

CpSc 360, Section 2, Fall 2008, Quiz #1

Name: _____ Clemson User ID: _____

Question #1 (20 points):

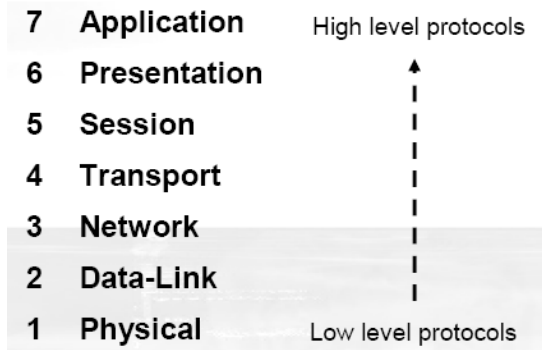
Are the following statements **true** or **false**?

1. Network software is based on layered models. (True)
2. Peer processes use peer-to-peer protocols to communicate directly in a layered communication model. (False)
3. In client/server programming paradigm, server is a machine that waits for service requests. (False).
4. A process is an executable file. (False)
5. Each layer of the Internet protocol must associate with an address to ensure correct communication. (False)

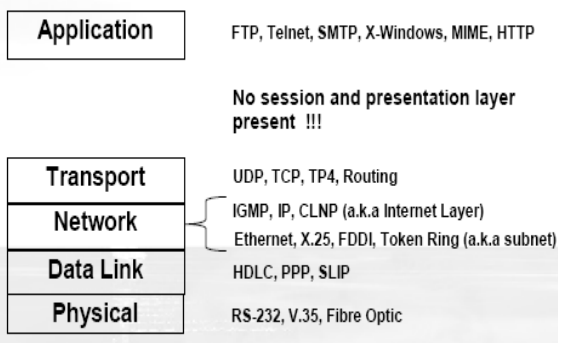
Question #2 (30 points):

Name the 7 layers in OSI reference model, from the lowest layer to the highest. What are the differences between the Internet layering and OSI reference model?

OSI Reference Model:



Internet Layers:



Question #3 (20 points):

Please briefly describe the difference between a router and a gateway.

A gateway operates as a router. It performs data conversions above the network layer.

Conversions:

- encapsulation - use an intermediate network
- translation - connect different application protocols.
- encryption - could be done by a gateway.

Question #4 (30 points):

Please use `read()` and `write()` functions to write a simple code segment that input a single character from the terminal and display it on screen. You don't need to write the entire program. But you should declare necessary variables.

```
char c;
```

```
read(0, &c, sizeof(char));
```

```
write(1, &c, sizeof(char));
```

```
/* For real program, we need to include necessary header files  
and have proper error checks */
```