Module 2 Homework

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Date: September 12, 2018

```
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
```

2) 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
```

3) How many customers are female?

```
number_female=sum(CustomersOrders$Gender=="female")
print(number_female)
```

```
## [1] 4
```

4) How many customers are female and purchased at least 35 units?

```
f35=sum(CustomersOrders$Gender=="female"&CustomersOrders$Unit_Purchase>=35)
print(f35)
```

```
## [1] 2
```

5) 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
```

6) How many customers subscribed?

```
num_customers=length(CustomersOrders$ID)
print(num_customers)
```

```
## [1] 7
```

7) 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
```

8) What is the average number of units purchased?

```
average_unit_purchase=mean(CustomersOrders$Unit_Purchase)
print(average_unit_purchase)
```

```
## [1] 34.71429
```

9) How many customers purchased less than 35 units?

```
c_less35<-sum(CustomersOrders$Unit_Purchase<35)
print(c_less35)
```

```
## [1] 3
```

10) 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
```