

RWorksheet_TIAD#3b

James Cedrick Tiad

2024-10-02

#1.

#a.

```
Respondents <- c(1:20)
```

```
Sex <- c(2,2,1,2,2,2,2,2,2,2,1,2,2,2,2,2,2,1,2)
```

```
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, Persons
```

```
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
```

#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
```

```
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 ...
```

#c.

```
mean(A_df[,5])
```

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

#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
```

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

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

```
#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
```

```
#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)
```

```
#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
```

```
#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-concrete", "Semi-concrete", "Wood", "Semi-concrete", "Semi-concrete", "Wood")

HOUSEdata <- data.frame(Respondents = respondents, Sex = sex, fathers_occupation = father, Persons_at_Home = persons, Siblings_at_School = siblings, Types_of_Houses = houses)
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-concrete
## 6 Semi-concrete
## 7 Wood
## 8 Semi-concrete
## 9 Semi-concrete
## 10 Congrete

```

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

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

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

```
##      Respondents Sex fathers_occupation Persons_at_Home Siblings_at_School
## 1          1    1              1              5              2
## 2          2    2              2              7              3
## 3          3    2              3              3              0
## 4          4    1              3              8              5
## 5          5    1              1              6              2
## 6          6    2              2              4              3
## 7          7    2              2              4              1
## 8          8    1              3              2              2
## 9          9    2              1             11              6
## 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
```

```
#d.
HOUSEdata$fathers_occupation <- factor(HOUSEdata$fathers_occupation, levels = c(1, 2, 3), labels = c("
HOUSEdata
```

```
##      Respondents Sex fathers_occupation Persons_at_Home Siblings_at_School
## 1          1    1      Farmer              5              2
## 2          2    2      Driver              7              3
## 3          3    2      Other               3              0
## 4          4    1      Other              8              5
## 5          5    1      Farmer              6              2
## 6          6    2      Driver              4              3
## 7          7    2      Driver              4              1
## 8          8    1      Other               2              2
## 9          9    2      Farmer             11              6
## 10         10    1      Other              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(HOUSEdata, Sex == 2 & fathers_occupation == "Driver")
print(FR_drivers)
```

```
## Respondents Sex fathers_occupation Persons_at_Home Siblings_at_School
## 2          2  2          Driver          7          3
## 6          6  2          Driver          4          3
## 7          7  2          Driver          4          1
## Types_of_Houses
## 2          2
## 6          3
## 7          1
```

#f.

```
siblings_g5 <- subset(HOUSEdata, Siblings_at_School >= 5)
siblings_g5
```

```
## Respondents Sex fathers_occupation Persons_at_Home Siblings_at_School
## 4          4  1          Other          8          5
## 9          9  2          Farmer         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.