**Program Design**

As the assignment required the implementation of two HTTP methods, I have used an if-else design. For both the server and client this was done. The implementation of both methods is done within the main function and not in separate function calls.

**“How it Works”**

*Client:*

* Checks to see if there is the correct amount of command line variable used
* Creates a socket
* Captures the host server’s information and stores into an address structure
* Connects to server
* If-else chooses either GET or PUT route
  + GET method
    - Creates a request message
  + PUT method
    - Opens requested file for input
    - Reads and stores into a buffer array
    - Creates a request message
    - Appends file data to end of message
* Sends request message to server
* Receives response from server and displays
* Cleans up and exits

*Server:*

* Checks to see if there is the correct amount of command line variable used
* Creates a socket
* Setup host address structure
* Binds the socket at the port number of the IP address
* Listens for incoming connections
* Infinite loop
  + Accepts a connection
  + Reads message from client and stores into a buffer array
  + Parse the file name from the buffer and get current time and date
  + If-else chooses either GET or PUT route
    - GET method
      * Opens requested file for input if found
      * Reads and stores into a buffer array
      * Creates a response message for either OK or Not Found
      * Appends file data to end of message if OK
    - PUT method
      * Creates/truncates file and opens requested file for output
      * Find where file data begins from message and write to file
      * Creates a response message for either file Created or Failure
  + Sends request message to server
  + Signal alarm to exit program on timeout
* If failed to accept connection, send error message to client, clean up and exit on error

**Improvements**

* Introduce more HTTP methods
* Have function calls for methods currently and as more methods are introduced
* When response code 302, redirect, occurs, have client send another request to new location