Computer Science 2B
Practical Assignment 00
2016-08-02

Deadline: 2016-08-09 12h00   Marks: 50

This practical assignment must be uploaded to eve.uj.ac.za **before** 2016-08-09 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 Java Development Kit (JDK) has been installed on the laboratory computers along with the Eclipse Integrated Development Environment (IDE).

This practical will focus on creating a basic socket connections.

Create a Java application which will display the current computers IP address (not the loopback address) and tests local connections. Create a socket connection to the **localhost** of the machine test the connection for port numbers 1 to 65535.

Display an appropriate message based on whether the connection is successful.

Successful connection Display remote port and local port numbers

Failed connection Display port number and error message.

Bonus

Test the ports using multiple threads. Poor usage of threads (i.e. running 65536 threads) will result in no bonus marks being awarded.

Marksheet

1. Create Socket Connection.   [5]

2. Display IP Address (**Hint** - It is not 127.0.0.1 or localhost) [10]

3. Display error message if connection failed.   [5]

4. Display status message if connection succeeded.   [5]

5. Error handling.   [5]

6. Coding convention and commenting.   [5]

7. Correct execution.   [15]

8. Multiple Threads.   [10 (bonus)]