How CPU works

~~In~~

CPU - central processing unit

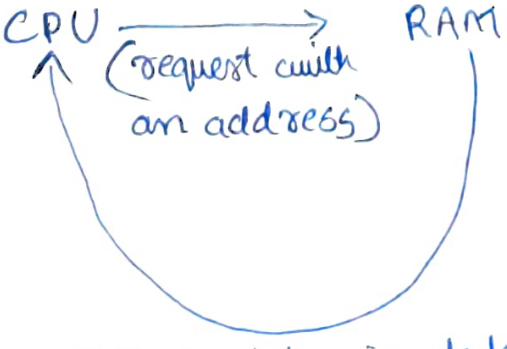
* brain of the computer.
* Consist of register, control unit, arithmetic logic unit (ALU).
* Address bus for ~~transmitting~~ carrying address.
  Data bus for data.

~~CPU is synchronized~~

* Every action in CPU synced by a clock.
* Clock produce a clock signal in range (MHz - GHz)
* Each cycle performs simple operation.

* CPU access data from RAM.
* RAM - Random Access Memory.
* Normal data can be accessed only in a particular order from a memory. But in RAM it can be accessed ~~in any~~ randomly.
* CPU takes data ~~from~~ for current operation from RAM.

* ~~CP~~ How CPU take data from RAM.



Note:

only if enable wire is activated.

Data in RAM: numbers,
addresses,
instruction for CPU,
encoded letters.

* Stored as '1's and '0's.

Instruction Sets for CPU.

1) Load
2) Add
3) Compare
4) control Jumps

} most common.

~~and~~

* These instructions decide on how a CPU perform various actions.

Working of CU and ALU.

* when the data is fetched, it is processed by the ALU based on the commands or ~~in~~ instructions from CU.

* There are also Flags.

These flags are just wires that become low or high based on some condition. They do not transmit any output but to show any current state.

~~The~~

Hard drives

* When the power is turned off the entire data in ~~RAM~~ RAM is lost since it is an volatile memory.
* ~~But~~ So a hard drive is used for this.
* The movement of the arm ~~in~~ above the magnetic disk is very fast but not as fast as computation done in CPU.
* So first data is loaded to ~~RAM~~ RAM from there CPU access it.