.5  19108 <NA>   NA 316  400
## 2 Deer Park  40.09  3.0  19109 <NA>   NA 396  700
## 3 Deer Park  41.46  5.0  19110    M   NA 590 1800
## 4 Deer Park  41.46  5.0  19111    M   NA 516 1500
## 5 Deer Park  43.45  5.5  19112 <NA>   NA 414  800
## 6 Deer Park  45.58  4.0  19113    M   NA 481 1000
```
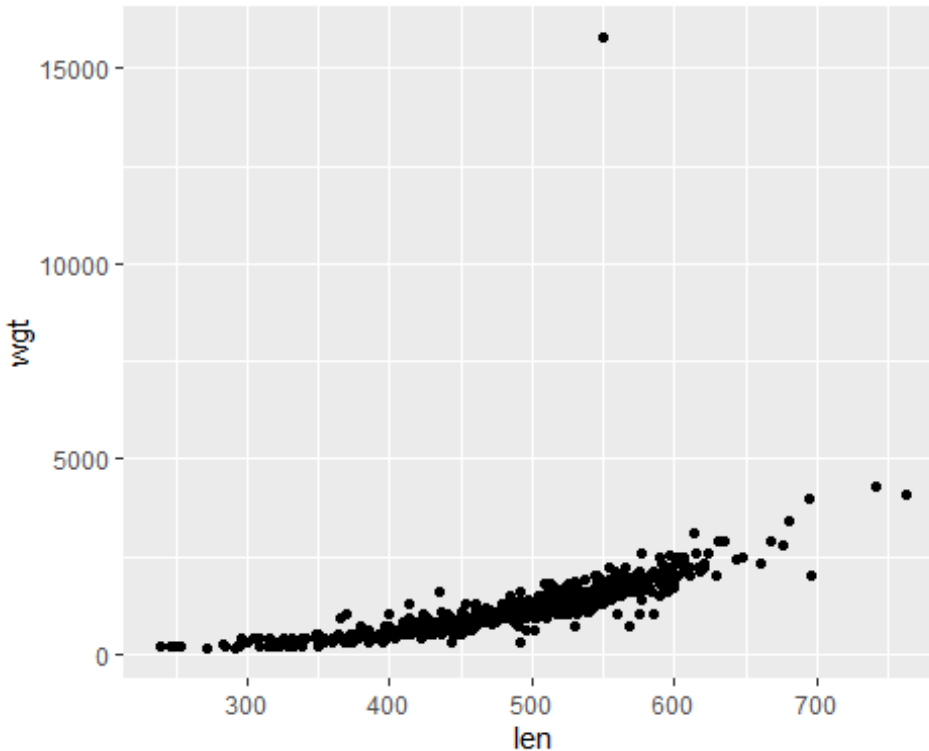
Exploratory Plots

We will explore the data by plotting lengths and weights

```
SiscowetMI2004 %>%
  ggplot(aes(x=len,
```

```
                y=wgt)) +
  geom_point()
```

```
## Warning: Removed 1 rows containing missing values (geom_point).
```


Expository Plots

We will now create an expository figure. Here, we will also examine the locations with the fishes length and weight.

```
SiscowetMI2004 %>%
  ggplot(aes(x=len,
             y=wgt,
             color=locID)) +
  geom_point() +
  xlab("Total length (mm)") +
  ylab("Weight (g)") +
  labs(title = "Lengths and weights for male and female \n Siscowet Lake
Trout captured at four locations \n in Michigan waters of Lake Superior",
       color= "Locations") +
  scale_color_viridis_d() +
  theme_minimal() +
  theme(plot.title.position = "panel",
        axis.title.y = element_text(angle = 90, vjust = .8,size=12),
        axis.text = element_text(size=12),
        legend.position = c(.85, .8)) +
  geom_smooth(method = "lm", se = FALSE)
```

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

## Warning: Removed 1 rows containing non-finite values (stat_smooth).

## Warning: Removed 1 rows containing missing values (geom_point).
```


Lengths and weights for male and female Siscowet Lake Trout captured at four locations in Michigan waters of Lake Superior