Addressing Modes in 8085 up →

The way of specifying data to be operated by an instruction is called addressing mode

Types of addressing mode :-

In 8085 up there are five types of addressing modes :

(a) Immediate Addressing mode :

In this addressing mode the source operand is always data. If data is 8 bit, then instruction will be of 2 bytes. If data is of 16 bit then instruction will be of 3 bytes

Example : MVI B, 45H
LXI H, 3050H
JMP 2050H
CALL 3000H.

(b) Direct Addressing mode :

In this mode, the data to be operated is available inside a memory location and that memory location is directly specified as an operand.

Example : LDA 2050H.
LHLD 2000H.
IN 35H.

(c) Register Addressing mode :

In this addressing mode, the data to be ~~copied~~ operated is available inside the register(s) and register(s) is (are) operands. Therefore the operation is performed within various registers of the microprocessor

Example : MOV A, B
ADD B.
INR A

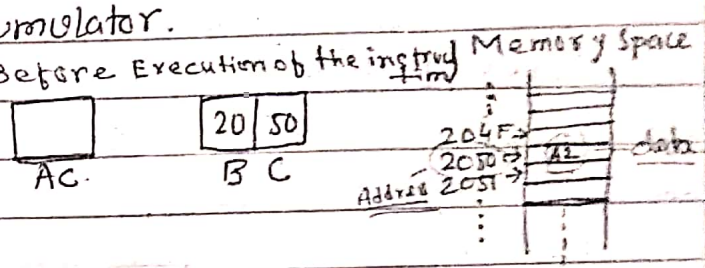
(d) Register Indirect Addressing mode :

In this addressing mode, the data to be operated is available inside a memory location and that memory location is indirectly specified by a register pair.

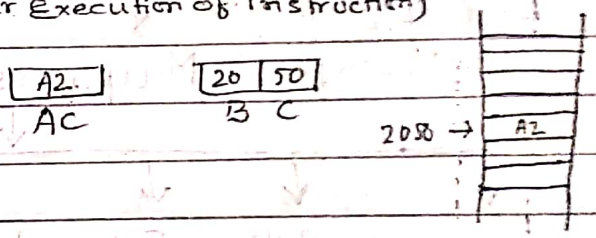
Example : MOV A, M. - Here the content of the memory location Pointed by the H-L pair (i.e. - M) is copied to Accumulator (Ac).

LDAX B - Here the content of the memory location pointed by the B-C pair is copied to Accumulator.

⇒ (Before Execution of the instruction)



⇒ After Execution of instruction)



(e) Implied / Implicit Addressing mode:

In this addressing mode, the operand is hidden and the data to be operated is available in the instruction itself.

Example : CMA
RRC
RLC