Scala Programming

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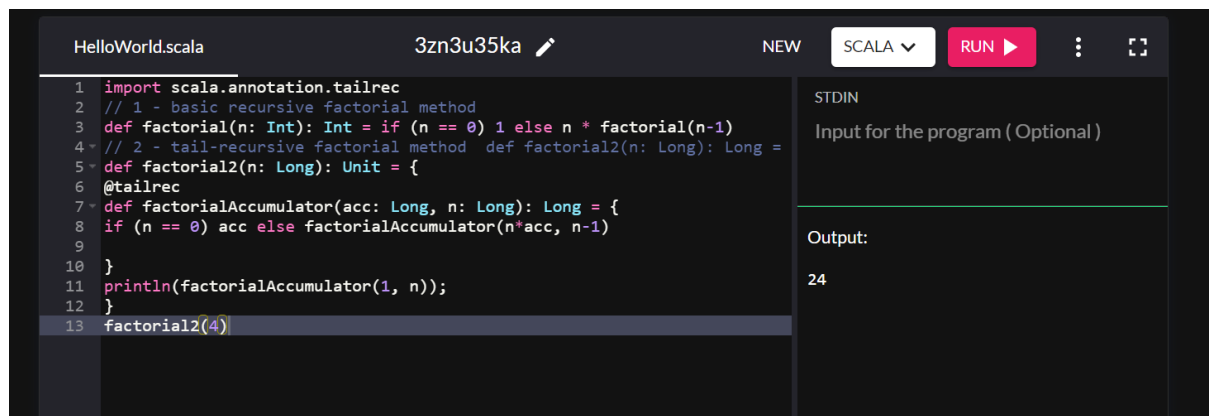
Question:

Factorial using recursion

Code:

```
import scala.annotation.tailrec
import scala.io.StdIn
// 1 - basic recursive factorial method
def factorial(n: Int): Int = if (n == 0) 1 else n * factorial(n-1)
// 2 - tail-recursive factorial method  def factorial2(n: Long): Long = {
def factorial2(n: Long): Unit = {
@tailrec
def factorialAccumulator(acc: Long, n: Long): Long = {
if (n == 0) acc else factorialAccumulator(n*acc, n-1)


}
println(factorialAccumulator(1, n));
}
val a = scala.io.StdIn.readInt()
factorial2(a)
```
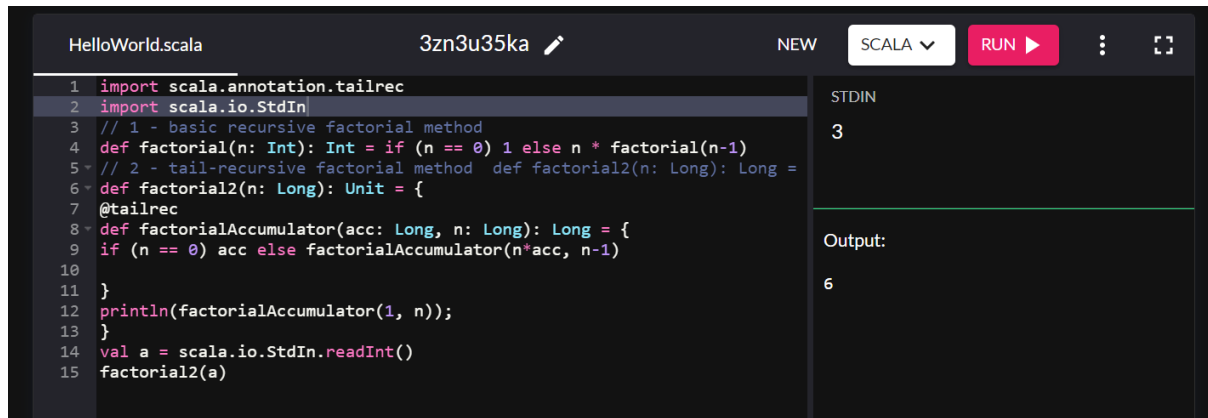
Output:

In this program, the value is passed in the code itself.

User input: In this program, a user input is accepted from the user. For this, the scala.io.StdIn library is imported. Using readint() function within the library, the user passes a value to the function.

```scala
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import scala.io.StdIn
// 1 - basic recursive factorial method
def factorial(n: Int): Int = if (n == 0) 1 else n * factorial(n-1)
// 2 - tail-recursive factorial method  def factorial2(n: Long): Long =
def factorial2(n: Long): Unit = {
@tailrec
def factorialAccumulator(acc: Long, n: Long): Long = {
if (n == 0) acc else factorialAccumulator(n*acc, n-1)

}
println(factorialAccumulator(1, n));
}
val a = scala.io.StdIn.readInt()
factorial2(a)
```

STDIN

3

Output:

6

Github link:
https://github.com/niranjana628/Scala-Programming