

RWorksheet_Celestra#4a

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1.

```
HouseHoldData <- data.frame (
  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, 10.5),
  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, 70.0, 66.0, 68.0),
  Gender = c("F", "F", "F", "F","M", "F", "F", "F","M","F","M","F","M","M", "M", "M", "F", "F", "M", "F")
)
```

HouseHoldData

##	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	74.5	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. The data shows that it has three columns namely, shoesize, height and, gender with 28 rows.

b.

```
s <- subset(HouseHoldData, Gender == "M" & ShoeSize&Height)
s
```

```
##      ShoeSize Height Gender
## 5         10.5   70.0      M
## 9         13.0   72.0      M
## 11        10.5   74.5      M
## 13         12.0   71.0      M
## 14         10.5   71.0      M
## 15         13.0   77.0      M
## 16         11.5   72.0      M
## 19         10.0   72.0      M
## 22          8.5   67.0      M
## 23         10.5   73.0      M
## 25         10.5   72.0      M
## 26         11.0   70.0      M
## 27          9.0   69.0      M
## 28         13.0   70.0      M
```

```
s2 <- subset(HouseHoldData, Gender == "F" & ShoeSize&Height)
s2
```

```
##      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
```

c.

```
sm <- mean(HouseHoldData$ShoeSize)
sm
```

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

```
hm <- mean(HouseHoldData$Height)
hm
```

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

d. No, because there are some respondents that is taller but has smaller shoe size than others who are shorter.

2.

```
months_vector <- c("March", "April", "January", "November", "January", "September", "October", "September")
factor_months_vector <- factor(months_vector)
```

```
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. Yes, they are both useful because it shows the length, class, mode, and the number of repetitions of the character of two vectors.

```
summary(months_vector)
```

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

```
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
```

- 4.

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

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

```
factor_data <- direction
```

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

```
new_order_data
```

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

5. a.

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

- b.

```
import_march
```

```
##      Students Strategy1 Strategy2 Strategy3
## 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
```