

Introduction

Microprocessor is a programmable integrating device has computing, storing, retrieving and decision making capability.

Note:

- Computer with microprocessor as its CPU is known as microcomputer.
- Microcomputer on a single chip is known as microcontroller.

History of Microprocessor

Microprocessor	Word length	Memory capacity
Intel4004 (PMOS)	4-bit	640 B
Intel 8008	8-bit	16 kB
Intel 8080 (NMOS)	8-bit	64 kB
Intel 8085 (NMOS)	8-bit	64 kB
Intel 8086 (HMOS)	16-bit	1 MB
Intel 8088	8/16-bit	1 MB
Intel 80186	16-bit	1 MB
Intel 80286	16-bit	16 MB real, 4 GB virtual
Intel 80386	32-bit	4 GB real, 4 GB virtual
Intel 80486	32-bit	4 GB real, 64 TB virtual
Pentium-II	64-bit	64 GB real
Z-80	8-bit	64 kB
Z-800	8-bit	500 kB

Table 1.1 : A brief review of various microprocessors

Computer language

1. Mnemonic

A combination of letters to suggest the operation of an instruction.

2. Program

A set of instruction written in a specific sequence for the computer to accomplish a given task.

3. Machine language

A computer uses binary digits for its operation.

4. Assembly language

In this language programs are written as English like word.

5. Low level language

Machine specific languages are known as low level language e.g. Machine language, Assembly language.

6. High level language

High level language are general purpose language which are machine independent language.

Assembler

It is a computer program that translates an assembly language program from mnemonics to the binary machine code of a computer.

Remember:

- High level language programming requires a translator like a compiler or an interpreter to translate the program written in a high level language to binary form.
- Interpreter reads one line at a time, converts it into object code, executes and then reads the next line but compiler reads whole program at a time and convert it into the object code and then execute.

Bit: A binary digit, 0 or 1

Nibble: A group of four bits

Byte: A group of eight bits

Word: A group of byte the computer recognizes and processor at a time.

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