RWorksheet_Lumahan#3B

2023-10-11

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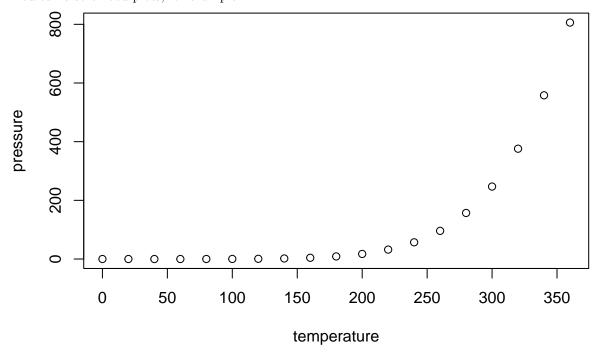
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
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.

```
#1. Create a data frame using the table below


#1A.


household_data <- data.frame(
  Respond_1 = c(1:20),

  Sex = c("Female","Female","Male","Female","Female","Female","Female","Female","Female","Female","Male

  FatherOccupation = c("Farmer","Others","Others","Others","Farmer","Driver","Others","Farmer","Farmer"

  PersonatHome = c(5,7,3,8,5,9,6,7,8,4,7,5,4,7,8,8,3,11,7,6),

  Siblingsatschool = c(6,4,4,1,2,1,5,3,1,2,3,2,5,5,2,1,2,5,3,2),

  Types_house = c("Wood","Semi-Concrete","Concrete","Wood","Wood","Concrete","Concrete","Wood","Semi-Co

)
household_data
```

```
##    Respond_1    Sex FatherOccupation PersonatHome Siblingsatschool
## 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            FatherOccupation    PersonatHome
##  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
##  Siblingsatschool 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)
is_mean_5 <- mean_siblings == 5
print(is_mean_5)
```

```
## [1] FALSE
```

```
#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 FatherOccupation PersonatHome Siblingsatschool   Types_house
## 1         1 Female           Farmer            5                6          Wood
## 2         2 Female           Others            7                4 Semi-Concrete
```

```
#1E.
selected_rows_columns <- household_data[c(3, 5), c(2, 4)]
print(selected_rows_columns)
```

```
##       Sex PersonatHome
## 3    Male            3
## 5  Female            5
```

```
#1F.
types_houses <- household_data$Typeshouse
```

```r
#1G.
male_farmers <- household_data[household_data$Sex == "Male" & household_data$FatherOccupation == "Farmer
print(male_farmers)
```

```
## [1] Respond_1          Sex              FatherOccupation PersonatHome
## [5] Siblingsatschool Types_house
## <0 rows> (or 0-length row.names)
```

```r
#1H.

female_greater_than_5_siblings <- household_data[household_data$Sex == "Female" & household_data$Sibling
print(female_greater_than_5_siblings)
```

```
##      Respond_1    Sex FatherOccupation PersonatHome Siblingsatschool
## 1            1 Female           Farmer            5                6
## 7            7 Female           Others            6                5
## 13          13 Female           Farmer            4                5
## 14          14 Female           Others            7                5
## 18          18 Female           Farmer           11                5
##        Types_house
## 1             Wood
## 7         Concrete
## 13   Semi-Concrete
## 14   Semi-Concrete
## 18        Concrete
```

```r
#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:"
```

```r
print(str(df))
```

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

```r
#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),
```

```r
  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",
)
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
```

```r
#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("Farme

#3e
female_respo <- imported_data[imported_data$Sex == 2 & imported_data$Father_Occupation == 2, ]
female_respo
```

```
##      Respondents Sex Father_Occupation Person_at_Home Siblings_at_school
## NA            NA  NA                NA             NA                 NA
## NA.1          NA  NA                NA             NA                 NA
```

```
## NA.2          NA  NA              NA              NA              NA
## NA.3          NA  NA              NA              NA              NA
## NA.4          NA  NA              NA              NA              NA
##      Types_house
## NA          NA
## NA.1        NA
## NA.2        NA
## NA.3        NA
## NA.4        NA
```

```r
#3f
greaterthan_5 <- imported_data[imported_data$Siblings_at_school>=5, ]
greaterthan_5
```

```
##    Respondents Sex Father_Occupation Person_at_Home Siblings_at_school
## 4            4   1                NA              8                  5
## 9            9   2                NA             11                  6
##    Types_house
## 4            1
## 9            3
```

```r
#4. Interpret the graph

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