STAR511: HW 1

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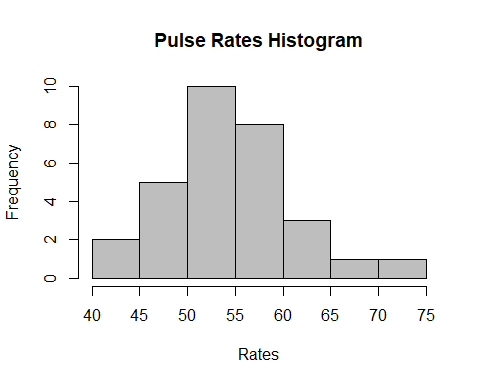
# Q1

## Q1A

When using the structure function for the pulse dataframe, it shows there are 30 observations for one variable. The variable is rates and the structure of rates are integers.

## 'data.frame': 30 obs. of 1 variable:  
## $ rates: int 49 40 59 56 55 70 49 59 55 49 ...

## Q1B



## Q1C

The pulse rate mean is 55.23 and the median is 55 (shown in the table below).

| Pulse rate mean | Pulse rate median |
| --- | --- |
| 55.23 | 55 |

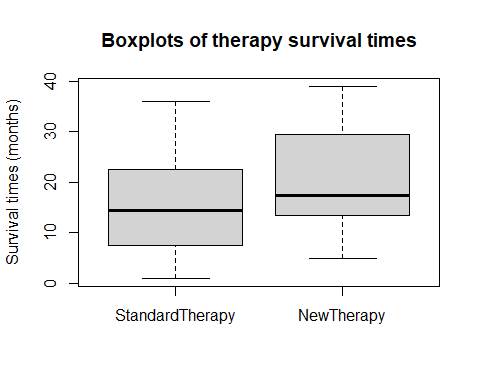
# Q2

## Q2A

When using the structure function for the survival dataframe, it shows there are 28 observations for two variables. The two variables are standard therapy and new therapy. Both variables are integers.

## 'data.frame': 28 obs. of 2 variables:  
## $ StandardTherapy: int 4 14 29 6 15 2 6 13 24 16 ...  
## $ NewTherapy : int 5 17 27 9 20 15 14 18 29 19 ...

## Q2B



## Q2C

The mean and standard devation for standard and new therapy are shown in the tables below.

| Standard therapy mean | Standard therapy SD |
| --- | --- |
| 15.68 | 9.63 |

| New therapy mean | New therapy SD |
| --- | --- |
| 20.71 | 9.81 |

# Appendix

#Retain (and do not edit) this code chunk!!!  
library(knitr)  
knitr::opts\_chunk$set(echo = FALSE)  
knitr::opts\_chunk$set(message = FALSE)  
  
library(tidyverse)  
pulse <- read.csv("ex3-34.txt", quote = "'")  
  
#Q1A  
str(pulse)  
#Q1B  
hist(pulse$rates, col = "grey", main="Pulse Rates Histogram", xlab="Rates")  
#Q1C  
pulserate\_stats <- pulse %>%  
 summarize("Pulse rate mean" = round(mean(rates), 2),  
 "Pulse rate median" = median(rates))  
  
kable(pulserate\_stats)  
  
survival <- read.csv("ex3-7.txt", quote = "'")  
  
#Q2A  
str(survival)  
  
#Q2B  
boxplot(survival, main="Boxplots of therapy survival times", ylab="Survival times (months)")  
  
#Q2C  
  
#Standard therapy  
ST <- survival %>%  
 summarize("Standard therapy mean"= round(mean(StandardTherapy),2),  
 "Standard therapy SD" = round(sd(StandardTherapy),2))  
#New therapy  
NT <- survival %>%  
 summarize("New therapy mean"= round(mean(NewTherapy),2),  
 "New therapy SD" = round(sd(NewTherapy),2))  
kable(ST)  
kable(NT)