Objectives

- (Practice) To set up your IDE (either Eclipse or IntelliJ) for using Scala
- (Practice) To (re-)acquaint yourself with basic Scala code concepts

Background

It is assumed that you have experience of using object-oriented programming techniques in e.g. Scala, Java, C#, or similar. It is also assumed that you have prior experience using an IDE such as Eclipse or IntelliJ.

Resources

You should refer to the following resources accessible via Blackboard:

- **Getting started** folder on Blackboard

Introduction

This first topic is designed to get you set up with a Scala IDE and to become familiar (or to re-familiarise yourself) with the Scala language and syntax.

The topic is self-study and you are encouraged to spend sufficient time working through the online tutorials until you feel proficient.

Activities

1.1 Watch the welcome video

The short (Topic 1) welcome video will introduce you to the module and discuss how it is going to run. We will include a discussion on the teaching sessions, the extra materials, the software, and the assessment.

1.2 Set up your environment

Go to the **Learning Resources->Getting Started** folder on Blackboard and use the resources there to get your IDE set up, and (re-)familiarise yourself with basic Scala syntax. There are documents and videos there that have been provided by Luke Attwood (as part of another module).

In the videos it is suggested that you have a new Scala project for each week's activities. For this module we suggest that you do not do this. We would prefer you to have a *single project* for all the work in this module. This is because we will be releasing code and examples that refer to each other as the module develops and it will be more helpful to have all of this code collected within the same project. We recommend that you call the project **FSD** (this stands for the name of this module). Within that you will have the **src** folder and various packages inside **src** including, e.g., **app**, **lib**, **demo**, etc.

1.3 Familiarise yourself with the online resources

We are going to assume that you have a basic familiarity with Scala – its syntax and fundamental concepts (types, variables, control structures, etc.) Your task this week is to remind yourself of this basic functionality.

If you studied Scala in your first year then this is an opportunity to re-acquaint yourself with the basic syntax and constructs of the language. (You may also wish to revisit your first year Scala notes to remind yourself of some of the earlier programs you wrote.)

If you have not studied Scala before then you need to follow the online tutorial material fairly carefully. Many of the concepts will be familiar to you from other languages you have used – it is mainly the syntax that you will need to study. Make sure you concentrate on the basic data types and control structures, and the object/class packaging mechanisms which should be very familiar if you have a background in Java or C#.

Throughout this module we will be using some (but not all) of the concepts in Scala. In particular, we will focus our attention on those ideas that we can use to build functional programs. Specifically, we will focus on function definition, pattern matching, higher order functions, immutable list processing, and recursive algorithms and data structures.

Read through the online tutorials that have been referenced and also familiarise yourself with the scala-lang.org documentation. You may need to refer to these throughout this module and it will be helpful for you to be aware of the structure and outline contents of these sites. You should **attempt some of the exercises** or type in some of the examples to gain experience of the syntax.

1.4 Make your own notes…

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