RWorksheet_LLANERA#4b

LlaneraExerRepo

2024-12-16

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

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


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


for (i in 1:5) {
  for (j in 1:5) {
    matrix[i, j] <- abs(i - j)
    cat(matrix[i, j], " ")
  }
  cat("\n")
}
```

```
## 0  1  2  3  4
## 1  0  1  2  3
## 2  1  0  1  2
## 3  2  1  0  1
## 4  3  2  1  0
```

```
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.

```
start_number <- readline(prompt = "Enter the starting number: ")
```

```
## Enter the starting number:
```

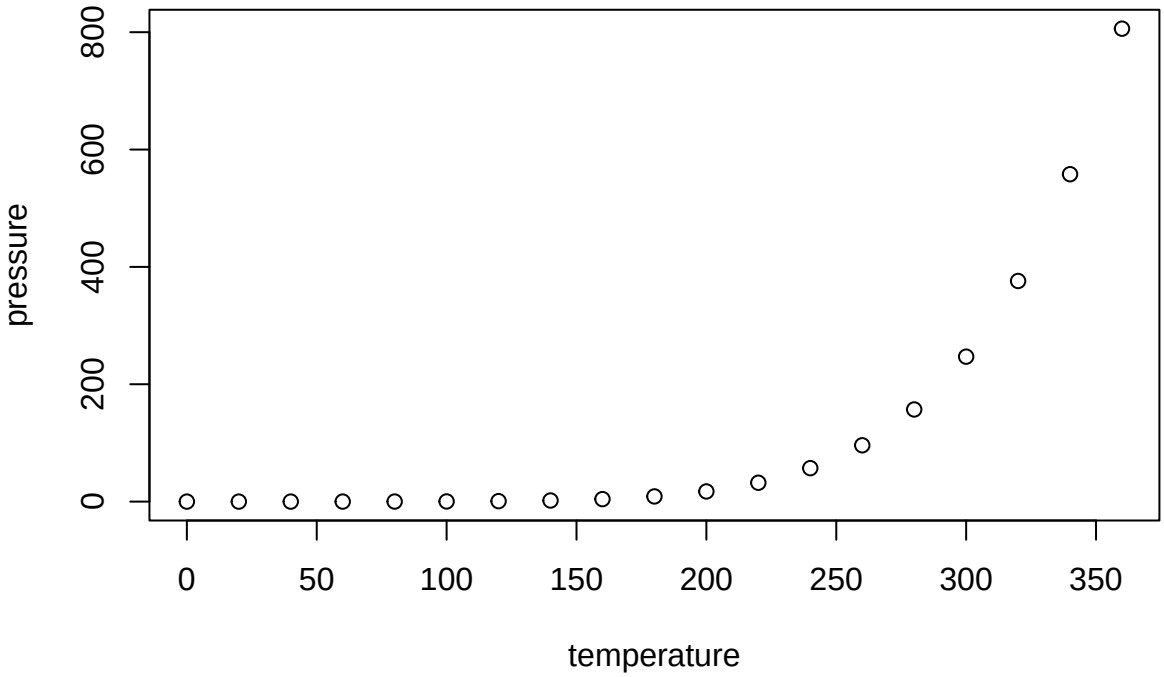
```
start_number <- as.numeric(start_number)
```

```r
fib_1 <- 0
fib_2 <- 1


print(fib_1)
```

```
## [1] 0
```

```r
repeat {

  fib_next <- fib_1 + fib_2


  print(fib_next)

  fib_1 <- fib_2
  fib_2 <- fib_next


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

```
## [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
## [1] 610
```



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.