

## Outline for May 9, 2007

1. Greetings and felicitations!
2. Types of programs
  - a. Applications vs. data
  - b. Database managers
  - c. Spreadsheet software
  - d. Word processors
  - e. Graphics software
3. How Windows XP works
  - a. Process isolation: each process thinks it's the only one on the computer
  - b. Virtual memory: if there's not enough RAM, use the disk to store parts of the program not recently used
  - c. Each program gets its own virtual machine, which accesses physical system to perform some operations:
    - i. USER.EXE, USER32.DLL control and track windows.
    - ii. GDI.EXE, GDI32.DLL construct graphic elements such as dialog boxes etc.
    - iii. KRNL386.EXE, KERNEL32.DLL handle low-level operations, manage memory, I/O, and interrupts.
  - d. Kernel mode has file management, network, device drivers, process manager, security, virtual machine manager.
4. Windows XP shares code among programs
  - a. Makes programs smaller, simpler, and easier to program
  - b. Dynamic link libraries (DLL) are code loaded as needed by the program, and removed when done
  - c. Application programmer interface (API) is framework used to call DLL
  - d. API (application programming interface), and DLL.
5. Windows XP shares data among programs using the Clipboard
  - a. Data saved to clipboard in three formats: native (format used by application creating the data), Rich Text Format (RTF), and Original Equipment Manufacturer (OEM) with no formatting.
  - b. Graphics saved to clipboard in three formats: native, bitmap, metafile that can be used to recreate graphic in resolution independent version
  - c. When you paste, application looks at data in clipboard and chooses which format to use
6. Web browsers
  - a. URLs
  - b. Cookies