# Microprocessor 8085
# ADDRESSING MODES

# Types of Instruction

The term addressing mode refers to the way in which the operand of the instruction is specified.

Types of addressing modes in 8085 are:

1. Direct addressing mode
2. Register addressing mode
3. Register indirect addressing mode
4. Immediate addressing mode
5. Implicit addressing mode

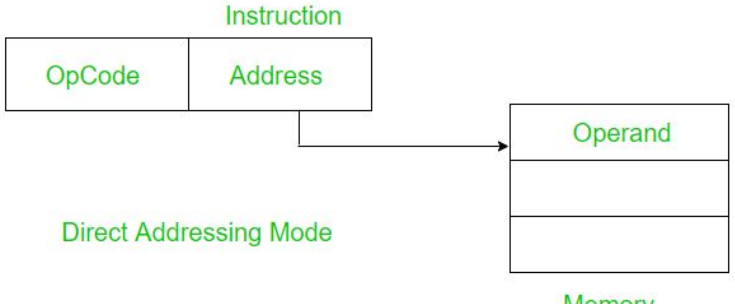
# Direct Addressing mode

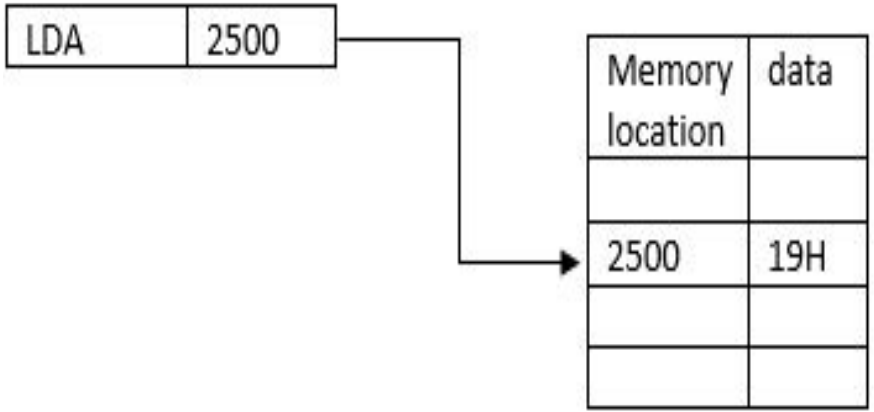
In this mode, the address of the operand is given in the instruction itself.

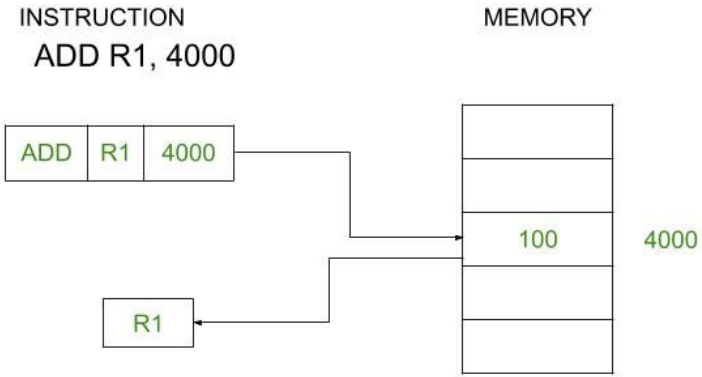
| | |
|---|---|
| LDA 2500H | Load the contents of memory location 2500H in accumulator |

- LDA is the operation
- 2500H is the address of source
- Accumulator is the destination

# Direct Addressing mode



# Register Addressing mode

In this mode, the operand is in general purpose register

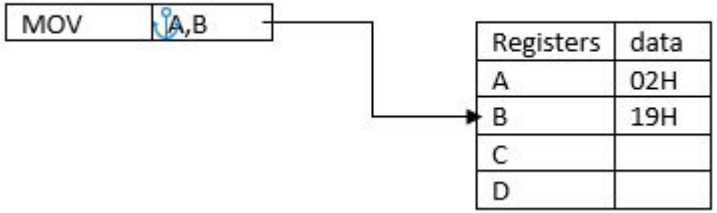
| | |
|---|---|
| MOV A, B | Move the contents of register B to A |

- MOV is the operation
- B is the source of data
- Accumulator is the destination

# Register Addressing mode

| | |
|---|---|
| MOV A, B | Move the contents of register B to A |


Register mode



# Register Indirect Addressing mode

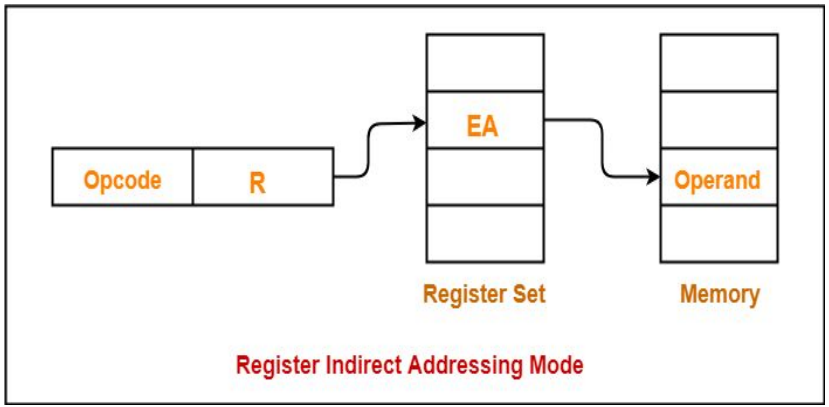
In this mode, the address of operand is specified by a register pair

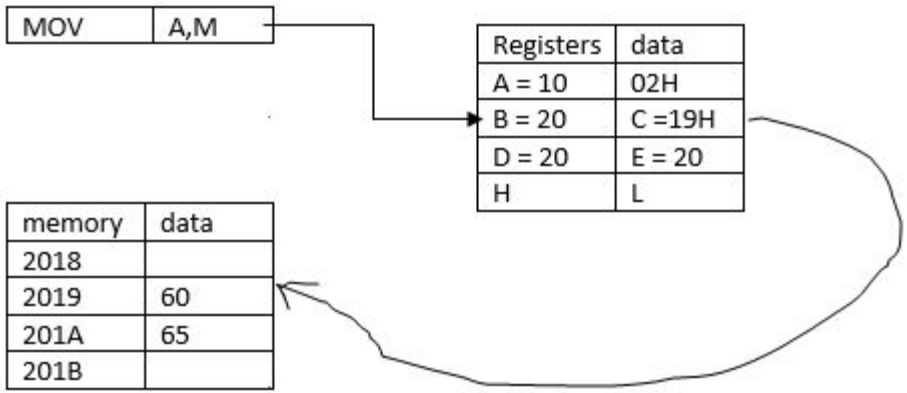
| | |
|---|---|
| MOV A, M | Move data from memory location specified by HL pair to accumulator |

- MOV is the operation
- M is the memory location specified by HL register pair.
- Accumulator is the destination

# Register Indirect Addressing mode

| | |
|---|---|
| MOV A, M | Move data from memory location specified by HL pair to accumulator |



# Immediate Addressing mode

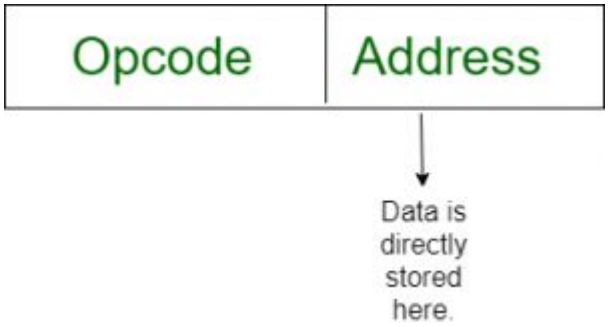
In this mode, the operand is specified within the instruction itself

| | |
|---|---|
| MVI A, 05H | Move 05H in accumulator |

- MVI is the operation
- 05H is the immediate data (source).
- Accumulator is the destination

# Immediate Addressing mode

| | |
|---|---|
| MVI A, 05H | Move 05H in accumulator |




| | |
|---|---|
| MVI | 05H |

| Registers | data |
|---|---|
| A = 05 | 02H |
| B = 20 | C =19H |
| D = 20 | E = 20 |
| H | L |

# Implicit Addressing mode

If address of source of data as well as address of destination of result is fixed, then there is no need to give any operand along with the instruction

| | |
|---|---|
| CMA | Complement accumulator |

- CMA is the operation
- A is the source
- A is the destination