Computer Science 2B

Practical Assignment 01

2017-08-01

Deadline: 2017-08-08 12h00   Marks: 100

This practical assignment must be uploaded to eve.uj.ac.za **before** 2017-08-08 12h00. Late or incorrect submissions **will not be accepted**, and will therefore not be marked. You are **not allowed to collaborate** with any other student.

The JDK has been installed on the laboratory computers along with the Eclipse IDE.

This practical will focus on creating a socket connection to a web server. Handling of client connections must be multi-threaded!

Create a Java application which acts as a web server. Create a server socket which listens on port 1337. Accept any client connections and establish the needed streams for input/output. Process any client requests according to HTTP. Test the web server with a web browser (Opera, Firefox, Chrome) on localhost. Use the appropriate response codes for requests:

200 When a request can be served without issue (must be able to handle binary files).

404 When a requested page/content cannot be found.

500 When an error occurs.

Bonus

1. An optional command line argument specifies a directory which the server will use to find content to serve.

Marksheet

1. Create ServerSocket on port 1337.   [5]

2. Accept client connection using threads.   [10]

3. Sending HTTP response.   [5]

4. Handle each response type (200, 404, 500)   [15]

5. Correctly sending image files.   [15]

6. Coding convention (structure, layout, OO design) and commenting (normal commenting).   [10]

7. Correct execution   [40]

8. Serve content in a folder   [20 (bonus)]