Assignment 1

Pavan Kumar Mekala

2024-02-04

## 2 Importing Dataset into R

Dailyactivities <- read.csv("ss.csv")

## Imported data set from the website Kaggle.com by using the below link

## <https://www.kaggle.com/datasets/henryshan/sleep-health-and-lifestyle>

## 3 Print out descriptive statistics for a selection of quantitative and categorical variables

summary(Dailyactivities)

## Person.ID Gender Age Occupation   
## Min. : 1 Length:373 Min. :27.00 Length:373   
## 1st Qu.: 94 Class :character 1st Qu.:35.00 Class :character   
## Median :187 Mode :character Median :43.00 Mode :character   
## Mean :187 Mean :42.14   
## 3rd Qu.:280 3rd Qu.:50.00   
## Max. :373 Max. :59.00   
## Sleep.Duration Quality.of.Sleep Physical.Activity.Level Stress.Level   
## Min. :5.800 Min. :4.000 Min. :30.00 Min. :3.000   
## 1st Qu.:6.400 1st Qu.:6.000 1st Qu.:45.00 1st Qu.:4.000   
## Median :7.200 Median :7.000 Median :60.00 Median :5.000   
## Mean :7.129 Mean :7.308 Mean :59.13 Mean :5.391   
## 3rd Qu.:7.800 3rd Qu.:8.000 3rd Qu.:75.00 3rd Qu.:7.000   
## Max. :8.500 Max. :9.000 Max. :90.00 Max. :8.000   
## BMI.Category Blood.Pressure Heart.Rate Daily.Steps   
## Length:373 Length:373 Min. :65.00 Min. : 3000   
## Class :character Class :character 1st Qu.:68.00 1st Qu.: 5600   
## Mode :character Mode :character Median :70.00 Median : 7000   
## Mean :70.17 Mean : 6816   
## 3rd Qu.:72.00 3rd Qu.: 8000   
## Max. :86.00 Max. :10000   
## Sleep.Disorder   
## Length:373   
## Class :character   
## Mode :character   
##   
##   
##

head(Dailyactivities,n=10)

## Person.ID Gender Age Occupation Sleep.Duration Quality.of.Sleep  
## 1 1 Male 27 Software Engineer 6.1 6  
## 2 2 Male 28 Doctor 6.2 6  
## 3 3 Male 28 Doctor 6.2 6  
## 4 4 Male 28 Sales Representative 5.9 4  
## 5 5 Male 28 Sales Representative 5.9 4  
## 6 6 Male 28 Software Engineer 5.9 4  
## 7 7 Male 29 Teacher 6.3 6  
## 8 8 Male 29 Doctor 7.8 7  
## 9 9 Male 29 Doctor 7.8 7  
## 10 10 Male 29 Doctor 7.8 7  
## Physical.Activity.Level Stress.Level BMI.Category Blood.Pressure Heart.Rate  
## 1 42 6 Overweight 126/83 77  
## 2 60 8 Normal 125/80 75  
## 3 60 8 Normal 125/80 75  
## 4 30 8 Obese 140/90 85  
## 5 30 8 Obese 140/90 85  
## 6 30 8 Obese 140/90 85  
## 7 40 7 Obese 140/90 82  
## 8 75 6 Normal 120/80 70  
## 9 75 6 Normal 120/80 70  
## 10 75 6 Normal 120/80 70  
## Daily.Steps Sleep.Disorder  
## 1 4200 None  
## 2 10000 None  
## 3 10000 None  
## 4 3000 Sleep Apnea  
## 5 3000 Sleep Apnea  
## 6 3000 Insomnia  
## 7 3500 Insomnia  
## 8 8000 None  
## 9 8000 None  
## 10 8000 None

tail(Dailyactivities,n=10)

## Person.ID Gender Age Occupation Sleep.Duration Quality.of.Sleep  
## 364 364 Female 59 Nurse 8.2 9  
## 365 365 Female 59 Nurse 8.0 9  
## 366 366 Female 59 Nurse 8.0 9  
## 367 367 Female 59 Nurse 8.1 9  
## 368 368 Female 59 Nurse 8.0 9  
## 369 369 Female 59 Nurse 8.1 9  
## 370 370 Female 59 Nurse 8.1 9  
## 371 371 Female 59 Nurse 8.0 9  
## 372 372 Female 59 Nurse 8.1 9  
## 373 373 Female 59 Nurse 8.1 9  
## Physical.Activity.Level Stress.Level BMI.Category Blood.Pressure Heart.Rate  
## 364 75 3 Overweight 140/95 68  
## 365 75 3 Overweight 140/95 68  
## 366 75 3 Overweight 140/95 68  
## 367 75 3 Overweight 140/95 68  
## 368 75 3 Overweight 140/95 68  
## 369 75 3 Overweight 140/95 68  
## 370 75 3 Overweight 140/95 68  
## 371 75 3 Overweight 140/95 68  
## 372 75 3 Overweight 140/95 68  
## 373 75 3 Overweight 140/95 68  
## Daily.Steps Sleep.Disorder  
## 364 7000 Sleep Apnea  
## 365 7000 Sleep Apnea  
## 366 7000 Sleep Apnea  
## 367 7000 Sleep Apnea  
## 368 7000 Sleep Apnea  
## 369 7000 Sleep Apnea  
## 370 7000 Sleep Apnea  
## 371 7000 Sleep Apnea  
## 372 7000 Sleep Apnea  
## 373 7000 Sleep Apnea

nrow(Dailyactivities)

## [1] 373

ncol(Dailyactivities)

## [1] 13

## Printed descriptive statistics for a selection of quantitative and categorical variables and checked summary, head, tail, number of rows, number of columns by using summary, head, tail, nrow, ncol functions

## 4 Transform at least one variable

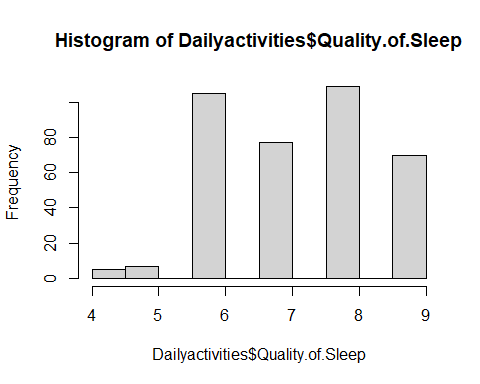
Daily.Steps\_per\_hour <- Dailyactivities$Daily.Steps /24  
Daily.Steps\_per\_hour

## [1] 175.0000 416.6667 416.6667 125.0000 125.0000 125.0000 145.8333 333.3333  
## [9] 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333  
## [17] 166.6667 333.3333 166.6667 333.3333 333.3333 333.3333 333.3333 333.3333  
## [25] 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 170.8333 170.8333  
## [33] 283.3333 208.3333 333.3333 208.3333 208.3333 333.3333 333.3333 333.3333  
## [41] 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333  
## [49] 333.3333 333.3333 333.3333 333.3333 208.3333 333.3333 208.3333 208.3333  
## [57] 333.3333 208.3333 208.3333 333.3333 208.3333 208.3333 208.3333 208.3333  
## [65] 208.3333 208.3333 291.6667 208.3333 229.1667 229.1667 208.3333 208.3333  
## [73] 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333  
## [81] 216.6667 216.6667 233.3333 233.3333 333.3333 291.6667 208.3333 208.3333  
## [89] 208.3333 208.3333 208.3333 208.3333 333.3333 137.5000 291.6667 291.6667  
## [97] 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 200.0000  
## [105] 291.6667 200.0000 175.0000 291.6667 291.6667 333.3333 291.6667 333.3333  
## [113] 291.6667 333.3333 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667  
## [121] 291.6667 291.6667 291.6667 291.6667 291.6667 333.3333 333.3333 291.6667  
## [129] 333.3333 333.3333 291.6667 333.3333 333.3333 291.6667 333.3333 333.3333  
## [137] 291.6667 333.3333 291.6667 333.3333 291.6667 333.3333 291.6667 291.6667  
## [145] 333.3333 137.5000 333.3333 166.6667 229.1667 312.5000 312.5000 333.3333  
## [153] 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333  
## [161] 333.3333 304.1667 304.1667 333.3333 333.3333 333.3333 258.3333 250.0000  
## [169] 250.0000 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333  
## [177] 333.3333 250.0000 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333  
## [185] 208.3333 208.3333 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000  
## [193] 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000  
## [201] 250.0000 333.3333 333.3333 283.3333 283.3333 333.3333 333.3333 333.3333  
## [209] 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333 333.3333  
## [217] 333.3333 333.3333 333.3333 250.0000 250.0000 250.0000 250.0000 250.0000  
## [225] 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000  
## [233] 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000  
## [241] 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 208.3333  
## [249] 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000  
## [257] 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000 229.1667  
## [265] 145.8333 416.6667 145.8333 416.6667 416.6667 416.6667 416.6667 416.6667  
## [273] 416.6667 416.6667 416.6667 416.6667 154.1667 154.1667 416.6667 208.3333  
## [281] 416.6667 416.6667 416.6667 416.6667 416.6667 416.6667 416.6667 416.6667  
## [289] 416.6667 416.6667 416.6667 416.6667 416.6667 416.6667 416.6667 416.6667  
## [297] 416.6667 416.6667 208.3333 208.3333 208.3333 208.3333 250.0000 416.6667  
## [305] 416.6667 416.6667 250.0000 250.0000 250.0000 250.0000 250.0000 250.0000  
## [313] 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333  
## [321] 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333  
## [329] 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333 208.3333  
## [337] 208.3333 208.3333 208.3333 208.3333 208.3333 416.6667 416.6667 291.6667  
## [345] 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667  
## [353] 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667  
## [361] 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667 291.6667  
## [369] 291.6667 291.6667 291.6667 291.6667 291.6667

## Transformed the variable Dailyactivities$Daily.steps by dividing with 24 to measure the Daily.steps happening per hour and stored in Daily.Steps\_per\_hour

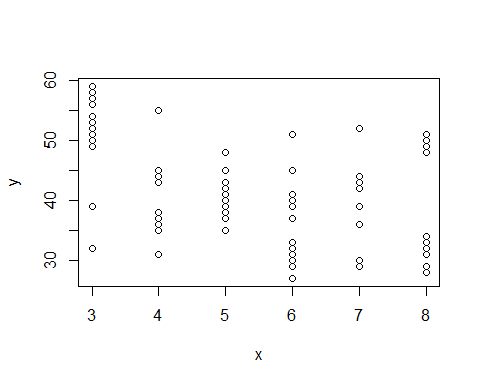
## 5.1 Plot at least one quantitative variable

hist(Dailyactivities$Quality.of.Sleep)

 ## Plotted the histogram of Dailyactivities$Quality.of.Sleep

## 5.2 Scatter Plot

x=Dailyactivities$Stress.Level  
y=Dailyactivities$Age  
plot(x,y)

 ## Scatter plotted between DailyactivitiesAge by taking DailyactivitiesAge on Y