

RWorksheet_Sorenio#4.Rmd

2024-10-14

```
# 1  
shoedata <- data.frame(  
  ShoeSize = c(6.5, 9.0, 8.5, 8.5, 10.5, 7.0, 9.0, 9.0, 7.5, 10.5, 8.5, 10.5, 10.5, 8.5, 10.5, 13.0, 11.0),  
  Height = c(66.0, 68.0, 64.5, 65.0, 72.0, 64.0, 71.0, 71.0, 64.0, 74.5, 67.0, 71.0, 77.0, 72.0, 59.0, 70.0, 70.0),  
  Gender = c("F", "F", "F", "F", "F", "M", "M", "M", "F", "F", "M", "M", "M", "M", "M", "M", "M", "M", "M", "M")  
)  
  
shoedata
```

##	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	72.0	F
## 6	7.0	64.0	M
## 7	9.0	71.0	M
## 8	9.0	71.0	M
## 9	7.5	64.0	F
## 10	10.5	74.5	F
## 11	8.5	67.0	M
## 12	10.5	71.0	M
## 13	10.5	77.0	M
## 14	8.5	72.0	M
## 15	10.5	59.0	M
## 16	13.0	72.0	M
## 17	11.5	72.0	M
## 18	8.5	77.0	M
## 19	7.0	66.0	M
## 20	6.5	73.0	M
## 21	8.5	67.0	M
## 22	9.0	67.0	M
## 23	8.5	69.0	M
## 24	11.0	71.0	M
## 25	13.0	70.0	M

```
# a. Describe the data.  
# The data includes shoe size, height, and gender for 25 people. Shoe sizes range from 6.5 to 13, height from 5.5 to 7.5.  
# b  
MALE <- subset(shoedata, Gender == "M")  
FEMALE <- subset(shoedata, Gender == "F")
```

```
print("Male Data:")
```

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

```
print(MALE)
```

```
##      ShoeSize Height Gender
## 6         7.0     64      M
## 7         9.0     71      M
## 8         9.0     71      M
## 11        8.5     67      M
## 12        10.5    71      M
## 13        10.5    77      M
## 14         8.5     72      M
## 15        10.5    59      M
## 16        13.0    72      M
## 17        11.5    72      M
## 18         8.5     77      M
## 19         7.0     66      M
## 20         6.5     73      M
## 21         8.5     67      M
## 22         9.0     67      M
## 23         8.5     69      M
## 24        11.0     71      M
## 25        13.0     70      M
```

```
print("Female Data:")
```

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

```
print(FEMALE)
```

```
##      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    72.0      F
## 9         7.5    64.0      F
## 10        10.5    74.5      F
```

```
# c
MEANSHOE <- mean(shoedata$ShoeSize)

MEANH <- mean(shoedata$Height)

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

```
## [1] "Mean Shoe Size: 9.24"
```

```
print(paste("Mean Height:", MEANH))
```

```
## [1] "Mean Height: 69.2"
```

```
# d
```

```
relation <- cor(shoedata$ShoeSize, shoedata$Height)
```

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

```
## [1] "Correlation between Shoe Size and Height: 0.329955828841829"
```

```
# 2
```

```
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"
)
```

```
factor_months_vector <- factor(MONTHS)
```

```
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
```

```
# 3
```

```
print("Summary of months_vector (character vector):")
```

```
## [1] "Summary of months_vector (character vector):"
```

```
summary(MONTHS)
```

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

```
print("Summary of factor_months_vector:")
```

```
## [1] "Summary of factor_months_vector:"
```

```
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
```

The character vector just tells us the total number of months in the data, but it doesn't show how many

4

```
direction_data <- c("East", "West", "North")
```

```
frequency_data <- c(1, 4, 3)
```

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

```
print(new_order_data)
```

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

```
## Levels: East West North
```

5

a

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

```
View(exceldata)
```

b

```
print(exceldata)
```

```
## 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
```

```
View(exceldata)
```