SCALA PROGRAMMING

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:

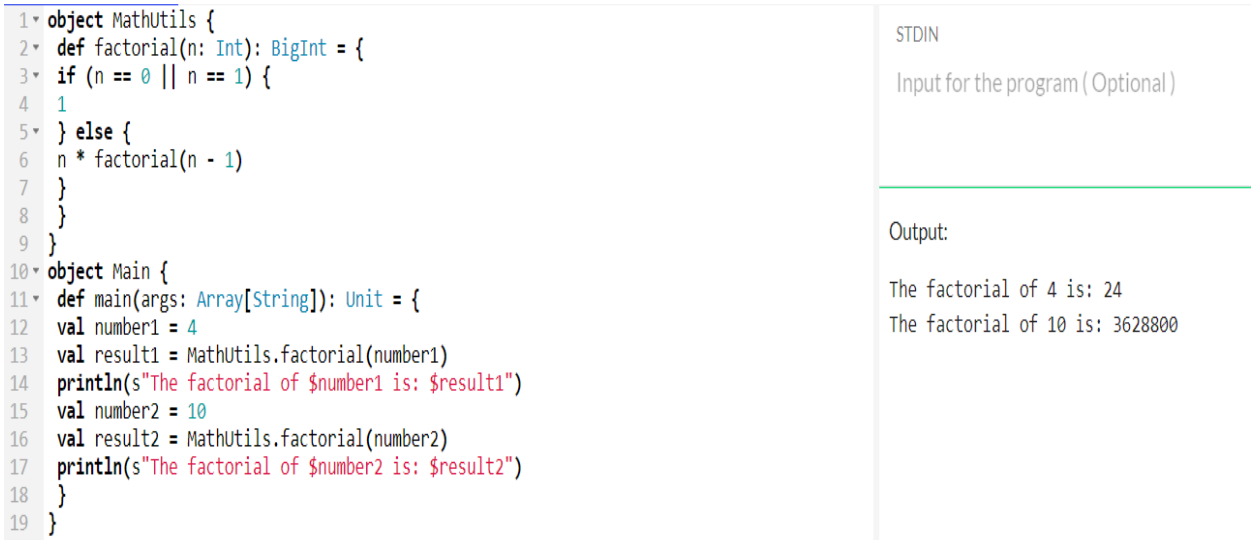
```
object MathUtils {
 def factorial(n: Int): BigInt = {
 if (n == 0 || n == 1) {
 1
 } else {
 n * factorial(n - 1)
 }
 }
}
object Main {
 def main(args: Array[String]): Unit = {
 val number1 = 4
 val result1 = MathUtils.factorial(number1)
 println(s"The factorial of $number1 is: $result1")
 val number2 = 10
 val result2 = MathUtils.factorial(number2)
 println(s"The factorial of $number2 is: $result2")
 }
}
```

Output:

Output:

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

Screenshot:



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

STDIN

Input for the program (Optional)

Output:

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

Code-2:

```
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)
```

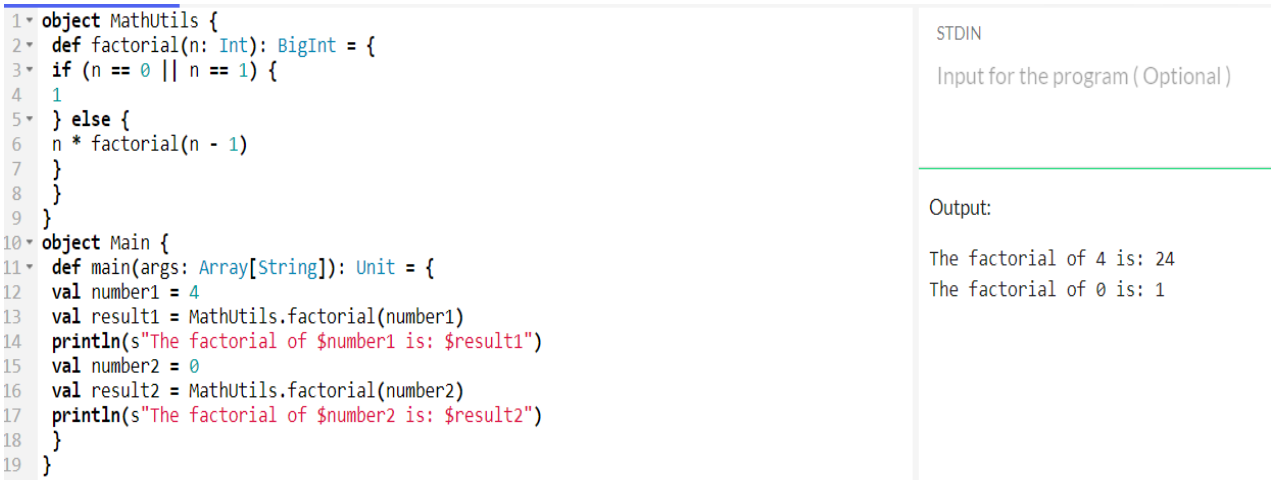
```
println(s"The factorial of $number1 is: $result1")
val number2 = 0
val result2 = MathUtils.factorial(number2)
println(s"The factorial of $number2 is: $result2")
}
}
```

Output-2:

Output:

```
The factorial of 4 is: 24
The factorial of 0 is: 1
```

Screenshot-2:



```
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 = 0
 val result2 = MathUtils.factorial(number2)
 println(s"The factorial of $number2 is: $result2")
 }
}
```

STDIN

Input for the program (Optional)

Output:

```
The factorial of 4 is: 24
The factorial of 0 is: 1
```