



Computer Science 2A

Practical Assignment 00

2016-02-09

Time: Deadline — 2016-02-09 16h30

Marks: 30

This practical assignment must be uploaded to eve.uj.ac.za **before** 2016-02-09 16h30. Late or incorrect submissions **will not be accepted**, and will therefore not be marked. You are **not allowed to collaborate** with any other student.

Good coding practices include a [proper coding convention](#) and a good use of [JavaDoc comments](#). Marks will be deducted if these are not present.

The Java Development Kit (JDK) has been installed on the laboratory computers along with the [Eclipse](#) Integrated Development Environment (IDE).

Every submission **must** include a batch file. See the reminder page for more details.

This practical aims to familiarise you basic setup and usage of the JDK.

In order to use the Java tools from the command line you will need to alter the following system environmental variable:

- **PATH** enables the operating system to find the executables.

All practical submissions must follow submission guidelines. Refer to the reminder page to create the necessary folder structure. Create a *Hello World* Java class with a **main** method and place the class into the src folder. Complete the following tasks (which must be placed in a batch file):

1. Create variables for the required folders (relative to the docs folder).
2. Add the JDK bin folder to the PATH.
3. Use *javac* to compile the code found in the src folder and output to the bin folder.
Hint: use the variables you created.
4. Use *java* to run the code the bin folder.
5. Use *javap* to decompile the class file in the src folder and save the output to a file called *ByteCode.txt*.

Bonus

Create a separate project and place your *Hello World* program into the `acsse.csc2a` package. Upload both projects in a single zip file.

Marksheet

1. Submission
 - (a) Correct naming [01]
 - (b) Correct folders [01]
 - (c) Correct files in folders [01]
2. Batch file
 - (a) Variables [03]
 - (b) JDK in PATH [03]
 - (c) Compilation command [02]
 - (d) Execution command [02]
 - (e) Bytecode command [02]
3. Correct execution [15]
4. Packages [05 (bonus)]

Reminder

Your submission must follow the naming convention as set out in the general learning guide.

SURNAME_INITIALS_STUDENTNUMBER_SUBJECTCODE_YEAR_PRACTICALNUMBER

Example

Surname	Berners-Lee
Initials	TJ
Student number	209912345
Module Code	CSC2A10
Current Year	2015
Practical number	P00

Berners-Lee_TJ_209912345_CSC2A10_2015_P00

Your submission must include the following folders:

- `bin` - (*Required*) Should be empty at submission but will contain runnable binaries when your submission is compiled.
- `docs` - (*Required*) Contains the batch file to compile your solution, UML diagrams, generated JavaDoc and any additional documentation files.
- `src` - (*Required*) Contains all relevant source code. Source code must be placed in relevant sub-packages!
- `data` - (*Optional*) Contains all data files needed to run your solution.
- `lib` - (*Optional*) Contains all libraries needed to compile your solution.

NB

Every submission **must** include a batch file. This batch file must contain commands which will compile your Java application source code, compile the associated application JavaDoc and run the application. **Do not** include generated JavaDoc in your submission. All of the classes/methods which were created/updated need to have JavaDoc comments.