

Computer Architecture Computer Organization

- oComputer Architecture
- oAttributes of a system visible to the programmer
- oHave a direct impact on the logical execution of a program
- oArchitectural attributes include:
 - oInstruction set, number of bits used to represent various data types, I/O mechanisms, techniques for addressing memory
- oComputer Organization
- oThe operational units and their interconnections that realize the architectural specifications
- oOrganizational attributes include:
 - oHardware details transparent to the programmer, control signals, interfaces between the computer and peripherals, memory technology used

+ IBM System/370

- ?A control unit manages the computer's resources and orchestrates (coordinate) the performance of its functional parts in response to instructions

Structure

- + There are four main structural components of the computer:
 - ?New models are introduced with improved technology, but retain the same architecture so that the customer's software investment is protected
 - ?CPU – controls the operation of the computer and performs its data processing functions
 - ?System Interconnection – some mechanism that provides for communication among CPU, main memory, and I/O
 - ?IBM System/370 architecture
 - ?Included a number of models
 - ?Hierarchical system