

# Scala programming

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## Recursive Function.

The screenshot displays the OneCompiler web interface in a Chrome browser. The browser's address bar shows the URL `onecompiler.com/scala/3zn3wrs83`. The page features a navigation bar with links for 'Q&A', 'POSTS', 'CHALLENGES', and 'MORE', along with a 'LOGIN' button. The main workspace is divided into two panels. The left panel, titled 'HelloWorld.scala', contains the following Scala code:

```
1 import scala.annotation.tailrec
2 import scala.io.StdIn
3 // 1 - basic recursive factorial method
4 def factorial(n: Int): Int = if (n == 0) 1 else n * factorial(n-1)
5 // 2 - tail-recursive factorial method
6 def factorial2(n: Long): Unit = {
7   @tailrec
8   def factorialAccumulator(acc: Long, n: Long): Long = {
9     if (n == 0) acc else factorialAccumulator(n*acc, n-1)
10  }
11  println(factorialAccumulator(1, n));
12 }
13 factorial2(3);
14
15
16
17
```

The right panel, titled '3zn3wrs83', shows the execution results. It includes a 'STDIN' section for input and an 'Output' section displaying the value '6'. Below the code editor, the text 'Scala Online Compiler' is visible, followed by a footer that reads: 'Write, Run & Share Scala code online using OneCompiler's Scala online compiler for free. It's one of'. The browser's taskbar at the bottom shows various application icons, including Chrome, WhatsApp, and Adobe Stock.

Making some changes,

\* using some libraries and getting output.

The screenshot shows a web browser window with the OneCompiler website. The URL is `onecompiler.com/scala/3zn3wpejf`. The page displays a Scala code editor with the following code:

```
1 import scala.annotation.tailrec
2 import scala.io.StdIn
3 // 1 - basic recursive factorial method
4 def factorial(n: Int): Int = if (n == 0) 1 else n * factorial(n - 1)
5
6 // 2 - tail-recursive factorial method
7 def factorial2(n: Long): Unit = {
8   @tailrec
9   def factorialAccumulator(acc: Long, n: Long): Long = {
10     if (n == 0) acc else factorialAccumulator(n * acc, n - 1)
11   }
12
13   println(factorialAccumulator(1, n))
14 }
15 println("Enter an integer: ")
16 val n = StdIn.readInt()
17 factorial2(n)
```

The code is titled "HelloWorld.scala" and is associated with the user "3zn3wpejf". The code is written in Scala. The output of the code is shown on the right side of the editor, indicating that the program is running and producing output. The output shows "STDIN" with the value "2" and "Output:" with the value "2".

Below the code editor, the text "Scala Online Compiler" is displayed. Below this, a banner reads: "Write, Run & Share Scala code online using OneCompiler's Scala online compiler for free. It's one of". To the right of the banner, there is a link to "Adobe Stock" and a button that says "Get 10 Free Images From".

The browser's address bar shows the URL `onecompiler.com/scala/3zn3wpejf`. The browser's tabs show "Dashboard", "3zn3wrs83 - Scala - OneCompi", "White and Light Simple Present", "3zn3wpejf - Scala - OneCompi", and "New Tab". The browser's bookmarks bar shows "Gmail", "YouTube", "Maps", "WhatsApp", "New Tab", "Meet - rhp-vama-...", and "Call Stack". The browser's status bar shows "Wed 20 Sep 10:39 AM".

