

FML ASSIGNMENT

2023-09-09

```
demotest <-read.csv("penguins_lter.excel.csv")
print(head(demotest))
```

```
##      studyName Sample.Number      Species Region  Island
## 1 PAL0708      1 Adelie Penguin (Pygoscelis adeliae) Anvers Torgersen
## 2 PAL0708      2 Adelie Penguin (Pygoscelis adeliae) Anvers Torgersen
## 3 PAL0708      3 Adelie Penguin (Pygoscelis adeliae) Anvers Torgersen
## 4 PAL0708      4 Adelie Penguin (Pygoscelis adeliae) Anvers Torgersen
## 5 PAL0708      5 Adelie Penguin (Pygoscelis adeliae) Anvers Torgersen
## 6 PAL0708      6 Adelie Penguin (Pygoscelis adeliae) Anvers Torgersen
##      Stage Individual.ID Clutch.Completion Date.Egg
## 1 Adult, 1 Egg Stage      N1A1      Yes 11/11/07
## 2 Adult, 1 Egg Stage      N1A2      Yes 11/11/07
## 3 Adult, 1 Egg Stage      N2A1      Yes 11/16/07
## 4 Adult, 1 Egg Stage      N2A2      Yes 11/16/07
## 5 Adult, 1 Egg Stage      N3A1      Yes 11/16/07
## 6 Adult, 1 Egg Stage      N3A2      Yes 11/16/07
##      Culmen.Length..mm. Culmen.Depth..mm. Flipper.Length..mm. Body.Mass..g. Sex
## 1      39.1      18.7      181      3750 MALE
## 2      39.5      17.4      186      3800 FEMALE
## 3      40.3      18.0      195      3250 FEMALE
## 4      NA      NA      NA      NA
## 5      36.7      19.3      193      3450 FEMALE
## 6      39.3      20.6      190      3650 MALE
##      Delta.15.N..o.o.o. Delta.13.C..o.o.o.      Comments
## 1      NA      NA Not enough blood for isotopes.
## 2      8.94956      -24.69454
## 3      8.36821      -25.33302
## 4      NA      NA      Adult not sampled.
## 5      8.76651      -25.32426
## 6      8.66496      -25.29805
```

```
demotest$Body.Mass..g.
```

```
##      [1] 3750 3800 3250  NA 3450 3650 3625 4675 3475 4250 3300 3700 3200 3800 4400
##     [16] 3700 3450 4500 3325 4200 3400 3600 3800 3950 3800 3800 3550 3200 3150 3950
##     [31] 3250 3900 3300 3900 3325 4150 3950 3550 3300 4650 3150 3900 3100 4400 3000
##     [46] 4600 3425 2975 3450 4150 3500 4300 3450 4050 2900 3700 3550 3800 2850 3750
##     [61] 3150 4400 3600 4050 2850 3950 3350 4100 3050 4450 3600 3900 3550 4150 3700
##     [76] 4250 3700 3900 3550 4000 3200 4700 3800 4200 3350 3550 3800 3500 3950 3600
##     [91] 3550 4300 3400 4450 3300 4300 3700 4350 2900 4100 3725 4725 3075 4250 2925
##    [106] 3550 3750 3900 3175 4775 3825 4600 3200 4275 3900 4075 2900 3775 3350 3325
##    [121] 3150 3500 3450 3875 3050 4000 3275 4300 3050 4000 3325 3500 3500 4475 3425
```

```
## [136] 3900 3175 3975 3400 4250 3400 3475 3050 3725 3000 3650 4250 3475 3450 3750
## [151] 3700 4000 3500 3900 3650 3525 3725 3950 3250 3750 4150 3700 3800 3775 3700
## [166] 4050 3575 4050 3300 3700 3450 4400 3600 3400 2900 3800 3300 4150 3400 3800
## [181] 3700 4550 3200 4300 3350 4100 3600 3900 3850 4800 2700 4500 3950 3650 3550
## [196] 3500 3675 4450 3400 4300 3250 3675 3325 3950 3600 4050 3350 3450 3250 4050
## [211] 3800 3525 3950 3650 3650 4000 3400 3775 4100 3775 4500 5700 4450 5700 5400
## [226] 4550 4800 5200 4400 5150 4650 5550 4650 5850 4200 5850 4150 6300 4800 5350
## [241] 5700 5000 4400 5050 5000 5100 4100 5650 4600 5550 5250 4700 5050 6050 5150
## [256] 5400 4950 5250 4350 5350 3950 5700 4300 4750 5550 4900 4200 5400 5100 5300
## [271] 4850 5300 4400 5000 4900 5050 4300 5000 4450 5550 4200 5300 4400 5650 4700
## [286] 5700 4650 5800 4700 5550 4750 5000 5100 5200 4700 5800 4600 6000 4750 5950
## [301] 4625 5450 4725 5350 4750 5600 4600 5300 4875 5550 4950 5400 4750 5650 4850
## [316] 5200 4925 4875 4625 5250 4850 5600 4975 5500 4725 5500 4700 5500 4575 5500
## [331] 5000 5950 4650 5500 4375 5850 4875 6000 4925 NA 4850 5750 5200 5400
```

```
table(demotest$Island)
```

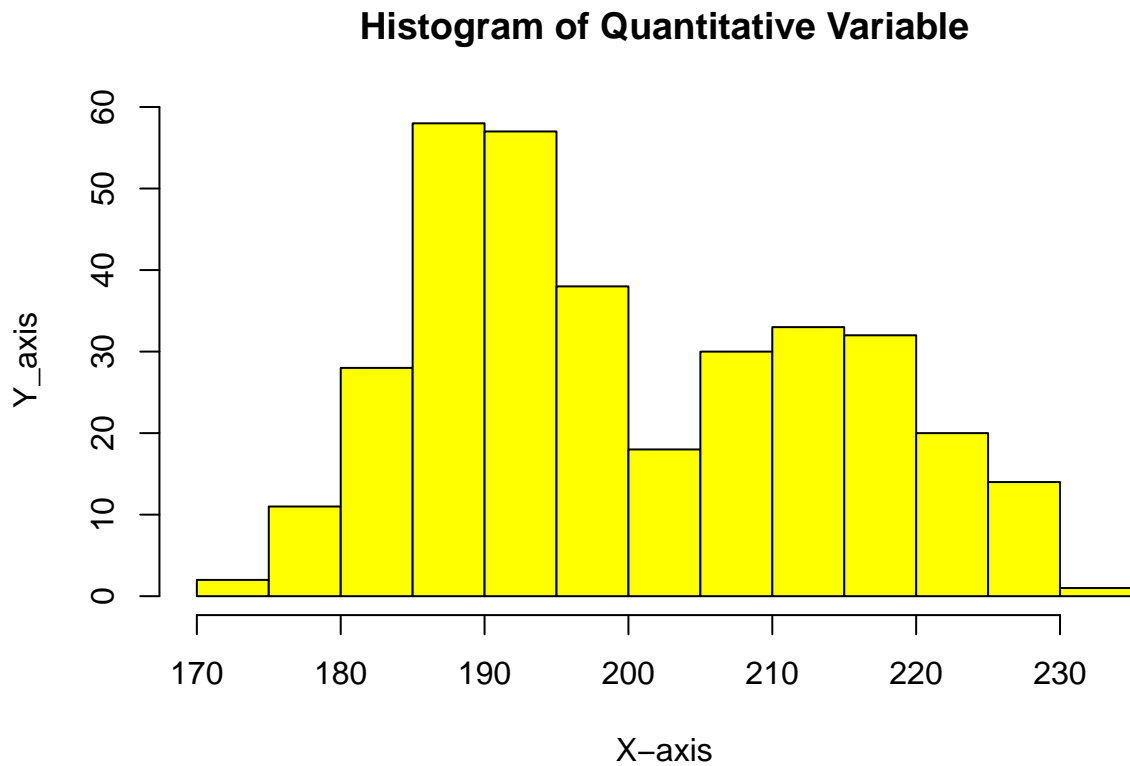
```
##
##      Biscoe      Dream Torgersen
##      168       124        52
```

```
sqrt(demotest$Sample.Number)
```

```
## [1] 1.000000 1.414214 1.732051 2.000000 2.236068 2.449490 2.645751
## [8] 2.828427 3.000000 3.162278 3.316625 3.464102 3.605551 3.741657
## [15] 3.872983 4.000000 4.123106 4.242641 4.358899 4.472136 4.582576
## [22] 4.690416 4.795832 4.898979 5.000000 5.099020 5.196152 5.291503
## [29] 5.385165 5.477226 5.567764 5.656854 5.744563 5.830952 5.916080
## [36] 6.000000 6.082763 6.164414 6.244998 6.324555 6.403124 6.480741
## [43] 6.557439 6.633250 6.708204 6.782330 6.855655 6.928203 7.000000
## [50] 7.071068 7.141428 7.211103 7.280110 7.348469 7.416198 7.483315
## [57] 7.549834 7.615773 7.681146 7.745967 7.810250 7.874008 7.937254
## [64] 8.000000 8.062258 8.124038 8.185353 8.246211 8.306624 8.366600
## [71] 8.426150 8.485281 8.544004 8.602325 8.660254 8.717798 8.774964
## [78] 8.831761 8.888194 8.944272 9.000000 9.055385 9.110434 9.165151
## [85] 9.219544 9.273618 9.327379 9.380832 9.433981 9.486833 9.539392
## [92] 9.591663 9.643651 9.695360 9.746794 9.797959 9.848858 9.899495
## [99] 9.949874 10.000000 10.049876 10.099505 10.148892 10.198039 10.246951
## [106] 10.295630 10.344080 10.392305 10.440307 10.488088 10.535654 10.583005
## [113] 10.630146 10.677078 10.723805 10.770330 10.816654 10.862780 10.908712
## [120] 10.954451 11.000000 11.045361 11.090537 11.135529 11.180340 11.224972
## [127] 11.269428 11.313708 11.357817 11.401754 11.445523 11.489125 11.532563
## [134] 11.575837 11.618950 11.661904 11.704700 11.747340 11.789826 11.832160
## [141] 11.874342 11.916375 11.958261 12.000000 12.041595 12.083046 12.124356
## [148] 12.165525 12.206556 12.247449 12.288206 12.328828 1.000000 1.414214
## [155] 1.732051 2.000000 2.236068 2.449490 2.645751 2.828427 3.000000
## [162] 3.162278 3.316625 3.464102 3.605551 3.741657 3.872983 4.000000
## [169] 4.123106 4.242641 4.358899 4.472136 4.582576 4.690416 4.795832
## [176] 4.898979 5.000000 5.099020 5.196152 5.291503 5.385165 5.477226
## [183] 5.567764 5.656854 5.744563 5.830952 5.916080 6.000000 6.082763
## [190] 6.164414 6.244998 6.324555 6.403124 6.480741 6.557439 6.633250
## [197] 6.708204 6.782330 6.855655 6.928203 7.000000 7.071068 7.141428
## [204] 7.211103 7.280110 7.348469 7.416198 7.483315 7.549834 7.615773
```

```
## [211] 7.681146 7.745967 7.810250 7.874008 7.937254 8.000000 8.062258
## [218] 8.124038 8.185353 8.246211 1.000000 1.414214 1.732051 2.000000
## [225] 2.236068 2.449490 2.645751 2.828427 3.000000 3.162278 3.316625
## [232] 3.464102 3.605551 3.741657 3.872983 4.000000 4.123106 4.242641
## [239] 4.358899 4.472136 4.582576 4.690416 4.795832 4.898979 5.000000
## [246] 5.099020 5.196152 5.291503 5.385165 5.477226 5.567764 5.656854
## [253] 5.744563 5.830952 5.916080 6.000000 6.082763 6.164414 6.244998
## [260] 6.324555 6.403124 6.480741 6.557439 6.633250 6.708204 6.782330
## [267] 6.855655 6.928203 7.000000 7.071068 7.141428 7.211103 7.280110
## [274] 7.348469 7.416198 7.483315 7.549834 7.615773 7.681146 7.745967
## [281] 7.810250 7.874008 7.937254 8.000000 8.062258 8.124038 8.185353
## [288] 8.246211 8.306624 8.366600 8.426150 8.485281 8.544004 8.602325
## [295] 8.660254 8.717798 8.774964 8.831761 8.888194 8.944272 9.000000
## [302] 9.055385 9.110434 9.165151 9.219544 9.273618 9.327379 9.380832
## [309] 9.433981 9.486833 9.539392 9.591663 9.643651 9.695360 9.746794
## [316] 9.797959 9.848858 9.899495 9.949874 10.000000 10.049876 10.099505
## [323] 10.148892 10.198039 10.246951 10.295630 10.344080 10.392305 10.440307
## [330] 10.488088 10.535654 10.583005 10.630146 10.677078 10.723805 10.770330
## [337] 10.816654 10.862780 10.908712 10.954451 11.000000 11.045361 11.090537
## [344] 11.135529
```

```
hist(demotest$Flipper.Length..mm., xlab = "X-axis", ylab = "Y_axis", main = "Histogram of Quantitative Variable")
```



```
plot(demotest$Culmen.Length..mm., demotest$Culmen.Depth..mm., xlab = "X-axis", ylab = "Y-axis", main = "Scatter Plot of Quantitative Variables")
```

Scatter Plot

