

Worksheet#4

Gabriel Leornas BSIT-2A

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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")
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
```