

Unit 4
LECTURE 2

BCD TO SEVEN SEGMENT CODE CONVERSION

Problem Statement: A set of three packed BCD numbers are stored in memory location starting at XX50H. The seven segment codes of digits 0 to 9 for common cathode LED are stored in memory location starting at XX70H and output buffer is reserved at XX90H. WAP & two subroutines called UNPAK and LEDCOD to unpack BCD numbers and select an appropriate seven segment code for each digit. The code should be stored in output buffer memory.

BCD TO SEVEN SEGMENT CODE CONVERSION

LXI SP, 27FFH

LXI H,XX50H

MVI D, 03H

CALL UNPAK

HLT

UNPAK: LXI B, BUFFER

NXTBCD: MOV A,M

ANI F0H

RRC

RRC

RRC


RRC

CALL LEDCOD

INX B

BCD TO SEVEN SEGMENT CODE CONVERSION

```
MOV A,M  
ANI 0FH  
CALL LEDCOD  
INX B  
INX H  
DCR D  
JNZ NXTBCD  
RET
```



```
LEDCOD: PUSH H  
LXI H, CODE  
ADD L  
MOV L, A  
MOV A, M  
STAX B  
POP H  
RET
```

BCD TO SEVEN SEGMENT CODE CONVERSION

LEDCOD: PUSH	CODE: 3F ;Digit 0
H	06 ; Digit 1
LXI H, CODE	5B ; Digit 2
ADD L	4F ; Digit 3
MOV L, A	66 ; Digit 4
MOV A, M	6D ; Digit 5
STAX B	7D ; Digit 6
POP H	07 ; Digit 7
RET	7F ; Digit 8
	6F ; Digit 9
	00 ; Invalid Digit

FLOWCHART

