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CS 3800.01  
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**Assignment #2:**

**HTTP CONDITIONAL GET/Response Interaction**

1. Inspect the contents of the first HTTP GET request from your browser to the server. Do you see an “IF-MODIFIED-SINCE” line in the HTTP GET?   
   ![A screenshot of a cell phone

   Description automatically generated]()  
   Later, when we inspect the HTTP GET request, there is no “IF-MODIFIED-SINCE” line.  
   ![A screenshot of a social media post

   Description automatically generated]()
2. Inspect the contents of the server response. Did the server explicitly return the contents of the file? How can you tell?   
   The server has explicitly returned the contents of the file. The Wireshark tells us:  
   “GET /wireshark-labs/HTTP-wireshark-file2.html HTTP/1.1\r\n  
   Accept: text/html,application/xhtml+xml,application/xml;q=0.9,\*/\*;q=0.8\r\n…”, and these lines show that the server explicitly returned the content.
3. Now inspect the contents of the second HTTP GET request from your browser to the server. Do you see an “IF-MODIFIED-SINCE:” line in the HTTP GET? If so, what information follows the “IFMODIFIED-SINCE:” header?   
   In the second HTTP GET request, I do see an “IF-MODIFIED-SINCE:” line:  
   ![A screenshot of a social media post

   Description automatically generated]()  
   The information that follows is: “If-Modified-Since: Fri 27 Sept 2019 05:59:01 GMT\r\n”.
4. What is the HTTP status code and phrase returned from the server in response to this second HTTP GET? Did the server explicitly return the contents of the file? Explain.  
   The HTTP status code and phrase return 304, which means that the server did not return the contents, and instead responded that the contents has not changed.

**Retrieving Long Documents**

1. How many HTTP GET request messages did your browser send? Which packet number in the trace contains the GET message for the Bill or Rights?  
   I only received one HTTP Get request to the server. The packet number 2479 contained the GET message for the Bill of Rights.![A screenshot of a social media post

   Description automatically generated]()
2. Which packet number in the trace contains the status code and phrase associated with the response to the HTTP GET request?  
   The packet that contains the status code and phrase associated with the response to the HTTP GET request was number 2502.  
   ![A picture containing screenshot

   Description automatically generated]()
3. What is the status code and phrase in the response?  
   The status code and phrase is 200 OK.  
   ![A picture containing screenshot

   Description automatically generated]()
4. How many data-containing TCP segments were needed to carry the single HTTP response and the text of the Bill of Rights?There were 4 data-containing TCP segments to the browser, then reassembled.   
   (#2498, #2500, #2501, #2502)  
   ![A screenshot of a social media post

   Description automatically generated]()

**HTML Documents with Embedded Objects**

1. How many HTTP GET request messages did your browser send? To which Internet addresses were these GET requests sent?  
   There were 3 HTTP GET request the browser sent. It was sent to 1 address: 128.119.245.12.  
   ![A screenshot of a cell phone

   Description automatically generated]()
2. Can you tell whether your browser downloaded the two images serially, or whether they were downloaded from the two web sites in parallel? Explain.  
   The browser downloaded the two images serially because they were transmitted over 2 TCP connections.