

```

1  ;EXPT NO_4D: ALP FOR LCD INTERFACING USING MOVC INSTRUCTION IN 8 BIT MODE FOR DISPLAYING "WELCOME TO
   ENTC"
2  ;USING TIME DELAY ON LINE 1
3  ;NAME - ANIL RAJPUROHIT
4  ;ROLL NO.312046
5  ;BATCH - B2
6  ;DATE OF PERFORMANCE - 25/7/18
7
8      ORG 0000H
9      RS EQU P2.0
10     EN EQU P2.1
11     RW EQU P2.2
12     LCD EQU P0
13
14     MOV A,#38H      ;TO INITIALIZE LCD AS 8 BIT,5*7 RESOLUTION, 2LINE
15     ACALL COMMAND  ;CALL THE COMMAND SUBROUTINE
16
17     MOV A,#0EH      ;TURN ON THE DISPLAY AND CURSOR
18     ACALL COMMAND  ;CALL THE COMMAND SUBROUTINE
19
20     MOV A,#01H      ;CLEAR LCD DISPLAY,MEMORY AND CURSOR AT HOME POSITION
21     ACALL COMMAND  ;CALL THE COMMAND SUBROUTINE
22
23     MOV A,#06H      ;TO SHIFT CURSOR TO LEFT FOR NEXT HARACTER AND ENABLE  DISABLE
24     ACALL COMMAND  ;CALL THE COMMAND SUBROUTINE
25
26     MOV A,#80H      ;SELECT 1ST LINE AND POSITION TO DISPLAY MESSAGE
27     ACALL COMMAND  ;CALL THE COMMAND SUBROUTINE
28
29     MOV DPTR,#STRING
30     MOV R2,#00H      ;INITIALIZE REGISTER R2 TO 00H
31
32     L1:
33         CLR A          ; CLR THE ACCUMALATOR
34         MOVC A,@A+DPTR  ; MOVE CONTENTS OF DPTR INTO ACC
35         ACALL DISPLAY   ; CALL DISPLAY SUBROUTINE
36         INC DPTR        ; INC THE DPTR
37         INC R2          ;INC VALUR IN R2
38         CJNE R2,#0FH,L1 ; COMPARE JUMP IF NOT EQUAL
39
40     COMMAND:
41         ACALL DELAY      ;SUBROUTINE TO COMMND INSTRUCTION TO LCD
42         MOV P0,A          ;MOVE COMMAND TO LCD THROUGH PORT
43         CLR RS            ;SELECTING COMMAND REGISTER FOR COMMAND
44         CLR RW            ;SELECTING WRITING MODE
45         SETB EN          ;FOR WRITE GIVE HIGH TO LOW PULSE
46         NOP              ;WAIT FOR TWO MACHINE CYCLES
47         NOP
48         CLR EN           ;CLR EN PIN
49         RET
50
51     DISPLAY:
52         ACALL DELAY      ;SUBROUTINE TO DISPLAY INSTRUCTION TO LCD
53         MOV P0,A          ;MOVE DATA TO LCD THROUGH PORT
54         SETB RS          ;SELECTING DATA REGISTER FOR COMMAND
55         CLR RW           ;SELECTING WRITING MODE
56         SETB EN          ;FOR WRITE GIVE HIGH TO LOW PULDE
57         NOP              ;WAIT FOR TWO MACHINE CYCLES
58         NOP
59         CLR EN           ;CLR EN PIN
60         RET
61
62     DELAY:
63         MOV TMOD,#01H    ;TIMER 0,MODE 1
64         MOV TH0,#0F8H    ;LOAD HIGH BYTE
65         MOV TL0,#0CCH    ;LOAD LOW BYTE
66         SETB TR0         ;START TIMER
67     L3:
68         JNB TF0,L3       ;MONITOR FLAG UNTILL IT ROLL OVER
69         CLR TR0          ;STOP TIMER
70         CLR TF0          ;CLEAR FLAG
71         RET

```

```
71             END
72
73             ORG 3000H
74     STRING:   DB "WELCOME TO ENTC"
75             END
```