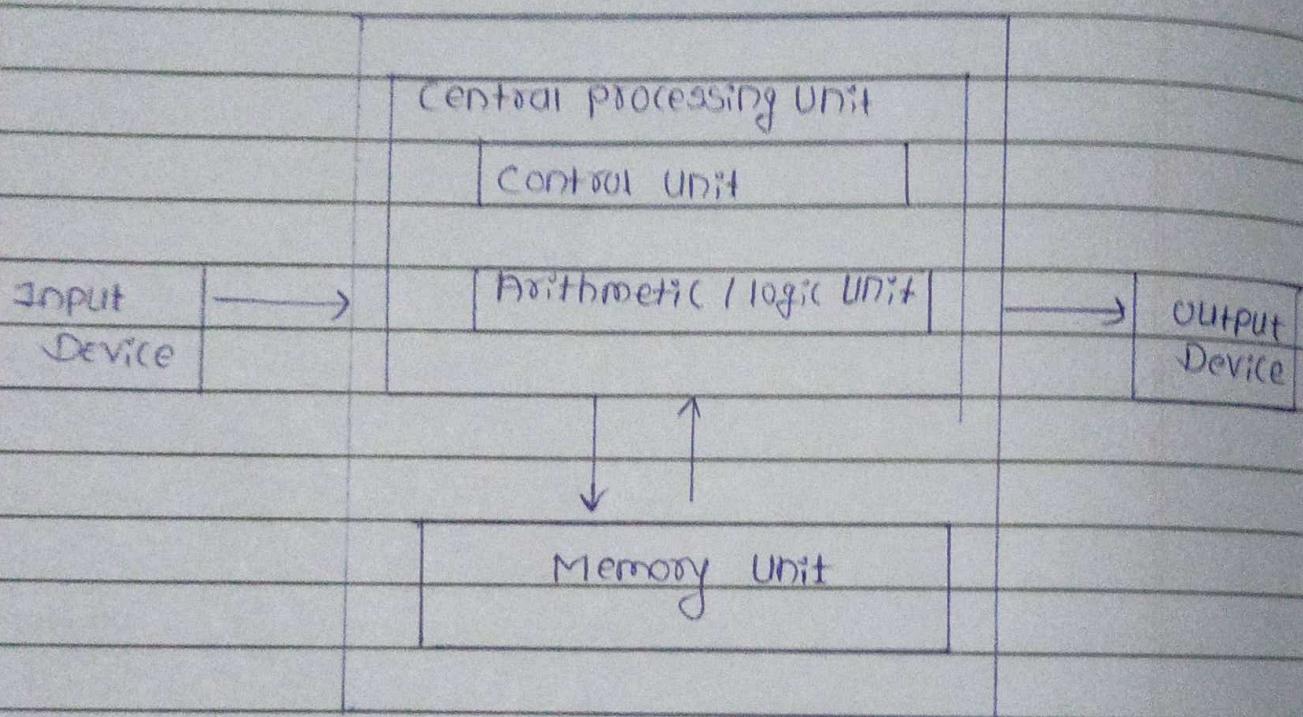


Introduction

Computer architecture and organization is a study of computer system it's internal working and usage of the system. Such a concept study is termed as CAO.

* Computer structure and function (CPU str.)

CPU stands for central processing unit, it will accept the input and produce the output



The inputs are taken from input devices, CPU will process the data and stores the content in the memory unit, the output gets generated from the output device such type of the concept of termed as CPU working.

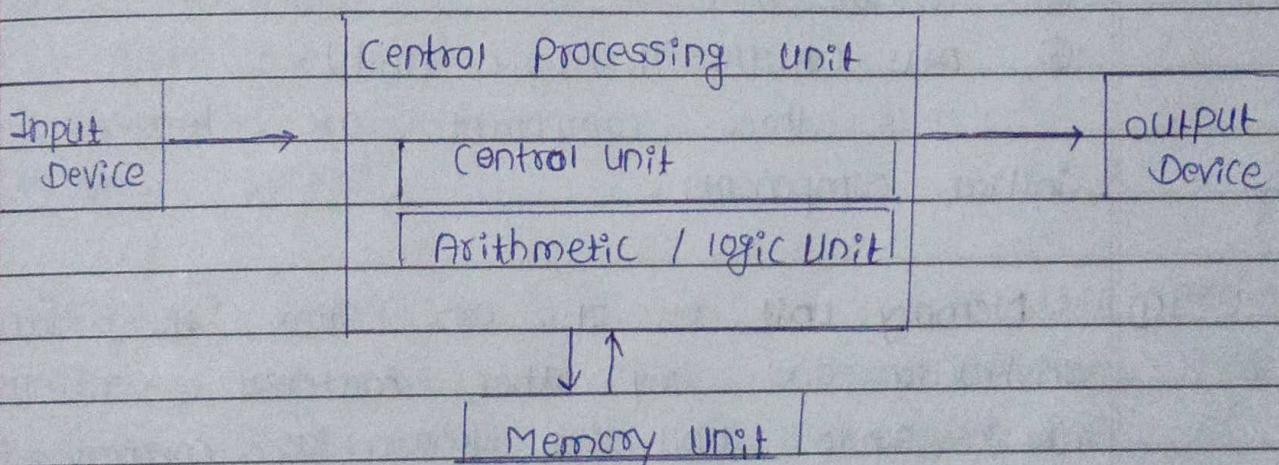
Computer architecture organization is the study of computer system, its internal working and you such of the system. Such concept study its come as Computer architecture organization.

Unit 1 Computer Architecture organization (CAO)

Introduction :-

Computer structure and functions (CPU structure)

CPU stands for Central processing Unity, it will expect the input and produces the output



The inputs are taken from input devices, central processing unit will process the data and stored the contains in the memory unit, the output gets generated from the output device such type of the concept is termed as CPU working

CPU

- ① It is the termed as brain of the computer
 - ② It performs all type of data operation
 - ③ It can store data, It can perform various operation.
 - ④ It controls each and every mechanism related to the working of CPU
- Therefore this is the main working of CPU.

CPU consist of three component

- ① Memory Unit or storage unit
- ② control Unit
- ③ ALU (Arithmetic / logic Unit)

This three component are termed as initial components.

- ① Memory unit :- It can store the date, instruction and any other material continuously into a single Unit i.e known as memory Unit.
It is also known as Ram (Random access memory) memory or main memory
It perform the operation like functions

- ① It stores date and instruction
- ② It Stores Report
- ③ It can store the date of input and output devices .
- ④ It can store the final result of the program.

② Control Unit

This unit will control the operation of the entire computer such unit is termed as control unit.

functions

- ① It performs data transfer.
- ② It manages the computer parts
- ③ It handles all the operation
- ④ It manages input and output devices
- ⑤ It does not store the data and process

③ ALU (Arithmetic & logic Unit)

There are two sections

- ① Arithmetic section
- ② logic section .

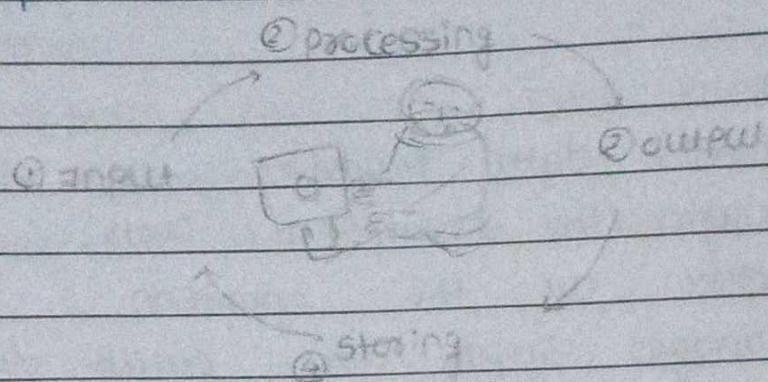
① Arithmetic section :- Arithmetic section will perform all the arithmetic operation like addition, subtraction, multiplication and division such type of the concept which is followed is termed as arithmetic operation in ALU .

② logic section :- Logic section is the particular concept of ALU which perform the operation like comparing, matching, merging & selecting this type of operation are totally followed in case of ALU .

This type of central processing Unit is one of the concept which is used to perform the operation of the CPU .

Computer function and interconnection

Diagrammatic representation basic functions of Computer are as follows :-



Their are four basic functions of computer
ie ① Input

② processing

③ output

④ storing

The functions are as follows

INPUT: ① Input has been posted to the computer

② The input will get process i.e The operation
get performed.

③ The output gets detected

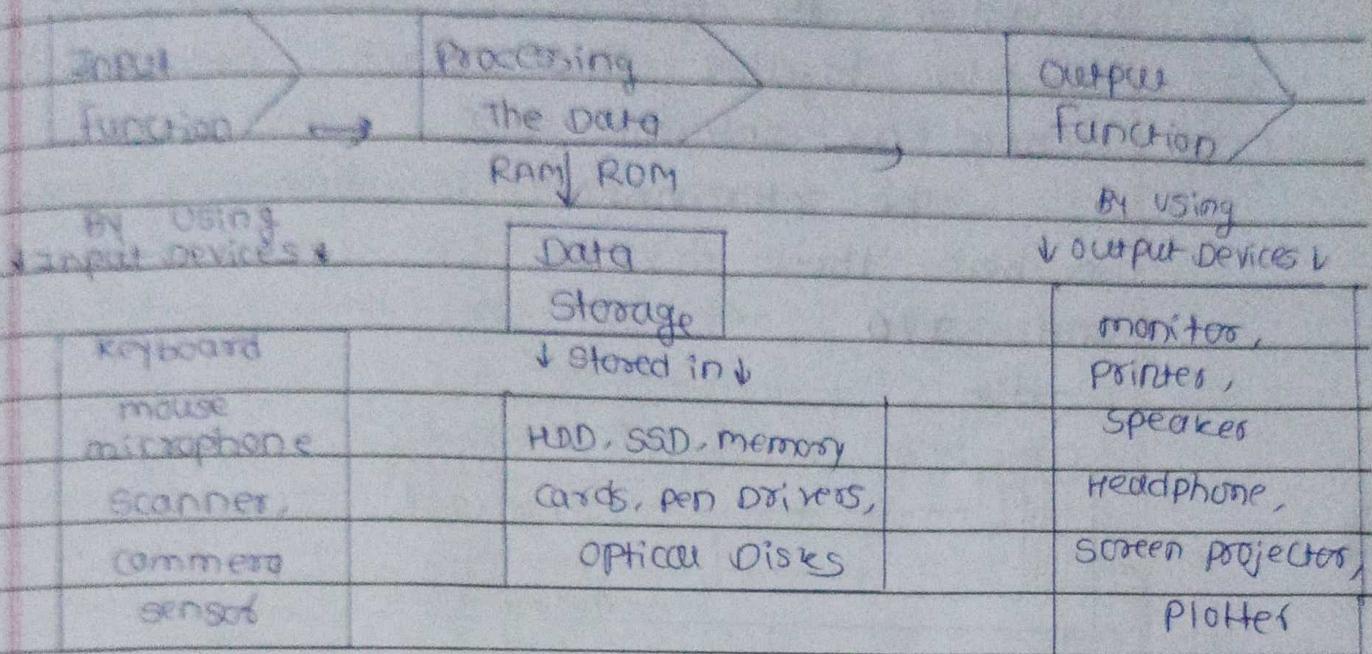
④ The output gets stored

This type of operation are used in computer system.

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Working of Computer function

Working of Computer Function



The initial working process is as follows -

- ① The input can be send from any input devices like keyboard, mouse, scanner, mic etc.
- ② The operation of processing gets start and after the processing gets done we have to store the data by using RAM and ROM ^{memory} and the data gets stored into the pen drives, HDD, SSD etc.

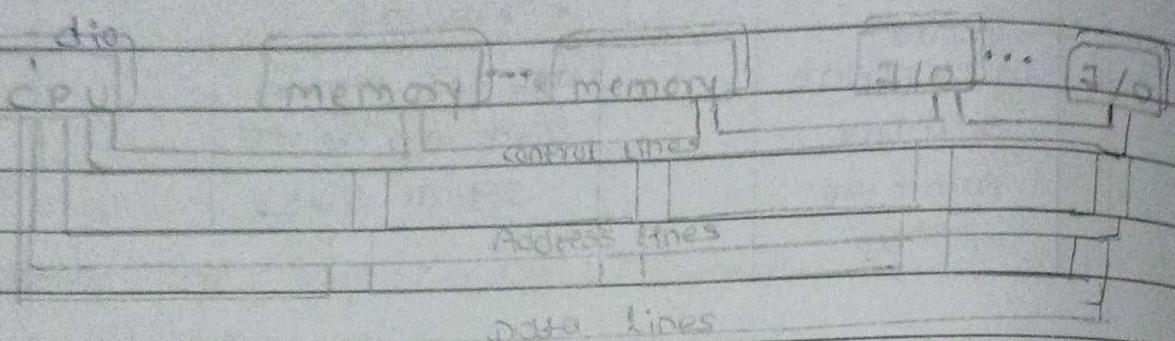
The output of the processing gets send to the output device and on the bases of it then operation get printed in monitor, projector screen or any other output devices therefore it is termed as output projection.

In this way the working of computer gets takes placed.

Interconnection Structure

When the devices of the computer are connected together then such concept is termed as interconnection.

The interconnection is generally taken place in between three devices i.e. CPU, Memory and I/O.



The operation of it gets done by using a the communication line, those communication lines is termed as 'Bus' there

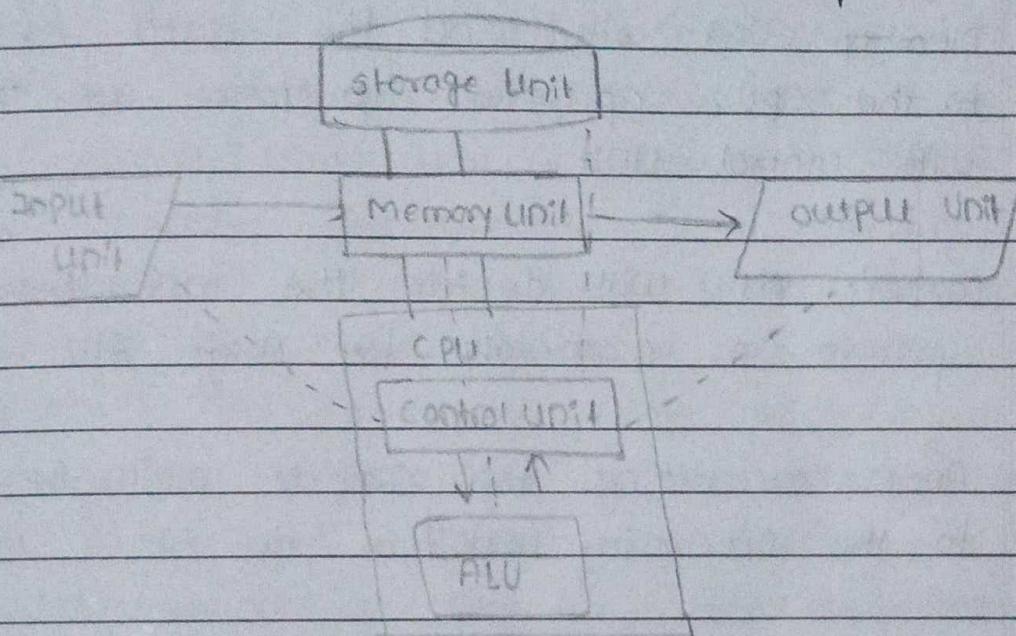
There are three types of buses

① **Data bus** (Data lines) :- It is a type of bus are the connection line which is used to passed the data form one computer to another therefore such type of the line is termed as data bus.

② **Address bus** :- Address bus is the type of bus which is used to send the address from one computer to another such type of the connectivity line is termed as address bus.

③ Control Bus (Control line) :- These are the type of connectivity line which is used to control all the components of the computer such type of the connectivity line is termed as Control bus.

* Fundamentals Unit of the Computer



Control flow of control

The fundamental units of computer are of five types

- ① Input Unit
- ② Storage Unit
- ③ Memory Unit
- ④ CPU
- ⑤ Output Unit

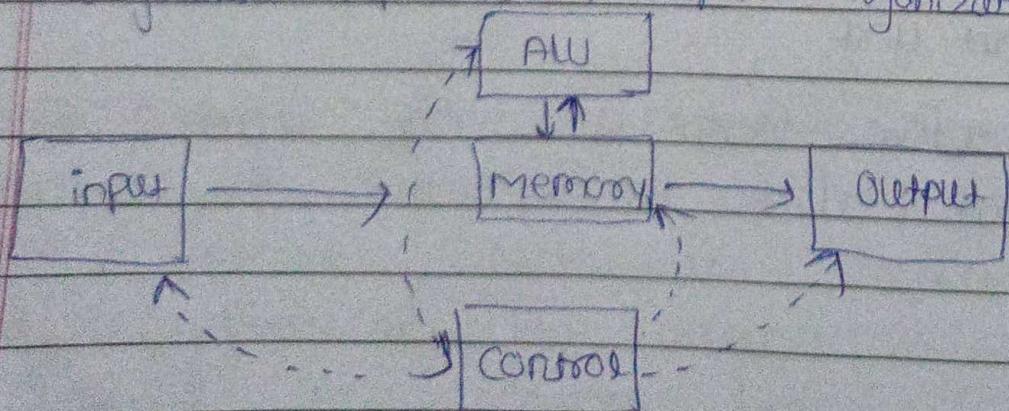
These five units are very much important in order to perform the operation of computer system.

- ① The working of fundamental unit is as follows
Input unit will send the Unit to the memory unit.
- ② Memory unit will store the entire data inside the storage unit. Storage unit will store the data combining inside the block.
- ③ Memory unit will send the data for operation to the CPU. CPU will perform all the operation with control unit.
- ④ Control unit will decide the operation and perform it accurately by using ALU.
- ⑤ After calculating the output will be send to the memory unit.
- ⑥ Memory unit will transfer to the output to the output unit and does the output gets derived.

Concept of computer architecture and organization.

Computer organization

Diagrammatic representation of Computer organization is as follows



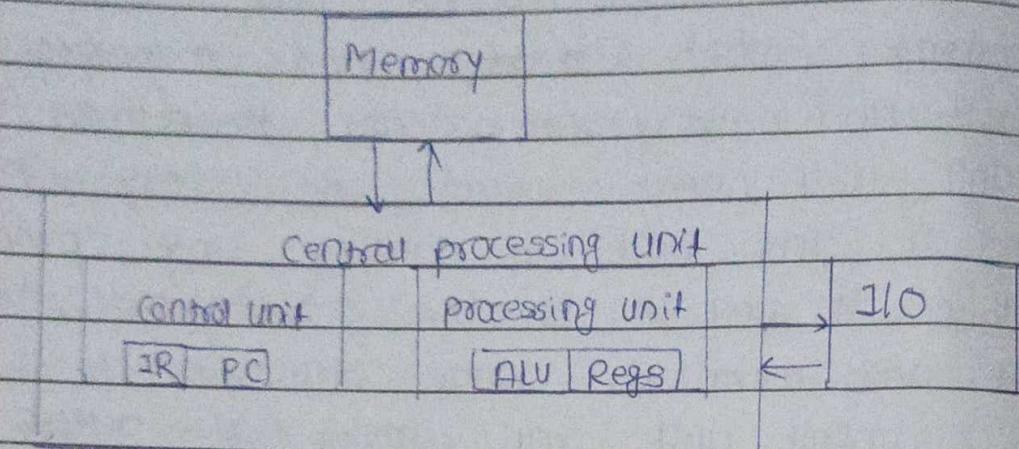
as there are total five basic concept but the major component of the computer organization is Control Unit. Control Unit act as a manager which handles and manages the each and every components therefore control unit will handle each and every operation and if any unit is showing any problem then if say it is the responsibility to solve it and make the error structure.

control unit will provide all duties of the computer organization i.e sending the input data to the input unit, checking the work of ALU and detecting whether the operation is perfectly done or not, the storage is available in the memory unit or check and output in displaying in the proper manner or not is displayed therefore the key component comp. organ. is control unit.

if the operation of control unit is properly done then only the input will send the data to the memory perform the proper ALU operation and detecting the output at last this type of working is followed in the computer organization.

Computer architecture

Diagrammatic representation is as follows:-



firstly the input is send to the CPU then the CPU consist of two basic unit like control unit and processing unit

control unit will manage all the operation
 i.e. it consist of two parameter i.e. IR register which is used for handing the least of component to perform and PC i.e. program counter is used to calculate the working process therefore such type of the concept come under control unit

processing unit will consist of the component to be used in order to performing of operation ALU consist of all the arithmetic and logical operation and registered consist of the space to perform the operation , the output is given and stored the inside the memory for the further use and the copy of output is send to the output device in order to perform the

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operatn therefore such type of mechanism comes under computer architecture therefore this components are combinly used to learn the computer organization and architecture concept .