

RWorksheet_Sadural#3B

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R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed      dist
##  Min.   : 4.0    Min.   :  2.00
## 1st Qu.:12.0    1st Qu.: 26.00
##  Median:15.0    Median : 36.00
##  Mean  :15.4    Mean   : 42.98
## 3rd Qu.:19.0    3rd Qu.: 56.00
##  Max.  :25.0    Max.    :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

#1A.

##	Respond_1	Sex	Father_Occupation	Person_at_Home	Siblings_at_school
## 1	1	Female	Farmer	5	6
## 2	2	Female	Others	7	4
## 3	3	Male	Others	3	4
## 4	4	Female	Others	8	1
## 5	5	Female	Farmer	5	2
## 6	6	Female	Driver	9	1
## 7	7	Female	Others	6	5
## 8	8	Female	Farmer	7	3
## 9	9	Female	Farmer	8	1
## 10	10	Female	Farmer	4	2
## 11	11	Male	Others	7	3
## 12	12	Female	Driver	5	2
## 13	13	Female	Farmer	4	5
## 14	14	Female	Others	7	5
## 15	15	Female	Others	8	2
## 16	16	Female	Farmer	8	1
## 17	17	Female	Others	3	2
## 18	18	Female	Farmer	11	5
## 19	19	Male	Driver	7	3
## 20	20	Female	Farmer	6	2
##	Types_house				
## 1	Wood				
## 2	Semi-Concrete				
## 3	Concrete				
## 4	Wood				
## 5	Wood				
## 6	Concrete				
## 7	Concrete				
## 8	Wood				
## 9	Semi-Concrete				
## 10	Concrete				
## 11	Semi-Concrete				
## 12	Concrete				

```
## 13 Semi-Concrete
## 14 Semi-Concrete
## 15      Concrete
## 16      Concrete
## 17      Concrete
## 18      Concrete
## 19      Concrete
## 20 Semi-Concrete
```

#1B.

```
summary(household_data)
```

```
##      Respond_1      Sex      Father_Occupation  Person_at_Home
##  Min.   : 1.00   Length:20      Length:20      Min.   : 3.0
##  1st Qu.: 5.75   Class :character  Class :character  1st Qu.: 5.0
##  Median :10.50   Mode  :character  Mode  :character  Median : 7.0
##  Mean   :10.50                                     Mean   : 6.4
##  3rd Qu.:15.25                                     3rd Qu.: 8.0
##  Max.   :20.00                                     Max.   :11.0
##  Siblings_at_school Types_house
##  Min.   :1.00      Length:20
##  1st Qu.:2.00      Class :character
##  Median :2.50      Mode  :character
##  Mean   :2.95
##  3rd Qu.:4.25
##  Max.   :6.00
```

#1C.

```
mean_siblings <- mean(household_data$Siblingsatschool)
```

```
## Warning in mean.default(household_data$Siblingsatschool): argument is not
## numeric or logical: returning NA
```

```
is_mean_5 <- mean_siblings == 5
print(is_mean_5)
```

```
## [1] NA
```

#No because the mean is 2.95

#1D.

```
first_two_rows_all_columns <- household_data[1:2, ]
print(first_two_rows_all_columns)
```

```
##      Respond_1      Sex Father_Occupation  Person_at_Home  Siblings_at_school
## 1           1 Female      Farmer           5           6
## 2           2 Female      Others           7           4
##      Types_house
## 1           Wood
## 2 Semi-Concrete
```

#1E.

```
selected_rows_columns <- household_data[c(3, 5), c(2, 4)]
print(selected_rows_columns)
```

```
##      Sex Person_at_Home
## 3   Male           3
```

```

## 5 Female          5

#1F.
Types_house <- household_data$Types_house

#1G.
male_farmers <- household_data[household_data$Sex == "Male" & household_data$Father_Occupation == "Farm
male_farmers

## [1] Respond_1      Sex              Father_Occupation  Person_at_Home
## [5] Siblings_at_school Types_house
## <0 rows> (or 0-length row.names)

#1H.

female_greater_than_5_siblings <- household_data[household_data$Sex == "Female" & household_data$Siblings_at_school > 5]
print(female_greater_than_5_siblings)

## [1] Respond_1      Sex              Father_Occupation  Person_at_Home
## [5] Siblings_at_school Types_house
## <0 rows> (or 0-length row.names)

#2
df = data.frame(Ints=integer(),

Doubles=double(),
Characters=character(),
Logicals=logical(),
Factors=factor(),
stringsAsFactors=FALSE)

print("Structure of the empty dataframe:")

## [1] "Structure of the empty dataframe:"

print(str(df))

## 'data.frame':    0 obs. of  5 variables:
## $ Ints      : int
## $ Doubles   : num
## $ Characters: chr
## $ Logicals  : logi
## $ Factors   : Factor w/ 0 levels:
## NULL

#2a. The data frame is empty

#3
household_data <- data.frame(
  Respondents = c(1:10),
  Sex = c("Male", "Female", "Female", "Male", "Male", "Female", "Female", "Male", "Female", "Male"),
  Father_Occupation = c(1, 2, 3, 3, 1, 2, 2, 3, 1, 3),
  Person_at_Home = c(5, 7, 3, 8, 6, 4, 4, 2, 11, 6),
  Siblings_at_school = c(2, 3, 0, 5, 2, 3, 1, 2, 6, 2),
  Types_house = c("Wood", "Congrete", "Congrete", "Wood", "Semi-Congrete", "Semi-Congrete", "Wood", "Semi-Congrete", "Wood", "Semi-Congrete")
)
household_data

```

```
##      Respondents      Sex Father_Occupation Person_at_Home Siblings_at_school
## 1             1   Male              1              5              2
## 2             2 Female              2              7              3
## 3             3 Female              3              3              0
## 4             4   Male              3              8              5
## 5             5   Male              1              6              2
## 6             6 Female              2              4              3
## 7             7 Female              2              4              1
## 8             8   Male              3              2              2
## 9             9 Female              1             11              6
## 10            10   Male              3              6              2
```

```
##      Types_house
## 1             Wood
## 2             Congrete
## 3             Congrete
## 4             Wood
## 5      Semi-Congrete
## 6      Semi-Congrete
## 7             Wood
## 8      Semi-Congrete
## 9      Semi-Congrete
## 10            Congrete
```

```
#3a
```

```
write.csv(household_data, file = "HouseholdData.csv", row.names = FALSE)
```

```
#3a.
```

```
imported_data <- read.csv("HouseholdData.csv")
```

```
#3b
```

```
imported_data$Sex <- factor(imported_data$Sex, levels = c("Male", "Female"))
```

```
imported_data$Sex <- as.integer(imported_data$Sex)
```

```
#3c
```

```
imported_data$Types_house <- factor(imported_data$Types_house)
```

```
imported_data$Types_house <- as.integer(factor(imported_data$Types_house, levels = c("Wood", "Congrete"))
```

```
#3d
```

```
imported_data$Father_Occupation <- as.integer(factor(imported_data$Father_Occupation, levels = c(1,2,3))
```

```
#3e
```

```
female_respo <- imported_data[imported_data$Sex == 2 & imported_data$FatherOccupation == 2, ]
female_respo
```

```
## [1] Respondents      Sex              Father_Occupation  Person_at_Home
## [5] Siblings_at_school Types_house
## <0 rows> (or 0-length row.names)
```

```
#3f
```

```
greaterthan_5 <- imported_data[imported_data$Siblingsatschool>=5, ]
greaterthan_5
```

```
## [1] Respondents      Sex              Father_Occupation  Person_at_Home
## [5] Siblings_at_school Types_house
## <0 rows> (or 0-length row.names)
```

#4. Interpret the graph

The graph in figure 3 represents the sentiments of people every day that has a major impact on our wo