

Session 13

Assignment 2 Questions



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.

Output Write the function using standard loop

```
workspace1 - Scala - fibonacci1/src/fibonacci1.scala - Scala IDE
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                                                                                                                                                                         Quick Access
# Package Explorer □ ■ Scala_problem.scala ■ gcd_program.scala ■ fibonacci1.scala □
> @ fibonacci1
                                                 object fibonacci1 {
  def fib2(n: Int): Int = {
                                                    var first = 0
var second = 1
var count = 0
                                                   while(count < n){
  val sum = first + second
  first = second
  second = sum
  count = count + 1
}</pre>
 def main(args: Array[String]) {
    println(fib2(-))
}
}
                                                                                                                                                         <terminated > New_configuration [Scala Application] C\Program Files\Java\jre1.8.0_144\bin\javaw.exe (Oct 29, 2017, 10:13:59 PM) 8
```

```
object fibonacci1 {
  def fib2(n: Int): Int = {
```

```
var first = 0
var second = 1
```

```
var count = 0

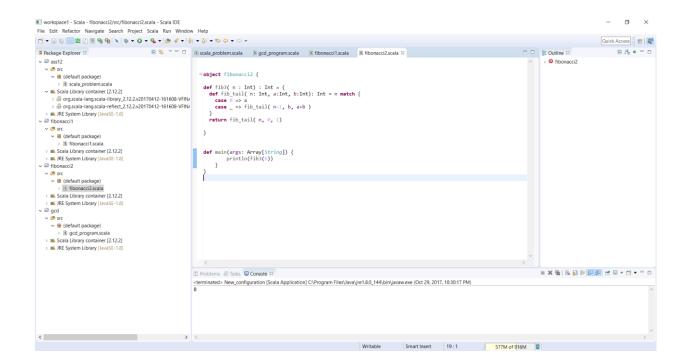
while(count < n){
  val sum = first + second
  first = second
  second = sum
  count = count + 1
}

return first
}

def main(args: Array[String]) {
  println(fib2(f))
}</pre>
```

Output :- 8

 \circ Write the function using recursion



object fibonacci2 {

```
def fib3( n : Int) : Int = {
    def fib_tail( n: Int, a:Int, b:Int): Int = n match {
```

```
case 0 => a
  case _ => fib_tail( n-1, b, a+b )
}
return fib_tail( n, 0, 1)
}

def main(args: Array[String]) {
    println(fib3(5))
  }
}
```

Output:-8