CS2910 Exercise: HTTP Response Size

Names: _____

Carriage Return and Line Feed

Complete the following table: (Hint: You can find the values in the video, and in a Wireshark capture of an HTTP request or response.)

Name	Abbrev.	String escape	Hex value of ASCII encoding
Carriage Return	CR		
Line Feed		\n	

HTTP response (first request)

Clear your browser cache before making the following requests; if you don't know how to do this, consult the instructor.

Using Wireshark to monitor network traffic, capture the HTTP traffic related to a browser request for:

http://seprof.sebern.com/ (equivalent to ".../index.md", a markdown file converted to HTML)

In Wireshark, you may have to filter on the HTTP protocol and either your own computer's IP address or the IP address that "seprof.sebern.com" resolves to (probably 192.185.16.126), using a Wireshark filter expression like:

http&&ip.addr==192.185.16.126

Examine the first HTTP *response* for the URL above and fill in the following information (consult the HTTP RFC at www.ietf.org/rfc/rfc2616.txt, at section numbers noted). If some information is not present, enter "N/A".

HTTP Entity Body Encoding ("/" == "/index.md", translated to HTML)		
Response Status-Line (6.1)		
Response Header Fields	Transfer-Encoding (14.41)	
	Content-Type (14.17)	
	Content-Encoding (14.11)	
	Content-Length (14.13, 4.4)	
	Date (14.18)	
	Last-Modified (14.29)	

Actual entity body size	(Briefly explain how this was determined)	
	Other questions or comments	

HTTP Response (2nd request)

Examine the HTTP response for the URL

http://seprof.sebern.com/sebern1.jpg

and fill in the following information (you may wish to refer to the HTTP RFC at www.ietf.org/rfc/rfc2616.txt). If some information is not present, enter "N/A".

HTTP Entity Body Encoding ("/" == "/index.md", translated to HTML)		
Response Status-Line (6.1)		
Response Header Fields	Transfer-Encoding (14.41)	
	Content-Type (14.17)	
	Content-Encoding (14.11)	
	Content-Length (14.13, 4.4)	
	Date (14.18)	
	Last-Modified (14.29)	
Actual entity body size	(Briefly explain how this was determined)	
	Other questions or comments	

Chunking

For the HTTP response above that uses chunking for the entity body, list the number of bytes (as displayed in the reassembled TCP tab) in each part of the HTTP chunked response, filling in the table below. When summed, **do these match** your measurement for the **actual size of the entity body above**? If not, figure out why and correct the discrepancy. Wireshark automatically interprets these fields, and names them with the names given below. The repeated copies of field-names are for different chunks. For the Chunk Size field, give the number of bytes used to store the chunk size (including the CRLF), not the number encoded in hexadecimal. Depending on how many chunks there are in the response, you may not have all the fields listed here.

Field	Number of bytes in entity body (decimal)	Field	Number of bytes in entity body (decimal)
Chunk size		Chunk size	
Data		Data	
Chunk boundary		Chunk boundary	
Chunk size		Chunk size	
Data		Data	
Chunk boundary		Chunk boundary	
Chunk size		Chunk size	
Data		Data	
Chunk boundary		Chunk boundary	
Chunk size		Chunk size	
Data		Data	
Chunk boundary		Chunk boundary	
		Total:	

Additional HTTP requests and responses

If you have time,

1. Examine the response when requesting the image file a second time. What is different (if anything)?

2. Which fields are used to determine whether the additional resources are re-sent?