

RWorksheet_Cautivar#4b.Rmd

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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.

```
vectorA <- c(1, 2, 3, 4, 5)

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

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

for (i in 1:5) {
  for (j in 1:5) {
    cat(mat[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
```

```
cat("\n")
```

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

```
for (i in 1:5) {
  for (j in 1:5) {
    cat(matrixz[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

```
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.

```
inp <- as.integer(readline(prompt = "Input a number: "))
```

```
## Input a number:
```

```
inp <- 0 #example value of input because i cant knit it if it has a value of NA
```

```
a <- 0
```

```
b <- 1
```

```
term <- 1
```

```
repeat {
```

```
  if (a >= inp) {
    cat(a, " ")
  }
```

```
  fib <- a + b
  a <- b
  b <- fib
  term <- term + 1
```

```
  if (a > 500) {
    break
  }
```

```
}
```

```
## 0 1 1 2 3 5 8 13 21 34 55 89 144 233 377
```

```
cat("\n")
```

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

```
file <- read.table("RespondentsData.csv", header = TRUE, sep = ",")
file
```

```
## 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
## 7      9.5  70.0    F
## 8      9.0  71.0    F
## 9     13.0  72.0    M
## 10     7.5  64.0    F
## 11     10.5  74.5    M
## 12     8.5  67.0    F
## 13     12.0  71.0    M
## 14     10.5  71.0    M
## 15     13.0  77.0    M
## 16     11.5  72.0    M
## 17     8.5  59.0    F
## 18     5.0  62.0    F
## 19     10.0  72.0    M
## 20     6.5  66.0    F
## 21     7.5  64.0    F
## 22     8.5  67.0    M
## 23     10.5  73.0    M
## 24     8.5  69.0    F
## 25     10.5  72.0    M
## 26     11.0  70.0    M
## 27     9.0  69.0    M
## 28     13.0  70.0    M
```

```
head(file)
```

```
##   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.

```
females <- subset(file, Gender == "F")
males <- subset(file, Gender == "M")
females
```

```
##   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
## 6      7.0   64.0      F
## 7      9.5   70.0      F
## 8      9.0   71.0      F
## 10     7.5   64.0      F
## 12     8.5   67.0      F
## 17     8.5   59.0      F
## 18     5.0   62.0      F
```

```
## 20      6.5  66.0    F
## 21      7.5  64.0    F
## 24      8.5  69.0    F
```

```
males
```

```
##      Shoe_Size Height Gender
## 5         10.5   70.0      M
## 9         13.0   72.0      M
## 11        10.5   74.5      M
## 13        12.0   71.0      M
## 14        10.5   71.0      M
## 15        13.0   77.0      M
## 16        11.5   72.0      M
## 19        10.0   72.0      M
## 22         8.5   67.0      M
## 23        10.5   73.0      M
## 25        10.5   72.0      M
## 26        11.0   70.0      M
## 27         9.0   69.0      M
## 28        13.0   70.0      M
```

```
#Number of Observations
```

```
femalesObs <- nrow(females)
```

```
malesObs <- nrow(males)
```

```
femalesObs
```

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

```
malesObs
```

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