Programming Paradigms
Week 1

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1 Environment

In this module we are going to use Scala. For that, we need three things:

1. Java 8

2. Scala 2.11.x

3. JetBrains IntelliJ with Scala plugin

1.1 Java 8

Download and install Java 8 - go to `http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html` and select your platform. The installation should be straightforward.

1.2 Scala 2.11.x

To install Scala, follow instructions for your platform:

- Linux - for Ubuntu check instructions on `https://gist.github.com/jacekwasilewski/8f1587152a77c3f7090f`,

- Windows - download and install Scala from `http://scala-lang.org/download/`,

- OS X - download and unpack Scala from `http://scala-lang.org/download/`.

1.3 Scala console

When you install/unpack Scala, it comes with a command line console. If you open your command line environment/command prompt and then type `scala` (for OS X you might need to run it from the directory where the Scala is unpacked) a Scala prompt should appear.

1.4 IntelliJ

Download and install IntelliJ - `https://www.jetbrains.com/idea/download/`. You can install Community Free Edition or, if you create a student account on `https://www.jetbrains.com/student/`, the Ultimate Edition.

1.5 Scala plugin for IntelliJ

To use Scala from within IntelliJ, we have to add Scala plugin:

1. Open IntelliJ.

2. Click "Configure" and then "Plugins".

3. Click "Install JetBrains Plugins".

4. Search for "Scala".

5. Click "Install plugin".

6. Confirm.

7. Restart IntelliJ.

2 Working with Scala in IntelliJ

We can write Scala code that runs interactively - with the use of Scala Worksheets - but first we need to create a Scala project.

2.1 Create a new Scala project

1. Open IntelliJ.

2. Click "Create New Project".

3. Select "Scala" from the panel on the left.

4. Select "Scala" from the list in the main panel.

5. Click "Next".

6. Enter a project name and location.

7. If nothing is selected in "Project SDK" or "1.6" is selected, click "New" and then "JDK". Provide path to your Java 8 SDK.

8. If nothing is selected in "Scala SDK", click "Create" and provide path to your Scala 2.11 SDK.

9. Click "Finish".

2.2   Create a new Scala Worksheet

1. In your `src` directory of your project, create new Scala Worksheet, name it `lab-1`.

2. Open it.

3. Write some simple expression, like `7 + 13`. After a while you should see the result in the right panel.