INTERFACING OF 8085 TO MEMORY

EXAMPLE: DESIGN THE INTERFACE FOR INTERFACING SINGLE CHIP OF 64K MEMORY WITH 8085MP

1. Memory of 64K capacity needs 16 address lines (A0_A15) using (multiplexer IC AD0_AD7) and A8_A15 directly connected to MP (A8_A15)

2. Data lines (D0_D7) of memory will be connected to (AD0_AD7) lines

3. RD & WR signals are connected

4. The chip select input of memory is connected to 10/M output of 8085 the chip will be enabled only when 10/M goes low
There are many types of circuits deals with simple display like LED as show below:

Data bus D7_D0 are connected to the octal latch.

LED cathods are connected to the Q output of latch the anode are connected to +5V through resisters to limit the current flow through the diodes when data line D7 for Example has 1 the o/p of D_ff at Q=0 and the corresponding LED is turned on.

**PROGRAM:** MVI A,Data

Out FFh ,output the acc content of port FFh
**INTERFACING INPUT KEYBOARD:**

Interfacing keywords used to input data to the MP using either ON/OFF key, as DIP switch, push button keys or matrix keys.

Matrix keyboard as input put devise

```
R3    R2    R1    R0
---    ---    ---    ---
c3  c2  c1  c0
```

```
D/P SWITCH

MATRIX

VCC

Out put

push button

+5V
```
to reduce the number of connection keys arranged in a matrix form

Here 16 keys using only 4 rows and 4 columns. Otherwise, the row and the column do not have any connection. This keyboard required 8 lines only to make all connection instead of 16 lines.

The row and columns are connected only when a key is pressed. Port A is output port. The data bus is connected to A are (D0_D3) for these matrix key to read them, a software technique called MATRIX scan is used to read data from keyboard as:

![Diagram of the keyboard connection]
1. Check whether all keys are open in this step the program check all row by sending (0000) to O/P port it read the input port.

2. IF all keys are open the input reading on data lines(D0_D3) should be (1111); if one key is closed the reading less than (1111)

3. Identify the key some what complex procedure one akey closure is found the key should be identi fied by grounding one row at atime and checking each column for zero.

4. Finding the binary key code of the key, this key code identified through the counter procedure(0_F).