

## Homework 0 of CS4550, Winter 2003

You may discuss a particular solution approach to a homework problem with your classmates. However, you are expected to develop the answers independently. Plagiarism will not be tolerated.

Due date: January 13 at beginning of class

1. (10 points) What's the difference between a POP and a NAP?
2. (10 points) What are the two types of services that the Internet provides to its applications? What are some characteristics of each of these services?
3. (10 points) Browse the Web site for the textbook (<http://www.aw.com/kurose-ross>). Compare the performance of message switching and packet switching using the Java Applet provide in Chapter 1 of the on-line book.
  - (a) Set the message size to be 15 kbits. Set the packet size to be 3 kbits for the case of packet switching. Perform 4 experiments and input the results into the following table.

End-to-end latency (seconds)

	Assuming no propagation delay	With propagation delays turned on for L1, L2 and L3
Message switching (Packet size = 15)		
Packet switching (Packet size = 3)		

- (b) Explain why the effect of propagation delays don't multiply even though multiple packets are sent in the case of packet switching.