Outline for April 27, 2007

1. Greetings and felicitations!
    a. Midterm has been *moved* to Friday, May 4. If this change causes problems for you, please come see me, or e-mail me, *at once*.
    b. Sample midterm is available on the web; so are the answers.
    c. Warning: no office hours on Wednesday of next week!
    d. I will hold a review session for Thursday, May 3, from 3:30–4:30 in 1227 Haring Hall.
    e. I will also hold special office hours on Thursday: 10:00–11:00AM. Also, don't forget I have office hours on Friday from 9:00–9:50AM.
2. Networking basics and terms
    a. Network connects systems to one another; systems often called "nodes" or "hosts"
    b. Client/server vs, peer-to-peer
    c. Networked operating system
    d. Distributed system
    e. Dumb terminal
    f. Local area network, Metropolitan area network, Wide area network, Internet
    g. Packet
3. Network topologies
    a. Bus
    b. Token ring
    c. Star
4. Moving data around
    a. Hub
    b. Switch
    c. Router
5. Physical connections
    a. Network interface card (NIC)
    b. Coaxial cable and twisted-pair wiring
    c. Fiber optic
    d. Wireless
6. Ethernet
    a. Broadcast medium: everyone sees everything, and ignores what is not meant for it
    b. Collision: senders detect this, jam network; then everyone waits a random amount of time before trying to send again
7. Connecting from home
    a. Modem: makes phone call, detects carrier, handshake with modem at other end (how fast, number of bits per packet, etc.); typical is 33Kbps or 56Kbps
    b. DSL: uses different technology to move data over phone lines; typically, faster downstream (to home) than upstream (from home); typical is 8Mbps; also depends on distance from phone switch
    c. Cable modems: usually slightly faster than DSL