PSTAT 5LS Lab 1 Part 1

Your Name Here

Week of April 8, 2024

Lab Notes

Use this place to take any notes during your lab section.

- Type any notes here
- Add new notes by using the dash - to create a list

Lab Code

You can follow along with the TA's tutorial by running the chunks below.

```
# Run this code chunk to print the phrase "Hello World!" to the screen
print("Hello world!")
```

```
## [1] "Hello world!"
```

```
# Run this code chunk to compute what 5 times 7 is
5 * 7
```

```
## [1] 35
```

```
# Run this code chunk to compute what 36 divided by 6 is, and assign it to x
x <- 36 / 6
```

```
# Run this code chunk to see the value of x that R has stored
x
```

```
## [1] 6
```

```
# Run this code chunk to see what happens if you use X (capitalized) instead
X
```

```
## Error in eval(expr, envir, enclos): object 'X' not found
```

```
# Run this code chunk to load the penguins data set into the environment
penguins <- read.csv("penguins.csv", stringsAsFactors = TRUE)
```

```
# Run this code chunk to peek at the penguins data set
head(penguins)
```

```
##   species    island bill_length_mm bill_depth_mm flipper_length_mm body_mass_g
## 1  Adelie Torgersen           39.1          18.7               181        3750
## 2  Adelie Torgersen           39.5          17.4               186        3800
## 3  Adelie Torgersen           40.3          18.0               195        3250
## 4  Adelie Torgersen           36.7          19.3               193        3450
## 5  Adelie Torgersen           39.3          20.6               190        3650
## 6  Adelie Torgersen           38.9          17.8               181        3625
```

```
##      sex year
## 1   male 2007
## 2 female 2007
## 3 female 2007
## 4 female 2007
## 5   male 2007
## 6 female 2007
```

```
# Run this code chunk to examine the structure of the penguins data set
str(penguins)
```

```
## 'data.frame':    333 obs. of  8 variables:
##  $ species          : Factor w/ 3 levels "Adelie","Chinstrap",..: 1 1 1 1 1 1 1 1 1 1 ...
##  $ island           : Factor w/ 3 levels "Biscoe","Dream",..: 3 3 3 3 3 3 3 3 3 3 ...
##  $ bill_length_mm   : num  39.1 39.5 40.3 36.7 39.3 38.9 39.2 41.1 38.6 34.6 ...
##  $ bill_depth_mm    : num  18.7 17.4 18 19.3 20.6 17.8 19.6 17.6 21.2 21.1 ...
##  $ flipper_length_mm: int  181 186 195 193 190 181 195 182 191 198 ...
##  $ body_mass_g      : int  3750 3800 3250 3450 3650 3625 4675 3200 3800 4400 ...
##  $ sex              : Factor w/ 2 levels "female","male": 2 1 1 1 2 1 2 1 2 2 ...
##  $ year             : int  2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 ...
```

```
# Run this code chunk to make a table of the species variable in the penguins data
table(penguins$species)
```

```
##
##    Adelie Chinstrap    Gentoo
##       146        68       119
```

```
# Run this code chunk to make a two-way frequency table of the variables species and island in the peng
table(penguins$species, penguins$island)
```

```
##
##             Biscoe Dream Torgersen
##   Adelie        44    55        47
##   Chinstrap      0    68         0
##   Gentoo       119     0         0
```

R Code Cheat Sheet

`<-`

- Assigns a value to a name
- `name <- value`

`$`

- tells R that we are looking for a variable in a particular data frame
- `data_set_name$data_set_variable`

`table(data_set_name$data_set_variable)`

- creates a table of the frequencies of one categorical variable

`table(data_set_name$data_set_variable, data_set_name$data_set_variable)`

- creates a two way table of the frequencies of two categorical variables