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

Solution:- The Scala program without recursion:-

object Fibonacci2 {

[**def**](http://scala-lang.org/) fib2( n : Int ) : Int = {

[**var**](http://scala-lang.org/) a = 0

[**var**](http://scala-lang.org/) b = 1

[**var**](http://scala-lang.org/) i = 0

[**while**](http://scala-lang.org/)( i < n ) {

[**val**](http://scala-lang.org/) c = a + b

a = b

b = c

i = i + 1

}

[**return**](http://scala-lang.org/) a

}

def main(args: Array[String]): Unit ={

println("Enter a number:")

var num: Int = scala.io.StdIn.readLine().toInt

fib2(num)

}

}

**Scala Program with recursion:**

Object fibRec{

def fib1( n : Int) : Int =

def fibHelper(x: Int, prev: BigInt = 0, next: BigInt = 1): BigInt = x match {

case 0 => prev

case 1 => next

case \_ => fibHelper(x - 1, next, (next + prev))

}

fibHelper(x)

}

def main(args: Array[String]): Unit ={

println("Enter a number:")

var num: Int = scala.io.StdIn.readLine().toInt

fib1 (num)

}

}