This assignment is about:

Building a Multi-Threaded Web Server

In this lab we developed a Web server in two steps. In the end, we have built a multi-threaded Web server that is capable of processing multiple simultaneous service requests in parallel. We demonstrated that our Web server is capable of delivering your home page to a Web browser.

We implemented version 1.0 of HTTP, as defined in RFC 1945, where separate HTTP requests are sent for each component of the Web page. The server handled multiple simultaneous service requests in parallel. This means that the Web server is multi-threaded. In the main thread, the server listens to a fixed port. When it receives a TCP connection request, it sets up a TCP connection through another port and services the request in a separate thread. To simplify this programming task, we will develop the code in two stages. In the first stage, we wrote a multi-threaded server that simply displays the contents of the HTTP request message that it receives. After this program is ran properly, we added the code required to generate an appropriate response.

As we developed the code, we test our server from a Web browser. But we are not serving through the standard port 80, so we need to specify the port number within the URL that you give to our browser.

When the server encounters an error, it sends a response message with the appropriate HTML source so that the error information is displayed in the browser window.