Module7

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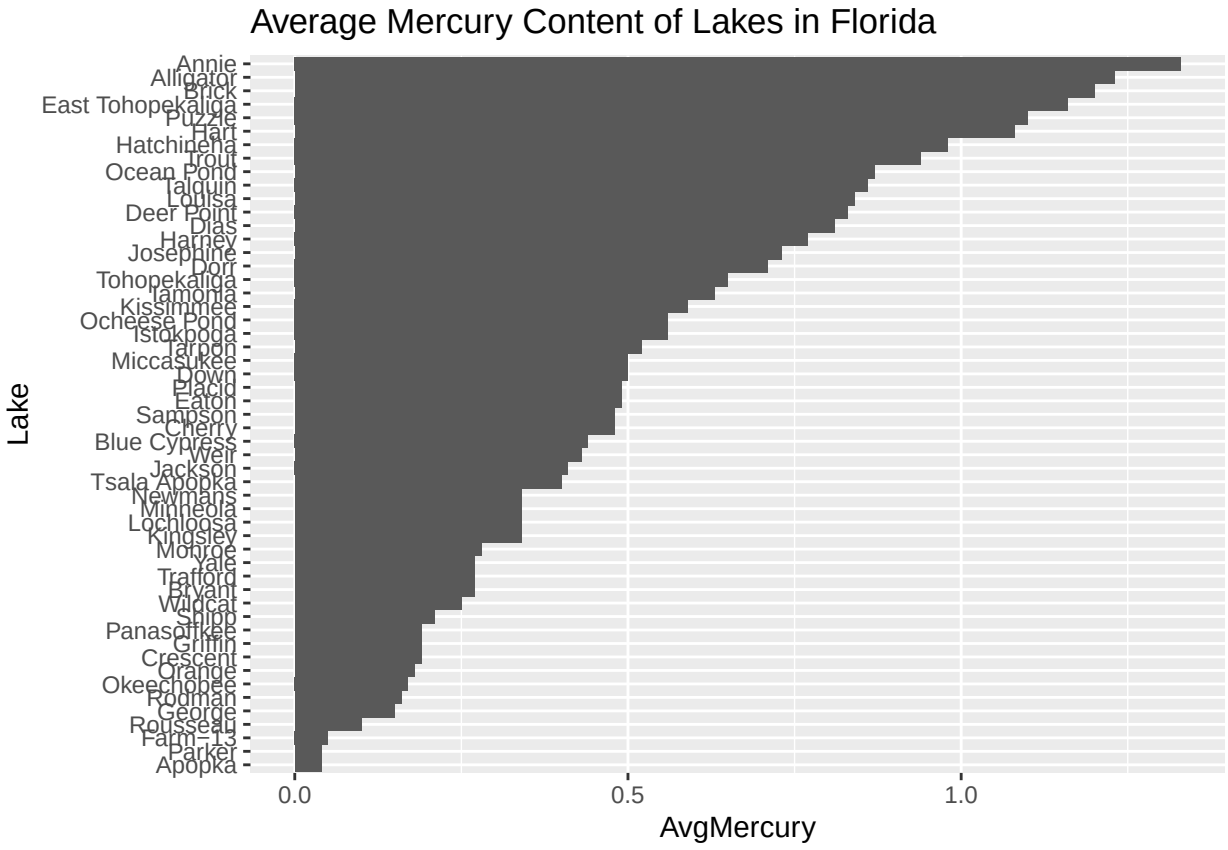
Exercise 1 - FloridaLakes ordered bar graph

```
library(Lock5Data)
data('FloridaLakes', package='Lock5Data')
write.csv(FloridaLakes, "FloridaLakes.csv")

#Order the rows by AvgMercury
FloridaLakes = FloridaLakes %>%
  mutate(Lake = fct_reorder(Lake, AvgMercury))
head(FloridaLakes)
```

```
## # A tibble: 6 x 12
##      ID Lake  Alkalinity    pH Calcium Chlorophyll AvgMercury NumSamples
##   <int> <fct>      <dbl> <dbl>   <dbl>       <dbl>      <dbl>      <int>
## 1     1 Alli~        5.9   6.1     3           0.7        1.23          5
## 2     2 Annie        3.5   5.1     1.9         3.2        1.33          7
## 3     3 Apop~      116     9.1    44.1       128.         0.04          6
## 4     4 Blue~       39.4   6.9    16.4         3.5        0.44         12
## 5     5 Brick        2.5   4.6     2.9         1.8        1.2          12
## 6     6 Brya~       19.6   7.3     4.5        44.1        0.27         14
## # ... with 4 more variables: MinMercury <dbl>, MaxMercury <dbl>,
## #   ThreeYrStdMercury <dbl>, AgeData <int>
```

```
# Create the graph from the ordered dataframe
lakeGraph = FloridaLakes %>%
  ggplot(aes(x= Lake, y = AvgMercury)) +
  geom_col(width = 1, position ="dodge" ) +
  coord_flip() +
    labs(title = 'Average Mercury Content of Lakes in Florida')
lakeGraph
```

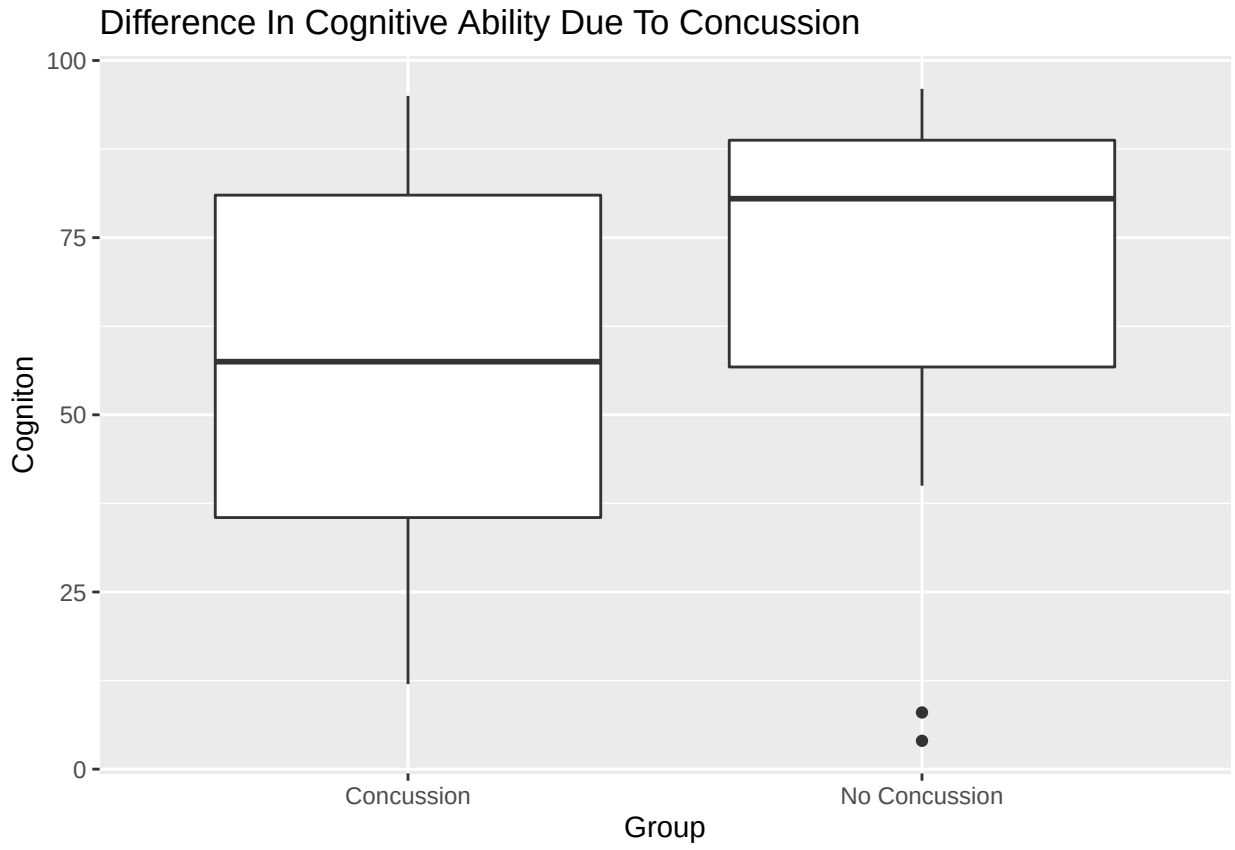


Exercise 2 - FootballBrain box plot with changed labels in the Group column

```
data('FootballBrain', package='Lock5Data')
write.csv(FootballBrain, "FootballBrain.csv")

FootballBrain = FootballBrain %>%
    mutate( Group = fct_recode(Group, 'Concussion'='FBConcuss'),
          Group = fct_recode(Group, 'No Concussion' ='FBNoConcuss') )

#Filter out any rows that do not have data for Congition.
FootballBrain  = FootballBrain %>% filter(Cogniton > 0)

# Print the head of the modified dataframe
head(FootballBrain)
```

```
##           Group Hipp LeftHipp Years Cogniton
## 1 No Concussion 4810     2500    14        4
## 2 No Concussion 5155     2610     8       55
## 3 No Concussion 5500     2725     9       74
## 4 No Concussion 5515     2780    14       71
## 5 No Concussion 5820     2795     9       79
## 6 No Concussion 5835     2865    12        8
```

```r
#Create and print our boxplot
FootballBrain %>%
  ggplot(aes(x=Group, y=Cogniton)) +
    geom_boxplot() +
    labs(title = 'Difference In Cognitive Ability Due To Concussion')
```



Exercise 3 - ResturauntTips data and factoring.

```r
data('RestaurantTips', package='Lock5Data')
write.csv(RestaurantTips, "RestaurantTips.csv")

RestaurantTips = RestaurantTips %>%
    mutate( Day = fct_recode(Day, 'Monday'='m'),
          Day = fct_recode(Day, 'Tuesday' ='t'),
          Day = fct_recode(Day, 'Wednesday'='w'),
          Day = fct_recode(Day, 'Thursday'='th'),
          Day = fct_recode(Day, 'Friday'='f'),
          Day = fct_relevel(Day, 'Monday', 'Tuesday', 'Wednesday',
                            'Thursday', 'Friday'),
          Credit = fct_recode(Credit, 'Cash'='n'),
          Credit = fct_recode(Credit, 'Credit'='y'))

#Print our modified dataframe.
head(RestaurantTips)
```

```
##    Bill   Tip Credit Guests    Day Server PctTip
## 1 23.70 10.00   Cash      2 Friday      A   42.2
## 2 36.11  7.00   Cash      3 Friday      B   19.4
## 3 31.99  5.01 Credit      2 Friday      A   15.7
## 4 17.39  3.61 Credit      2 Friday      B   20.8
## 5 15.41  3.00   Cash      2 Friday      B   19.5
## 6 18.62  2.50   Cash      2 Friday      A   13.4
```

```r
#Create and print out our graph
RestaurantTips %>%
  ggplot(aes(x=Bill, y=PctTip)) +
    geom_point() +
    facet_grid(Credit ~ Day) +
    labs(title = 'Tip Percentages Based On The Total Bill And Payment Methods')
```