

# RWorksheet\_Orada#3b

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##1.a

```
household_data <- data.frame(  
  Sex = c("Male", "Female", "Male", "Female", "Female"),  
  No_of_Siblings_Attending_School = c(4, 6, 5, 2, 7),  
  Type_of_House = c("Wood", "Concrete", "Semi-Concrete", "Concrete", "Wood"),  
  Father_Occupation = c("Farmer", "Driver", "Others", "Farmer", "Driver"),  
  stringsAsFactors = FALSE  
)
```

##1.b

*# Structure*

```
str(household_data)
```

```
## 'data.frame':    5 obs. of  4 variables:  
##  $ Sex                : chr  "Male" "Female" "Male" "Female" ...  
##  $ No_of_Siblings_Attending_School: num  4 6 5 2 7  
##  $ Type_of_House       : chr  "Wood" "Concrete" "Semi-Concrete" "Concrete" ...  
##  $ Father_Occupation   : chr  "Farmer" "Driver" "Others" "Farmer" ...
```

*# Summary*

```
summary(household_data)
```

```
##      Sex                No_of_Siblings_Attending_School Type_of_House  
## Length:5              Min.      :2.0                      Length:5  
## Class :character      1st Qu.:4.0                      Class :character  
## Mode  :character      Median :5.0                      Mode  :character  
##                               Mean  :4.8  
##                               3rd Qu.:6.0  
##                               Max.   :7.0  
## Father_Occupation  
## Length:5  
## Class :character  
## Mode  :character  
##  
##  
##
```

##1.c

```
mean(household_data$No_of_Siblings_Attending_School)
```

```
## [1] 4.8
```

##1.d

```

household_data[1:2, ]

##      Sex No_of_Siblings_Attending_School Type_of_House Father_Occupation
## 1   Male                                4           Wood           Farmer
## 2 Female                                6           Concrete          Driver

##1.e
household_data[c(3,5), c(2,4)]

##      No_of_Siblings_Attending_School Father_Occupation
## 3                                5           Others
## 5                                7           Driver

##1.f
types_houses <- household_data$Type_of_House
types_houses

## [1] "Wood"           "Concrete"           "Semi-Concrete" "Concrete"
## [5] "Wood"

##1.g
subset(household_data, Sex == "Male" & Father_Occupation == "Farmer")

##      Sex No_of_Siblings_Attending_School Type_of_House Father_Occupation
## 1 Male                                4           Wood           Farmer

##1.h
subset(household_data, Sex == "Female" & No_of_Siblings_Attending_School >= 5)

##      Sex No_of_Siblings_Attending_School Type_of_House Father_Occupation
## 2 Female                                6           Concrete          Driver
## 5 Female                                7           Wood           Driver

##1.2
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

```

```
##2.a
```

```
##The data frame is initialized with 0 rows but 5 columns with specified types: integer, numeric, chara
```

```
##3.a
```

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

```
##3.b
```

```
data_imported <- read.csv("HouseholdData.csv", stringsAsFactors = FALSE)
```

```
##3.c
```

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

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

```
data_imported$Sex
```

```
## [1] 1 2 1 2 2
```

```
##3.d
```

```
data_imported$Type_of_House <- factor(data_imported$Type_of_House,  
                                     levels = c("Wood", "Concrete", "Semi-Concrete"))
```

```
data_imported$Type_of_House <- as.integer(data_imported$Type_of_House)
```

```
data_imported$Type_of_House
```

```
## [1] 1 2 3 2 1
```

```
##3.e
```

```
data_imported$Father_Occupation <- factor(data_imported$Father_Occupation,  
                                           levels = c("Farmer", "Driver", "Others"))
```

```
data_imported$Father_Occupation <- as.integer(data_imported$Father_Occupation)
```

```
data_imported$Father_Occupation
```

```
## [1] 1 2 3 1 2
```

```
##3.f
```

```
subset(data_imported, Sex == 2 & Father_Occupation == 2)
```

```
##   Sex No_of_Siblings_Attending_School Type_of_House Father_Occupation
```

```
## 2    2                               6              2                2
```

```
## 5    2                               7              1                2
```

```
##3.g
```

```
subset(data_imported, No_of_Siblings_Attending_School >= 5)
```

```
##   Sex No_of_Siblings_Attending_School Type_of_House Father_Occupation
```

```
## 2    2                               6              2                2
```

```
## 3    1                               5              3                3
```

```
## 5    2                               7              1                2
```

```
##4
```

```
install.packages("ggplot2") # if not installed
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.5'
```

```
## (as 'lib' is unspecified)
```

```
library(ggplot2)

# Create the data frame
sentiment_data <- data.frame(
  Date = rep(as.Date(c("2020-07-14", "2020-07-15", "2020-07-17",
    "2020-07-18", "2020-07-20", "2020-07-21")), each = 3),
  Sentiment = rep(c("Negative", "Neutral", "Positive"), times = 6),
  Count = c(2500, 1500, 1800, # July 14
    4300, 2900, 3200, # July 15
    3100, 1800, 2500, # July 17
    3300, 2000, 2200, # July 18
    2400, 1500, 1700, # July 20
    4100, 2700, 3400) # July 21
)

ggplot(sentiment_data, aes(x = factor(Date), y = Count, fill = Sentiment)) +
  geom_bar(stat = "identity", position = position_dodge()) +
  labs(title = "Sentiments Of Tweets Per Day",
    x = "Day of Date / Sentiment",
    y = "Count of Tweets") +
  theme_minimal() +
  scale_fill_manual(values = c("Negative" = "red", "Neutral" = "orange", "Positive" = "blue"))
```

