### Week 11 - 12 Independent Study Tasks (IST)

### Introduction to PoP

The main focus of these tasks is to get used to using Eclipse and become comfortable and familiar with it - using it to write both Java and JavaScript.

**Java tasks**

Watch the videos in the Week 11 of PoP – there are two Using Eclipse and Writing HelloWorld. Once you have watched these and have entered the HelloWorld code and run it successfully. Do the following tasks:

1. **Create a new class called HelloWorld2 and make it display the following:**

Hello World!

I’ve made it to university

And this is my first programming task.

Now explore the difference between a println and a print statement? Try with your added lines and examine what happens to the output.

1. **Editing, compiling and running the Me program**

Create a new class called Me.java. Write a program that provides some details about you. The following is an example:

Name: Bob Smith

Add: Bournemouth University

Town: Bournemouth

Quals: A Level Maths and A Level Computing

Job: Paper round

Now f**ormat the output from the Me program so it looks like this -** you can add any data you wish to:

Name: Bob Smith

Add: Bournemouth University

Town: Bournemouth

Quals: A Level Maths and A Level Computing

Job: Paper round

Note there are a couple of ways to do this... can you discover them?

1. **Seeing Stars**

Now write a class that prints a triangle of stars, it should look like this:

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(*NOTE: No loops necessary here – if you don’t know what a loop is – ignore this note*.)

1. **Display the following text …**

Write a program to display (*i.e. just print out the text exactly as displayed below*) the following:

H:\notes

H:\timetable

C:\programming\week11\HelloWorld.java

X:\\Valid\\?

"Programming is an art form that fights back" Anon

What happens to the text you are trying to display? Can you find out how to fix it?

**JavaScript Tasks**

Writing Hello World in JavaScript. Use the following steps ….

1. Open Notepad++
2. Copy the html below into a file and save it as **wk12.html**

<!DOCTYPE html>

<html>  
<head>  
<title>POP Week 12 Task</title>  
<meta charset="UTF-8">  
<meta name="viewport" content="width=device-width, initial-scale=1.0">  
<link rel="stylesheet" href="<http://www.w3schools.com/lib/w3.css>">  
<script src="wk12.js"></script>  
</head>

<body>  
<h1>POP Week 12 JavaScript Tasks</h1>  
  
<h2>Instructions</h2>  
<ol>  
    <li>Open the browser developer tools and make sure you have the Console selected (Tab menu at right of tab on Chrome and Firefox)</li>  
    <li>Open the wk12.js file supplied with this page.</li>  
    <li>Write your JavaScript code into the wk12.js file only (do not alter this html page).</li>  
    <li>Save the wk12.js file.</li>  
    <li>Reload this page in the browser</li>  
</ol>  
  
</body>  
  
</html>

1. Create another new file and enter the JavaScript version of hello world which is:

console.log("Hello world");

Save the file **as wk12.js** – note this matches the name of the file in the <script> tag in the html file. If you change this file name it will run another JavaScript file.

1. Now **run** the html file and **launch in Firefox** (*the easiest browser to use for these tasks*). You should see the web page generated by the html – if you **press F12** you will also see the console window (*you might have to select it the first time*) in the bottom half of the window - which displays …. Hello World as output by your JavaScript file.

Note you can now update your JavaScript file – add more code to it and to run it by just **reloading/refreshing the current web page** (*no need to keep running and opening multiple browser windows*). This also works if you want to create a new JavaScript file for the next task – with a slightly different file name – just update the html file, **make sure you save it** and then reload/refresh the current web page and it will run the new .js file.

**Repeat task 1 to 4 above for JavaScript**.

You can create a .js script for each task and just alter the script tag in the html document to run it.

Which Java statement does the JavaScript log statement correspond to print or println?

**Other tasks**

**Install Java on your computer so that you can work at home, you will need the JDK (Java Development Kit) the latest version is 8.**

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

**We are going to use the Eclipse IDE to develop code, this is freely available from** <http://www.eclipse.org/>**. The latest version is Photon. There is a web developer version that you can download to get the required packages for developing web pages. However, Eclipse downloads these packages when you start a web project if you already have the Java only version.**

**If you wish to use (pure) JavaScript Projects (without running the code via an html page in a browser) you will also need** [node.js](https://nodejs.org/en/) **installed on your computer. If you have trouble getting eclipse to find node.js then try just downloading the sip file and extracting it to somewhere rather than using the installer. This item on** [Stackoverflow](https://stackoverflow.com/questions/37743948/how-can-i-run-script-js-in-eclipse-console) **might be useful too.**

**Another popular IDE is NetBeans this is also available from the Java download site and is also installed in the labs if you prefer to use that. We also have** [Webstorm](https://www.jetbrains.com/webstorm/) **installed which is popular a web development IDE.**

**You should also read the very first Java trail – this will help you with your installation and running of code as well. Try the questions at the end as well, you can however skip *the Hello World Application* section as you have already done that, but the closer look at it you may find useful.**

<http://download.oracle.com/javase/tutorial/getStarted/TOC.html>

W3Schools has some great tutorials on all things Web. Check out the [JavaScript output](https://www.w3schools.com/js/js_output.asp) item (ignore all options except console.log if you are not familiar with HTML).