Lecture 1

Jargon

Hardware

ASCII
American Standard Code for Information Interchange. An encoding scheme by which characters are represented by numbers. For example, ‘A’ is represented in decimal as 65. 7-bit ASCII supports 128 different characters; extended ASCII supports 256.

bank
A slot into which RAM is inserted.

base-10
A system for representing numbers with sequences of digits, each of which can take on one of ten possible values (0 through 9).

base-2
A system for representing numbers with sequences of digits, each of which can take on one of two possible values (0 or 1).

binary
See base-2.

BIOS
Basic Input Output System. Software burned into ROM that enables a computer to bootstrap itself. Passes control of computer to an operating system after checking RAM, etc. Handles low-level communication with drives, keyboard, printer, etc.

bit
A 0 or 1.

bus
A pathway for data.

byte
Eight bits.

chassis
The case (sides, top, and bottom) and structural support of a computer.

CMOS
Refers to hardware that stores BIOS settings (e.g., date, time, boot sequence, etc.).

computation
Calculation (i.e., determination by mathematical means).

computer
Something that calculates (produces output from input via mathematical means).

connector
Something that attaches to something else.

cookie
Floppy, circular material inside of a floppy disk.
**CPU**  
Central Processing Unit. The brains of a computer. Speed measured in megahertz or gigahertz.

**daughterboard**  
A logic board that plugs into a motherboard.

**decimal**  
See base-10.

**DIMM**  
Dual Inline Memory Module. Type of RAM found in newer computers. Has 168 pins.

**flash**  
To flash a computer's BIOS is to upgrade it with manufacture-provided software.

**game port**  
Serial port on the back of a PC into which a joystick or the like can be plugged.

**giga-**  
A prefix denoting billion.

**hardware**  
Computer equipment.

**heat sink**  
A metallic construct designed to absorb and dissipate excess heat, most commonly from a processor.

**kilo-**  
A prefix denoting thousand.

**L1 cache**  
Very fast memory usually found “on die” (inside of a CPU). Found in such quantities as 16 KB, 32 KB, etc. Enables CPU to retrieve instructions quickly, avoiding relatively slower RAM.

**L2 cache**  
Pretty fast memory sometimes found “on die” (inside of a CPU), else in the CPU’s packaging or on the motherboard.

**level-1 cache**  
See L1 cache.

**level-2 cache**  
See L2 cache.

**logic board**  
A plastic (and often green) board with circuits, chips, and other hardware.

**mega-**  
A prefix denoting million.

**motherboard**  
Main logic board of a computer. “Central artery system” through which almost all hardware communicates.

**non-volatile memory**  
Electronic storage that doesn’t require power for preservation.
overclocking  Process by which a computer's CPU is made to run at a higher speed (clock frequency) than intended by the manufacturer.

parallel port  Port on the back of a PC through which bits travel in parallel (8 at a time). Often used to connect printers. (Before USB, scanners, Zip drives, and more were often connected via the parallel port.)

port  A connector on the back of a computer.

POST  Power-On Self-Test. Sequence of steps performed by a BIOS upon startup (memory check, keyboard check, etc.).

processor  See CPU.

RAM  Random Access Memory.

RIMM  Rambus Inline Memory Module. Type of RAM found in newer computers. Smaller than DIMMs. Can be installed singly.

ROM  Read Only Memory. Type of memory found on a computer’s motherboard that stores the BIOS. Can be “flashed” with updates.

SDRAM  Synchronous dynamic random access memory. Called synchronous because it is synchronized with the CPU’s bus speed.

secondary storage  Non-volatile, writable storage like hard disks, floppy disks, CD-Rs, etc.

serial port  Port on the back of a PC through which bits travel serially (one at a time). Used to connect mice and modems on older computers.

SIMM  Single Inline Memory Module. Type of RAM found in older computers. Oldest version had 30 pins; newer (but now old) version had 72. Has to be installed in pairs.

slot  Fairly long, narrow connector found on some motherboards for CPUs.

socket  Connector found on some motherboards for CPUs. Usually a square containing many, tiny holes for CPU’s pins.

system bus  Main pathway on a motherboard along which data travels.

tera-  A prefix denoting trillion.
**USB**  
Universal Serial Bus. Relatively new, fast bus to which peripherals (digital cameras, printers, keyboards, mice, etc.) can be connected.

**virtual memory**  
Hard disk space used as though it were RAM.

**volatile memory**  
Electronic storage that requires power for preservation.