RWorksheet#4

Mamon, Jasmin Mae G.

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R Markdown

Worksheet for R Programming

Instructions:

- Use RStudio or the RStudio Cloud accomplish this worksheet.
- Save the R script as RWorksheet_lastname#4.R.
- On your own GitHub repository, push the R script, the Rmd file, as well as this pdf worksheet to the repo you have created before.
- Do not forget to comment your Git repo on our VLE

Accomplish this worksheet by answering the questions being asked and writing

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

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

```
##    shoe_size height gender1
## 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.

Answer: The data shows the shoes size, the height and the gender listed in data frame.

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

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

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

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

Answer: Yes, the taller the person the larger size of the shoes they will have since their feet is expandingor shorter person they tend to have smaller size of feet so they have smaller size of shoes.

Factors A nominal variable is a categorical variable without an implied order. This means that it is impossible to say that 'one is worth more than the other'. In contrast, ordinal variables do have a natural ordering. Example:

```
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. Consider data consisting of the names of 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?

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

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

Answer: Yes, for factor_months_vector's summary it was easy to distinguish how many similar names are there like for April it was easy to distinguish that there are 2 Aprils since it already shows the summary of the month. For factor_months1 is shows the total or the summary of months, it was easy to know that there are 24 months in total, the class is character and the mode is character because the summary was already given.

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

Note: Apply the factor function with required order of the level.

```
## [1] <NA> <NA> <NA>
## Levels: East West North
```

5. Enter the data below in Excel with file name = import_march.csv Figure 1: Excel File

a. Import the excel file into the Environment Pane using read.table() function. Write the code.

```
## [1] "D:/CS101 FILES/Worksheet#4"
```

```
##    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.

```
##    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
```