CS 162 Section 8

True/False:

1. BSD Socket API was created at Stanford.
2. TCP guarantees reliable, in-order, and at most once delivery.
3. It is possible to solve the Two Generals Problem with certainty over a lossy channel.
4. One computer can only have one network card.
5. All hosts in a LAN can share same physical communication media.
6. Usually, router stores an entry for each individually IP address in its forwarding table.
7. A store-and-forward router starts forwarding the packet as soon as it gets packet's header.

Short Answer:

1. What is a protocol?

2. What is network (interface) card/controller?

3. What is MAC address?

4. What is IP address?

5. How many layers in Internet Protocol? What main service does each layer provide?

6. What are the drawbacks of layering?

Long answer:

Assume two endhosts using the sliding window protocol to implement flow control, and Selective Repeat to implement reliability. Assume sender sends 7 packets. The window size at the receiver is 3 packets, the roundtrip time is 200ms, and the retransmission timeout is 500ms. The transmission time of the packet is negligible, i.e., assume the size of a packet is 0. The time to send all packets is the interval between the time the sender sends the first packet and the time the sender receives the ack from the last packet.

1. How long does it take to send all packets, assuming no losses? Draw the time diagram.

2. How long does it take to send all packets assuming the 5th packet is lost? Draw the time diagram.

3. How long does it take to send all packets assuming the ack of the 6th packet is lost? Draw the time diagram.