Worksheet 4

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/hfill/break

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

```
Shoe_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, 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, 70.0)
```

```
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")
```

```
table <- data.frame(Shoe_size, Height, Gender)
table
```

```
##    Shoe_size 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
```

```
# a. Describe the data.

#    The table presents data, and every row on the table consists
#    of shoe size, height, and gender, which are aligned to form data
#    about the specific participant.
```

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

summary(table)
```

```
##    Shoe_size          Height         Gender
##  Min.   : 5.000   Min.   :59.00   Length:28
##  1st Qu.: 8.500   1st Qu.:65.75   Class :character
##  Median : 9.000   Median :69.50   Mode  :character
##  Mean   : 9.411   Mean   :68.57
##  3rd Qu.:10.500   3rd Qu.:71.25
##  Max.   :13.000   Max.   :77.00
```

```
mean(Shoe_size)
```

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

```
mean(Height)
```

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

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

#    Based on the said table, yes. The reason that the dataset confirms this
#    linear correlation. In general, as shoe size increases, height increases.
#    Taller people need larger feet since they need a larger base for balance.
#    Shorter people tend to have smaller feet since they require a smaller base.
```

```
# 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_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 <- factor(months_vector)
factor_months
```

```
##  [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)
```

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

```
# 4. Create a vector and factor for the table below.
new_order_data <- c("East","West","North")
factor_order_data <- factor(new_order_data)
factor_order_data
```

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

```
#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()

# import <- read.table("import_march.csv", header= # TRUE, sep= ",")
# import
```

```r
# b. View the dataset. Write the code and its result.

#Code:
import <- read.table("import_march.csv", header= TRUE, sep= ",")
import
```

```
##   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
```