

Graphic_Exploration

Packages

```
library(tidyverse)

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

## v ggplot2 3.3.3      v purrr  0.3.4
## v tibble  3.0.6      v dplyr  1.0.4
## v tidyr   1.1.2      v stringr 1.4.0
## v readr   1.4.0      v forcats 0.5.1

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

library(dplyr)
library(ggplot2)
library(GGally)

## Registered S3 method overwritten by 'GGally':
##   method from
##   +.gg      ggplot2
```

Data

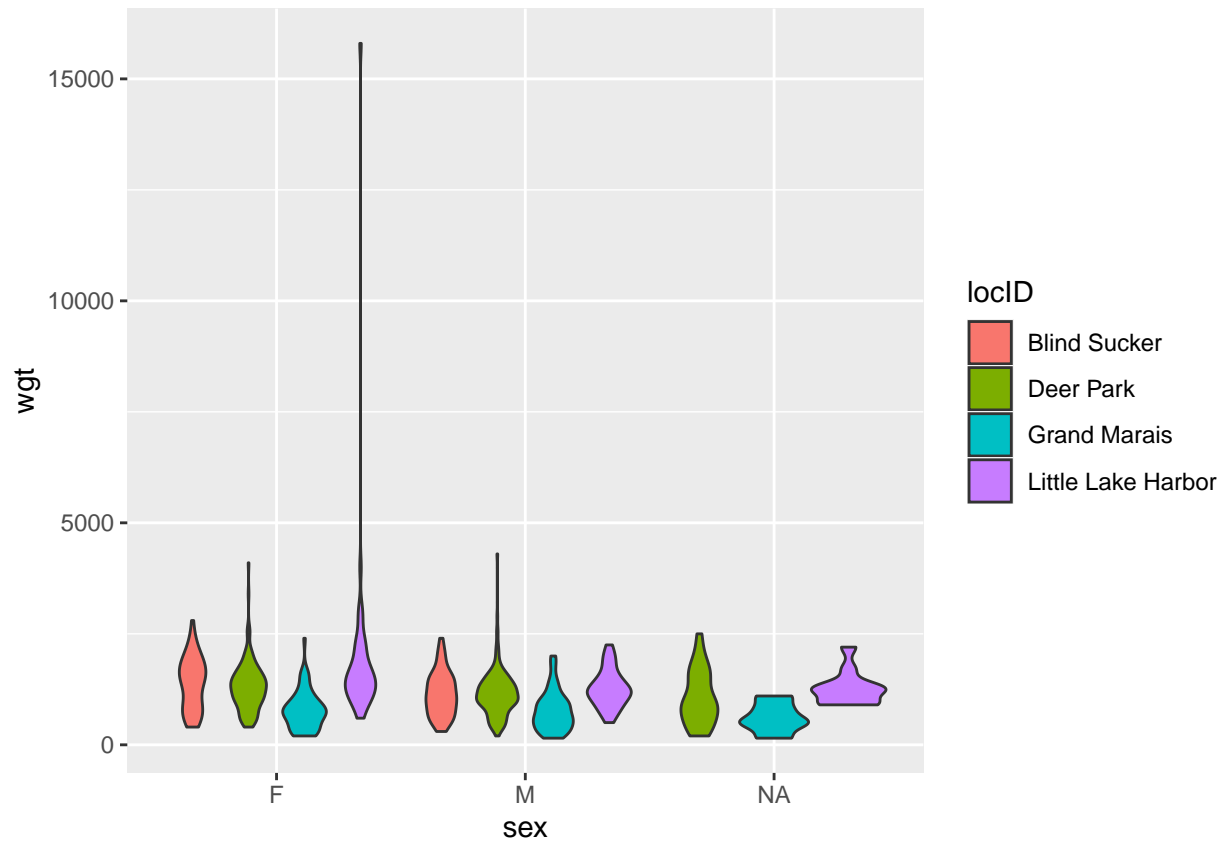
```
setwd("~/Desktop/WinQ_2021/Fish497/Assignment-5")
fish_data <- read.csv("data/siscowet.csv")
```

Figures

Violin Plot of Sex vs Weight (exploratory)

```
p = ggplot(fish_data, aes( x = sex, y = wgt, fill = locID))
p + geom_violin()

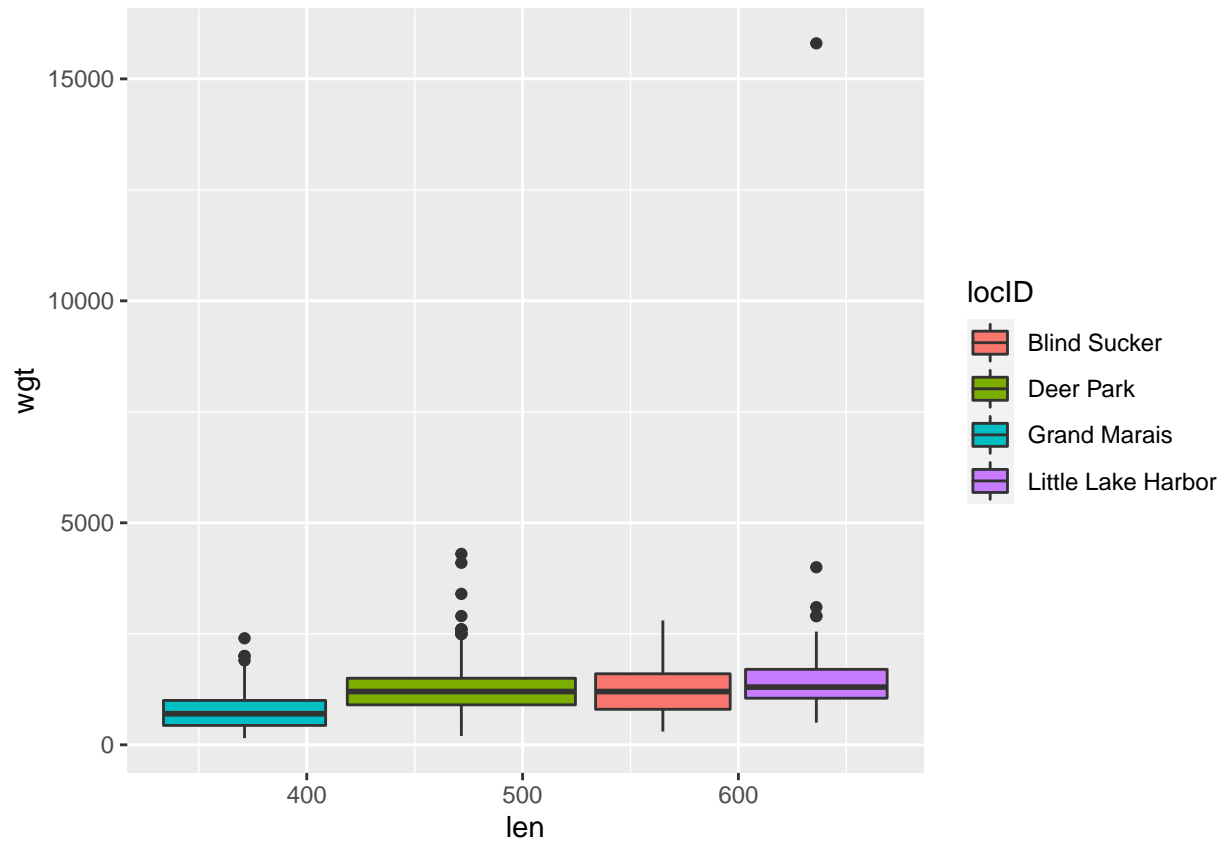
## Warning: Removed 1 rows containing non-finite values (stat_ydensity).
```



Box Plot of Length vs Weight (exploratory)

```
p = ggplot(fish_data, aes( x = len, y = wgt, fill = locID))
p + geom_boxplot()
```

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



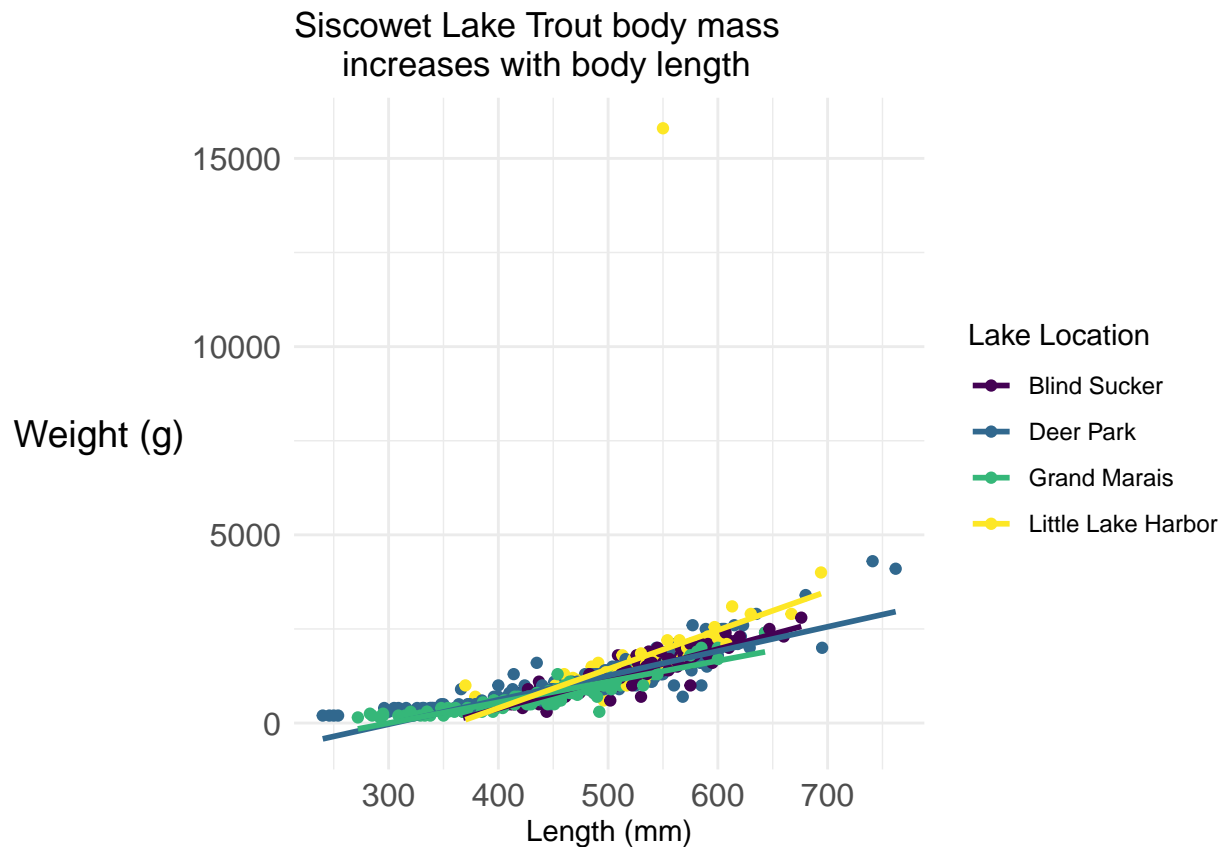
Length vs Weight (expository)

```
ggplot(fish_data, aes(x=len,
  y=wgt,
  color=locID)) +
  geom_point() +
  ylab("Weight (g)") +
  xlab("Length (mm)") +
  labs(color="Lake Location",
    title = "Siscowet Lake Trout body mass
increases with body length") +
  scale_color_viridis_d() +
  theme_minimal() +
  theme(axis.title.y = element_text(angle = 0, vjust = 0.5, size=14),
    axis.text = element_text(size=12)) +
  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).
```



Length vs Weight Subplots (expository)

```
ggplot(fish_data, aes(x=len,
  y=wgt,
  color=locID)) +
  geom_point()+
  ylab("Weight (g)") +
  xlab("Length (mm)") +
  facet_wrap("locID")+
  labs(color="Lake Location",
    title = "Siscowet Lake Trout body mass
    increases with body length")+
    scale_color_viridis_d()+
    theme_minimal() +
    theme(axis.title.y = element_text(angle = 0, vjust = 0.5,size=14),
      axis.text = element_text(size=12)) +
    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).
```

Siscowet Lake Trout body mass increases with body length

