

SCALA PROGRAMMING

LAB 12

NAME - KAPAROTU VENKATA SURYA THARANI

USN - 22BTRAD018

BRANCH - AIDE

Ques - The "MathUtils" object contains the factorial method. This method calculates the factorial of a given number using recursion. If the number is 0 or 1, it returns 1. Otherwise, it recursively calls itself with n - 1 and multiplies the result by n. The "Main" object contains the main method where you can test the factorial method. In this example, it calculates the factorial of the number 4 and 10 and prints the result.

CODE :

```
object MathUtils {
  def factorial(n: Int): BigInt = {
    if (n == 0 || n == 1) {
      1
    } else {
      n * factorial(n - 1)
    }
  }
}

object Main {
  def main(args: Array[String]): Unit = {
    val number1 = 4
    val result1 = MathUtils.factorial(number1)
    println(s"The factorial of $number1 is: $result1")
    val number2 = 10
    val result2 = MathUtils.factorial(number2)
    println(s"The factorial of $number2 is: $result2")
  }
}
```

OUTPUT :

The factorial of 4 is: 24
The factorial of 10 is: 3628800

>HelloWorld.scala3zmkqbq2wNEWSCALARUN

```
1 object MathUtils {
2   def factorial(n: Int): BigInt = {
3     if (n == 0 || n == 1) {
4       1
5     } else {
6       n * factorial(n - 1)
7     }
8   }
9 }
10 object Main {
11   def main(args: Array[String]): Unit = {
12     val number1 = 4
13     val result1 = MathUtils.factorial(number1)
14     println(s"The factorial of $number1 is: $result1")
15     val number2 = 10
16     val result2 = MathUtils.factorial(number2)
17     println(s"The factorial of $number2 is: $result2")
18   }
19 }
20
```

STDIN
Input for the program (Optional)

Output:
The factorial of 4 is: 24
The factorial of 10 is: 3628800

The "MathUtils" object contains the factorial method. This method calculates the factorial of a given number using recursion. If the number is 0 or 1, it returns 1. Otherwise, it recursively calls itself with $n - 1$ and multiplies the result by n . The "Main" object contains the main method where you can test the factorial method. In this example, it calculates the factorial of the number 4 and 10 and prints the result.