My Report

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9/17/24

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```
  library(Hmisc)
```

```
Warning: package 'Hmisc' was built under R version 4.2.3
```

```

Attaching package: 'Hmisc'

The following objects are masked from 'package:base':

    format.pval, units
```

```
  library(palmerpenguins)
```

```
Warning: package 'palmerpenguins' was built under R version 4.2.3
```

```
  library(ggplot2)
```

```
Warning: package 'ggplot2' was built under R version 4.2.3
```

```
  head(penguins_raw)
```

```
# A tibble: 6 x 17
  studyName `Sample Number` Species          Region Island Stage `Individual ID`
  <chr>               <dbl> <chr>            <chr>  <chr>  <chr> <chr>
1 PAL0708                 1 Adelie Penguin ~ Anvers Torge~ Adul~ N1A1
2 PAL0708                 2 Adelie Penguin ~ Anvers Torge~ Adul~ N1A2
3 PAL0708                 3 Adelie Penguin ~ Anvers Torge~ Adul~ N2A1
4 PAL0708                 4 Adelie Penguin ~ Anvers Torge~ Adul~ N2A2
5 PAL0708                 5 Adelie Penguin ~ Anvers Torge~ Adul~ N3A1
6 PAL0708                 6 Adelie Penguin ~ Anvers Torge~ Adul~ N3A2
# i 10 more variables: `Clutch Completion` <chr>, `Date Egg` <date>,
#   `Culmen Length (mm)` <dbl>, `Culmen Depth (mm)` <dbl>,
#   `Flipper Length (mm)` <dbl>, `Body Mass (g)` <dbl>, Sex <chr>,
#   `Delta 15 N (o/oo)` <dbl>, `Delta 13 C (o/oo)` <dbl>, Comments <chr>
```

```
summary(penguins_raw)
```

```
  studyName          Sample Number      Species             Region
 Length:344         Min.   :  1.00   Length:344         Length:344
 Class :character   1st Qu.: 29.00   Class :character   Class :character
 Mode  :character   Median : 58.00   Mode  :character   Mode  :character
                    Mean   : 63.15
                    3rd Qu.: 95.25
                    Max.   :152.00

    Island             Stage           Individual ID      Clutch Completion
 Length:344         Length:344         Length:344         Length:344
 Class :character   Class :character   Class :character   Class :character
 Mode  :character   Mode  :character   Mode  :character   Mode  :character



    Date Egg          Culmen Length (mm) Culmen Depth (mm) Flipper Length (mm)
 Min.   :2007-11-09   Min.   :32.10      Min.   :13.10     Min.   :172.0
 1st Qu.:2007-11-28   1st Qu.:39.23      1st Qu.:15.60     1st Qu.:190.0
 Median :2008-11-09   Median :44.45      Median :17.30     Median :197.0
 Mean   :2008-11-27   Mean   :43.92      Mean   :17.15     Mean   :200.9
 3rd Qu.:2009-11-16   3rd Qu.:48.50      3rd Qu.:18.70     3rd Qu.:213.0
 Max.   :2009-12-01   Max.   :59.60      Max.   :21.50     Max.   :231.0
                      NA's   :2          NA's   :2         NA's   :2
 Body Mass (g)      Sex            Delta 15 N (o/oo) Delta 13 C (o/oo)
```

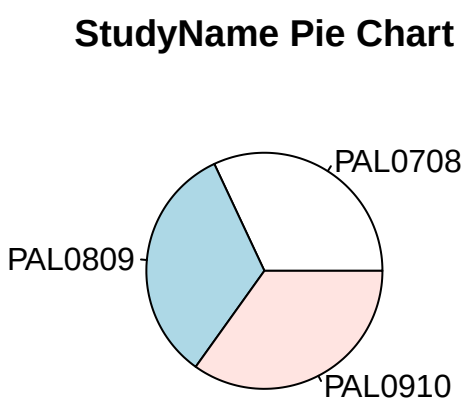
```
 Min.   :2700   Length:344         Min.   : 7.632    Min.   :-27.02
 1st Qu.:3550   Class :character   1st Qu.: 8.300    1st Qu.:-26.32
 Median :4050   Mode  :character   Median : 8.652    Median :-25.83
 Mean   :4202                      Mean   : 8.733    Mean   :-25.69
 3rd Qu.:4750                      3rd Qu.: 9.172    3rd Qu.:-25.06
 Max.   :6300                      Max.   :10.025    Max.   :-23.79
 NA's   :2                         NA's   :14        NA's   :13
   Comments
 Length:344
 Class :character
 Mode  :character
```

```r
str(penguins_raw)
```

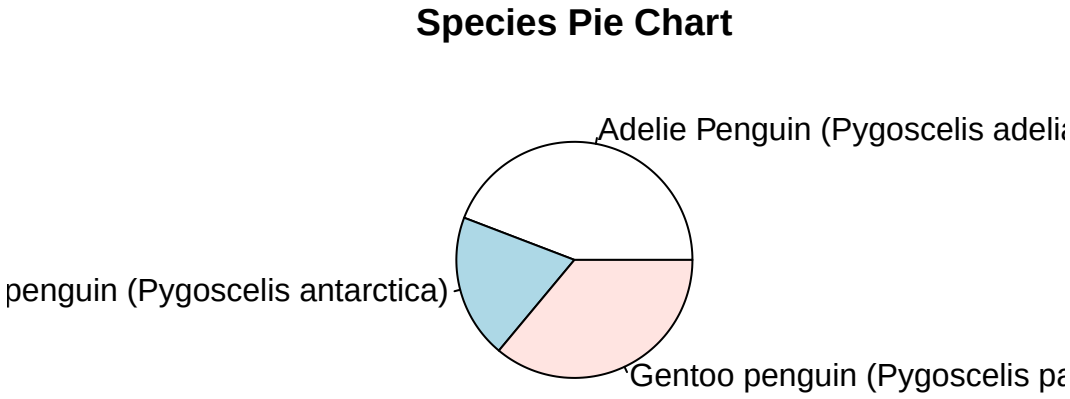
```
tibble [344 x 17] (S3: tbl_df/tbl/data.frame)
 $ studyName          : chr [1:344] "PAL0708" "PAL0708" "PAL0708" "PAL0708" ...
 $ Sample Number      : num [1:344] 1 2 3 4 5 6 7 8 9 10 ...
 $ Species            : chr [1:344] "Adelie Penguin (Pygoscelis adeliae)" "Adelie Penguin (Py
 $ Region             : chr [1:344] "Anvers" "Anvers" "Anvers" "Anvers" ...
 $ Island             : chr [1:344] "Torgersen" "Torgersen" "Torgersen" "Torgersen" ...
 $ Stage              : chr [1:344] "Adult, 1 Egg Stage" "Adult, 1 Egg Stage" "Adult, 1 Egg S
 $ Individual ID      : chr [1:344] "N1A1" "N1A2" "N2A1" "N2A2" ...
 $ Clutch Completion  : chr [1:344] "Yes" "Yes" "Yes" "Yes" ...
 $ Date Egg           : Date[1:344], format: "2007-11-11" "2007-11-11" ...
 $ Culmen Length (mm) : num [1:344] 39.1 39.5 40.3 NA 36.7 39.3 38.9 39.2 34.1 42 ...
 $ Culmen Depth (mm)  : num [1:344] 18.7 17.4 18 NA 19.3 20.6 17.8 19.6 18.1 20.2 ...
 $ Flipper Length (mm): num [1:344] 181 186 195 NA 193 190 181 195 193 190 ...
 $ Body Mass (g)      : num [1:344] 3750 3800 3250 NA 3450 ...
 $ Sex                : chr [1:344] "MALE" "FEMALE" "FEMALE" NA ...
 $ Delta 15 N (o/oo)  : num [1:344] NA 8.95 8.37 NA 8.77 ...
 $ Delta 13 C (o/oo)  : num [1:344] NA -24.7 -25.3 NA -25.3 ...
 $ Comments           : chr [1:344] "Not enough blood for isotopes." NA NA "Adult not sampled
 - attr(*, "spec")=List of 3
  ..$ cols   :List of 17
  .. ..$ studyName          : list()
  .. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
  .. ..$ Sample Number      : list()
```

```
.. .. ..- attr(*, "class")= chr [1:2] "collector_double" "collector"
.. ..$ Species            : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
.. ..$ Region             : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
.. ..$ Island             : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
.. ..$ Stage              : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
.. ..$ Individual ID      : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
.. ..$ Clutch Completion  : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
.. ..$ Date Egg           :List of 1
.. .. ..$ format: chr ""
.. .. ..- attr(*, "class")= chr [1:2] "collector_date" "collector"
.. ..$ Culmen Length (mm) : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_double" "collector"
.. ..$ Culmen Depth (mm)  : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_double" "collector"
.. ..$ Flipper Length (mm): list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_double" "collector"
.. ..$ Body Mass (g)      : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_double" "collector"
.. ..$ Sex                : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
.. ..$ Delta 15 N (o/oo)  : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_double" "collector"
.. ..$ Delta 13 C (o/oo)  : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_double" "collector"
.. ..$ Comments           : list()
.. .. ..- attr(*, "class")= chr [1:2] "collector_character" "collector"
..$ default: list()
.. ..- attr(*, "class")= chr [1:2] "collector_guess" "collector"
..$ skip   : num 1
..- attr(*, "class")= chr "col_spec"
```

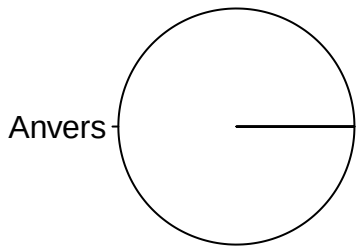
```r
pie(table(c(penguins_raw$studyName)), main = "StudyName Pie Chart")
```



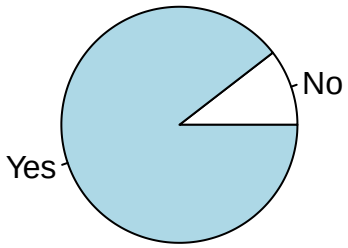

```
pie(table(c(penguins_raw$Species)), main = "Species Pie Chart")
```



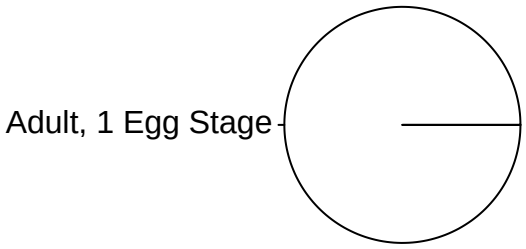
```
pie(table(c(penguins_raw$Region)), main = "Region Pie Chart")
```



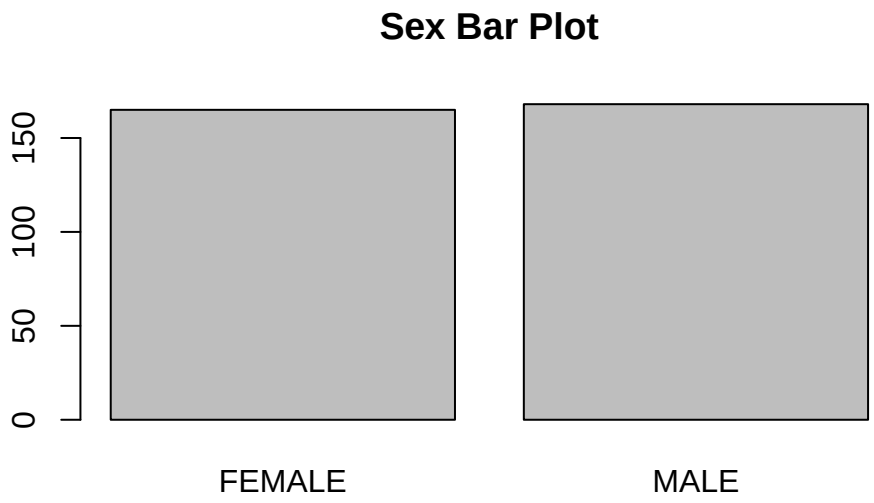

```
pie(table(c(penguins_raw$`Clutch Completion`)), main = "Clutch Completion Pie Chart")
```



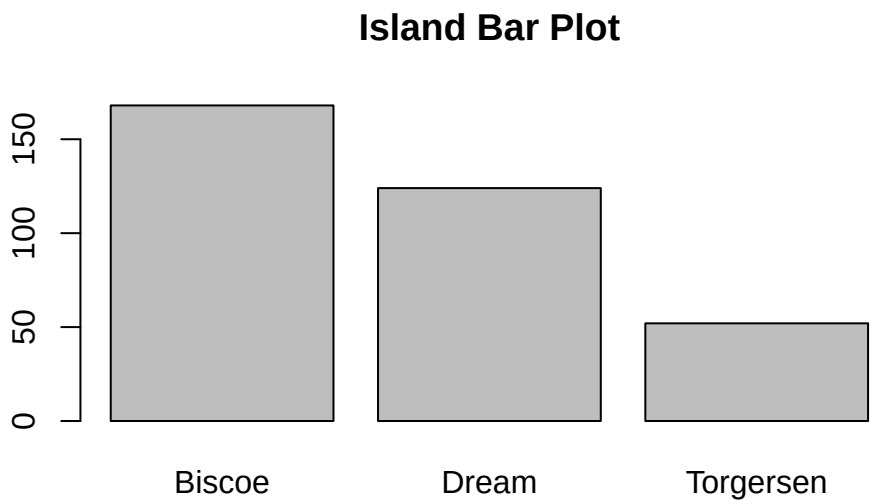

```
pie(table(c(penguins_raw$Stage)), main = "Stage Pie Chart")
```



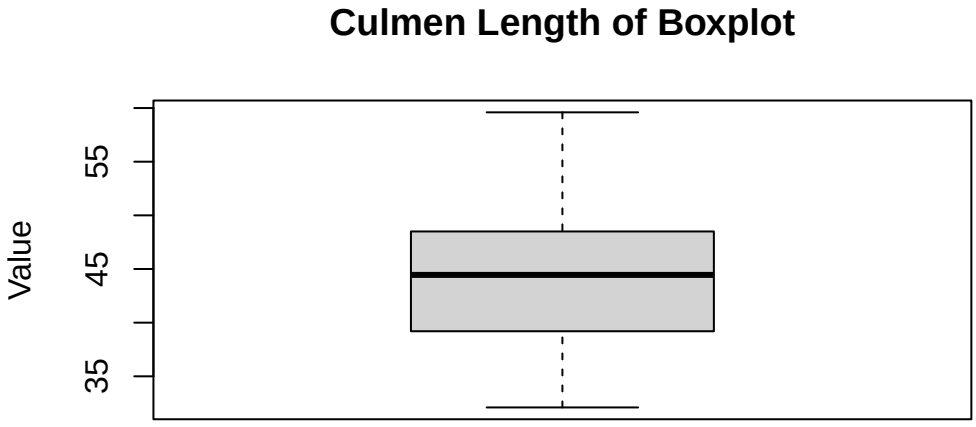
```r
barplot(table(c(penguins_raw$Sex)), main = "Sex Bar Plot")
```



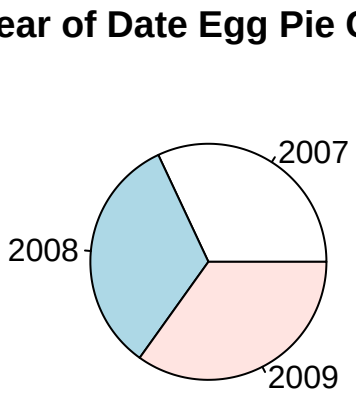

```r
barplot(table(c(penguins_raw$Island)), main = "Island Bar Plot")
```



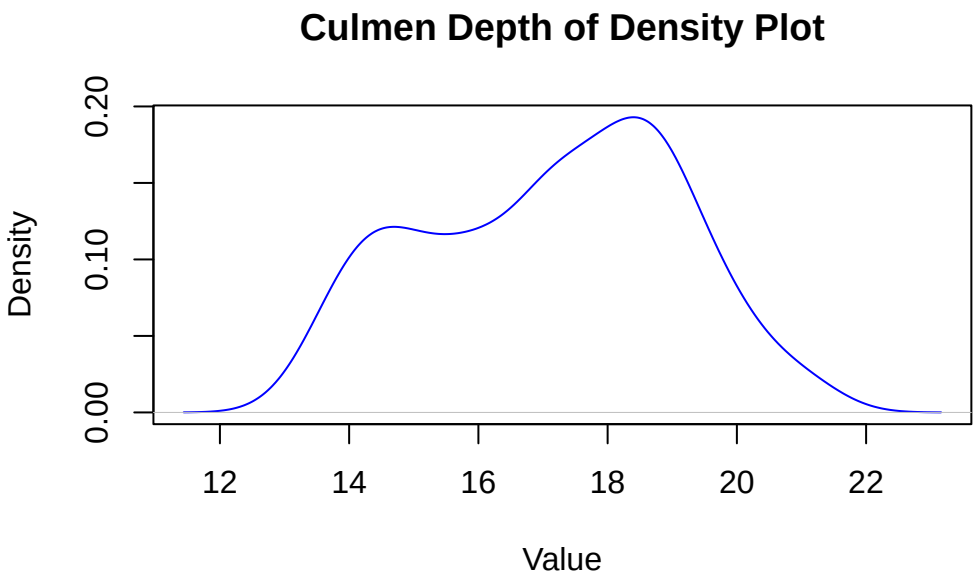

```
boxplot(penguins_raw$`Culmen Length (mm)`, main = "Culmen Length of Boxplot", ylab = "Valu
```



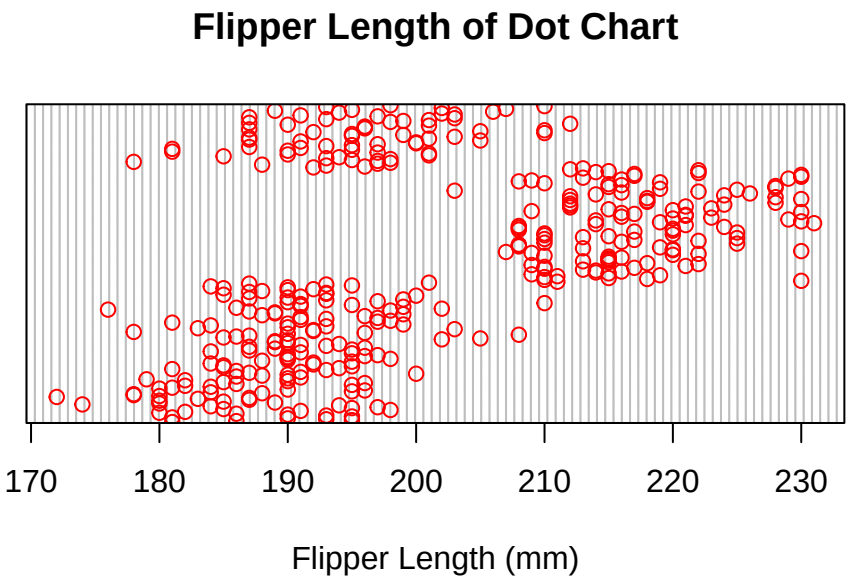
```r
x <- penguins_raw$`Date Egg`
y <- format(x, "%Y")
pie(table(c(as.numeric(y))), main = "Year of Date Egg Pie Chart")
```



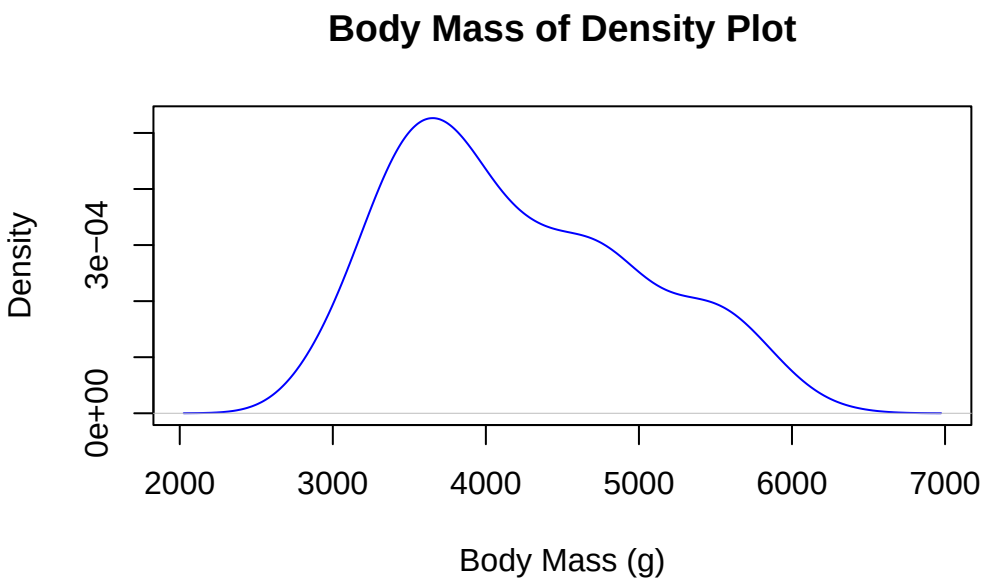

```r
nona <- na.omit(penguins_raw$`Culmen Depth (mm)`)
plot(density(nona), main = "Culmen Depth of Density Plot", xlab = "Value", col = "blue")
```



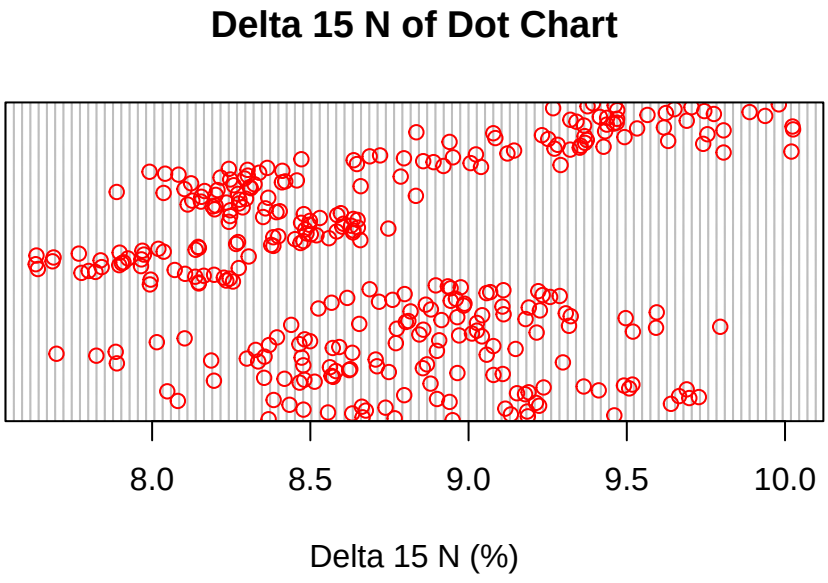

```
nona1 <- na.omit(penguins_raw$`Flipper Length (mm)`)
dotchart(x=as.numeric(nona1), col = "red", xlab = "Flipper Length (mm)", main = "Flipper L
```



```
nona2 <- na.omit(penguins_raw$`Body Mass (g)`)
plot(density(nona2), main = "Body Mass of Density Plot", xlab = "Body Mass (g)", col = "bl
```




```
nona3 <- na.omit(penguins_raw$`Delta 15 N (o/oo)`)
dotchart(x=as.numeric(nona3), col = "red", xlab = "Delta 15 N (%)", main = "Delta 15 N of
```




```
nona4 <- na.omit(penguins_raw$`Delta 13 C (o/oo)`)
dotchart(x=as.numeric(nona4), col = "red", xlab = "Delta 13 C (%)", main = "Delta 13 C of
```