Data Analysis using R programming

Experiment No. 02

AIM - Write a R/python program to extract and get the first 10 Fibbonacci numbers.

Theory -

In R programming, we need a Control structure to run the block of code multiple times. Loops comes in the class of most fundamental and strong programming concepts.

A loop is a control statement that allows multiple execution of statements or set of items. The word looping means cycling or iterating.

In order to execute the identical lines of code numerous lines of code running numerous times in a program, a programmer can simply use a loop.

There are 3 types of loops in R programming :

1. For loop
2. While loop
3. Repeat loop

for loop -

The type of control statement that enables one to easily construct a loop that has to run statements or set of statements multiple times. For loop is usually used to iterate over items in a sequence.

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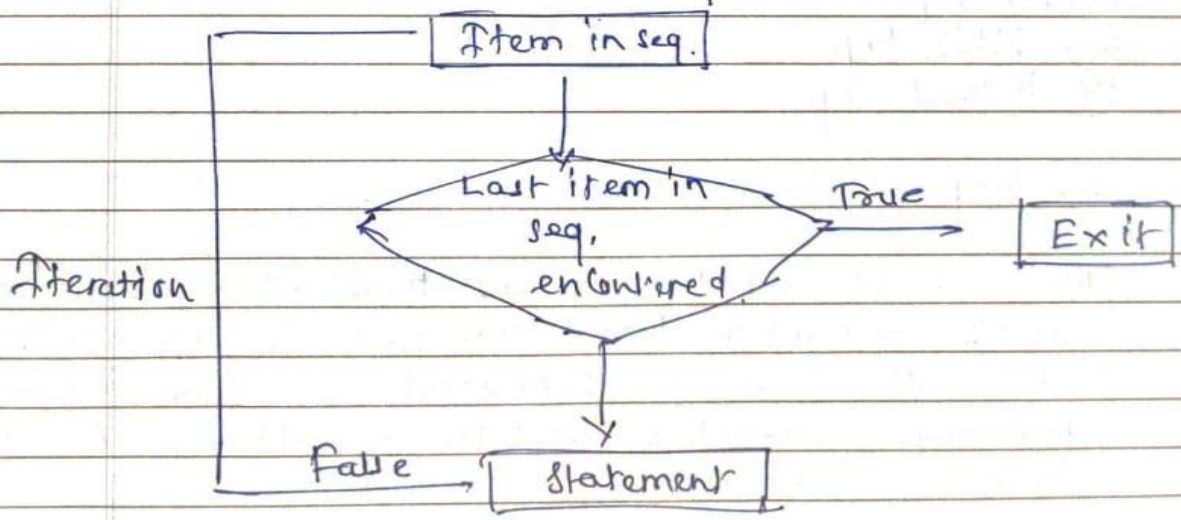
It is an entry Controlled loop, in this loop the test condition is tested first, then the body of the loop is executed, the loop body would not be executed if the condition is false.

R for loop syntax →.

```
for (value in sequence)
{
  statement
}
```

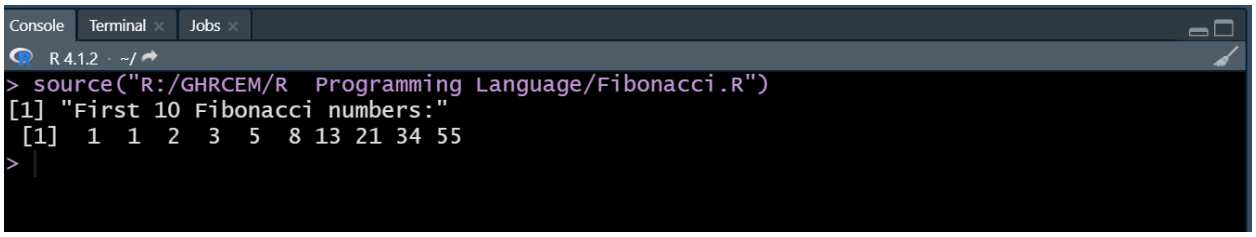
Flow diagram for for loop →.



Program Code:

```
Fibonacci <- numeric(10)
Fibonacci[1] <- Fibonacci[2] <- 1
for (i in 3:10) Fibonacci[i] <- Fibonacci[i - 2] + Fibonacci[i - 1]
print("First 10 Fibonacci numbers:")
print(Fibonacci)
```

Program Output:



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