RWorksheets_Bagilidad#3b

```r
#1.

#a. Write the codes.

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)
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_data <- data.frame(Respondents =respondents,
                             Sex = sex,
                             FathersOccupation = fathers_occupation,
                             PersongsAtHome  = persons_at_home,
                             SiblingsAtSchool  = siblings_at_school,
                             TypeOfHouses = types_of_houses)
household_data
```

```
##    Respondents Sex FathersOccupation PersongsAtHome 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
##    TypeOfHouses
## 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. Describe the data. Get the structure or the summary of the data
```

```r
str(household_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 2 ...
##  $ FathersOccupation: num  1 3 3 3 1 2 3 1 1 1 ...
##  $ PersongsAtHome  : num  5 7 3 8 5 9 6 7 8 4 ...
##  $ SiblingsAtSchool : num  6 4 4 1 2 1 5 3 1 2 ...
##  $ TypeOfHouses    : num  1 2 3 1 1 3 3 1 2 3 ...
```

```r
summary(household_data)
```

```
##   Respondents         Sex        FathersOccupation PersongsAtHome
##  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  TypeOfHouses
##  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
# the data frame consists of 20 observations(rows) and 6 variables (columns)
# the data frame consists of 6 variables (colums) with 20 observations(rows)
# respondents - which lists each respondent's unique numeric identifier.
# sex - represents the gender of the respondent (1 for Male and 2 for Female).
# father's occupation - indicates the occupation of the father (1 for farmer, 2 for driver, and 3 for o
# persons at home - consists of number of people at home.
# siblings at school - consists of number of siblings at the school.
# type of house - this describes the house type (1 for wood, 2 for semi-concrete, and 3 for concrete)
```

```
#c. Is the mean number of siblings attending is 5?

means_siblings <- mean(siblings_at_school)
means_siblings

## [1] 2.95
# The mean of siblings attending in school is not 5 but 2.95.

#d. Extract the 1st two rows and then all the columns using the subsetting functions. Write the codes a

firstTwo_rows <- head(household_data, 2)
firstTwo_rows

##   Respondents Sex FathersOccupation PersongsAtHome SiblingsAtSchool
## 1           1   2                 1              5                6
## 2           2   2                 3              7                4
##   TypeOfHouses
## 1            1
## 2            2
#e. Extract 3rd and 5th row with 2nd and 4th column. Write the codes and its result.
extract_rows <- household_data[c(3,5),c(2,4)]
extract_rows

##   Sex PersongsAtHome
## 3   1              3
## 5   2              5
#f. Select the variable types of houses then store the vector that results as types_houses. Write the c

types_houses <- household_data$types_of_houses
types_houses

## NULL
#g. Select only all Males respondent that their father occupation was farmer. Write the codes and its o

male_father_farmer= household_data[household_data$sex == 1 & household_data$fathers_occupation == 1,]
male_father_farmer

## [1] Respondents        Sex               FathersOccupation PersongsAtHome
## [5] SiblingsAtSchool   TypeOfHouses
## <0 rows> (or 0-length row.names)
#h.Select only all females respondent that have greater than or equal to 5 number of siblings attending

females_greaterThan5 <- household_data[household_data$siblings_at_school >= 5,]
females_greaterThan5

## [1] Respondents        Sex               FathersOccupation PersongsAtHome
## [5] SiblingsAtSchool   TypeOfHouses
## <0 rows> (or 0-length row.names)
#----------------------------------------------------------------------

#2.Write a R program to create an empty data frame. Using the following codes:
```

```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
```

```r
#a. Describe the results.

# df have no data frame with 0 rows and 5 columns
# the columns has the following data type:
# ints means integer
# doubles is a data type that is used to store high-precision floating-point data or numbers.
# characters is a single display unit of information equivalent to one alphabetic symbol, digit, or let
# logicals is a programming, database and knowledge-representation and reasoning paradigm which is base
# factors data structures that are implemented to categorize the data or represent categorical data and
# 0 levels which means empty
# can be serve as a template that can be populated with data

#3. Create a .csv file of this. Save it as HouseholdData.csv

New_Respondent <- c(1:10)
New_Sex <- c("Male", "Female", "Female", "Male", "Male", "Female", "Female", "Male", "Female", "Male")
New_Fathers_Occupation <- c(1,2,3,3,1,2,2,3,1,3)
New_PersonsAt_Home <- c(5,7,3,8,6,4,4,2,11,6)
New_SiblingsAt_School <- c(2,3,0,5,2,3,1,2,6,2)
New_Types_Houses <- c("Wood", "Congrete", "Congrete", "Wood", "Semi-congrete", "Semi-congrete", "Wood",

HouseholdData <- data.frame(
  Respondents = New_Respondent,
  Sex = New_Sex,
  FatherOccupation = New_Fathers_Occupation,
  PersonsAtHome=New_PersonsAt_Home,
  SiblingsAtSchool=New_SiblingsAt_School,
  TypesOfHouses=New_Types_Houses)
HouseholdData
```

```
##    Respondents    Sex FatherOccupation PersonsAtHome SiblingsAtSchool
## 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
##     TypesOfHouses
## 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
write.csv(HouseholdData, file ="HouseholdData.csv")
```

#a.Import the csv file into the R environment. Write the codes.

```r
imported <- read.csv("HouseholdData.csv")
imported
```

```
##     X Respondents    Sex FatherOccupation PersonsAtHome SiblingsAtSchool
## 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
##     TypesOfHouses
## 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. Convert the Sex into factor using factor() function and change it into integer.[Legend: Male = 1 an

```r
imported$Sex <- factor(imported$Sex, levels = c("Male", "Female"))
imported$Sex<- as.integer(imported$Sex)
imported$Sex
```

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

```r
# c. Convert the Type of Houses into factor and change it into integer. [Legend: Wood = 1; Congrete = 2

imported$HouseType <- factor(imported$TypesOfHouses, levels = c("Wood", "Congrete", "Semi-congrete"))
imported$HouseType <- as.integer(imported$HouseType)
imported$HouseType
```

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

```r
#d.On father's occupation, factor it as Farmer = 1; Driver = 2; and Others = 3. What is the R code and

imported$FatherOccupation <- factor(imported$FatherOccupation, levels = c(1,2,3), labels = c("Farmer",
imported$FatherOccupation
```

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

```r
# e. Select only all females respondent that has a father whose occupation is driver. Write the codes a

femaleDriver <- imported[imported$Sex == 2 & imported$FatherOccupation == "Driver",]
femaleDriver
```

```
##   X Respondents Sex FatherOccupation PersonsAtHome SiblingsAtSchool
## 2 2           2   2           Driver             7                3
## 6 6           6   2           Driver             4                3
## 7 7           7   2           Driver             4                1
##   TypesOfHouses HouseType
## 2      Congrete         2
## 6 Semi-congrete         3
## 7          Wood         1
```

```r
# f. Select the respondents that have greater than or equal to 5 number of siblings attending school. W
upper_five <- imported[imported$SiblingsAtSchool >= 5,]
upper_five
```

```
##   X Respondents Sex FatherOccupation PersonsAtHome SiblingsAtSchool
## 4 4           4   1           Others             8                5
## 9 9           9   2           Farmer            11                6
##   TypesOfHouses HouseType
## 4          Wood         1
## 9 Semi-congrete         3
```

```r
#4

#The majority of the other sentiments on this day, July 14, are negative. This indicates that some subj

#Even if all of the attitudes increased on this day, July 15, the negative sentiment is still at its gr

#Negative attitude is still strong on July 17 and 18, while both neutral and positive sentiment is stil

#There were still more negative attitudes among the others on July 20 even though all sentiments reache

#On this day, July 21, all emotions are higher, with the negative continuing dominating. This could imp

#This information could lead us to the conclusion that public opinion is subject to outside influences
```