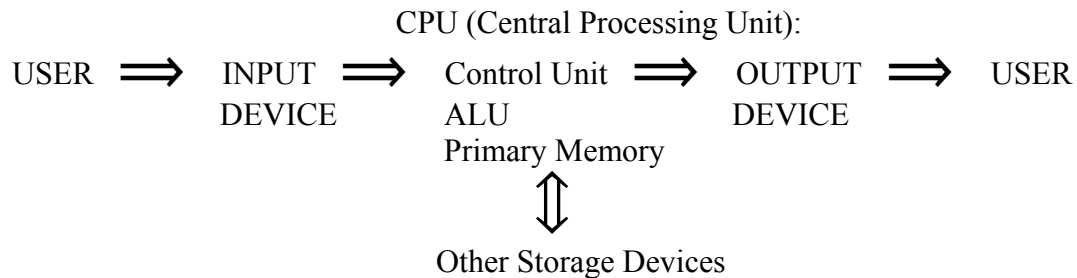


# CSC 101 - Prof. Richard B. Goldstein

## BASIC CONCEPTS

### SIMPLIFIED PHYSICAL STRUCTURE:



### INPUT DEVICES (from you, the user, to the computer):

keyboard	game paddles/joy sticks	optical scanner
mouse	light pen	graphical tablet
trackball	touch screen	bar code reader
microphone	camcorder/digitizers	optical character reader
digital camera	digital camcorder	

### OUTPUT DEVICES (from the computer to you)

monitor (Cathode Ray Tube)  
flat screen monitor (Liquid Crystal Display)  
printer (laser, ink jet, older-dot matrix)  
plotter  
speaker

### STORAGE DEVICES (used by the computer to keep large amounts of data)

floppy disk drives – 8”, 5 ¼” (old), 3 ½ “, compact flash cards/sticks, thumb drives  
hard disk drives  
CD-ROM; CD-R and CD-RW - recordable CD (once or many times)  
DVD +/- R – also recordable once or many times  
magnetic tape or cartridge recorders  
removable hard drives  
DVD (video/sound)

### OTHER HARDWARE

USB ports  
Router (wired and wireless)

## SOME GENERAL TERMS

ASCII/Unicode/Text

bit

byte (also kilobyte, megabyte, gigabyte, terabyte, petabyte)

cache memory

clock speed (megaHertz or gigaHertz)

co-processor / multiprocessor

GUI – graphical user interface (icons, etc.)

hardware/ software

Internet (World Wide Web, browsers: Internet Explorer, Netscape)

language (for computers: FORTRAN, QBASIC, C++, Visual Basic, Java, etc.)

modem – modulate / demodulate

multimedia

multitasking

pixel

RAM – random access memory

ROM – read only memory

USB – universal serial bus

**COMPUTER SIZES:** micro (also personal, notebook, laptop), mini, main-frame, super

## BRIEF HISTORY

**Early Devices:** abacus, John Napier's crude slide rule, Gottfried Leibniz and Blaise Pascal's adding machines, Sir Charles Babbage & Ada Augusta's engine, Joseph Jacquard's punched cards, Herman Hollerith's tabulating machine

**Early Versions:** Electromechanical analog & digital computers  
Mark I, ABC, ENIAC, EDSAC, EDVAC

### **Generations:**

- 1 (1951-59)** UNIVAC I, IBM 650 were room sized and used vacuum tubes and machine/assembly language
- 2 (1959-64)** IBM 1401, etc. were closet sized and used transistors, magnetic core memory, removable disk packs and could be programmed in FORTRAN or COBOL
- 3 (1964-72)** IBM 360, etc. were desk sized and used integrated circuits, video display, operating systems with time-sharing. Minicomputers (Digital's PDP) first appeared. Also, multi-programming and multi-processing started.
- 4 (1972-80's?)** IBM 370, Apple II, IBM PC, etc. are from chip to typewriter in size. They used large scale integrated circuits, new I/O devices and many new packaged software products. Late 70's and early 80's – growth of personal computer.
- 5 (1980's to now?)** Natural language, fiber optics, wireless, super-conductivity, parallel processing, greater use of artificial intelligence (AI), visual, tactile and speech recognition, etc.