Scala Programing

Name:Hitha Choudhary G

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Branch:CSE in AI&DE

Write a program using tail recursive function to print a factorial of a number by taking user input

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)
}
print(s"The factorial of $n is: ")
println(factorialAccumulator(1,n))
}
val x = StdIn.readInt()
factorial2(x)
```

Output:

```
STDIN

5
```

```
Output:

The factorial of 5 is: 120
```

The user input given to the above code is 5

Output2:

```
STDIN

0

Output:

The factorial of 0 is: 1
```

The user input given to the above code is 0