RWorksheet_TIAD#3b

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```r
#1.
  #a.
  Respondents <- c(1:20)
  Sex <- c(2,2,1,2,2,2,2,2,2,2,2,1,2,2,2,2,2,2,2,1,2)
  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)

  A_df <- data.frame(Respondents = Respondents, Sex = Sex, FathersOccupation = FathersOccupation, Perso
  A_df
```

```
##    Respondents Sex FathersOccupation 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   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
##    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                3
## 16                3
## 17                3
## 18                3
## 19                3
## 20                2
```

```r
#b.
#The data is displayed using data frame which is very convenient and organized.
#Here's the structure and summary.
summary(A_df)
```

```
##   Respondents         Sex       FathersOccupation Persons_At_Home
##  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
##  Siblings_At_School Types_Of_Houses
##  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
```

```r
str(A_df)
```

```
## '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 2 ...
##  $ FathersOccupation: 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 ...
```

```r
#c.
mean(A_df[,5])
```

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

```r
#The mean is not 5 instead it is 2.95.
#d.
f2rows <- A_df[1:2,]
f2rows
```

```
##   Respondents Sex FathersOccupation 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
```

```r
#e.
extract3_5 <- A_df[c(3,5), c(2,4)]
extract3_5
```

```
##   Sex Persons_At_Home
## 3   1               3
## 5   2               5
```

```r
#f.
types_houses <- A_df[,6]
types_houses
```

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

```r
#g.
MALE_farm <- subset(A_df, A_df[,2] == 1 & A_df[,3] == 1 )
MALE_farm
```

```
## [1] Respondents       Sex               FathersOccupation Persons_At_Home
## [5] Siblings_At_School Types_Of_Houses
## <0 rows> (or 0-length row.names)
```

```r
#h.
Female_SCHOOL <- subset(A_df, A_df[,2] == 2 & A_df[,5] >= 5)
Female_SCHOOL
```

```
##    Respondents Sex FathersOccupation 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
```

```r
#2.
  #a.
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
```

```
#3. Create a .csv file of this. Save it as HouseholdData.csv
respondents <- c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
sex <- c("Male", "Female", "Female", "Male", "Male", "Female", "Female", "Male", "Female", "Male")
father <- c(1, 2, 3, 3, 1, 2, 2, 3, 1, 3)
persons <- c(5, 7, 3, 8, 6, 4, 4, 2, 11, 6)
siblings <- c(2, 3, 0, 5, 2, 3, 1, 2, 6, 2)
houses <- c("Wood", "Congrete", "Congrete", "Wood", "Semi-congrete", "Semi-congrete", "Wood", "Semi-con

HOUSEdata <- data.frame(Respondents = respondents, Sex = sex, Fathers_Occupation = father, Persons_at_H
HOUSEdata
```

```
##    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-congrete
## 6    Semi-congrete
## 7             Wood
## 8    Semi-congrete
## 9    Semi-congrete
## 10        Congrete
```

4

```
write.csv(HOUSEdata, file = "HouseholdData.csv", FALSE)
  #a.
 Imported <- read.csv("HouseholdData.csv")
 Imported
```

```
##    X Respondents    Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 1  1           1   Male                  1               5                  2
## 2  2           2 Female                  2               7                  3
## 3  3           3 Female                  3               3                  0
## 4  4           4   Male                  3               8                  5
## 5  5           5   Male                  1               6                  2
## 6  6           6 Female                  2               4                  3
## 7  7           7 Female                  2               4                  1
## 8  8           8   Male                  3               2                  2
## 9  9           9 Female                  1              11                  6
## 10 10         10   Male                  3               6                  2
##     Types_of_Houses
## 1              Wood
## 2          Congrete
## 3          Congrete
## 4              Wood
## 5     Semi-congrete
## 6     Semi-congrete
## 7              Wood
## 8     Semi-congrete
## 9     Semi-congrete
## 10         Congrete
```

```
#b.
 Imported$Sex <- factor(Imported$Sex, levels = c("Male", "Female"), labels = c(1, 2))
  Imported
```

```
##    X Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 1  1           1   1                  1               5                  2
## 2  2           2   2                  2               7                  3
## 3  3           3   2                  3               3                  0
## 4  4           4   1                  3               8                  5
## 5  5           5   1                  1               6                  2
## 6  6           6   2                  2               4                  3
## 7  7           7   2                  2               4                  1
## 8  8           8   1                  3               2                  2
## 9  9           9   2                  1              11                  6
## 10 10         10   1                  3               6                  2
##     Types_of_Houses
## 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
#c.
Imported$Types_of_Houses <- factor(Imported$Types_of_Houses, levels = c("Wood", "Congrete", "Semi-congr
Imported
```

```
##    X Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 1  1           1   1                  1               5                  2
## 2  2           2   2                  2               7                  3
## 3  3           3   2                  3               3                  0
## 4  4           4   1                  3               8                  5
## 5  5           5   1                  1               6                  2
## 6  6           6   2                  2               4                  3
## 7  7           7   2                  2               4                  1
## 8  8           8   1                  3               2                  2
## 9  9           9   2                  1              11                  6
## 10 10         10   1                  3               6                  2
##    Types_of_Houses
## 1                1
## 2                2
## 3                2
## 4                1
## 5                3
## 6                3
## 7                1
## 8                3
## 9                3
## 10               2
```

```r
#d.
Imported$Fathers_Occupation <- factor(Imported$Fathers_Occupation, levels = c("Farmer", "Driver", "Othe
Imported
```

```
##    X Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 1  1           1   1               <NA>               5                  2
## 2  2           2   2               <NA>               7                  3
## 3  3           3   2               <NA>               3                  0
## 4  4           4   1               <NA>               8                  5
## 5  5           5   1               <NA>               6                  2
## 6  6           6   2               <NA>               4                  3
## 7  7           7   2               <NA>               4                  1
## 8  8           8   1               <NA>               2                  2
## 9  9           9   2               <NA>              11                  6
## 10 10         10   1               <NA>               6                  2
##    Types_of_Houses
## 1                1
## 2                2
## 3                2
## 4                1
## 5                3
## 6                3
## 7                1
```

```
## 8                     3
## 9                     3
## 10                    2
```

```
#e.
FR_drivers <- subset(Imported, Sex == 2 & Fathers_Occupation == 2)
FR_drivers
```

```
## [1] X                    Respondents       Sex                Fathers_Occupation
## [5] Persons_at_Home   Siblings_at_School Types_of_Houses
## <0 rows> (or 0-length row.names)
```

```
#f.
siblings_g5 <- subset(Imported, Siblings_at_School >= 5)
siblings_g5
```

```
##   X Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 4 4           4   1                <NA>               8                  5
## 9 9           9   2                <NA>              11                  6
##   Types_of_Houses
## 4               1
## 9               3
```

```
#4.
#The graph highlights how people's feelings in tweets changed over several days,
#with shifts in positive, neutral, and negative sentiments. Negative tweets
#peaked on July 15, likely in response to bad news, while there was an increase
#in positive tweets on July 17, indicating a better mood. By July 20, neutral
#tweets became the most common, suggesting more balanced or informational
#posts during that time.
```