Rworksheet_Rabago#3b

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1.a.

```
data <- data.frame(
Respondents = c(1:20),
Sex = c(2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 1, 2),
FathersOccupation = c(1, 3, 3, 3, 1, 2, 3, 1, 1, 1, 3, 2, 1, 3, 3, 1, 3, 1, 2, 1) ,
PersonsatHome = 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),
TypesofHouses = c(1, 2, 3, 1, 1, 3, 3, 1, 2, 3, 2, 3, 2, 2, 3, 3, 3, 3, 3, 2)
)
data
```

```
##    Respondents Sex FathersOccupation PersonsatHome SiblingsatSchool
## 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   2                 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                 3            8                2
## 16          16   2                 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
##    TypesofHouses
## 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             3
## 16             3
## 17             3
## 18             3
## 19             3
## 20             2
```

1.b. The data has 20 rows and 6 columns

```
summary(data)
```

```
##   Respondents          Sex       FathersOccupation PersonsatHome
##  Min.   : 1.00   Min.   :1.00   Min.   :1.00      Min.   : 3.0
##  1st Qu.: 5.75   1st Qu.:2.00   1st Qu.:1.00      1st Qu.: 5.0
##  Median :10.50   Median :2.00   Median :2.00      Median : 7.0
##  Mean   :10.50   Mean   :1.85   Mean   :1.95      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
##  SiblingsatSchool TypesofHouses
##  Min.   :1.00     Min.   :1.0
##  1st Qu.:2.00     1st Qu.:2.0
##  Median :2.50     Median :2.5
##  Mean   :2.95     Mean   :2.3
##  3rd Qu.:4.25     3rd Qu.:3.0
##  Max.   :6.00     Max.   :3.0
```

1.c. No, the mean is 2.95

```
SiblingsatSchool = c(6, 4, 4, 1, 2, 1, 5, 3, 1, 2, 3, 2, 5, 5, 2, 1, 2, 5, 3, 2)
mean(SiblingsatSchool)
```

```
## [1] 2.95
```

1.d.

```
first2rows <- data[1:2, ]
first2rows
```

```
##   Respondents Sex FathersOccupation PersonsatHome SiblingsatSchool
## 1           1   2                 1             5                6
## 2           2   2                 3             7                4
##   TypesofHouses
## 1             1
## 2             2
```

1.e.

```
thirdand5th <- data[c(3, 5), c(2,4)]
thirdand5th
```

```
##   Sex PersonsatHome
## 3   1             3
## 5   2             5
```

1.f.

```r
typesofhouses <- data[, "TypesofHouses"]
typesofhouses
```

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

1.g.

```r
malefarmers <- subset(data, Sex == 1 & FathersOccupation == 1)
malefarmers
```

```
## [1] Respondents       Sex               FathersOccupation PersonsatHome
## [5] SiblingsatSchool  TypesofHouses
## <0 rows> (or 0-length row.names)
```

1.h.

```r
femalesibling <- subset(data, Sex ==2 & SiblingsatSchool >=5)
femalesibling
```

```
##    Respondents Sex FathersOccupation PersonsatHome SiblingsatSchool
## 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
##    TypesofHouses
## 1              1
## 7              3
## 13             2
## 14             2
## 18             3
```

2.a. -The result shows that an empty data frame has been created with five different data types (integer, double, character, logical, and factor). Each column is initialized but contains no data.

```r
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
```

3.a.

```r
write.csv(data, "HouseholdData.csv")
HouseholdData <- read.csv("HouseholdData.csv")
```

3.b.

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

```
##     X Respondents    Sex FathersOccupation PersonsatHome SiblingsatSchool
## 1   1           1 Female                 1            5                6
## 2   2           2 Female                 3            7                4
## 3   3           3   Male                 3            3                4
## 4   4           4 Female                 3            8                1
## 5   5           5 Female                 1            5                2
## 6   6           6 Female                 2            9                1
## 7   7           7 Female                 3            6                5
## 8   8           8 Female                 1            7                3
## 9   9           9 Female                 1            8                1
## 10 10          10 Female                 1            4                2
## 11 11          11   Male                 3            7                3
## 12 12          12 Female                 2            5                2
## 13 13          13 Female                 1            4                5
## 14 14          14 Female                 3            7                5
## 15 15          15 Female                 3            8                2
## 16 16          16 Female                 1            8                1
## 17 17          17 Female                 3            3                2
## 18 18          18 Female                 1           11                5
## 19 19          19   Male                 2            7                3
## 20 20          20 Female                 1            6                2
##    TypesofHouses
## 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             3
## 16             3
## 17             3
## 18             3
## 19             3
## 20             2
```

3.c.

```
HouseholdData$TypesofHouses <- factor(HouseholdData$TypesofHouses, levels = c(1, 2, 3),labels = c("Wood
HouseholdData
```

```
##     X Respondents    Sex FathersOccupation PersonsatHome SiblingsatSchool
```

```
## 1   1           1 Female                1             5                6
## 2   2           2 Female                3             7                4
## 3   3           3   Male                3             3                4
## 4   4           4 Female                3             8                1
## 5   5           5 Female                1             5                2
## 6   6           6 Female                2             9                1
## 7   7           7 Female                3             6                5
## 8   8           8 Female                1             7                3
## 9   9           9 Female                1             8                1
## 10 10          10 Female                1             4                2
## 11 11          11   Male                3             7                3
## 12 12          12 Female                2             5                2
## 13 13          13 Female                1             4                5
## 14 14          14 Female                3             7                5
## 15 15          15 Female                3             8                2
## 16 16          16 Female                1             8                1
## 17 17          17 Female                3             3                2
## 18 18          18 Female                1            11                5
## 19 19          19   Male                2             7                3
## 20 20          20 Female                1             6                2
##    TypesofHouses
## 1           Wood
## 2       Congrete
## 3  Semi-congrete
## 4           Wood
## 5           Wood
## 6  Semi-congrete
## 7  Semi-congrete
## 8           Wood
## 9       Congrete
## 10 Semi-congrete
## 11      Congrete
## 12 Semi-congrete
## 13      Congrete
## 14      Congrete
## 15 Semi-congrete
## 16 Semi-congrete
## 17 Semi-congrete
## 18 Semi-congrete
## 19 Semi-congrete
## 20      Congrete
```

3.d.

```
HouseholdData$FathersOccupation <- factor(HouseholdData$FathersOccupation, levels = c(1, 2, 3), labels =
HouseholdData
```

```
##     X Respondents    Sex FathersOccupation PersonsatHome SiblingsatSchool
## 1   1           1 Female            Farmer             5                6
## 2   2           2 Female            Others             7                4
## 3   3           3   Male            Others             3                4
## 4   4           4 Female            Others             8                1
## 5   5           5 Female            Farmer             5                2
## 6   6           6 Female            Driver             9                1
## 7   7           7 Female            Others             6                5
```

```
## 8   8           8 Female           Farmer             7                3
## 9   9           9 Female           Farmer             8                1
## 10 10          10 Female           Farmer             4                2
## 11 11          11   Male           Others             7                3
## 12 12          12 Female           Driver             5                2
## 13 13          13 Female           Farmer             4                5
## 14 14          14 Female           Others             7                5
## 15 15          15 Female           Others             8                2
## 16 16          16 Female           Farmer             8                1
## 17 17          17 Female           Others             3                2
## 18 18          18 Female           Farmer            11                5
## 19 19          19   Male           Driver             7                3
## 20 20          20 Female           Farmer             6                2
##    TypesofHouses
## 1           Wood
## 2       Congrete
## 3  Semi-congrete
## 4           Wood
## 5           Wood
## 6  Semi-congrete
## 7  Semi-congrete
## 8           Wood
## 9       Congrete
## 10 Semi-congrete
## 11      Congrete
## 12 Semi-congrete
## 13      Congrete
## 14      Congrete
## 15 Semi-congrete
## 16 Semi-congrete
## 17 Semi-congrete
## 18 Semi-congrete
## 19 Semi-congrete
## 20      Congrete
```

3.e.

```
femaledriver<- subset(HouseholdData, Sex==2 & FathersOccupation =="Driver")
femaledriver
```

```
## [1] X                Respondents       Sex              FathersOccupation
## [5] PersonsatHome    SiblingsatSchool  TypesofHouses
## <0 rows> (or 0-length row.names)
```

3.f.

```
fivesiblings<- subset(HouseholdData, Respondents & SiblingsatSchool >= 5)
fivesiblings
```

```
##     X Respondents    Sex FathersOccupation PersonsatHome SiblingsatSchool
## 1   1           1 Female           Farmer             5                6
## 7   7           7 Female           Others             6                5
## 13 13          13 Female           Farmer             4                5
## 14 14          14 Female           Others             7                5
## 18 18          18 Female           Farmer            11                5
##    TypesofHouses
## 1           Wood
```

```
## 7  Semi-congrete
## 13      Congrete
## 14      Congrete
## 18 Semi-congrete
```

4. The graph shows a sentiment analysis of tweets per day from July 14 to July 21, 2020, with three categories: negative, neutral, and positive. On July 14 and 15, there was a significant number of negative tweets, with fewer neutral and positive tweets. On July 17 and 18, the sentiment was more balanced, although negative tweets still dominated. By July 21, the number of negative tweets increased sharply compared to the previous days. The graph highlights the daily fluctuations in sentiment, especially the rise in negative tweets as the week progressed.