Worksheet#4

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1. The table below shows the data about shoe size and height. Create a data frame..

library(dplyr) library(readr) library(data.table)

a. Describe the data.

```
Shoesize <- c(6.5,9.0,8.5,8.5,10.5,7.0,9.5,9.0,13.0,
              7.5,10.5,8.5,12.0,10.5,
              13.0,11.5,8.5,5.0,10.0,
              6.5,7.5,8.5,10.5,8.5,10.5,11.0,9.0,13.0)
Height <- c(66.0,68.0,64.5,65.0,70.0,
            64.0,70.0,71.0,72.0,64.0,
            74.5,67.0,71.0,71.0,77.0,72.0,
            59.0,62.0,72.0,66.0,64.0,67.0,73.0,
            69.0,72.0,70.0,69.0,70)
Gender <- c("F","F","F","F","M","F","M","F","M",
             "M","M","F","M","M","M","M","F","F",
            "M","F","M","M","M","F","M","M","M","M")
 df <- data.frame(Shoesize,Height,Gender)
 df
```

```
##    Shoesize Height Gender
## 1       6.5   66.0      F
## 2       9.0   68.0      F
## 3       8.5   64.5      F
## 4       8.5   65.0      F
## 5      10.5   70.0      M
## 6       7.0   64.0      F
## 7       9.5   70.0      M
## 8       9.0   71.0      F
## 9      13.0   72.0      M
## 10      7.5   64.0      M
## 11     10.5   74.5      M
## 12      8.5   67.0      F
## 13     12.0   71.0      M
## 14     10.5   71.0      M
## 15     13.0   77.0      M
## 16     11.5   72.0      M
## 17      8.5   59.0      F
## 18      5.0   62.0      F
## 19     10.0   72.0      M
## 20      6.5   66.0      F
```

```
## 21      7.5   64.0      M
## 22      8.5   67.0      M
## 23     10.5   73.0      M
## 24      8.5   69.0      F
## 25     10.5   72.0      M
## 26     11.0   70.0      M
## 27      9.0   69.0      M
## 28     13.0   70.0      M
```

Answer: The output will show a data base on what we put on each rows within the dataframe

b. Find the mean of shoe size and height of the respondents. Copy the codes and results.

- ***Male***

```
summary(df)
```

-

c. Is there a relationship between shoe size and height? Why?

Yes, The Higher the value of height, the greater value of the Shoesize.

2. Construct character vector months to a factor with factor() and assign the result to factor_months_vector. Print out factor_months_vector and assert that R prints out the factor levels below the actual values.

```
Months <- c("March","April","January","November","January",
"September","October","September","November","August",
"January","November","November","February","May","August",
"July","December","August","August","September","November","February","April")

factor_Months <- factor(Months)
factor_MonthsMonths_Vector <- c("March","April","January","November","January",
            "September","October","September","November","August",
            "January","November","November","February","May","August",
            "July","December","August","August","September","November","February","April")
Factor_Month_Vector <- factor(Months_Vector)
Factor_Month_Vector
```

3. Then check the summary() of the Months_Vector_vector and Factor_Month_Vector_vector. **Interpret the results of both vectors. Are they both equally useful in this case?**

```
summary(Months)
summary(factor_Months)
```

Answer: For me Yes, as for the months_vector it shows the number of months

4. Create a vector and factor for the table below.

```
factorData <- data.frame(
 Direction = c("East","West","North"),
 Frequency = c(1,4,3)
)
factorData
newOrderData <- factor(factorData,levels = c("East","West","North"))
print(newOrderData)
```

5. Enter the data below in Excel with file name = import_march.csv

a. Import the excel file into the Environment Pane using read.table() function.

```
library(readxl)
import_march <- read_excel("Worksheet#4/import_march.xlsx")
View(import_march)
```

b. View the dataset. Write the code and its result.

```
Students ‘Strategy 1‘ ‘Strategy 2‘ ‘Strategy 3‘
  <chr>           <dbl>        <dbl>        <dbl>
1 Male                8           10            8
2 NA                  4            8            6
3 NA                  0            6            4
4 Female             14            4           15
5 NA                 10            2           12
6 NA                  6            0            9
```