# Assignment 13.2:

## Problem Statement:

A Fibonacci series (starting from 1) written in order without any spaces in between, thus producing a sequence of digits.

Write a Scala application to find the Nth digit in the sequence.

- **Write the function using standard for loop**
- **Write the function using recursion**

### Program:

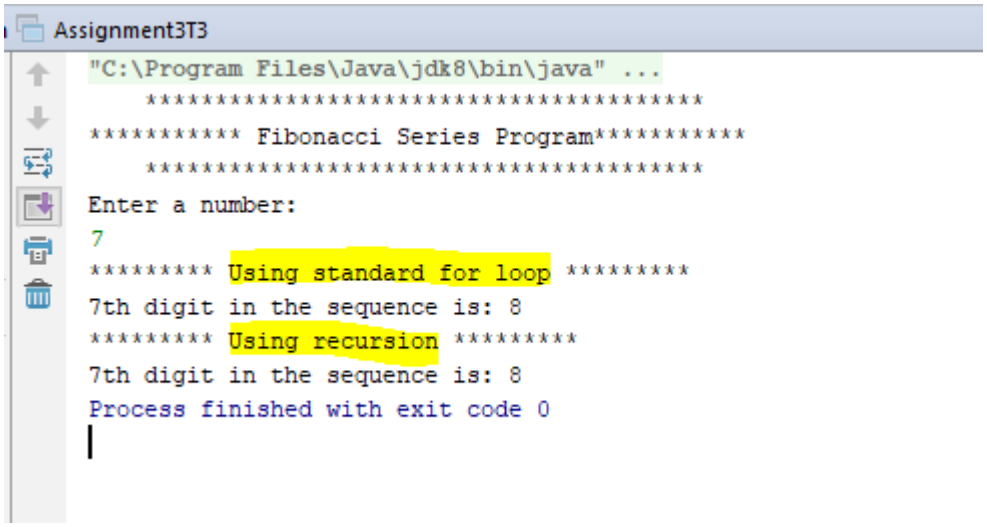
Assignment3T3.scala

```
object Assignment3T3 {
  def main(args: Array[String]): Unit = {
    println("\t****************************************")
    println("********** Fibonacci Series Program**********")
    println("\t****************************************")

    println("Enter a number:")
    var num: Int = scala.io.StdIn.readLine().toInt
    var num1 = 0
    var num2 = 1
    var a : Int = 0;
    var b : Int = 0;
    println("********* Using standard for loop *********")
    for (a <- 1 to num-1) {
      //print(num1)
      val sumOfPrevTwo = num1 + num2
      num1 = num2
      num2 = sumOfPrevTwo
    }
    print(num+"th digit in the sequence is: "+num1)
    println("\n********* Using recursion *********")
    //print(0+""+1)
    //for (b <- 1 to num-2) {
      print(num+"th digit in the sequence is: "+fib1(num-2))
    //}
  }

  def fib1(n: Int): Int =
    if (n < 2)
      1
    else
      fib1(n - 1) + fib1(n - 2)
}
```

### Output:


Assignment3T3
"C:\Program Files\Java\jdk8\bin\java" ...
**********
********** Fibonacci Series Program**********
**********
Enter a number:
7
********* Using standard for loop *********
7th digit in the sequence is: 8
********* Using recursion *********
7th digit in the sequence is: 8
Process finished with exit code 0