

Preface

Ref. M. Morris Mano
~~Computer~~ geeksforgeeks.org

1. Computer Architecture :

Is concerned with the structure and behavior of the various functional modules of the computer and how they interact to provide the processing needs of the user.

→ Architecture describes "what the computer does".

2. Computer Organization :

Is concerned with the way the hardware components are connected together to form a computer system.

- computer organization deals with structural relationship.
- It contributes to ~~realize~~ realise the architectural specifications.

→ Organization describes "how it does it".

CA vs CO :

1. Architecture describes what the computer does? whereas Organization describes how it does it?
2. CA deals with functional behavior of computer system
CO deals with structural relationship
3. According to fig 1. it is clear that CA deals with high-level design issue.
whereas, CO deals with low-level design issue.

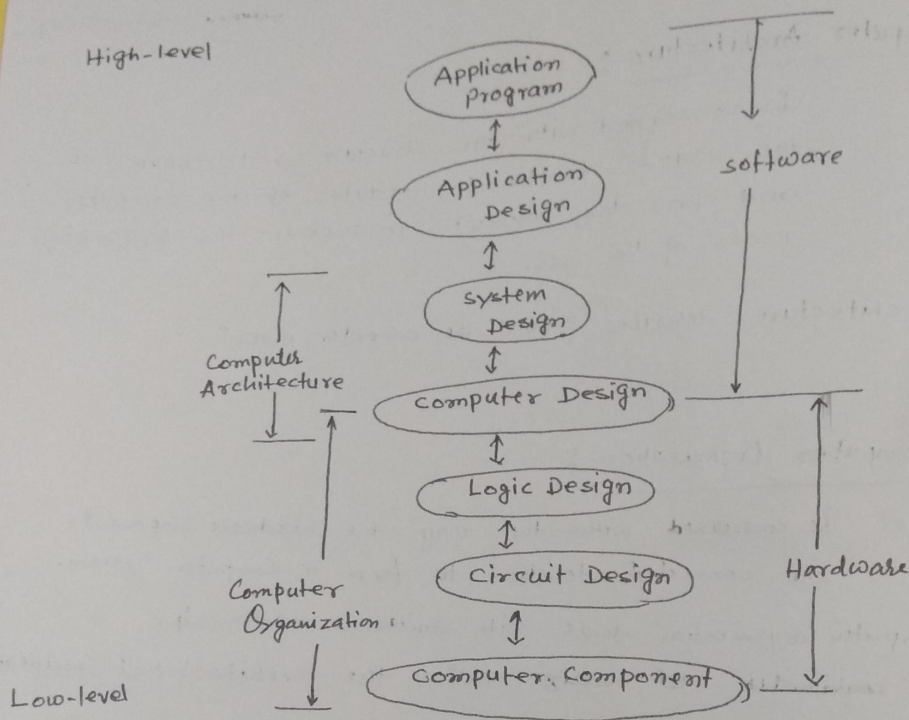


Fig-01 : Computer System.

4. Architecture indicates its hardware where organization indicates its performance.
 5. For Designing a computer, its architecture is fixed first.
- For Designing a computer, Organization is decided after its architecture.

Computer Organization | Basic Computer Instructions.

Ref. geekstogeeks.org

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The basic computer has 16-bit instruction register (IR) which can denote either memory reference or register reference or input-output instruction.

1. Memory Reference :- These instructions refer to memory address as an operand.

The other operand is always ⁱⁿ Accumulator.

specifies 12-bit address, 3-bit opcode (other than 111) and

1-bit addressing mode for

- Direct Addressing Mode
- Indirect Addressing Mode.

IF (Instruction Format)

