The purpose of this program is to replicate wget's functionality by using write() and read() in C.

Using the website example.com as an example, wget can be replicated, after running the **make** command, by entering the command **bin/myweb www.example.com**93.184.216.34:80/index.html. The port is optional.

The program's body will be placed in the output dat file. Appending **-h** to the end of the command will instead post the webpage's header to stdout/the terminal.

Shortcomings:

- 1. Sometimes the program does not always return the exact same header as wget. (Ignoring time differences.) See tests 1 and 2.
- 2. softwaregatest.com does not work, it hangs forever on read.
- 3. When an incorrect port is entered, the program hangs for 2 minutes before terminating gracefully.

Tests (Due to me copying and pasting directly from VS Code, all wget header responses are ahead by one tab):

Test 1 - example.com, basic test

wget 93.184.216.34:80/index.html --header="Host: www.example.com" (left) vs bin/myweb www.example.com 93.184.216.34:80/index.html (right)

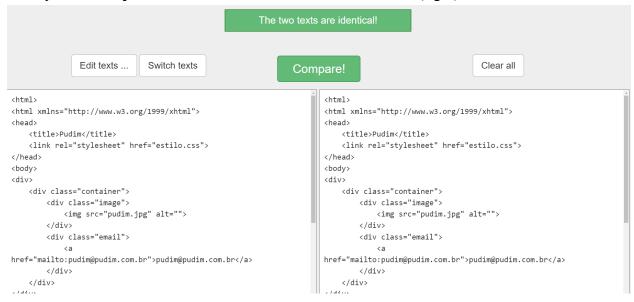


wget 93.184.216.34:80/index.html --header="Host: www.example.com" --server-response --spider (left) vs bin/myweb www.example.com 93.184.216.34:80/index.html -h (right)

```
HTTP/1.1 200 OK
                                                               1 HTTP/1.1 200 OK
    Accept-Ranges: bytes
                                                                   Accept-Ranges: bytes
2
                                                                   Age: 91220
    Age: 91196
3
    Cache-Control: max-age=604800
                                                                   Cache-Control: max-age=604800
    Content-Type: text/html; charset=UTF-8
                                                                   Content-Type: text/html; charset=UTF-8
    Date: Fri, 14 Jan 2022 23:56:05 GMT
                                                                   Date: Fri, 14 Jan 2022 23:56:29 GMT
    Etag: "3147526947"
                                                                   Etag: "3147526947"
    Expires: Fri, 21 Jan 2022 23:56:05 GMT
                                                                   Expires: Fri, 21 Jan 2022 23:56:29 GMT
    Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
                                                                   Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
  Server: ECS (oxr/8321)
                                                                   Server: ECS (oxr/8321)
                                                                   Vary: Accept-Encoding
   X-Cache: HIT
                                                                   X-Cache: HIT
   Content-Length: 1256
                                                                 13 Content-Length: 1256
```

Test 2 - pudim.com.br, basic test

wget 54.207.20.104:80/index.html --header="Host: www.pudim.com.br" (left) vs bin/myweb www.pudim.com.br 54.207.20.104:80/index.html (right)



wget 54.207.20.104:80/index.html --header="Host: www.pudim.com.br" --server-response --spider (left) vs bin/myweb www.pudim.com.br 54.207.20.104:80/index.html -h (right)

```
1 HTTP/1.1 200 OK
    HTTP/1.1 200 OK
    Date: Sat, 15 Jan 2022 00:03:45 GMT
                                                                   Date: Sat, 15 Jan 2022 00:03:35 GMT
    Server: Apache/2.4.34 (Amazon) OpenSSL/1.0.2k-fips
                                                                   Server: Apache/2.4.34 (Amazon) OpenSSL/1.0.2k-fips
3
  PHP/5.5.38
                                                                   PHP/5.5.38
   Last-Modified: Wed, 23 Dec 2015 01:18:20 GMT
                                                                   Last-Modified: Wed, 23 Dec 2015 01:18:20 GMT
   ETag: "353-527867f65e8ad'
                                                                   ETag: "353-527867f65e8ad"
    Accept-Ranges: bytes
                                                                   Accept-Ranges: bytes
    Content-Length: 851
                                                                   Content-Length: 851
    Keep-Alive: timeout=5, max=100
    Connection: Keep-Alive
    Content-Type: text/html; charset=UTF-8
                                                                   Content-Type: text/html; charset=UTF-8
```

Test 3 - mcafeesites.com, basic test

wget 161.69.49.22:80/index.html --header="Host: www.testingmcafeesites.com" (left) vs bin/myweb www.testingmcafeesites.com 161.69.49.22:80/index.html (right)

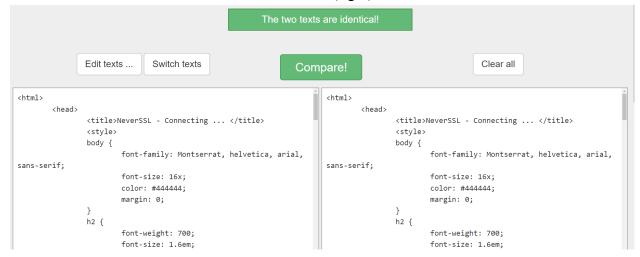


wget 161.69.49.22:80/index.html --header="Host: www.testingmcafeesites.com" --server-response --spider (left) vs bin/myweb www.testingmcafeesites.com 161.69.49.22:80/index.html -h (right)

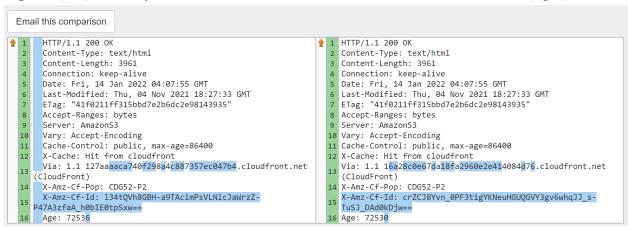


Test 4 - neverssl.com, basic test

wget 52.222.158.89:80/index.html --header="Host: www.neverssl.com" (left) vs in/myweb www.neverssl.com 52.222.158.89:80/index.html (right)



wget 52.222.158.89:80/index.html --header="Host: <u>www.neverssl.com</u>" --server-response --spider (left) vs in/myweb www.neverssl.com 52.222.158.89:80/index.html -h (right)



Test 5, intentional errors

5.1 Intentional Path Error: bin/myweb www.neverssl.com 52.222.158.89:80/thishtmlisnotreal

bash-4.2\$ bin/myweb www.neverssl.com 52.222.158.89:80/thishtmlisnotreal HTTP/1.1 403 Forbidden

5.2 Chunked Encoding: bin/myweb www.google.com 216.58.213.68:80/index.html

bash-4.2\$ bin/myweb www.google.com 216.58.213.68:80/index.html Chunked encoding is not supported!

5.3 Invalid Port: bin/myweb www.testingmcafeesites.com 161.69.49.22:90/index.html -h

bash-4.2\$ bin/myweb www.testingmcafeesites.com 161.69.49.22:90/index.html -h Connect error. Check IP and Ports!