Work Sheet 4

Neil Francis N. Navarro

2022-11-20

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

library(dplyr) library(readr) library(data.table)

a. Describe the data.

```
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)

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")

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

```
##    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      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
```

Answer: The output will show a data base on what we put on each rows within the dataframe

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

- ***Male***

```
Boy <- subset(data_frame, Gender == "M")
mean(Boy$Shoesize)
```

```
## [1] 10.47059
```

```
mean(Boy$Height)
```

```
## [1] 70.5
```

- ***Female***

```
Girl <- subset(data_frame, Gender == "F")
mean(Girl$Shoesize)
```

```
## [1] 7.772727
```

```
mean(Girl$Height)
```

```
## [1] 65.59091
```

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

Yes, The Higher the value of height, the greater value of the Shoesize. and the factor levels below are the actual values.

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_Month_Vector <- factor(Months_Vector)
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_vector and Factor_Month_Vector_vector. **Interpret the results of both vectors. Are they both equally useful in this case?**

```
summary(Months_Vector)
summary(Factor_Month_Vector)
```

Answer: For me Yes, as for the months_vector it shows the number of months and its class and mode, while the factor_Month_Vector the month has been factor by level and alphabetical and it show the number of each months.

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

```
factorData <- data.frame(
 Direction = c("East","West","North"),
 Frequency = c(1,4,3)
)
factorData
```

```
##   Direction Frequency
## 1      East         1
## 2      West         4
## 3     North         3
```

```
newOrderData <- factor(factorData,levels = c("East","West","North"))
print(newOrderData)
```

```
## Direction Frequency
##      <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.

library(readr) import_march <- read_csv("import.march.csv") View(import_march)

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

view(import_march)

Result

A tibble: 101 × 12

. . . 1 . . . 2 . . . 3 . . . 4 . . . 5 . . . 6 . . . 7 . . . 8 . . . 9 . . . 10 . . . 11 . . . 12

1 NA Sepal Length (cm) Sepal Width (cm) Petal Length (. . . Peta. . . Class NA NA alpha obj NA NA

2 NA 7 3.2 4.7 1.4 Iris... NA 0 0 0 0 1

3 NA 6.4 3.2 4.5 1.5 Iris... NA 0 NA NA 0 1

4 NA 6.9 3.1 4.9 1.5 Iris... NA 0 NA NA 0 1

5 NA 5.5 2.3 4 1.3 Iris... NA 0 NA NA 0 1

6 NA 6.5 2.8 4.6 1.5 Iris... NA NA NA NA 0 1

7 NA 5.7 2.8 4.5 1.3 Iris... NA NA NA NA 0 1

8 NA 6.3 3.3 4.7 1.6 Iris... NA NA NA NA 0 1

9 NA 4.9 2.4 3.3 1 Iris... NA NA NA NA 0 1

10 NA 6.6 2.9 4.6 1.3 Iris... NA NA NA NA 0 1