Due time: 11:59pm, February 11, 2023, Saturday

Total marks: 10 points

Submission Requirements:

You need to submit the homework to the blackboard via Learn@PolyU on or before the due time. Late submission will cause the marks to be deducted 25% per day.

Questions:

1. Consider the following string of ASCII characters that were captured by Wireshark when the browser sent an HTTP GET message (i.e., this is the actual content of an HTTP GET message). The characters *<cr><lf>* are carriage return and line-feed characters (that is, the Italianized character string *<cr>* in the text below represents the single carriage-return character that was contained at that point in the HTTP header).

   GET /cs222/index.html HTTP/1.1*<cr><lf>*
   Host: gaia.cs.umass.edu*<cr><lf>*
   User-Agent: Mozilla/5.0 (Windows;U; Windows NT 5.1; en-US; rv:1.7.2) Gecko/20040804 Netscape/7.2 (ax) *<cr><lf>*
   Accept:ext/xml, application/xml, application/xhtml+xml, text/html; q=0.9, text/plain; q=0.8, image/png, */*; q=0.5*<cr><lf>*
   Accept-Language: en-us,en;q=0.5*<cr><lf>*
   Accept-Encoding: zip,deflate*<cr><lf>*
   Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7*<cr><lf>*
   Keep-Alive: 300*<cr><lf>*
   Connection:keep-alive*<cr><lf>*
   <cr><lf>

   Answer the following questions: (4 points, one point each)

   a) What is the URL of the document requested by the browser?
   b) What version of HTTP is the browser running?
   c) Does the browser request a non-persistent or a persistent connection?
   d) What type of browser initiates this message?

2. The text below shows the reply sent from the server in response to the HTTP GET message in the Question 1.

HTTP/1.1 200 OK*<cr><lf>*

Date: Sun, 07 Mar 2021 12:39:45GMT*<cr><lf>*

Server: Apache/2.0.52 (Fedora)*<cr><lf>*

Last-Modified: Thu, 10 Dec 2020 18:27:46 GMT*<cr><lf>*

ETag:"526c3-f22-a88a4c80"*<cr><lf>*

Accept-Ranges: bytes<cr><lf>Content-Length: 3874*<cr><lf>*

Keep-Alive: timeout=max=100*<cr><lf>*

Connection: Keep-Alive<cr><lf>Content-Type: text/html; charset=ISO-8859-1*<cr><lf>*

<cr><lf>

<!doctype html public "-//w3c//dtd html 4.0 transitional//en"><*lf*><html><*lf*><head><*lf*><meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"><*lf*><meta name= "GENERATOR" content="Mozilla/4.79 [en] (Windows NT 5.0; U) Netscape]"><*lf*><title> CMPSCI 222 / 591 / NTU-ST550A Fall 2020 homepage</title><*lf*></head><*lf*>

<much more document text following here (not shown)>

Answer the following questions: (6 points, one point each)

a) Was the server able to successfully find the document or not?

b) What time was the document reply provided?

c) When was the document last modified?

d) How many bytes are there in the document being returned?

e) Did the server agree to set up a persistent connection?

f) What are the first 5 bytes of the document being returned?