

COMPUTER

- Programmable Electronic device that can STORE, RETRIEVE, and PROCESS data.

STORED-PROGRAM CONCEPT

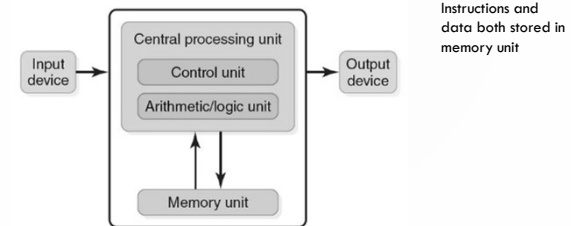


FIGURE 5.1 The von Neumann architecture.

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DATA HIERARCHY

- Bits
 - Short for binary digit (0 or 1)
- Characters
 - Decimal digits
 - Letters
 - Special symbols

DATA HIERARCHY

- Characters
 - Decimal digits
 - Letters
 - Special symbols
 - Unicode
 - Composed of 8, 16 or 32 bits
 - ASCII
 - American Standard Code for Information Interchange

DATA HIERARCHY

- Fields
 - Composed of characters or bytes that conveys meaning
- Records
 - Several related fields
- Files
 - Group of related records
 - Sequence of bytes

DATA HIERARCHY

- Database
 - Collection of data organized for easy access & manipulation
 - Relational database
- Big Data
 - Applications deal with massive amounts of data

MACHINE LANGUAGE

- Language made up of binary-coded instructions that is used directly by the computer.

ASSEMBLY LANGUAGE

- Low-Level programming language in which a mnemonic represents each of the machine-language instructions for a particular computer.

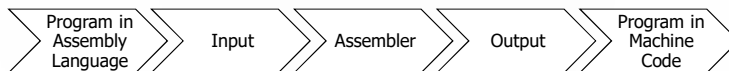
ASSEMBLER

- A program that translates an assembly-language program in machine code.

ASSEMBLER DIRECTIVE

- Instructions to the translating program.

PROGRAM CODED IN ASSEMBLY LANGUAGE



INPUT

- Written in assembly language to the assembler.

OUTPUT

- Written in machine code from the assembler.

PSEUDO CODE

- Language designed to express algorithms
- A notation resembling a simplified programming language, used in program design.