

Rworksheet.Sabando.#3b.Rmd

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```
# Create the dataset
# Creating the dataset based on the given table
#A
data <- data.frame(
  Respondents = 1:20,
  Sex = c(2,2,1,2,2,2,2,2,1,1,2,2,2,1,2,2,1,2),
  Fathers_Occupation = c(1,3,3,3,1,2,3,1,1,1,3,2,1,3,1,1,3,1,2,1),
  Persons_at_Home = c(5,7,3,8,5,9,6,7,8,4,7,5,4,7,8,8,3,11,7,6),
  Siblings_at_School = c(6,4,4,1,2,1,5,3,1,2,3,2,5,5,2,1,2,5,3,2),
  Types_of_Houses = c(1,2,3,1,1,3,3,1,2,3,2,3,2,2,2,3,3,3,3,2)
)

# Display the dataset
data
```

##	Respondents	Sex	Fathers_Occupation	Persons_at_Home	Siblings_at_School
## 1	1	2	1	5	6
## 2	2	2	3	7	4
## 3	3	1	3	3	4
## 4	4	2	3	8	1
## 5	5	2	1	5	2
## 6	6	2	2	9	1
## 7	7	2	3	6	5
## 8	8	2	1	7	3
## 9	9	2	1	8	1
## 10	10	1	1	4	2
## 11	11	1	3	7	3
## 12	12	2	2	5	2
## 13	13	2	1	4	5
## 14	14	2	3	7	5
## 15	15	2	1	8	2
## 16	16	1	1	8	1
## 17	17	2	3	3	2
## 18	18	2	1	11	5
## 19	19	1	2	7	3
## 20	20	2	1	6	2
##	Types_of_Houses				
## 1	1				
## 2	2				
## 3	3				
## 4	1				
## 5	1				
## 6	3				

```
## 7      3
## 8      1
## 9      2
## 10     3
## 11     2
## 12     3
## 13     2
## 14     2
## 15     2
## 16     3
## 17     3
## 18     3
## 19     3
## 20     2

#B
str(data)

## 'data.frame': 20 obs. of 6 variables:
## $ Respondents : int 1 2 3 4 5 6 7 8 9 10 ...
## $ Sex : num 2 2 1 2 2 2 2 2 2 1 ...
## $ Fathers_Occupation: num 1 3 3 3 1 2 3 1 1 1 ...
## $ Persons_at_Home : num 5 7 3 8 5 9 6 7 8 4 ...
## $ Siblings_at_School: num 6 4 4 1 2 1 5 3 1 2 ...
## $ Types_of_Houses : num 1 2 3 1 1 3 3 1 2 3 ...

# Get the summary of the data
#B
summary(data)

## Respondents Sex Fathers_Occupation Persons_at_Home
## Min. : 1.00 Min. :1.00 Min. :1.00 Min. : 3.0
## 1st Qu.: 5.75 1st Qu.:1.75 1st Qu.:1.00 1st Qu.: 5.0
## Median :10.50 Median :2.00 Median :1.50 Median : 7.0
## Mean :10.50 Mean :1.75 Mean :1.85 Mean : 6.4
## 3rd Qu.:15.25 3rd Qu.:2.00 3rd Qu.:3.00 3rd Qu.: 8.0
## Max. :20.00 Max. :2.00 Max. :3.00 Max. :11.0
## Siblings_at_School Types_of_Houses
## Min. :1.00 Min. :1.00
## 1st Qu.:2.00 1st Qu.:2.00
## Median :2.50 Median :2.00
## Mean :2.95 Mean :2.25
## 3rd Qu.:4.25 3rd Qu.:3.00
## Max. :6.00 Max. :3.00

#C mean number
mean_siblings <- mean(data$Siblings_at_School)
is_mean_5 <- mean_siblings == 5
print(is_mean_5)

## [1] FALSE

print(mean_siblings)

## [1] 2.95

#D The 1st two rows and then all the columns using the subsetting functions
subset_data <- data[1:2, ]
```

```
print(subset_data)
```

```
## Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 1          1 2          1          5          6
## 2          2 2          3          7          4
## Types_of_Houses
## 1          1
## 2          2
```

```
#E 3rd and 5th row with 2nd and 4th column
```

```
subset_data_2 <- data[c(3, 5), c(2, 4)]
```

```
print(subset_data_2)
```

```
## Sex Persons_at_Home
## 3 1          3
## 5 2          5
```

```
#F the variable types of houses then store the vector that results as types_houses
```

```
types_houses <- data$Types_of_Houses
```

```
print(types_houses)
```

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

```
#G only all Males respondent that their father occupation was farmer
```

```
male_farmers <- subset(data, Sex == 1 & Fathers_Occupation == 1)
```

```
print(male_farmers)
```

```
## Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 10          10 1          1          4          2
## 16          16 1          1          8          1
## Types_of_Houses
## 10          3
## 16          3
```

```
#H only all females respondent that have greater than or equal to 5 number of siblings attending school
```

```
female_many_siblings <- subset(data, Sex == 2 & Siblings_at_School >= 5)
```

```
print(female_many_siblings)
```

```
## Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 1          1 2          1          5          6
## 7          7 2          3          6          5
## 13         13 2          1          4          5
## 14         14 2          3          7          5
## 18         18 2          1         11          5
## Types_of_Houses
## 1          1
## 7          3
## 13         2
## 14         2
## 18         3
```

```
#A Create an empty data frame
```

```
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
```

```
#B Read the CSV file
```

```
data <- read.csv("HouseholdData.csv")
print(data)
```

```
## Respondents Sex Fathers.Occupation Persons.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.of.Houses
```

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

```
#C Convert Sex into factor
```

```
data$Sex <- factor(data$Sex,
  levels = c(1, 2),
  labels = c("Male", "Female"))
```

```
print(data$Sex)
```

```
## [1] <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
```

```
## Levels: Male Female
```

```
#D Convert Type of Houses into factor
```

```
data$Types.of.Houses <- factor(data$Types.of.Houses,
  levels = c(1, 2, 3),
  labels = c("Wood", "Concrete", "Semi-concrete"))
```

```
print(data$Types.of.Houses)
```

```
## [1] <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
## Levels: Wood Concrete Semi-concrete

#E Convert Fathers Occupation into factor
data$Fathers.Occupation <- factor(data$Fathers.Occupation,
                                levels = c(1, 2, 3),
                                labels = c("Farmer", "Driver", "Others"))

print(data$Fathers.Occupation)

## [1] Farmer Driver Others Others Farmer Driver Driver Others Farmer Others
## Levels: Farmer Driver Others

#F Select all female respondents whose father is a driver
female_drivers <- subset(data,
                        Sex == "Female" &
                        Fathers.Occupation == "Driver")

print(female_drivers)

## [1] Respondents      Sex      Fathers.Occupation Persons.at.Home
## [5] Siblings.at.School Types.of.Houses
## <0 rows> (or 0-length row.names)

#G Select respondents with >= 5 siblings at school
respondents_5_siblings <- subset(data,
                                Siblings.at.School >= 5)

print(respondents_5_siblings)

## Respondents Sex Fathers.Occupation Persons.at.Home Siblings.at.School
## 4 4 <NA> Others 8 5
## 9 9 <NA> Farmer 11 6
## Types.of.Houses
## 4 <NA>
## 9 <NA>

# Figure 3: Interpretation
# The bar chart illustrates the distribution of tweet sentiments per day
# from July 14 to July 21, 2020. Negative sentiments consistently appear
# as the most dominant category, peaking notably on July 15 and July 21.
# Neutral tweets show relatively stable counts throughout the observed period,
# while positive tweets remain lower but display minor increases on certain days
# such as July 17 and July 20. Overall, the figure indicates that Twitter users
# expressed more negative sentiments during this timeframe compared to neutral
# and positive reactions.
```