COEN 146 - Spring 2018
Lab Project 2
FTv1 – File Transfer, version 1

This is FTv1, File Transfer - version 1. It consists of a client and a server that communicate to transfer one file from the client to the server using TCP.

The protocol you will implement is:
1. The server waits for a connection request (listen and accept).
2. The client requests a connection (connect) and then sends the name of file <output> (string + '\0').
3. The server receives the name of the file, opens the file, and waits for data.
4. The client reads file <input> and sends the data in chunks of 10 bytes to the server.
5. The server receives the data in chunks of 10 bytes and writes the data to file <output>.
6. After sending the file, the client closes the connection and exits.
7. The server closes the connection when no more data is available.

The client accepts four arguments: input file name, output file name, and IP address and port number of the server. The server starts first and receives one argument, its port number.

After executing, <input> and <output> should look the same. Your FTPv1 should be built on TCP. You must use C programming on Linux. You will need to use the socket library. There is an example in the lecture page on Camino that will help you get started. The man pages in the Unix/Linux systems have a lot of useful. Start with <man socket>. There is a man page for each function in the socket library.

To handle the files, you must use functions fread and fwrite, since your FTPv1 should be able to transfer binary files as well as text files.

Submission
In week 2, you need to upload the code that you are working on. It does not have to be complete. (30%)
In week 3, you need to demo to the TA and submit the lab by Friday at midnight. (20% + 50%)

Info for network labs:
1. You should open two terminal windows and execute a server in one and a client on the other one. Both terminals can be executing on the same machine. Just use the right IP address in the client side. The system will figure it out. To obtain the IP address of a machine type <ip addr show>.
2. For full credit, you will be expected to demo with another student, both the client and server.