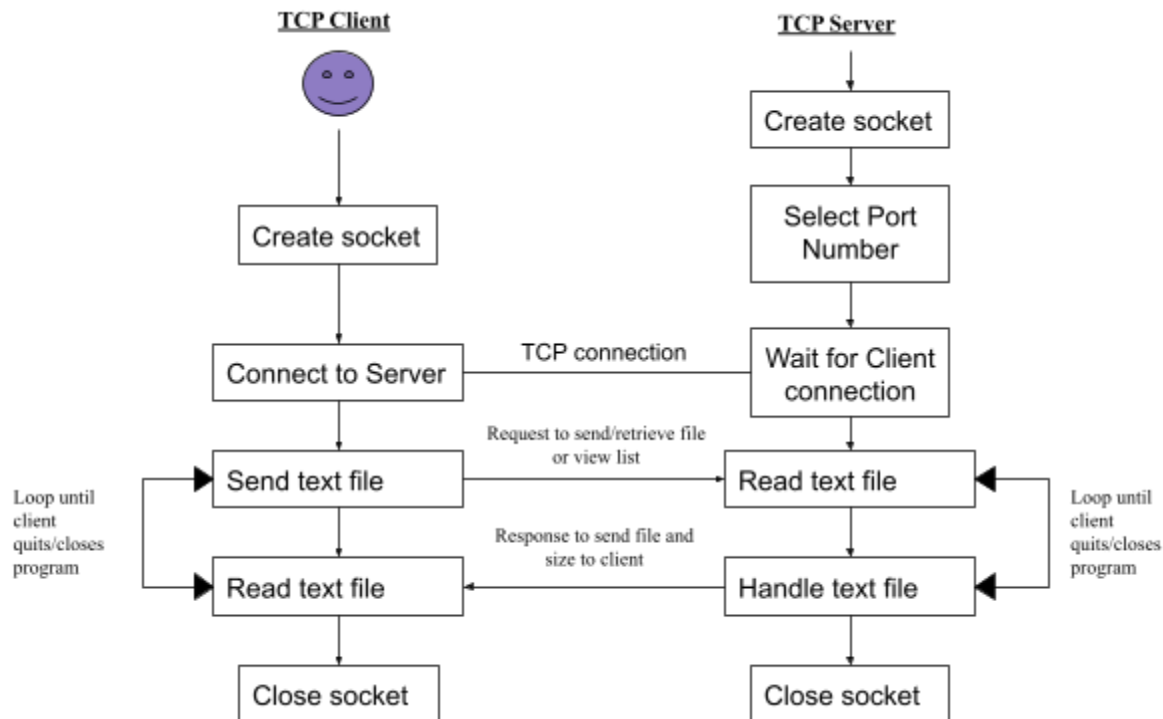CPSC-471 Programming Assignment
Protocol Design

Our group designed a protocol design similar to FTP (File Transfer Protocol), which transfers
files from one host to another via TCP connections.

• What kinds of messages will be exchanged across the control channel?
        Once a connection is established, the client program can send commands to the control channel
for the Server program to receive. All the commands the client can send are put, get, ls, and quit.

• How should the other side respond to the messages?
        For every command the server receives from the client, the server will print a success command if
the command was successful or print a fail command if vice versa.
• What sizes/formats will the messages have?
        The data sent/received will be split into multiple packets.
• What message exchanges have to take place in order to set up a file transfer
channel?
        The client must provide the correct server name and port number in order to establish a TCP
connection with the FTP server.
• How will the receiving side know when to start/stop receiving the file?
        The client is in command of starting/stopping the server side from receiving files.
• How to avoid overflowing TCP buffers?
        The buffer sizes define how much data can be sent/received without being interrupted. If too
much data is sent, it will interrupt the data transfer, to prevent this, we used flow control. Flow control
will stop the data transfer if the buffer is being overrun until empty.