Emil Ingemansson (eingeman) WRITEUP Assignment 2

My server had roughly a 4x speed up after doing a test comparing the times. This makes sense as the new multithreaded server does each connection in parallel instead of doing them one after another in a single threaded system.

The part the likely bottlenecks my system the most would be parsing through each header since my system reads one byte at a time to parse through the headers. I will try to change my approach to this in assignment 3. Not much concurrency is involved in the dispatcher but there is a lot for the worker threads, especially when the user who starts the server specifies for many threads. In logging, there is a lot of concurrency as the log function never needs to lock the file. My log file could increase parallelism by increasing the buffer size from 20 so each thread isn't writing each line one by one. Writing 20 bytes 100 times is slower than writing 200 bytes 10 times. Any thread can write to it whenever it wants so there is parallelism because no thread ever stalls out in logging. The area where you can increase concurrency the most would be where my server parses the headers and functions. More parallelism can be used if there was a way for a worker thread to spread around each request given by the client instead of doing each one in the socket one by one.