RWorksheet-4

Vince Ryan Taghap

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

```
shoe_table <- 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,
                       11.0,9.0,13.0),
          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","F","F","M","F","M","F","M","M","M",
                    "M","F","F","M","F","F","M","M","F","M","M","M","M")
                       )

names(shoe_table) <- list("Shoe size", "Height", "Gender")
shoe_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      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.

```
#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.

```
#Shoe Mean
shoe_mean <- mean(shoe_table$`Shoe size`)
shoe_mean
```

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

```
#Height Mean
height_mean <- mean(shoe_table$Height)
height_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, I can imagine that
#your shoe size is large, you are also tall. The taller the height, the bigger
#the shoe size.
```

Using factor()

```
#examples
Gender <- c("M","F","F","M")
factor_Gender <- factor(Gender)
factor_Gender
```

```
## [1] M F F M
## Levels: F M
```

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.

```
vector_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")

vector_months
```

```
##  [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(vector_months)
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?

```
sum_vec <- summary(vector_months)
sum_vec
```

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

```
sum_fac <- summary(factor_months_vector)
sum_fac
```

```
##     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.

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

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

```
new_order_data <- factor(factor_data,levels = c("East" = '1',  "West" = '4',
                                                "North" = '3'))
print(new_order_data)
```

```
##  East  West North
##     1     4     3
## Levels: 1 4 3
```

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.

```
import <- read.table("import_march.csv", header = T, 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
```

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

```
View(import)
```