RWorksheet_Caneso#4b

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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.

```r
vectorA = c(1,2,3,4,5)

matr <- matrix(nrow = 5, ncol = 5)

for(i in 1:5){
  for(j in 1:5){
    matr[i, j] <- vectorA[abs(i-j) + 1]
  }
}

for(i in 1:5){
  for(j in 1:5){
    cat(matr[i,j], " ")
  }
  cat("\n")
}
```

```
## 1  2  3  4  5
## 2  1  2  3  4
## 3  2  1  2  3
## 4  3  2  1  2
## 5  4  3  2  1
```

```r
matri <- matrix(0, nrow = 5, ncol = 5)

for(i in 1:5){
  for(j in 1:5){
    cat(matri[i,j], " ")
  }
  cat("\n")
}
```

```
## 0  0  0  0  0
## 0  0  0  0  0
## 0  0  0  0  0
## 0  0  0  0  0
## 0  0  0  0  0
```

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

```r
for(i in 1:5){
  for(j in 1:i){
    cat("*", " ")
  }
  cat("\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.

```r
#inp <- readline("Enter a number: ")
inp <- 1

f <- 0
s <- 1
repeat{
  if(f >= inp){
    cat(f, " ")
  }

  fibona <- f+s
  f <- s
  s <- fibona

  if(f > 500) break
}
```

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

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

```r
#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.
shoesize <- read.csv("shoesize_data.csv")
head(shoesize)
```

```
##   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
```

```r
#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 <- subset(shoesize, Gender == "F", select = Gender)
female
```

```
##     Gender
## 1       F
## 2       F
## 3       F
## 4       F
## 6       F
## 7       F
## 8       F
## 10      F
## 12      F
## 17      F
## 18      F
## 20      F
## 21      F
## 24      F
```

```r
male <- subset(shoesize, Gender == "M", select = Gender)
male
```

```
##     Gender
## 5        M
## 9        M
## 11       M
## 13       M
## 14       M
## 15       M
## 16       M
## 19       M
## 22       M
## 23       M
## 25       M
## 26       M
## 27       M
## 28       M
```

```r
#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.
genders <- table(shoesize$Gender)

barplot(genders,
        main = "Number of Females and Males",
        xlab = "Gender",
        ylab = "Count",
        col = c("Pink", "Blue"),
        names.arg = c("Female", "Male"),
        legend = rownames(genders))
```

Number of Females and Males

5