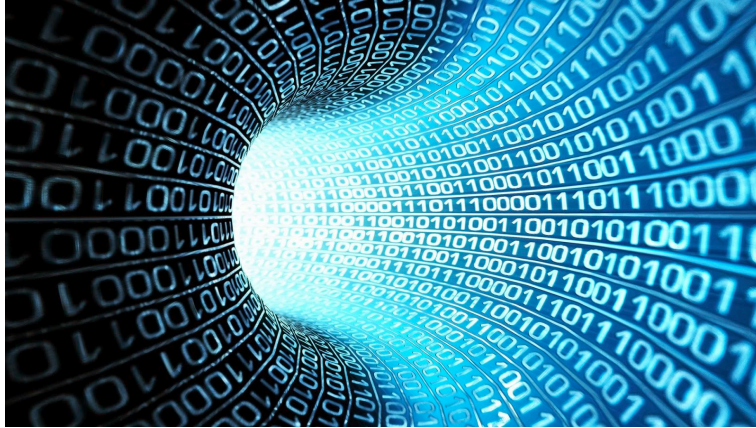
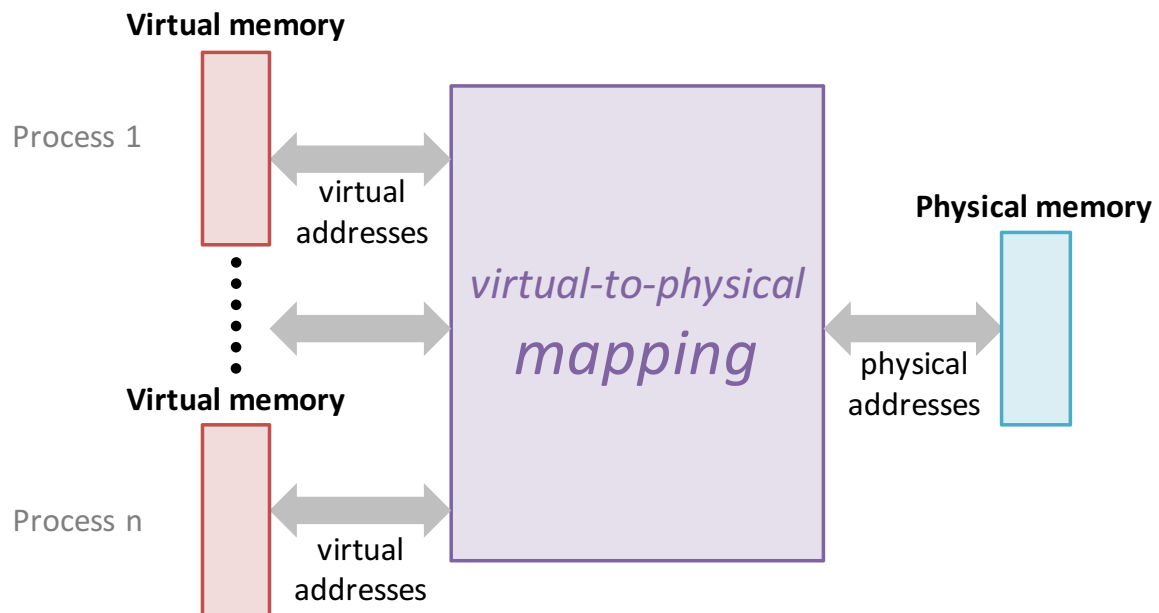


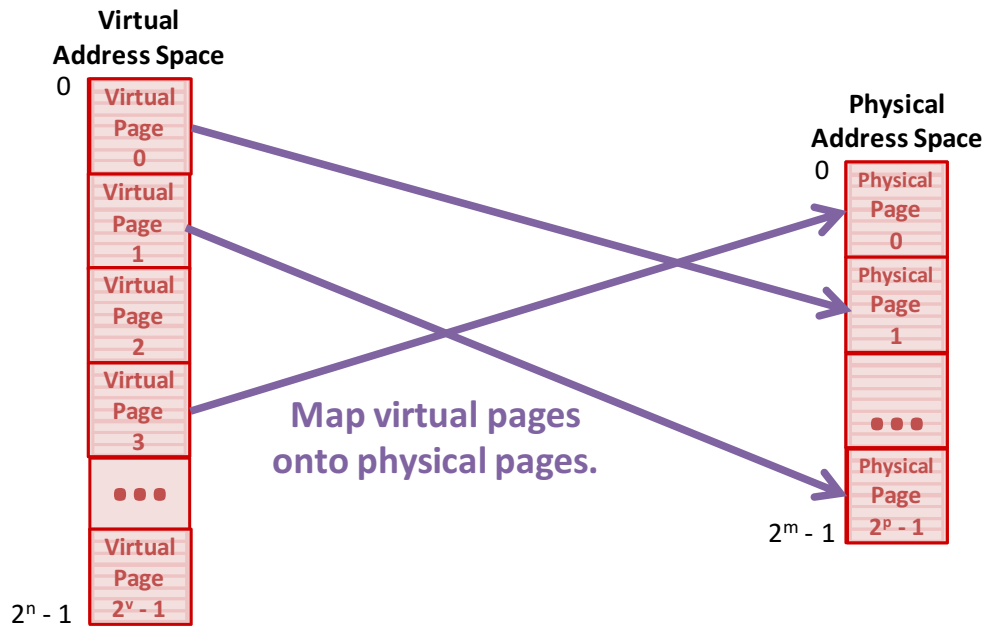
Virtual Memory (and a bit more...)



Virtual and Physical Addresses

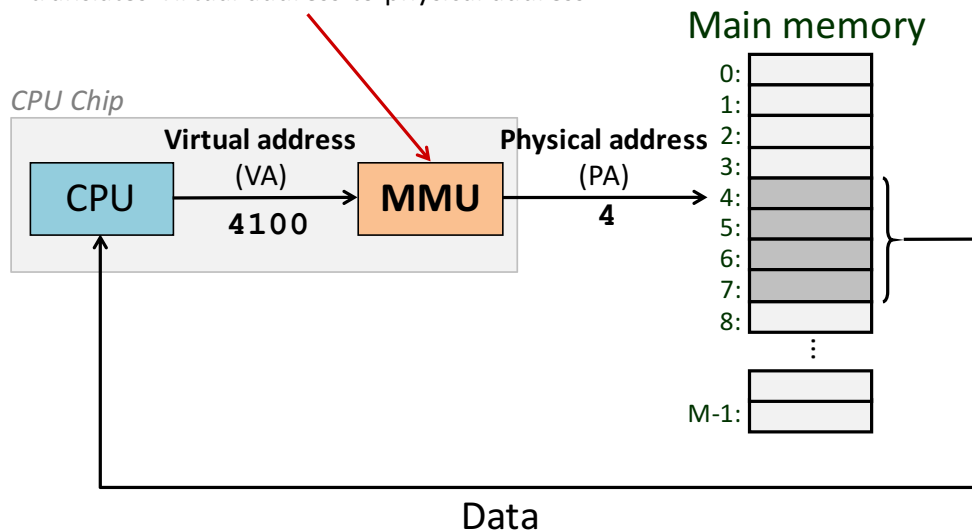


Memory Pages

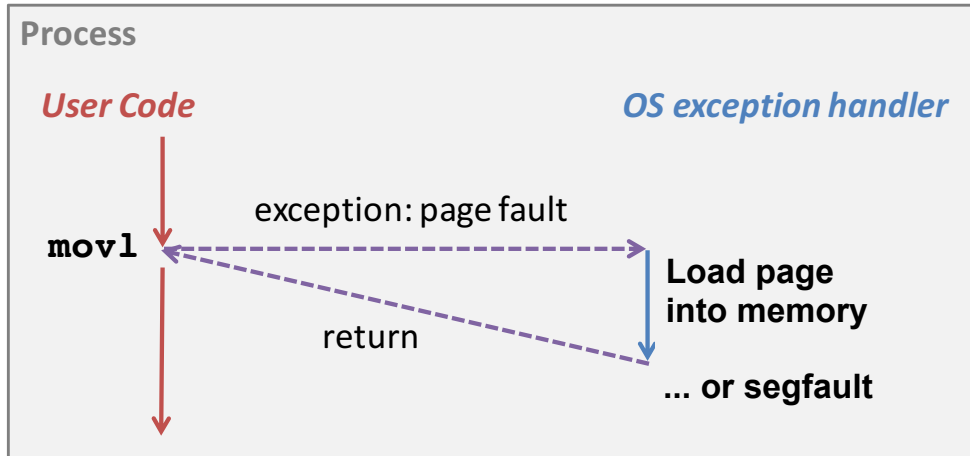


Address Translation

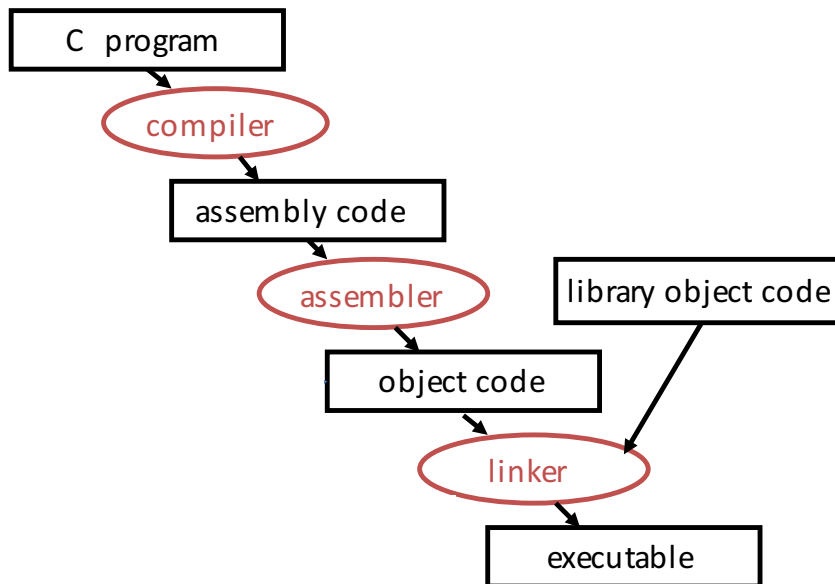
Memory Management Unit
translates virtual address to physical address



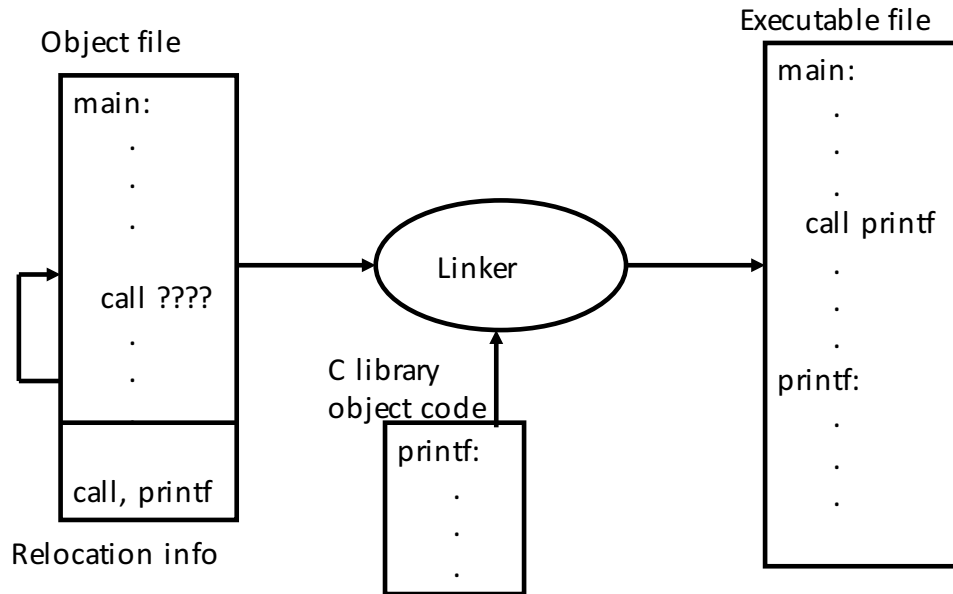
Page Fault



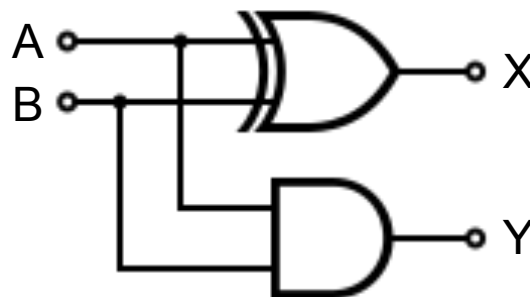
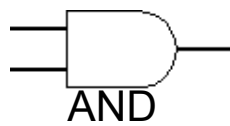
Program Generation Workflow



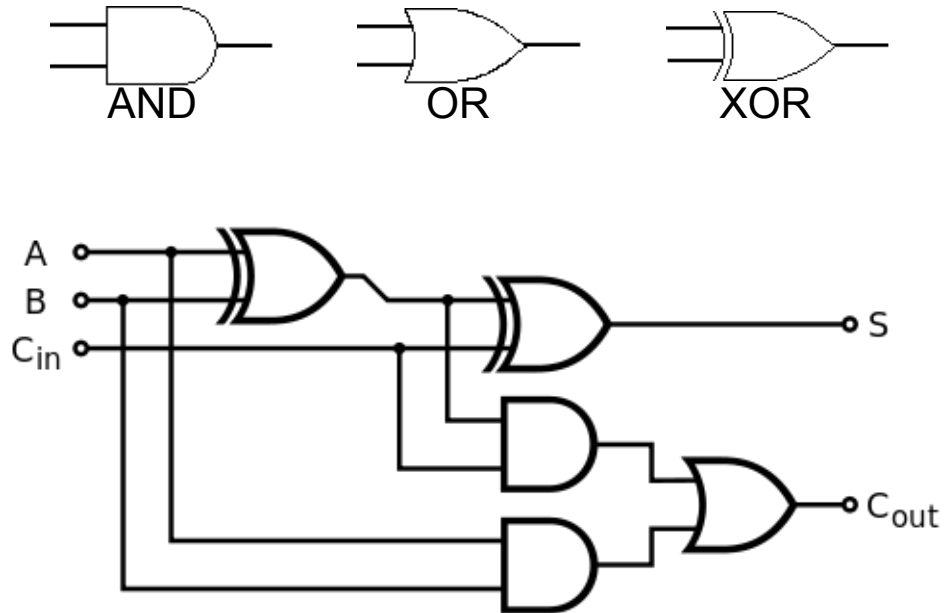
Linking Schematic



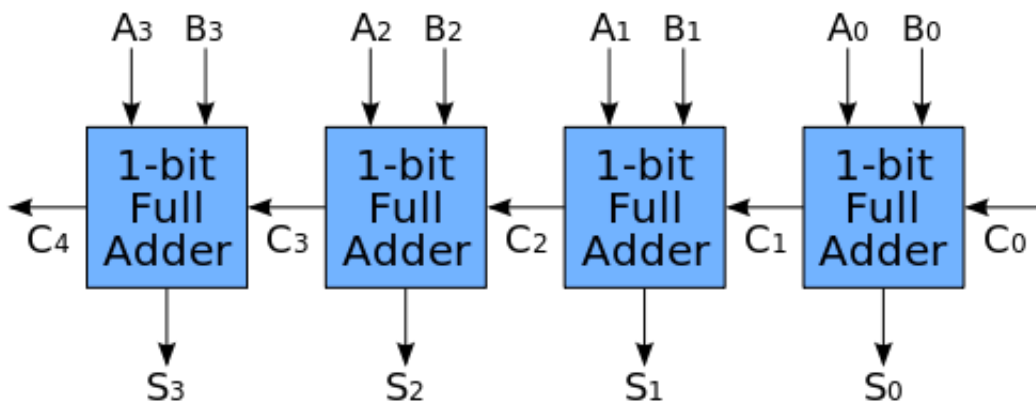
Circuits and Logic Gates



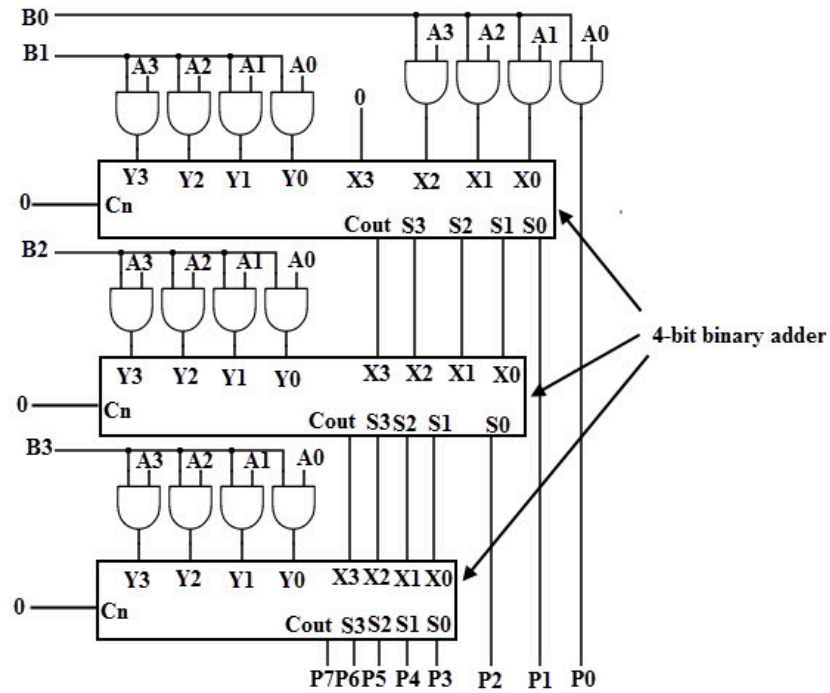
Full Adder



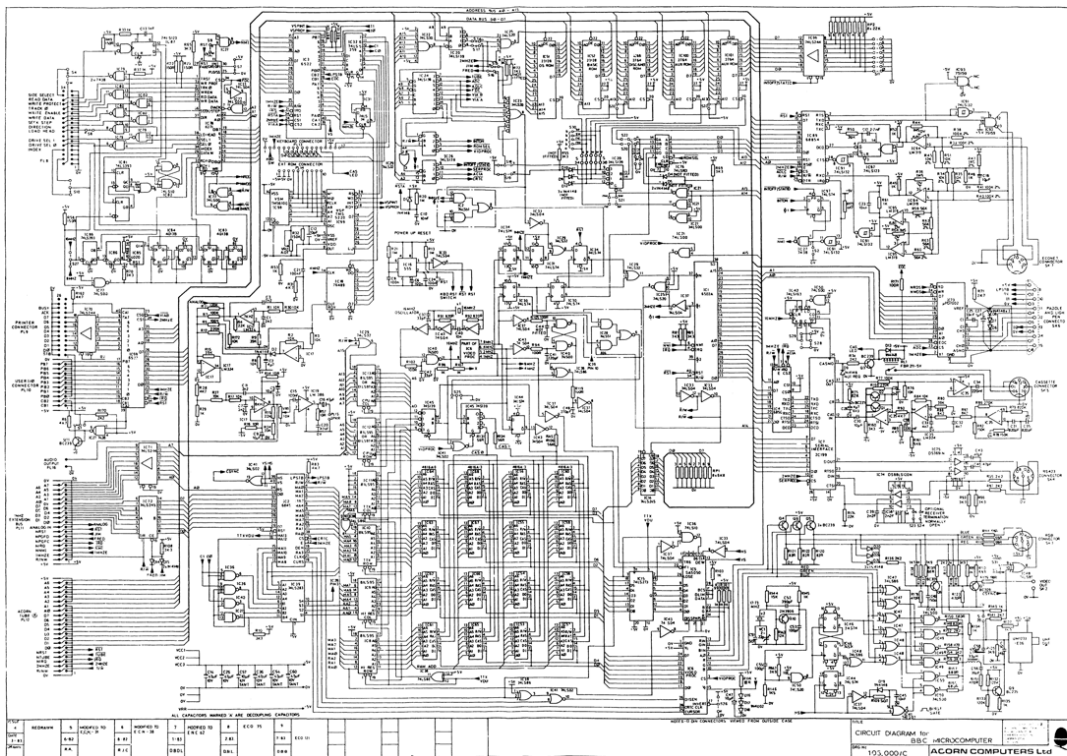
4-Bit Full Adder



4-Bit Binary Multiplier



Microprocessor (1980's)



Big Ideas in Systems

Abstraction

Representation

Performance

Security + Reliability

