Lecture 5 Outline

Reading: White, §12–16   **Assignments due:** Lab #2 ("Microsoft Word") due today at 11:55PM
Lab #3 ("Microsoft Excel") due Jan. 25 at 11:55PM
Term paper progress report due Jan. 27 at 9:00AM

Question for the Day: Do you find it easier to keep track of your schedule on a computer, cell phone, paper, or in your head?

1. Greetings and felicitations!
2. Managing disks
   a. File compression
   b. Defragmentation
3. Compact disks (CDs)
   a. CD-ROM (read only), CD-R (recordable), CD-RW(rewritable)
   b. How they work
   c. Tracks and spirals
4. Digital versatile disks (DVDs)
   a. Several formats: DVD-ROM, DVD-RAM, DVD-R, DVD-RW, DVD+R, DVD+RW
   b. General structure, single side (4.7GB) vs. dual side (8.6GB)
   c. Movies on DVDs enciphered to protect them, authorized DVD players can decipher them
5. Tape
   a. Most popular now: QIC (quarter-inch cartridge) tapes
   b. General structure: tracks, blocks, checksum, end of tape indicator
   c. Older tapes: 9-track reel-to-reel, bytes written across tracks
6. Common terms
   a. *Nanosecond*: 1×10^{-9} seconds
   b. *GIGO*: Garbage In, Garbage Out
   c. *Cache*: Used to store data for quicker access if it is needed again
7. Keyboard
   a. QWERTY keyboard, Dvorak keyboard
   b. Ergonomic keyboards
   c. Scan codes
8. Mouse
   a. One-button mouse, three-button mouse
   b. As mouse moves, encoder translates motion into electrical signals
9. Touchpad
   a. Two sets of electrodes creating an electromagnetic field between them
   b. Field affected by finger touch
10. Speech recognition
    a. Enroll to build database of phoneme sounds for user
    b. Recognizer matches phonemes based on volume, pitch, length, tremor, etc.
11. Scanners
    a. 3 layers: n-layer, depletion area, p-layer
    b. Flatbed scannerh
    c. Optical character recognition
12. Power
    a. Power supply
    b. UPS stores power in battery
    c. Surge protector