CSNB314 Lab Work

Lab 7: Writing a Simple HTTP Server Program (20 marks)

In this lab, you are going to write a simple HTTP server program. As usual, work in pairs. You can either start from the TCP server program given in Lab 4, or start from scratch.

Your program should perform the following:

1) Listen for incoming connection from a Web browser on port number 8080.
2) Once a connection is accepted, wait for an HTTP request message. If the message is received, print it out.
3) Send a HTTP response message back to the browser.
   - The response must contain a valid HTTP header. The status code must be '200 OK'.
   - You can hard-code the data to be transmitted to the browser. The data can be anything (i.e. your name).

To test your program, go to your Web browser and type:
http://localhost:8080/

Your program is considered successful if your browser can view the data sent by your program. You can "submit" your lab by showing me a demo of your program and answering some questions.

<u>Bonus Marks</u>

If you think that the program above is too easy, you can get extra marks by adding the following functions.

1) Make it so that the program does not terminate. After it has finished transferring a file, close the TCP connection and get ready to accept a new TCP connection. Use a loop. You can use the function closesocket() to close a TCP connection.

   [10 marks]

2) When the HTTP request message is received, check whether the method is the GET method. You only send the '200 OK' response if the method of the request message is GET. Otherwise, send the '501 Not Implemented' response.

   [10 marks]

3) Instead of hard-coding the data to be sent to the browser, read the data from a file called *mydata.html* (make sure this file contains HTML-formatted contents). Please create your own *mydata.html* file. Your program should open this file, read and send the file contents to the browser.

   [20 marks]

4) You can only do this if you had done the bonus question No. 3 above. Read the request line of the HTTP request message. If the request line is asking for the file *mydata.html*, send the file (the one you created for bonus question No. 3). Otherwise, send the '404 Not Found' response message.

[10 marks]