WorkSheet3b

Carl Frederick Delicana, BSIT 2-A

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#1. Create a data frame using the table below.
#a. Write the codes.
Respondents <- c(seq(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)

dframe <- data.frame(Respondents,Sex,FathersOccupation,Personsathome,Siblingsatschool,Typesofhouses)

#b. Describe the data. Get the structure or the summary of the data
summary(dframe)
#Output:
# 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

#c. Is the mean number of siblings attending is 5?
#The answer is no
#Output:
#None

#d. Extract the 1st two rows and then all the columns using the subsetting functions.
#Write the codes and its output.
c1 <- subset(dframe[1:2, 1:6, drop = FALSE])
c1
#Output:
#Respondents Sex FathersOccupation Personsathome Siblingsatschool Typesofhouses
#1           1   2                 1             5                6            1
#2           2   2                 3             7                4            2
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#e. Extract 3rd and 5th row with 2nd and 4th column. Write the codes and its result.
c2 <- subset(dframe[c(3,5),c(2,4)])
c2
#Output:
#   Sex Personsathome
#3   1              3
#5   2              5


#f. Select the variable types of houses then store the vector that results as types_houses.
# Write the codes.
c3 <- dframe[c(6)]

type_houses <- c3

#g. Select only all Males respondent that their father occupation was farmer.
Write the codes and its output.
c22 <- subset(dframe[c(3,11),c(2,3)])
c22
#Output:
#    Sex FathersOccupation
#3    1                  3
#11   1                  3


#h. Select only all females respondent that have greater than or equal to 5 number
of siblings attending school. Write the codes and its outputs.
c5 <- subset(dframe[c(1:20), c(2,5)])
girla <- c5[dframe$Siblingsatschool >= 5,]
girla
#Output:
#    Sex Siblingsatschool
#1    2                 6
#7    2                 5
#13   2                 5
#14   2                 5
#18   2                 5

#2. Write a R program to create an empty data frame. Using the following codes:
df = data.frame(Ints=integer(),
                Doubles=double(),  Characters=character(),
                Logicals=logical(),
                Factors=factor(),
                stringsAsFactors=FALSE)

print("Structure of the empty dataframe:")
print(str(df))
#a. Describe the results.

#Output:
#'data.frame':  0 obs. of  5 variables:
# $ Ints     : int
# $ Doubles  : num
# $ Characters: chr
# $ Logicals  : logi
# $ Factors   : Factor w/ 0 levels:
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#NULL

#3. Interpret the graph.