RWorksheet #4

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

```
s_size <- 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)
hght <- 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)
gen <- c("F","F","F","F","M","F","F","F","M","F","M",
         "F","M","M")
S_size <- c(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)
Hght <- c(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)
Gen <- c("M","M","F","F","M","F","F","M","M","F",
         "M","M","M","M")

dfrm <- data.frame(s_size,hght, gen, S_size,
                   Hght, Gen)
dfrm
```

```
##    s_size hght gen S_size Hght Gen
## 1     6.5 66.0   F   13.0   77   M
## 2     9.0 68.0   F   11.5   72   M
## 3     8.5 64.5   F    8.5   59   F
## 4     8.5 65.0   F    5.0   62   F
## 5    10.5 70.0   M   10.0   72   M
## 6     7.0 64.0   F    6.5   66   F
## 7     9.5 70.0   F    7.5   64   F
## 8     9.0 71.0   F    8.5   67   M
## 9    13.0 72.0   M   10.5   73   M
## 10    7.5 64.0   F    8.5   69   F
## 11   10.5 74.5   M   10.5   72   M
## 12    8.5 67.0   F   11.0   70   M
## 13   12.0 71.0   M    9.0   69   M
## 14   10.5 71.0   M   13.0   70   M
```

a. Describe the data.

```
##The data shows the different shoe size among male and female in different heights.
```

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

```
m1 <- mean(s_size)
m1
```

```
## [1] 9.321429
```

```
m2 <- mean(S_size)
m2
```

```
## [1] 9.5
```

```
ttl <- c(m1, m2)
ttl
```

```
## [1] 9.321429 9.500000
```

```
# Total shoe size mean.
s_mean <- mean(ttl)
s_mean
```

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

```
m3 <- mean(hght)
m3
```

```
## [1] 68.42857
```

```
m4 <- mean(Hght)
m4
```

```
## [1] 68.71429
```

```
ttl1 <- c(m3, m4)
ttl1
```

```
## [1] 68.42857 68.71429
```

```
# Total height mean.
h_mean <- mean(ttl1)
h_mean
```

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

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

```
##Yes, there is a relationship between shoe size and height,
##the shoe sizes is big when the respondents is also tall.
##If the height of the respondents is below 70.0 their shoe
##size will be small.
```

#Factors

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")
```

```
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?

```
smy <- summary(months_vector)
smy
```

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

```
smy1 <- summary(factor_months_vector)
smy1
```

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

```
##Both of the vector summary are useful because at the
##summary of months_vector tells us about the length, class,
##and mode. In summary of factor_months_vector it tells
##us how many repeating elements there are.
```

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

```
Direction <- c("East", "West", "North")
Frequency <- c(1, 4, 3)
a <- factor(Direction)
b <- factor(Frequency)
print(a)
```

```
## [1] East  West  North
## Levels: East North West
```

```
print(b)
```

```
## [1] 1 4 3
## Levels: 1 3 4
```

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.

```
j <- read.table("/cloud/project/RWorksheet_Edulag#4/import_march.csv", header= TRUE, sep= "," )
j
```

```
##   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.

```
e <- read.csv("/cloud/project/RWorksheet_Edulag#4/import_march.csv")
e
```

```
##   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
```