4th Dec

immediate

Register pair

ⓒ LXI Rp, 2 bytes data (Load register pair)
↳ Rp

↳ 3-byte instⁿ

↳ loads immediate data to register pair

- Register pair
  - BC (B)
  - DE (D)
  - HL (H)
  - SP (STACK ptr)

1st byte → op-code
2nd byte → lower order data
3rd byte → higher order data

- Eg: LXI D, 4080H
  &
  DE pair

D ← 40 H
E ← 80 H

(f) MVI M, data (load memory immediate)

↳ 2 byte instruction

↳ loads 8 bit data to the memory location

↓

address specified by contents of HL pair

Eg:

MVI M, 35H

[HL] ← 35H

H = 40H
L = 00H

Address	Data
4000H	35H

↓

initialize 1st ma garna parxa

(g) LDA 16 bit address (load accumulator direct)

↳ 3 byte instⁿ

↳ loads accumulator w. contents of memory location whose address is specified by 16 bit address.

• Eg: LDA 3050H

A ← [3050H]

↳ yesma 11H data xa vane
A ma 11H load hunxa

(h) LDAX Rp (load accumulator indirect)

↳ Reg pair → only for • BC
• DE
pairs

≠ HL pair

↳ 1 byte instn
euta HEX code le rep garna milxa

↳ loads contents of memory location pointed by contents of register pair to accumulator.

• Eg: LDAX B // A ← [BC]

↳ ya location point garne data is in A

LXI D, 8000H // D = 80, E = 00

LDAX D // A ← [8000] = 22H

1 load accumulator w. content of 4550H. using HL pair (M)

LXI H, 4550H

↳H ↳L

MOV A, M Reg ← memory

HLT

(i) STA 16-bit address (store accumulator contents direct)

↳ 3 byte instⁿ

↳ stores content of A to specified address

• Eg:

STA 3A55H

22H

[3A55] ← [A]

yo memory location ma A ko data rakhne ho

22H

Note: LDAX, STAX → only for BC, DE

≠ HL pair (not)

(1) STAX Rp (store accumulator contents indirect)

↳ direct address: xaing

↳ 1 byte instⁿ

↳ stores content of A to memory location specified by content of register pair.

- Eg: STAX B

```
MVI A, 55H
LXI B, 3545H
STAX B
HLT
```

BC [3545] → 55H

2. Copy content of location 2050H to 3050H

i) using HL pair

```
LXI H, 2050H ; H=20H, L=50H
MOV A, M      ; A ← memory
LXI H, 3050H
MOV M, A      ; mem ← A
HLT
```

; MVI H, 30H (as L is already 50H in both)

1 byte ↓

STA 3050H

w/o using BC pair

LDA 2050 H

for both source & destination

iii) using BC pair

```
LXI B, 2050H      ; B = 20H   C = 50H
LDAX B            A ← [BC]

LXI B, 3050H      ; MVI B, 30H
STAX B            [BC] ← A
HLT
```

STA 3050 H

3. Exchange content of locations 4000H & 5000H

Address	Data
4000 H	22H
5000 H	33 H

o/p

Address	Data
4000 H	33 H
5000 H	22 H