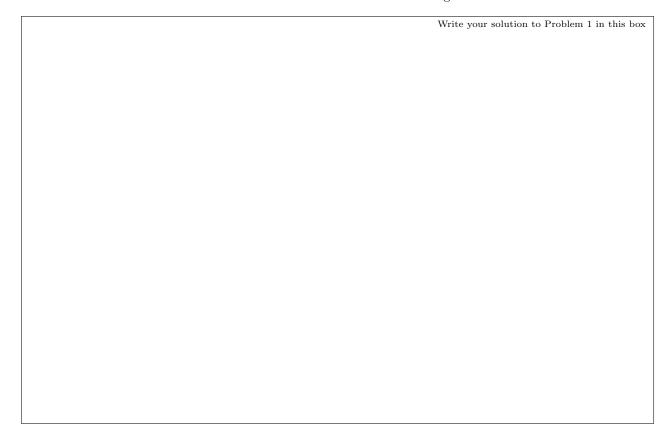
Problem 1

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. Answer the following questions, indicating where in the HTTP GET message below you find the answer.

```
GET /classes/spring17/cs118/project-1.html HTTP/1.1<CR><LF>
Host: web.cs.ucla.edu<CR><LF>
Connection: keep-alive<CR><LF>
Upgrade-Insecure-Requests: 1<CR><LF>
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_12_3) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/56.0.2924.87 Safari/537.36<CR><LF>
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8<CR><LF>
Referer: http://web.cs.ucla.edu/classes/spring17/cs118/homeworks.html<CR><LF>
Accept-Encoding: gzip, deflate, sdch<CR><LF>
Accept-Language: en-US,en;q=0.8,lv;q=0.6,ru;q=0.4<CR><LF>
If-None-Match: "5a17-54c4847c4f640-gzip"<CR><LF>
If-Modified-Since: Mon, 03 Apr 2017 19:36:49 GMT<CR><LF>
SIf-Modified-Since: Mon, 03 Apr 2017 19:36:49 GMT<CR><LF>
```

- 1. What is the **full** URL of the document requested by the browser?
- 2. What version of HTTP is the browser running?
- 3. What type of browser initiates this message? Why is the browser type needed in an HTTP request message?
- 4. What is the IP Address of the host on which the browser is running?



Problem 2

Alice and Bob are working remotely on a course project and are using git as the version control software.

- 1. Is it true that one must have GitHub/GitLab account to use git?
- 2. What is(are) the command(s) to initialize a local git repository?
- 3. Do Alice and Bob both must initialize local git repository? If no, what are the alternative?
- 4. Let's consider that Alice modified the file server.cpp:
 - (a) What git commands Alice needs to save modifications in the local git repository
 - (b) What git commands Alice needs to upload saved modifications to GitHub
 - (c) What git commands Bob needs to get Alice's changes and apply them to the local repository
- 5. Let's consider that both Alice and Bob modified the file server.cpp and Alice was first to successfully upload saved modifications (commit) to GitHub
 - (a) Can Bob upload his changes without any additional actions? If no, why?
 - (b) If actions needed, list git commands that Bob will need to use to share his modifications with Alice.

Write your solution to Problem 2 in this box

Problem 3

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You will	learn s	some basic	usages of	f Vagrant	and	Docker	m '	vour	projects.

- 1. What is Vagrant mainly used for?
- 2. What is Docker mainly used for?
- 3. List at least one difference between Vagrant's "box" and Docker's "container"?
- 4. List at least five commands you can use with Vagrant.
- 5. List at least five commands you can use with Docker.

Write your solution to Problem 3 in this box