

# Worksheet4a

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#b.

```
data <- data.frame(  
  Shoe_Size = 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, 74.75,  
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, 70.0),  
  Gender = c("F", "F", "F", "F", "M", "F", "F", "F", "M", "F", "M", "F", "M",  
"M", "M", "M", "F", "F", "M", "F", "F", "M", "M", "F", "M", "M", "M", "M")  
)
```

data

##	Shoe_Size	Height	Gender
## 1	6.5	66.00	F
## 2	9.0	68.00	F
## 3	8.5	64.50	F
## 4	8.5	65.00	F
## 5	10.5	70.00	M
## 6	7.0	64.00	F
## 7	9.5	70.00	F
## 8	9.0	71.00	F
## 9	13.0	72.00	M
## 10	7.5	64.00	F
## 11	10.5	74.75	M
## 12	8.5	67.00	F
## 13	12.0	71.00	M
## 14	10.5	71.00	M
## 15	13.0	77.00	M
## 16	11.5	72.00	M
## 17	8.5	59.00	F
## 18	5.0	62.00	F
## 19	10.0	72.00	M
## 20	6.5	66.00	F
## 21	7.5	64.00	F
## 22	8.5	67.00	M
## 23	10.5	73.00	M
## 24	8.5	69.00	F
## 25	10.5	72.00	M
## 26	11.0	70.00	M
## 27	9.0	69.00	M
## 28	13.0	70.00	M

```
females <- subset(data, Gender == "F", select = c(Shoe_Size, Height))
females
```

```
##      Shoe_Size Height
## 1         6.5   66.0
## 2         9.0   68.0
## 3         8.5   64.5
## 4         8.5   65.0
## 6         7.0   64.0
## 7         9.5   70.0
## 8         9.0   71.0
## 10        7.5   64.0
## 12        8.5   67.0
## 17        8.5   59.0
## 18        5.0   62.0
## 20        6.5   66.0
## 21        7.5   64.0
## 24        8.5   69.0
```

```
males <- subset(data, Gender == "M", select = c(Shoe_Size, Height))
males
```

```
##      Shoe_Size Height
## 5         10.5  70.00
## 9         13.0  72.00
## 11        10.5  74.75
## 13        12.0  71.00
## 14        10.5  71.00
## 15        13.0  77.00
## 16        11.5  72.00
## 19        10.0  72.00
## 22         8.5  67.00
## 23        10.5  73.00
## 25        10.5  72.00
## 26        11.0  70.00
## 27         9.0  69.00
## 28        13.0  70.00
```

#C.

```
mean_shoe_size <- mean(data$Shoe_Size)
mean_shoe_size
```

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

```
mean_height <- mean(data$Height)
mean_height
```

```
## [1] 68.58036
```

#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 <- factor(months)
factor_months

## [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

levels(factor_months)

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

#3

```
summary(months)

##      Length      Class      Mode
##          24 character character

summary(factor_months)

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

#4

```
directions <- c("East", "West", "North")
frequency <- c(1, 4, 3)

new_order_data <- factor(directions, levels = c("East", "West", "North"))
print(new_order_data)

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

table_data <- data.frame(Direction = new_order_data, Frequency = frequency)
print(table_data)
```

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

#5

```
data <- read.table
("~/RBasics/CS101_DataScience/worksheet4a/import_march.csv", header = TRUE,
sep = ",", stringsAsFactors = FALSE)
head(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
```