PAL
Consolidation 13

University of Hertfordshire
– Week 14 – February 2016 –

Aim & Objectives

- Discuss previous session
- Look forward to next session

Introduction

This session we will be looking to round off on our previous progress and look forward to Java so that we can gain an insight into the language the course will cover soon.

Hello Java!

How it Works

Java is a simple, cross-platform language built to resemble the C family. Fortunately for beginners, it also doesn't produce nearly as many errors during development, due to the low level machine architecture mostly being hidden from the programmer. Normal architectures process binary from programs compiled for the machine itself, whereas Java uses it's own type on **"byte code"** translated to instructions by a JVM, a translator native to the machine itself.

What is a JAR?

A 'JAR' file (a file ending with the extension '.jar') stands for **"Java ARchive"**. This is basically a glorified 'ZIP' file, literally changing the name at the end from '.jar' to '.zip' allows you to open it in the normal way that 'ZIP' files are handled on your operating system.

If you do so, you will notice a few things:

- 'MANIFEST.MF', where a form of instructions exist for running the Java file.
- '*.class' files, the Java binary that allows your program to be run.

A Simple Java File

There are a few rules you must remember whilst writing a simple Java file:

- The name of the file should be the name of the class, i.e. 'Main.java' will have a class named 'public class Main{}'.
- Files must end in '.java' if they are source files.

A simple example could be the following:

```java
public class Main{
    public static void main(String[] args){
        System.out.println("Hello World!");
    }
}
```

Command Line

Compile

Compiling via the terminal is easy, first we write:

```
javac Main.java
```

Run

To run the code, simply type the following:

```
java Main
```

IDEs

Research the following IDEs:

- Geany
- NetBeans
- Eclipse
- IntelliJ

What's different about them? What IDEs appeal to you the most? What's not on this list?

Resources & Further Reading

'*http://homepages.herts.ac.uk/~db12aba/*' – All content from these sessions updated weekly.

'*http://code.org/*' – A good resource testing your programming skills.

'*http://stackoverflow.com/*' – Highly recommended online help for programmers (NOTE: Employers are interested to know whether you're an active member of this site!).

'*http://draw.io*' – A very good, free online drawing tool that exports to many formats, including 'XML' and 'JPG'.