

Opcode	Operand	Description
Copy from source to destination		
MOV	Rd, Rs	This instruction copies the contents of the source register into the destination register; the contents of the source register are not altered. If one of the operands is a memory location, its location is specified by the contents of the HL registers. Example: MOV B, C or MOV B, M
M, Rs		
Rd, M	Move immediate 8-bit	The 8-bit data is stored in the destination register or memory. If the operand is a memory location, its location is specified by the contents of the HL registers. Example: MVI B, 57H or MVI M, 57H
MVI	Rd, data	The contents of a memory location, specified by a 16-bit address in the operand, are copied to the accumulator. The contents of the source are not altered. Example: LDA 2034H
M, data		
Load accumulator		
LDA	16-bit address	The contents of the designated register pair point to a memory location. This instruction copies the contents of that memory location into the accumulator. The contents of either the register pair or the memory location are not altered. Example: LDAX B
Load accumulator indirect		
LDAX	B/D Reg. pair	The instruction loads 16-bit data in the register pair designated in the operand. Example: LXI H, 2034H or LXI H, XYZ
Load register pair immediate		
LXI	Reg. pair, 16-bit data	The instruction copies the contents of the memory location pointed out by the 16-bit address into register L and copies the contents of the next memory location into register H. The contents of source memory locations are not altered. Example: LHLD 2040H
Load H and L registers direct		
LHLD	16-bit address	
Store accumulator direct		
STA	16-bit address	The contents of the accumulator are copied into the memory location specified by the operand. This is a 3-byte instruction, the second byte specifies the low-order address and the third byte specifies the high-order address. Example: STA 4350H
Store accumulator indirect		
STAX	Reg. pair	The contents of the accumulator are copied into the memory location specified by the contents of the operand (register pair). The contents of the accumulator are not altered. Example: STAX B
Store H and L registers direct		
SHLD	16-bit address	The contents of register L are stored into the memory location specified by the 16-bit address in the operand and the contents of H register are stored into the next memory location by incrementing the operand. The contents of registers HL are not altered. This is a 3-byte instruction, the second byte specifies the low-order address and the third byte specifies the high-order address. Example: SHLD 2470H
Exchange H and L with D and E		
XCHG	none	The contents of register H are exchanged with the contents of register D, and the contents of register L are exchanged with the contents of register E. Example: XCHG

Copy H and L registers to the stack pointer

SPHL none The instruction loads the contents of the H and L registers into the stack pointer register, the contents of the H register provide the high-order address and the contents of the L register provide the low-order address. The contents of the H and L registers are not altered. Example: SPHL

Exchange H and L with top of stack

XTHL none The contents of the L register are exchanged with the stack location pointed out by the contents of the stack pointer register. The contents of the H register are exchanged with the next stack location (SP+1); however, the contents of the stack pointer register are not altered.

Example: XTHL

Push register pair onto stack
 PUSH Reg. pair
 Pop off stack to register pair

The contents of the register pair designated in the operand are copied onto the stack in the following sequence. The stack pointer register is decremented and the contents of the high-order register (B, D, H, A) are copied into that location. The stack pointer register is decremented again and the contents of the low-order register (C, E, L, flags) are copied to that location.

Example: PUSH B or PUSH A

POP Reg. pair

The contents of the memory location pointed out by the stack pointer register are copied to the low-order register (C, E, L, status flags) of the operand. The stack pointer is incremented by 1 and the contents of that memory location are copied to the high-order register (B, D, H, A) of the operand. The stack pointer register is again incremented by 1. Example: POP H or POP A

Output data from accumulator to a port with 8-bit address

OUT 8-bit port address The contents of the accumulator are copied into the I/O port specified by the operand.

Example: OUT F8H

Input data to accumulator from a port with 8-bit address

IN 8-bit port address The contents of the input port designated in the operand are read and loaded into the accumulator. Example: IN 8CH



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