RWorksheet_Cacho#4a

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2024-10-14

```r
# 1
shoesize1 <- 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)
height1 <- c(66.0, 68.0, 64.5, 65.0, 70.0, 64.0, 70.0, 71.0, 72.0, 64.0, 74.0, 67.0, 71.0, 71.0)
gender1 <- c("F", "F", "F", "F", "M", "F", "F", "F","M","F", "M", "F", "M", "M")

shoesize2 <- c(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)
height2 <- c(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)
gender2 <- c("M", "M", "F", "F", "M", "F", "F", "M", "M", "F", "M", "M", "M", "M")

df <- data.frame(ShoeSize = c(shoesize1, shoesize2),
                 Height = c(height1, height2),
                 Gender = c(gender1, gender2))

df
```

```
##    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      F
## 8       9.0   71.0      F
## 9      13.0   72.0      M
## 10      7.5   64.0      F
## 11     10.5   74.0      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
```

```r
# 1b
male_data <- subset(df, Gender == "M")
female_data <- subset(df, Gender== "F")

male_data
```

```
##     ShoeSize Height Gender
## 5       10.5     70      M
## 9       13.0     72      M
## 11      10.5     74      M
## 13      12.0     71      M
## 14      10.5     71      M
## 15      13.0     77      M
## 16      11.5     72      M
## 19      10.0     72      M
## 22       8.5     67      M
## 23      10.5     73      M
## 25      10.5     72      M
## 26      11.0     70      M
## 27       9.0     69      M
## 28      13.0     70      M
```

```
female_data
```

```
##     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
## 6        7.0   64.0      F
## 7        9.5   70.0      F
## 8        9.0   71.0      F
## 10       7.5   64.0      F
## 12       8.5   67.0      F
## 17       8.5   59.0      F
## 18       5.0   62.0      F
## 20       6.5   66.0      F
## 21       7.5   64.0      F
## 24       8.5   69.0      F
```

```r
# 1c
mean_shoesize <- mean(df$ShoeSize)
mean_height <- mean(df$Height)

mean_shoesize
```

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

```
mean_height
```

```
## [1] 68.55357
```

```r
# 1d
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: 0.779186612606297"
```

```r
# 2
monthsvec <- c("March","April","January","November","January",
"September","October","September","November","August", "January","November","November","February","May"
"July","December","August","August","September","November","February", "April")

factor_monthsvec <- factor(monthsvec)

factor_monthsvec
```

```
##  [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_monthsvec)
```

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

```r
# 3
summary(monthsvec)
```

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

```r
summary(factor_monthsvec)
```

```
##     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 <- c("East", "West", "North")
frequency <- c(1,4,3)
factor_data <- factor(direction, levels = c("East", "West", "North"))

factor_data
```

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

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

new_order_data
```

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

```r
# 5
write.csv("import_march.csv", row.names = FALSE)
```

```
## "x"
## "import_march.csv"
```

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

```
##    Students Strategy.1 Strategy.2 Strategy.3
## 1     Male          8         10          8
## 2     Male          4          8          6
## 3     Male          6          4          4
## 4   Female         14          4         15
## 5   Female         10          2         12
## 6   Female          6          0          9
```