Rworksheet_DelaCruz#3b

2023-10-12

```
#1.a
household_df <- data.frame(
  Respondents = 1:20,
  Sex = c(2,2,1,2,2,2,2,2,2,2,1,2,2,2,2,2,2,2,1,2),
  Fathers_Occupation = c(1,3,3,3,1,2,3,1,1,1,3,2,1,3,3,1,3,1,2,1),
  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(1,2,3,1,1,3,3,1,2,3,2,3,2,2,3,3,3,3,3,2)
)
household_df
```

```
##    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   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
```

```
#1.b The data frame displays the columns with their corresponding column names; Respondents, Sex, Fathe
#There are 20 respondents and they are either male or female, their fathers occupations are either farm
#school (showing who are currently attending and are at home.) Lastly, it displays the type of home
#the respondents have, such as Wood, Semi-Concrete, and Concrete.

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

```
#1.c
mean(household_df$Siblings_at_School)
```

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

```
#The mean number of siblings attending is 2.95
```

```
#1.d
household_df[1:2,]
```

```
##   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
```

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

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

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

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

```
#1.f
types_houses <- c(household_df$Types_of_Houses)
types_houses
```

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

```
#1.g
male_farmers <- household_df[household_df$Sex == 1 & household_df$Fathers_Occupation == 1,]
male_farmers
```

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

```
# [1] Respondents        Sex                Fathers_Occupation Persons_at_Home    Siblings_at_School Ty
# <0 rows> (or 0-length row.names) There are no male farmers in the data frame.
```

```
#1.h
female_greater_than_5_siblings <- household_df[household_df$Sex == 2 & household_df$Siblings_at_School >
female_greater_than_5_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
```

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

```
#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
```

```
#It shows each data type and their corresponding variable types.
```

```
#3.
householdData <- data.frame(
  Respondents = 1:10,
  Sex = c("Male", "Female", "Female","Male","Male","Female","Female", "Male", "Female", "Male"),
  Fathers_Occupation = c(1,2,3,3,1,2,2,3,1,3),
  Persons_at_Home = c(5,7,3,8,6,4,4,2,11,6),
  Siblings_at_School = c(2,3,0,5,2,3,1,2,6,2),
  Types_of_Houses = c("Wood", "Congrete", "Congrete", "Wood", "Semi-Congrete", "Semi-Congrete", "Wood",
)
householdData
```

```
##    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
```

```
#3.a
householdCSV <- "HouseholdData.csv"
write.csv(householdData, file = householdCSV, row.names = FALSE)
read.csv("C:\\Users\\ASUS\\Documents\\worksheet#3\\HouseholdData.csv")
```

```
##    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
```

```
#3.b
householdData$Sex <-  factor(householdData$Sex, c("Male","Female"),
                             levels(householdData$Sex) <- c(1, 2))
householdData
```

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

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

```
#3.c
householdData$Types_of_Houses <- factor(householdData$Types_of_Houses,
                                        levels = c("Wood", "Congrete", "Semi-Congrete"))


levels(householdData$Types_of_Houses) <- c(1, 2, 3)
householdData
```

```
##    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
```

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

```
#3.d
fathersOccupation <- householdData$Fathers_Occupation <- factor(householdData$Fathers_Occupation,
                                                                levels = c(1, 2, 3),
                                                                labels = c("Farmer", "Driver", "Others"))
householdData
```

```
##    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              Others               3                  0
## 4            4   1              Others               8                  5
## 5            5   1              Farmer               6                  2
## 6            6   2              Driver               4                  3
## 7            7   2              Driver               4                  1
## 8            8   1              Others               2                  2
## 9            9   2              Farmer              11                  6
## 10          10   1              Others               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
```

```
#    Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School Types_of_Houses
# 1            1   1              Farmer               5                  2               1
# 2            2   2              Driver               7                  3               2
# 3            3   2              Others               3                  0               2
# 4            4   1              Others               8                  5               1
# 5            5   1              Farmer               6                  2               3
# 6            6   2              Driver               4                  3               3
```

```
# 7           7   2            Driver              4                  1                1
# 8           8   1            Others              2                  2                3
# 9           9   2            Farmer             11                  6                3
# 10         10   1            Others              6                  2                2
```

```
#3.e
female_drivers <- householdData[householdData$Sex == 2 & householdData$Fathers_Occupation == "Driver",]
female_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
```

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

```
#3.f
more_siblings <- householdData[householdData$Siblings_at_School >=5,]
more_siblings
```

```
##   Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School
## 4           4   1            Others               8                  5
## 9           9   2            Farmer              11                  6
##   Types_of_Houses
## 4               1
## 9               3
```

```
#   Respondents Sex Fathers_Occupation Persons_at_Home Siblings_at_School Types_of_Houses
# 4           4   1            Others               8                  5                1
# 9           9   2            Farmer              11                  6                3
```

```
#4.

# The graph continuously demonstrates that the number of negative sentiments is the highest,
# followed by that of neutral and positive attitudes. Negative sentiment peaked on July 15, 2020,
# while positive sentiment peaked on July 21, 2020, and neutral sentiment peaked on July 15, 2020. O
# n July 20, 2020, the sentiments' lowest number was tallied.
```