Worksheet-4

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

```
##  [1]  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
## [16] 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, 7
Height
```

```
##  [1] 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
## [16] 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", "
Gender
```

```
##  [1] "F" "F" "F" "F" "M" "F" "F" "F" "M" "F" "M" "F" "M" "M" "M" "M" "F" "F" "M"
## [20] "F" "F" "M" "M" "F" "M" "M" "M" "M"
```

```
data1 <- data.frame(Shoesize, Height, Gender)
data1
```

```
##    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     13.0   70.0      M
```

a. Describe the data. Yes, there is a relationship that exists between shoe size and height. Short people have a smaller shoe size while taller people have a larger shoe size.

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

```
respondent_shoesize <- mean(Shoesize)
respondent_shoesize
```

```
## [1] 9.410714
```

```
respondent_Height <- mean(Height)
respondent_Height
```

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

c. Is there a relationship between shoe size and height? Why? Yes there are relationship between shoe size and height because people with large shoe sizes are usually tall but it differs if the person is male or female. The male usually has a larger size of shoes because they are taller than female

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:

```
Month <- 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"
)
Month
```

```
##  [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_month_vector <- factor(Month)
factor_month_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?

```
summary1 <-summary(Month)
summary1
```

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

```
summary2 <- summary(factor_month_vector)
summary2
```

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

Are they both equally useful in this case? Yes because you can see how many data or months have been repeated

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

```
a <- c("East"= '1', "West"= '4', "North" = '3')
a
```

```
##  East  West North
##   "1"   "4"   "3"
```

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

```
##  East  West North
##  <NA>  <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

```
getwd()
```

```
## [1] "/cloud/project/pajarillo_repo/Rworksheet-3b-4-5/Rworksheet-4"
```

```
import_data <- read.table("/cloud/project/pajarillo_repo/Rworksheet-3b-4-5/Rworksheet-4/import_march.csv
import_data
```

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

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

```
View(import_data)
```