

Rworksheet#4

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1. The table below shows the data about shoe size and height. Create a data frame.

```
Shoesize1 <- c(6.5,9.0,8.5,8.5,10.5,7.0,9.5,9.0,13.0,7.5,10.5,8.5,12.0,10.5,13.0,11.5,8.5,5.0,10.0,6.5,
Height1 <- c(66.0,68.0,64.5,65.0,70.0,64.0,70.0,71.0,72.0,64.0,74.5,67.0,71.0,71.0,77.0,72.0,59.0,62.0,
Gender1 <- c("F","F","F","F","M","F","F","F","M","F","M","F","M","M","M","M","F","F","M","F","F","M","M")

data1_df <- data.frame(Shoesize1, Height1, Gender1)
data1_df
```

##	Shoesize1	Height1	Gender1
## 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. Describe the data. - The data shows the different shoesize of male and female with its different heights

from 2 data from the dataframe.

- b. Find the mean of shoe size and height of the respondents. Copy the codes and results.

```
data_mean1 <- mean(Shoesize1)
data_mean1
```

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

```
mean_heights <- mean(Height1)
mean_heights
```

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

- c. Is there a relationship between shoe size and height? Why? - Yes, there is a correlation between shoe size and height; larger shoes are preferred by taller individuals. The respondents' shoe size will be tiny if their height is less than 70.0.

Factors 2. Construct character vector months to a factor with factor() and assign the result to factor_months_vector. Print out factor_months_vector and assert that R prints out the factor levels below the actual values. Consider data consisting of the names of months:

```
months1 <- c("March", "April", "January", "November", "January", "September", "October", "September", "November")
months1
```

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

```
factor_months <- factor(months1)
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
```

3. Then check the summary() of the months_vector and factor_months_vector. Interpret the results of both vectors. Are they both equally useful in this case? Yes, they are useful as they count how many repeated data your variable have, and not do it manually.

```
sum_months1 <- summary(months1)
sum_months1
```

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

```
sum_fact_months <- summary(factor_months)
sum_fact_months
```

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

4. Create a vector and factor for the table below.

```
data_fact <- c("East" = '1', "West" = '4', "North" = '3')
data_fact
```

```
## East West North
##   "1"  "4"  "3"
```

```
new_order_data <- factor(data_fact, levels = c("East" = '1', "West" = '4', "North" = '3'))
print(new_order_data)
```

```
## East West North
##    1    4    3
## Levels: 1 4 3
```

5. Enter the data below in Excel with file name = import_march.csv

```
data_tab <- read.table("/cloud/project/Rworksheet4/import_march.csv", header=TRUE, sep = ",")
data_tab
```

```
## 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
```

b. read the data set. write the code and it's result.

```
tab <- read.csv("/cloud/project/Rworksheet4/import_march.csv")
tab
```

```
## 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
```