RWorksheet_rocillo#4b

Cassandra Jielin Rocillo

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for() loop

1. Using the for loop, create an R script that will display a 5x5 matrix as shown in

Figure 1. It must contain vectorA = [1,2,3,4,5] and a 5 x 5 zero matrix. Hint Use abs() function to get the absolute value

```
vectorA <- c(1,2,3,4,5)
matrixx <- matrix(0, nrow = 5, ncol = 5)

for(i in 1:5) {
 for(j in 1:5){
   matrixx[i, j] <- abs(vectorA[i] - vectorA[j])
}
}
print(matrixx)
```

```
##      [,1] [,2] [,3] [,4] [,5]
## [1,]    0    1    2    3    4
## [2,]    1    0    1    2    3
## [3,]    2    1    0    1    2
## [4,]    3    2    1    0    1
## [5,]    4    3    2    1    0
```

2. Print the string "*" using for() function. The output should be the same as shown

in Figure 2.

```
for(i in 1:5){
  cat(rep('"*"', i), "\n")
}
```

```
## "*"
## "*" "*"
## "*" "*" "*"
## "*" "*" "*" "*"
## "*" "*" "*" "*" "*"
```

3.Get an input from the user to print the Fibonacci sequence starting from the 1st input

up to 500. Use repeat and break statements. Write the R Scripts and its output

```
x <- 0
y <- 1

z <- readline(prompt = "Enter a number: ")
```

```
## Enter a number:
```

```
repeat {
  z <- x + y
  if (z > 500) break
  x <- y
  y <- z
  print(z)
}
```

```
## [1] 1
## [1] 2
## [1] 3
## [1] 5
## [1] 8
## [1] 13
## [1] 21
## [1] 34
## [1] 55
## [1] 89
## [1] 144
## [1] 233
## [1] 377
```

4. Import the dataset as shown in Figure 1 you have created previously.

a. What is the R script for importing an excel or a csv file? Display the first 6 rows of the dataset? Show your codes and its result.

```
 library(readr)
shoe_size <- read.csv(file = "ShoeSizes.csv",header = T, sep = ",")

head(shoe_size)
```

```
##   Shoe.size Height Gender
## 1       6.5   66.0      F
## 2       9.0   68.0      F
## 3       8.5   64.5      F
## 4       8.5   65.0      F
## 5      10.5   70.0      M
## 6       7.0   64.0      F
```

b. Create a subset for gender(female and male). How many observations are there in Male? How about in Female? Write the R scripts and its output.

```
female_data <- subset(shoe_size, Gender == "F")
male_data <- subset(shoe_size, Gender == "M")

num_females <- nrow(female_data)
num_males <- nrow(male_data)

num_females
```

```
## [1] 14
```

```
num_males
```

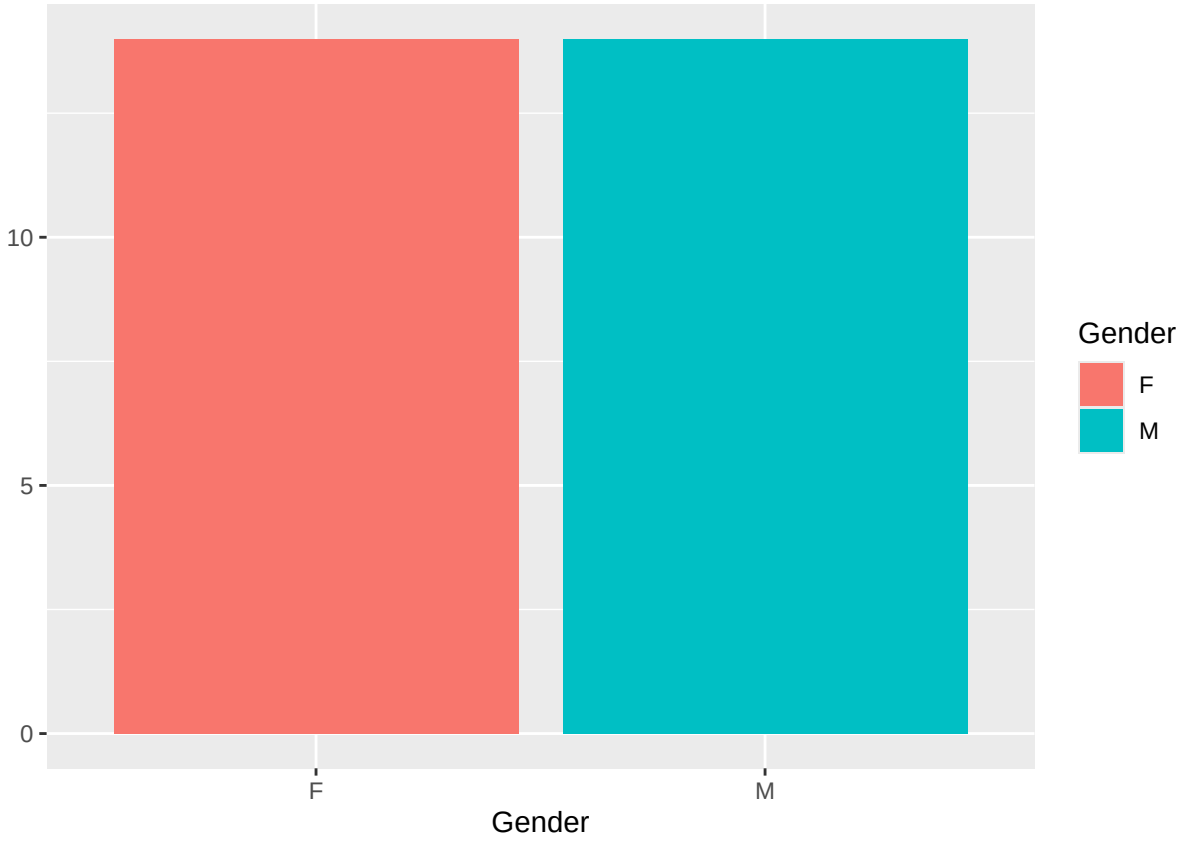
```
## [1] 14
```

c. Create a graph for the number of males and females for Household Data. Use plot(), chart type =

barplot. Make sure to place title, legends, and colors. Write the R scripts and its result.

```
  library(ggplot2)
qplot(Gender, data = shoe_size,
geom = "bar",
fill = Gender)
```

```
## Warning: `qplot()` was deprecated in ggplot2 3.4.0.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```



5. The monthly income of Dela Cruz family was spent on the following:

a. Create a piechart that will include labels in percentage.Add some colors and title of the chart. Write the R scripts and show its output.