

Homework #3

Create an HTTP client that takes user input which are HTTP requests and returns the data requested from the http server specified.

Instead of printing out contents of the file requested, your program should only print out the following information returned from the server: date, content length, content type, and connection status. However, if the HTTP request is GET, in addition to what are required above, your program should also print the title of the file. Should the user inputs a bad request, your program needs to reflect this by displaying the error number or error message returned from the server.

Your program should allow users to pipeline requests. In this case, your program should print out the relevant information as specified above in the order of the requests made.

The following are some examples. Let's name your program **http_cli**, and the resources to be accessed are:

- a) `http://www.fau.edu`
- b) `http://www.google.com/search?hl=en&q=FAU`
- c) `http://weather.yahoo.com/regional/USFL.html`

Your program should work similar to the following: (user input in **bold**)

```
pluto% http_cli www.fau.edu  
HEAD / http/1.0
```

```
Date: Mon, 12 Nov 2007 13:52:42 GMT  
Content-Length: 933  
Connection: close  
Content-Type: text/html
```

```
pluto% http_cli www.google.com  
HEAD /search?hl=en&q=FAU http/1.0
```

```
Content-Type: text/html; charset=ISO-8859-1  
Content-Length: 0  
Date: Mon, 12 Nov 2007 13:53:30 GMT  
Connection: Close
```

```
pluto% http_cli www.google.com  
HEAD /search?hl=en&q=FAU http/1.1  
Connection: close  
Host: www.google.com
```

Content-Type: text/html; charset=ISO-8859-1
Content-Length: 0
Date: Mon, 12 Nov 2007 13:54:34 GMT
Connection: Close

pluto% **http_cli www.fau.edu**
HEAD / http/1.1
Host: www.fau.edu

Date: Mon, 12 Nov 2007 13:58:23 GMT
Content-Length: 933
Content-Type: text/html

GET / http/1.1
Connection: close
Host: www.fau.edu

Date: Mon, 12 Nov 2007 14:02:44 GMT
Content-Length: 933
Connection: close
Content-Type: text/html

Title: Welcome to Florida Atlantic University

pluto% **http_cli weather.yahoo.com**
GET /regional/USFL.html http/1.1
Host: weather.yahoo.com

Date: Mon, 12 Nov 2007 14:04:46 GM
Connection: close
Transfer-Encoding: chunked
Content-Type: text/html; charset=UTF-8

Title: Florida Weather Forecasts on Yahoo! Weather

pluto% **http_cli www.fau.edu**
HEAD /file.html http/1.0

HTTP/1.1 404 Not Found
Date: Mon, 12 Nov 2007 14:20:30 GMT
Connection: close
Content-Type: text/html; charset=iso-8859-1

Note:

1. Your program should allow a user to access any public HTTP server, not just the three servers listed as examples above.
2. In some http/1.1 cases, Transfer-Encoding: chunked, instead of Content-Length, is returned. Use whichever is returned in your program. Also, some servers may not support persistent connection requests from a client.
3. Pay attention to the header part in the server response and you may ignore the following body part, except for the GET request. The header part is composed of a sequence of lines terminated by CRLF.
4. It will be a good idea to read Section 6 Response and other related sections of RFC 2616 (<http://www.faqs.org/rfcs/rfc2616.html>) to understand better about the format of a HTTP response from a server.

Name your program **http_cli.c**, and the due dates for this program are as follows:

1. Students taking *live class* please select the **Live-class** option. The due date is December 3, 2007 before 11:30 pm.
2. FEEDS students viewing CDs/tapes in the media center please select the **Media-center** option. The due date is December 5, 2007, before 11:30 pm.
3. FEEDS students viewing CDs/tapes at remote sites (not in the media center) please select the **Remote-FEEDS** option. The due date is December 7, 2007, before 11:30 pm.