RWorksheet_Pabriaga#4a

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```r
# 1.
install.packages("readxl")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
## (as 'lib' is unspecified)
```

```r
library(readxl)

file_path <- "DataFrame.xlsx"
df <- read_excel(file_path)
df
```

```
## # A tibble: 28 x 3
##     ShoeSize Height Gender
##        <dbl>  <dbl> <chr>
## 1       6.5     66  F
## 2       9       68  F
## 3       8.5   64.5  F
## 4       8.5     65  F
## 5      10.5     70  M
## 6       7       64  F
## 7       9.5     70  F
## 8       9       71  F
## 9      13       72  M
## 10      7.5     64  F
## # i 18 more rows
```

```r
# 1.b
male_subset <- subset(df, Gender == "M")
female_subset <- subset(df, Gender == "F")

print("Male Subset:")
```

```
## [1] "Male Subset:"
```

```r
print(male_subset)
```

```
## # A tibble: 14 x 3
##     ShoeSize Height Gender
##        <dbl>  <dbl> <chr>
## 1      10.5     70  M
## 2      13       72  M
## 3      10.5   74.5  M
## 4      12       71  M
## 5      10.5     71  M
```

```
## 6      13      77   M
## 7      11.5    72   M
## 8      10      72   M
## 9       8.5    67   M
## 10     10.5    73   M
## 11     10.5    72   M
## 12     11      70   M
## 13      9      69   M
## 14     13      70   M
```

```r
print("Female Subset:")
```

```
## [1] "Female Subset:"
```

```r
print(female_subset)
```

```
## # A tibble: 14 x 3
##    ShoeSize Height Gender
##       <dbl>  <dbl> <chr>
## 1       6.5   66   F
## 2       9     68   F
## 3       8.5   64.5 F
## 4       8.5   65   F
## 5       7     64   F
## 6       9.5   70   F
## 7       9     71   F
## 8       7.5   64   F
## 9       8.5   67   F
## 10      8.5   59   F
## 11      5     62   F
## 12      6.5   66   F
## 13      7.5   64   F
## 14      8.5   69   F
```

```r
# 1.c
mean_shoe_size <- mean(df$ShoeSize, na.rm = TRUE)
mean_height <- mean(df$Height, na.rm = TRUE)

print(paste("Mean Shoe Size:", mean_shoe_size))
```

```
## [1] "Mean Shoe Size: 9.41071428571429"
```

```r
print(paste("Mean Height:", mean_height))
```

```
## [1] "Mean Height: 68.5714285714286"
```

```r
# 1.d
correlation <- cor(df$ShoeSize, df$Height, use = "complete.obs")

print(paste("Correlation between Shoe Size and Height:", correlation))
```

```
## [1] "Correlation between Shoe Size and Height: 0.776608912320131"
```

```r
# 2.

months_vector <- c(
  "March", "April", "January", "November", "January", "September",
  "October", "September", "November", "August", "January", "November",
```

```r
  "November", "February", "May", "August", "July", "December",
  "August", "August", "September", "November", "February", "April")

factor_months_vector <- factor(months_vector)

print(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
```

```r
levels(factor_months_vector)
```

```
## [1] "April"     "August"    "December"  "February"  "January"   "July"
## [7] "March"     "May"       "November"  "October"   "September"
```

```r
# 3.
factor_months_vector <- factor(months_vector)

summary(months_vector)
```

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

```r
summary(factor_months_vector)
```

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

```r
# 4.
direction_vector <- c("East", "West", "North")

frequency_vector <- c(1, 4, 3)

factor_data <- factor(direction_vector, levels = c("East", "West", "North"))

print(factor_data)
```

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

```r
new_order_data <- factor(factor_data, levels = c("East", "West", "North"))
print(new_order_data)
```

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

```r
#5.
data <- read.table("import_march..csv", header = TRUE, sep = ",")
print(data)
```

```
##   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
```