

Notes for 9/25/09

SRAM vs. DRAM—Static RAM vs. Dynamic RAM—SRAM does not need to be periodically refreshed, but it requires more transistors than DRAM; SRAM is used for registers, L1/L2 caches, etc.

We will be focusing on the architecture design stemming from the IBM stretch and IBM System/360.

Clock cycle—as a rule of thumb, this will be regular

Program counter—register containing memory address of next instruction to be fetched; branches are relative to program counter

Register file—the SRAM in the processor that stores all of the registers

What are we concerned about in optimizing an architecture?

Execution time—time it takes to finish executing program

Throughput—rate of execution per time

Power, heat, security, I/O