

Work Sheet 3b

Wendy Nalaza

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Worksheet-3b in R

Instructions:

Use RStudio or the RStudio Cloud accomplish this worksheet.

Save the R script as RWorksheet_lastname 3b.R.

On your own GitHub repository, push the R script, the Rmd file, as well as this pdf worksheet to the repo you have created before.

Do not forget to comment your Git repo on our VLE

Accomplish this worksheet by answering the questions being asked and writing the code manually.

```
install.packages("dplyr") library(dplyr) library(tidyverse)
```

1. Create a data frame using the table below.

a. Write the codes.

```
Residents <- data.frame(  
  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),  
  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))
```

b. Describe the data. Get the structure or the summary of the data

Answer: Declaring the object as a “resident” and using the function data frames to collect the variables of respondents and make matrices and lists

```
summary(Residents)
```

```
##   Respondents      sex    Fathers_Occupation 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
```

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

“Answer: No”

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

```
Subset <- subset(Residents[1:2, 1:6, drop = FALSE])
Subset
```

```
## 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
```

e. Extract 3rd and 5th row with 2nd and 4th column. Write the codes and its result.

```
Subset1 <- subset(Residents[c(3,5),c(2,4)])
Subset1
```

```
## sex Persons_at_Home
## 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.

```
Store <- Residents[c(6)]
type_of_houses <- Store
```

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

```
subset(Residents, sex == 1, select = Fathers_Occupation == 1)
```

```
## data frame with 0 columns and 3 rows
```

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

```
females <- subset(Residents[c(1:20), c(2,5)])
```

```
girls <- females[Residents$Siblings_at_school >= 5,]
girls
```

```
##      sex Siblings_at_school
## 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:

```
dtframe = 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(dtframe))
```

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