Homework 1

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2) What might a protocol frame from a Web Browser session look like as it goes out of a network port? Assume the link layer is ethernet. You do not need to describe the fields inside a particular header except to say it is a particular protocol header (ie TCP header).

The World Wide Web uses the HTTP protocol. An HTTP request is initiated by establishing a TCP connection to a particular port on a server that typically is 80. When transferring data by using HTTP, the client and the server send HTTP header fields which are a kind of metadata in addition to data to each other. HTTP headers are composed of request fields which the client sends to the server and response fields which the server sends to the client. Because the HTTP protocol is stateless, when a particular state is needed to keep between the client and the server, the HTTP session is used. For example, State management by using the HTTP session is necessary for online shopping sites and members-only websites. Actually, HTTP session is treated by the session ID. A session ID is stored in local storage in the client called Cookie which is a field of the HTTP request headers.

3) I can change a link layer protocol and the application layer protocol does not need to know or be made aware of the change. Explain why?

The internet uses TCP/IP that is a globally standardized communication method, and higher layers such as application and transport layers do not identify lower layers such as network and link layers. In other words, when viewed from higher layers, lower layers are abstracted. That is why the application layer protocol does not have to be aware of the change of link layer protocols.