

Emulating a Simple 16-Bit Microprocessor

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Microprocessor:

Microprocessor is an integrated circuit. It contains registers, memory, program counter, Accumulator, Instructor.

➤ **Registers:**

Registers are used to store values temporarily.

➤ **Memory:**

Memory is used to store address of variables.

➤ **Program Counter:**

Program counter is used to control the flow of execution.

➤ **Accumulator:**

Accumulators are used to store the results of register.

➤ **Instruction:**

Instructions are passed to a process.

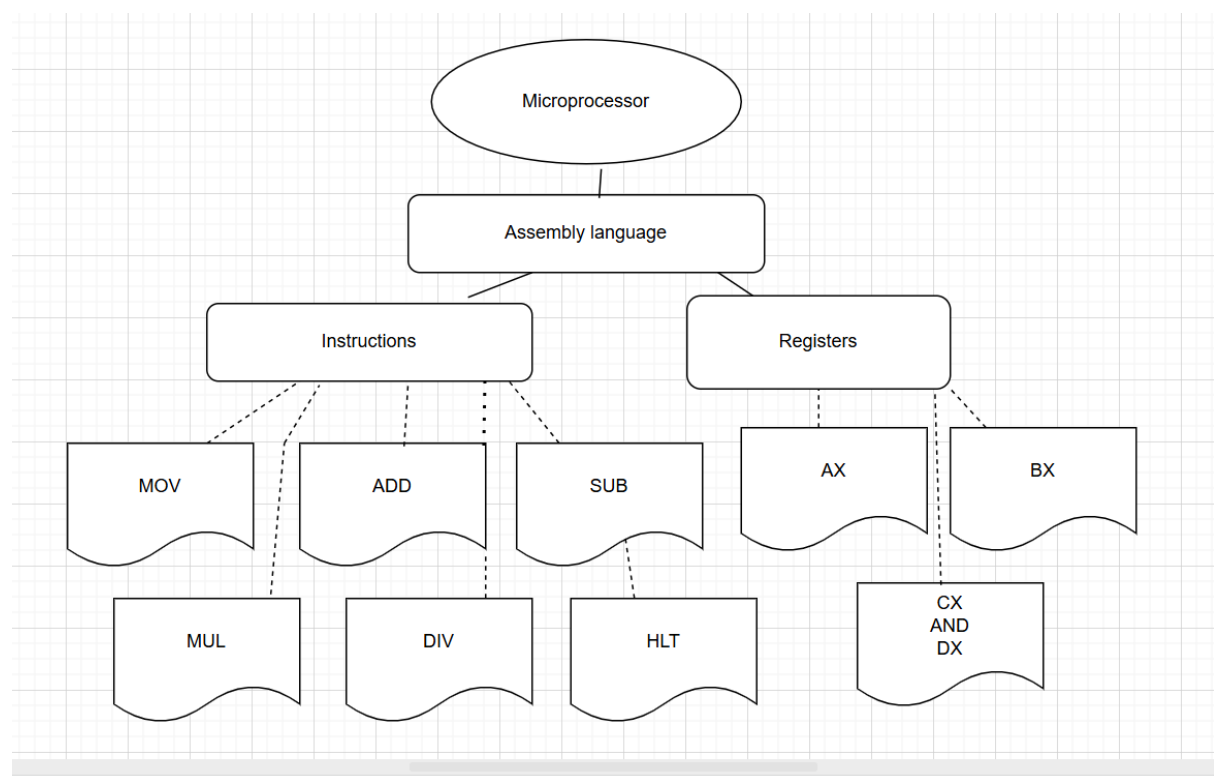
Assembly Language:

Assembly language uses different instructions to perform multiple operations.

The operations include add, remove, clear, multiple, division, etc.

Goal:

The main aim is to run the instruction, store and perform the arithmetic operations over the process.



Instructions:

- MOV:
Used to move the value from one register to another.
- ADD:
Used to add two registers value.
- SUB:
Used to subtract two registers value.
- MUL:
Used to multiply two registers value.
- DIV:
Used to divide two registers value
- HLT:
Stop the process.

Registers:

- AX
- BX
- CX
- DX

Are registers used to store the values temporarily.

Thank you