# Instruction Set – 8085

The Microprocessor 8085 consist of the following Instruction Set –
- Data Transfer Instruction Set
- Arithmetic Instruction Set
- Logical Instruction Set
- Stack Related Instruction Set
- Branching Instruction Set
- Interrupt Control Instruction Set
- Machine Control Instruction Set

# Data Transfer Instruction Set

The instructions which are used for transferring 8/16 bit number from one place (source) to another place (destination) are called Data transfer Instruction set.

➢ **MOV Rd, Rs**  (Move register Rs data into destination register $R_d$)

         # The addressing mode is register direct addressing mode.

         #  This is Single Byte Instruction.

➢ **MVI Rd, data(8bit)** (Move immediate data into destination register $R_d)$

         # The addressing mode is  immediate addressing mode.

         #  This is Double Byte instruction .

➢ **LXI Rp , data(16bit)**  (Load Register pair Rp with immediate data).

         # The addressing mode is Immediate addressing mode.

         #  This is Tripple Byte Instruction.

**MOV Rd, M**  (Move memory data into destination register $R_d$).

> \# Whenever operand M is given in instruction, microprocessor wiill transfer 16-bit address of that memory location from register pair HL.
>
> \# Register Indirect Addressing Mode
>
> \# Single Byte Instruction

**MOV M, Rs**  (move source register Rs data into memory)

> \# Register direct addressing mode
>
> \# This is Single byte instruction

**MVI M, data(8bit)**  Move immediate data into memory.

> \# Immediate Addressing mode.
>
> \# This is Double type instruction.

**LDAX Rp**  (Load accumulator from register Rp address data)
   The address is in the register pair Rp and data is present in the
   memory location whose address is given in register pair.
   #  Register Indirect Addressing Mode.
   #  It is single byte instruction.

**STAX Rp**  (Store accumulator at the given register pair Rp address).
   # Register Indirect Addressing Mode.
   # It is single Byte Instruction.

**LDA address (16- bit)**  (Load accumulator from the given address data

   # Direct addressing mode.
   # It is Tripple Byte Instruction.

**STA address (16-bit)**  (Store accumulator at the given address).
   # Direct addressing mode.
   # It is Triple Byte Instruction.

**LHLD address(16-bit)** (Load HL pair direct from the given address data).

# Direct addressing mode.

# It is Triple Byte instruction.

**SHLD address (16-bit)** Store HL pair direct at the given address.

# Direct addressing Mode.

# It is Triple Byte Instruction.

**XCHG** Exchange the data of register pair HL with DE.

# Implicit Addressing mode.

# It is a Single Byte Instruction.