**Lab Exam 16th November 2021**

**Before starting attach dataset;**

attach(chickwts)

**Q1**

**Part 1**

par(mfrow=c(1,1))

boxplot(weight ~ feed, xlab ="Feed", ylab = "Weight", main = "Boxplot for each feed type")

Chart, box and whisker chart

Description automatically generated

**Part 2**

Yes, as there casein and sunflower have the highest weight, where horsebean has the lowest.

**Q2**

**Part 1**

par(mfrow=c(2,1))

hist(weight[feed == "sunflower"], breaks = seq(1, max(weight) + 100, 50), ylab = "Frequency", xlab = "Weight", main = "Histogram of Weight for Sunflower feed")

hist(weight[feed == "horsebean"], breaks = seq(1, max(weight) + 100, 50), ylab = "Frequency", xlab = "Weight", main = "Histogram of Weight for Horsebean feed")

Chart, histogram

Description automatically generated

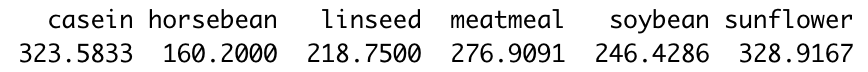
**Part 2**

Yes as we can see that there is a big difference from the minimum value of each, also we can see that they only overlap from 200 to 250 weight.

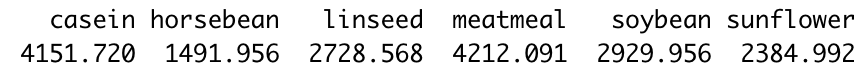
**Q3**

**Part 1**

tapply(weight, feed, mean)



tapply(weight, feed, var)



**Part 2**

Yes, sunflower has the highest mean and compared to horsebean the mean is twice as high.

**Q4**

totalChicks <- length(weight)

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nWeight <- weight[feed == "linseed" | feed == "sunflower"]

count = 0

for (i in nWeight) {

if (i < 159) {

count = count + 1

}

}

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percentage <- count / totalChicks \* 100

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