CSC104 fall 2012

Why and how of computing

week 7

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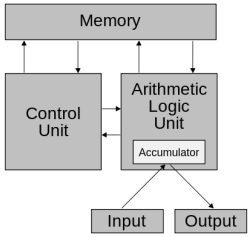
Text: Picturing Programs

Outline

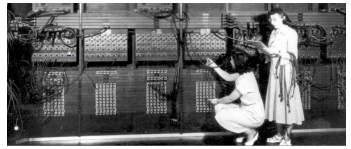
hardware architecture

Notes

what Von Neumann looks like



bus connects ALU/control
to memory (RAM) and I/O
keyboard, monitor, storage, etc.



1. LOAD A1 R1
2. LOAD A2 R2
3. ADD R1 R2 R3
4. STORE R3 A3
5. HALT

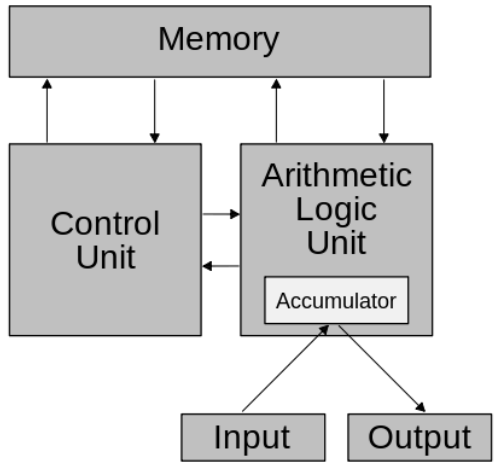
where Von Neuman's going

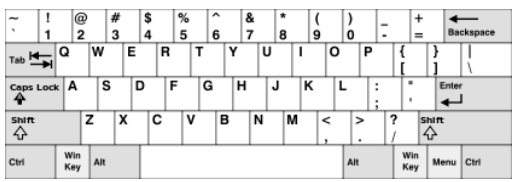
There are some issues

- Von Neumann bottleneck
- mortality of Moore's Law

input, output

for geezers

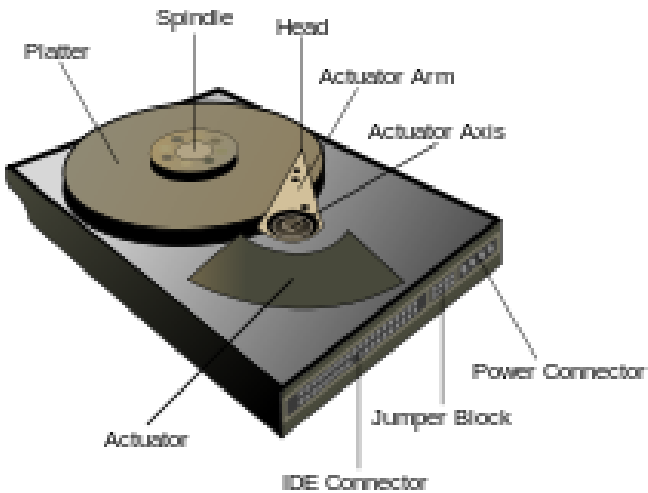




lots of real estate
to get ideas in, out
doesn't fit in pocket

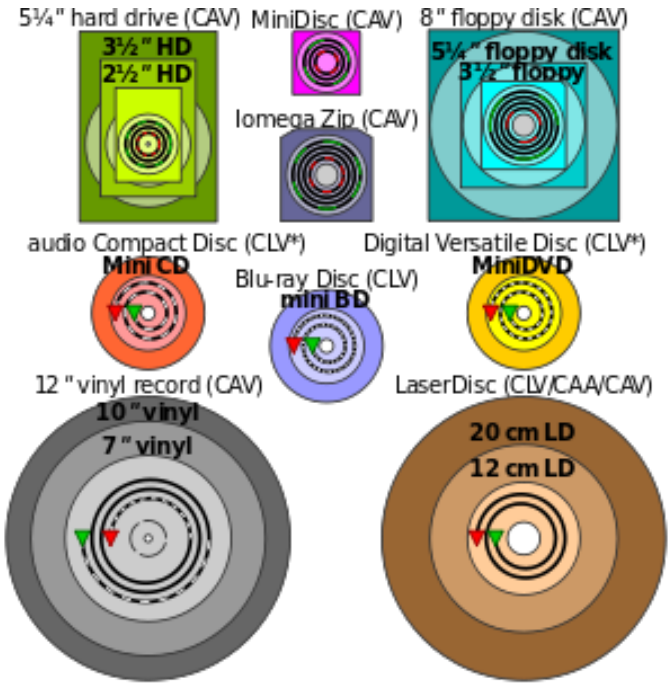
storage

hard drive



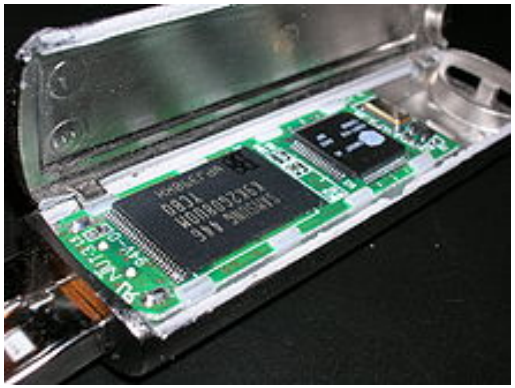
storage

compact disc



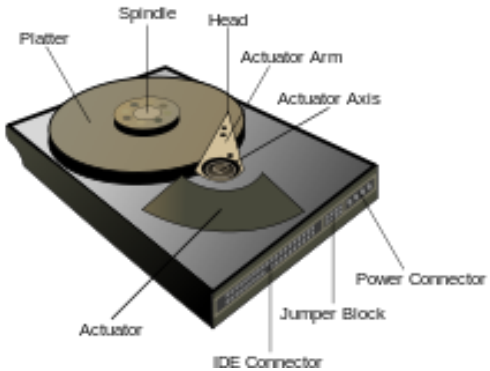
storage

flash drive



bits, files, buffers

protect us from the machine



Notes