RWorksheet #4

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

data <- data.frame(
  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, 10.0),
  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, 70.0),
  gender = c("F", "F", "F", "F", "M", "F", "F", "F", "M", "F", "M", "F", "M",
"M", "M", "M", "F",
             "F", "M", "F", "F", "M", "M", "F", "M", "M", "M", "M")
  )

data
```

```
##    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      F
## 8       9.0   71.0      F
## 9      13.0   72.0      M
## 10      7.5   64.0      F
## 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      F
## 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     10.0   70.0      M
```

```
#a. Describe the data
#The data shows a 3 column data consists of the shoe size, gender and height
and it has 28 rows of

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

#Male
boy1 <- subset(data, gender == 'M')
mean(boy1$shoesize)
```

```
## [1] 10.75
```

```
boy2 <- subset(data, gender = 'M')
mean(boy2$height)
```

```
## [1] 68.57143
```

```
#Female
girl1 <- subset(data, gender = 'F')
mean(girl1$shoesize)
```

```
## [1] 9.303571
```

```
girl2 <- subset(data, gender = 'F')
mean(girl2$height)
```

```
## [1] 68.57143
```

```
#c. Is there a relationship between shoe size and height? Why?
#Answer: Yes, because the higher the height, the greater will be its shoe
size.

#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.
#Consider data consisting of the names of months:

 months_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"
)
 months_vector
```

```
##  [1] "March"     "April"     "January"   "November"  "January"
"September"
##  [7] "October"   "September" "November"  "August"    "January"
"November"
## [13] "November"  "February"  "May"       "August"    "July"
"December"
## [19] "August"    "August"    "September" "November"  "February"  "April"
```

```
factor_months_vector <- factor(months_vector)
factor_months_vector
```

```
##  [1] March     April     January   November  January   September October
##  [8] September November  August    January   November  November  February
## [15] May       August    July      December  August    August    September
## [22] November  February  April
## 11 Levels: April August December February January July March May ...
September
```

```
#3. Then check the summary() of the months_vector and factor_months_vector. |
#Interpret the results of both vectors. Are they both equally useful in this
case?

summary(months_vector)
```

```
##    Length     Class      Mode
##        24 character character
```

```
summary(factor_months_vector)
```

```
##     April    August  December  February   January      July     March
May
##         2         4         1         2         3         1         1
1
##  November   October September
##         5         1         3
```

```
#The results of the summary  both shows the length of the data. However in
factor_months_vector
#the length of the data displays it separately in each month. While in
months_vector displays
#the length altogether, and it also displays the type of class and mode of
the data while factor_months_vector
#dont have. However, they are both useful in this case.

#4. Create a vector and factor for the table below
factor_data <- data.frame(
  Direction = c("East", "West", "North"),
```

```
  Frequency = c(1, 4, 3)
)
factor_data
```

```
##   Direction Frequency
## 1      East         1
## 2      West         4
## 3     North         3
```

```
new_order_data <- factor(factor_data,levels = c("East","West","North"))
new_order_data
```

```
## Direction Frequency
##      <NA>      <NA>
## Levels: East West North
```

```
#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.
#Write the code.
library(readxl)
import_march <- read.csv("import_march.csv")
View(import_march)
#b. View the dataset. Write the code and its result.
View(import_march)
import_march
```

```
##   Students Strategy.1 Strategy.2 Strategy.3
## 1     Male          8         10          8
## 2     Male          4          8          6
## 3     Male          0          6          4
## 4   Female         14          4         15
## 5   Female         10          2         12
## 6   Female          6          0          9
```