

Elijah Lin

11775718

Started with the `hasKey` function which checks key existence within headers and then also made the `isOtherHeader` function to determine whether or not a header is standard.

The `createHeaderString` function constructs a new header string for the server request by going through the headers and applying default values when needed. It's important because Host and User-Agent headers need to be set correctly.

The `forwardRequest` function establishes a new connection to servers based on the parsed URI and forwards HTTP GET request. The `handleProxyRequest` function does exactly what the name would lead you to believe and it handles the proxy request created by the user. It parses the HTTP request to extract the method, URI, and HTTP version. If it isn't a GET request, the proxy removes the request. If it is a GET request, it calls the `forwardRequest` function to handle the forwarding of the request to the server.

Then finally in main, the program basically sets up a listening socket for incoming client connections for whatever port. Then it enters a loop to accept incoming connections, printing information about accepted connections, then uses the `handleProxyRequest` function to process each connection.

Bonus Points:

Of the 3 websites required to test, only `wiki.com` was able to properly load. The reason behind this is because our program is designed only to handle HTTP GET requests and since `google.com` and `bing.com` both use HTTPS the proxy won't be able to handle the more secure traffic. HTTPS websites will be more secure and will most likely be more difficult to configure a working proxy.