M2 Problem Set

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Loading libraries

library(tidyverse)
library(palmerpenguins)
library(ggthemes)

Loading

```
data(trees)
data(penguins)
```

Print the first 6 rows

```
head(trees)
```

```
##   Girth Height Volume
## 1   8.3     70   10.3
## 2   8.6     65   10.3
## 3   8.8     63   10.2
## 4  10.5     72   16.4
## 5  10.7     81   18.8
## 6  10.8     83   19.7
```

```
head(penguins)
```

```
## # A tibble: 6 x 8
##   species island    bill_length_mm bill_depth_mm flipper_length_mm body_mass_g
##   <fct>   <fct>              <dbl>         <dbl>             <int>       <int>
## 1 Adelie  Torgersen           39.1          18.7               181        3750
## 2 Adelie  Torgersen           39.5          17.4               186        3800
## 3 Adelie  Torgersen           40.3          18                 195        3250
## 4 Adelie  Torgersen           NA            NA                  NA          NA
## 5 Adelie  Torgersen           36.7          19.3               193        3450
## 6 Adelie  Torgersen           39.3          20.6               190        3650
## # i 2 more variables: sex <fct>, year <int>
```

Questions

1. Using the ***nrow()*** command, how many rows does the data.frame ***tress*** have? (10pts)
2. Using the ***ncol()*** command, how many columns are there in the **trees** dataset? (10pts)
3. What information does the ***length(trees)*** command provide about the structure of the trees data frame in R? (10pts)
4. Create a vector with elements ***1 2 3 4 5 6 7 8 9*** and call it x. create another vector with elements ***10 20 30 40 50*** and call it y. What happens if you try to add ***x*** and ***y*** together? Why? (20pts)
5. Data Visualization ***link to section here***. Navigate through section 1.2. This section guides you through constructing a ggplot from scratch, utilizing a dataset already integrated into R. Numerous datasets are bundled with R, accessible through the datasets library. (To view the list, execute **library(help = "datasets")** in R). Ensure to proceed through this section meticulously to avoid potential errors, which are expected and serve as prompts for comprehension.

Your submission for this question should consist of the graph displaying the penguin data.

a. Among our penguin species, which appears to possess a greater length relative to weight compared to the other fish? How did you ascertain this? Conduct a Google image search for the species to validate if your conclusion aligns with reality. (50pts)