

# Web Technology

## Assignment 1 (10 Points)

**Due: Next Section.** (*one day before if you submit by email*)

Notes: This assignment is individual assignment, every student should complete it by himself.

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1. True or False:
  - a. IP4 is a 64-bit number.
  - b. IP source software creates a packet representing the data.
  - c. IP guarantee of packet delivery.
  - d. TCP guarantee of packet delivery.
  - e. UDP supports application ports.
  - f. DNS use the TCP/IP protocol.
  - g. SMTP doesn't use TCIP/IP.
  - h. World Wide Web is Originally, one of several systems for organizing Internet-based information.
  - i. HTTP is based on the request-response communication model.
  - j. HTTP implemented over UDP.
  - k. (`http://www.example.com/` ) is called the URI for the host name "example".
  - l. Client caching provide slower HTTP request/response.
2. Using nslookup (or some other mechanism), determine IP addresses of facebook.com .
3. Send HTTP requests using telnet in order to determine the Server header field value for google.com. You may want to include the header field "Connection: close" in your requests in order to tell the server to immediately close the TCP connection rather than keeping it open (most servers will otherwise keep the connection open for a minute or so, tying up your command prompt). Also

note that some systems may not echo the characters you type while executing telnet. (Hint: Don't forget that HTTP requests end with a blank line.)

4. Give a list of the HTTP methods allowed by the host in Question 2. (Hint: You may want to try using an OPTIONS HTTP request, although not all web servers support this method.)
5. Given the header field accept:  
text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,video/x-mng,image/png, image/jpeg,image/gif;q=0.2,\*/\*;q=0.1  
place the following MIME types in order from high to low preference:  
image/png,application/pdf, text/plain, application/xhtml+xml.
6. Explain how a web site could learn something about your browsing habits outside its site from an HTTP request sent to the site by your browser.
7. Give a complete minimal HTTP GET request corresponding to the URL <http://www.ThisIsATest.net:2012/hmm/oh/well?isThis=right#no>
8. Modify your browser preferences to specify a language other than the one that you normally use as your preferred language (for example, if you normally use English, you might specify German as your preferred language). Then browse to [www.google.com](http://www.google.com) or another web site that returns different documents based on the setting of the Accept- Language HTTP request header field. Print the web page to verify that you successfully modified your language preference.
9. The Host field of an HTTP request can contain a port number as well as a host name. Explain how a web server can determine the port number of the request even if it is not included in the Host field, as long as the HTTP request is transmitted via TCP.
10. List all of the generic Internet top-level domains.
11. Which country is associated with the top-level domain de? What is the top-level domain for Bolivia?