

OPERATING SYSTEMS : CPU + MAIN MEMORY

- All computers are based on the "Von Nuemann Architecture" design (internal)
- Reasons for dev. of Von Nuemann → old computers could only store basic data and not programs / instructions

COMPONENTS

i). Processor (essentially the entire PC)

i) Main memory → Data is stored in binary form

↳ Divided into memory location, each of which has a different address → which itself is also in binary

ii) CPU → where data is processed

MAIN MEMORY : RAM / ROM

CPU : IAS (Immediate Access Storage → Memory)

CU (Control Unit → Processor)

ALU (Arithmetic Logic Unit (calculation → uses basic arithmetic and logical operators))

ALU → "Accumulator Register" → where temp. data is stored for calculations

Register = - Where memory is temporarily stored
- Registers are located in high-speed storage areas

CU → - Controls the flow of data
- Controls interaction of different components of CPU
- Controls instructions given to CPU components

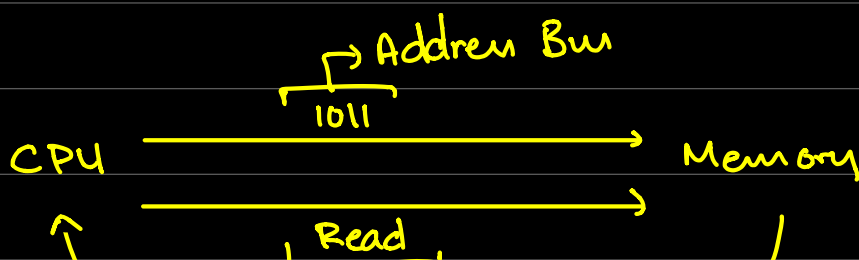
IAS → - Volatile storage for temp. info for speedy operation
- Obtains data from the main memory
- Relatively low storage space vs. SSD or HDD

INTER-CONNECTIONS OF CPU

Connected via BUSES → "highway" for information
"Bus" = series of conductors / pathways

Three components of data = ① Data
② Address → Address Bus
③ Read / Write. ← Control bus

Each of these three components are transferred through their own bus, i.e. data bus



Control Bus

11110011
Data Bus

