Module 2 Homework

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rm(list=ls())

1. Create an array of a sequence of numbers starting at 22 and ending at 30, with an increment of 0.4.

v1=seq(22,30,0.4)  
print(v1)

## [1] 22.0 22.4 22.8 23.2 23.6 24.0 24.4 24.8 25.2 25.6 26.0 26.4 26.8 27.2  
## [15] 27.6 28.0 28.4 28.8 29.2 29.6 30.0

1. Create a data frame called “CustomerOrders” with the information in the table. The name of each column must be similar to the header names. The data frame contains information on customers and whether s/he subscribed for future service.

ID <- seq(202,208)  
Gender <- c("female","male","female", "female", "male", "male", "female")  
Unit\_Purchase <- c(40,36,25,31,45,28,38)  
Subscribe <- c(TRUE,FALSE,FALSE,FALSE,TRUE,FALSE,TRUE)  
CustomersOrders <- data.frame(ID,Gender,Unit\_Purchase, Subscribe)  
print(CustomersOrders)

## ID Gender Unit\_Purchase Subscribe  
## 1 202 female 40 TRUE  
## 2 203 male 36 FALSE  
## 3 204 female 25 FALSE  
## 4 205 female 31 FALSE  
## 5 206 male 45 TRUE  
## 6 207 male 28 FALSE  
## 7 208 female 38 TRUE

1. How many customers are female?

number\_female=sum(CustomersOrders$Gender=="female")  
print(number\_female)

## [1] 4

1. How many customers are female and purchased at least 35 units?

f35=sum(CustomersOrders$Gender=="female"&CustomersOrders$Unit\_Purchase>=35)  
print(f35)

## [1] 2

1. How many of the male customers also subscribed to the service?

number\_male=sum((CustomersOrders$Gender=="male"&CustomersOrders$Subscribe==TRUE))  
print(number\_male)

## [1] 1

1. How many customers subscribed?

num\_customers=length(CustomersOrders$ID)  
print(num\_customers)

## [1] 7

1. How many subscribers are male? Are female?

subscriber\_female=sum(CustomersOrders$Gender=="female"&CustomersOrders$Subscribe==TRUE)  
subscriber\_male=sum(CustomersOrders$Gender=="male"&CustomersOrders$Subscribe==TRUE)  
print(subscriber\_male)

## [1] 1

print(subscriber\_female)

## [1] 2

1. What is the average number of units purchased?

average\_unit\_purchase=mean(CustomersOrders$Unit\_Purchase)  
print(average\_unit\_purchase)

## [1] 34.71429

1. How many customers purchased less than 35 units?

c\_less35<-sum(CustomersOrders$Unit\_Purchase<35)  
print(c\_less35)

## [1] 3

1. How many customers are female, purchased more than 35 units, and subscribed?

c\_less35\_female<-sum(CustomersOrders$Unit\_Purchase<35&CustomersOrders$Gender=="female")  
print(c\_less35\_female)

## [1] 2