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1  ;EXPT NO._4B: LCD INTERFACING IN 8 BIT MODE FOR DISPLAYING "WELCOME TO VIIT" SUCH THAT 'WELCOME'
2  ;ON FIRST LINE 4th POSITION AND 'TO VIIT' ON SECOND LINE 4th POSITION
3  ;NAME - ANIL RAJPUROHIT
4  ;ROLL NO.312046, BATCH -B2
5  ;DATE OF PERFORMANCE - 25/7/18
6
7  ORG 000H
8  RS EQU P2.0
9  EN EQU P2.1
10 RW EQU P2.2
11 LCD EQU P0
12
13 MOV A,#38H          ;TO INITIALIZE LCD AS 8 BIT,5*7 RESOLUTION, 2LINE
14 ACALL COMMAND      ;SEND COMMAND TO LCD
15
16 MOV A,#0EH          ;TURN ON THE DISPLAY AND CURSOR
17 ACALL COMMAND      ;SEND COMMAND TO LCD
18
19 MOV A,#01H          ;CLEAR LCD DISPLAY,MEMORY AND CURSOR AT HOME POSITION
20 ACALL COMMAND      ;SEND COMMAND TO LCD
21
22 MOV A,#06H          ;TO SHIFT CURSOR TO LEFT FOR NEXT HARACTER AND ENABLE  DISABLE
23 ACALL COMMAND      ;SEND COMMAND TO LCD
24
25 MOV A,#83H          ;SELECT 1ST LINE AND POSITION 4th TO DISPLAY MESSAGE
26 ACALL COMMAND      ;SEND COMMAND TO LCD
27
28 MOV A,#'W'          ;DISPLAY CHAR 'W'
29 ACALL DISPLAY       ;DISPLAY SUBROUTINE
30 MOV A,#'E'          ;DISPLAY CHAR 'E'
31 ACALL DISPLAY       ;DISPLAY SUBROUTINE
32 MOV A,#'L'          ;DISPLAY CHAR 'L'
33 ACALL DISPLAY       ;DISPLAY SUBROUTINE
34 MOV A,#'C'          ;DISPLAY CHAR 'C'
35 ACALL DISPLAY       ;DISPLAY SUBROUTINE
36 MOV A,#'O'          ;DISPLAY CHAR 'O'
37 ACALL DISPLAY       ;DISPLAY SUBROUTINE
38 MOV A,#'M'          ;DISPLAY CHAR 'M'
39 ACALL DISPLAY       ;DISPLAY SUBROUTINE
40 MOV A,#'E'          ;DISPLAY CHAR 'E'
41 ACALL DISPLAY       ;DISPLAY SUBROUTINE
42 MOV A,#0C3H         ;SELECT 2ND LINE AND POSITION 4th TO DISPLAY MESSAGE
43 ACALL COMMAND      ;SEND COMMAND TO LCD
44 MOV A,#'T'          ;DISPLAY CHAR 'T'
45 ACALL DISPLAY       ;DISPLAY SUBROUTINE
46 MOV A,#'O'          ;DISPLAY CHAR 'O'
47 ACALL DISPLAY       ;DISPLAY SUBROUTINE
48 MOV A,#' '          ;DISPLAY CHAR ' '
49 ACALL DISPLAY       ;DISPLAY SUBROUTINE
50 MOV A,#'V'          ;DISPLAY CHAR 'V'
51 ACALL DISPLAY       ;DISPLAY SUBROUTINE
52 MOV A,#'I'          ;DISPLAY CHAR 'I'
53 ACALL DISPLAY       ;DISPLAY SUBROUTINE
54 MOV A,#'I'          ;DISPLAY CHAR 'I'
55 ACALL DISPLAY       ;DISPLAY SUBROUTINE
56 MOV A,#'T'          ;DISPLAY CHAR 'T'
57 ACALL DISPLAY       ;DISPLAY SUBROUTINE
58
59 HERE:
60 SJMP HERE          ; TO HOLD CHARACTERS
61
62 COMMAND:           ;SUBROUTINE TO COMMND INSTRUCTION TO LCD
63 ACALL DELAY         ;DELAY CALL
64 MOV P0,A            ;MOVE COMMAND TO LCD THROUGH PORT
65 CLR RS              ;SELECTING COMMAND REGISTER FOR COMMAND
66 CLR RW              ;SELECTING WRITING MODE
67 SETB EN             ;FOR WRITE GIVE HIGH TO LOW PULSE
68 NOP
69 NOP
70 CLR EN              ;CLEAR EN PIN
71 RET

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72
73  DISPLAY:                ;SUBROUTINE TO DISPLAY INSTRUCTION TO LCD
74      ACALL DELAY          ;DELAY CALL
75      MOV P0,A             ;MOVE DATA TO LCD THROUGH PORT
76      SETB RS              ;SELECTING DATA REGISTER FOR COMMAND
77      CLR RW               ;SELECTING WRITING MODE
78      SETB EN              ;FOR WRITE GIVE HIGH TO LOW PULDE
79      NOP
80      NOP
81      CLR EN               ;CLEAR EN PIN
82      RET
83
84  DELAY:
85      MOV TMOD,#01H        ;TIMER 0,MODE 1
86      MOV TH0,#0F8H        ;LOAD HIGH BYTE
87      MOV TL0,#0CCH        ;LOAD LOW BYTE
88      SETB TR0             ;START TIMER
89  L3:  JNB TF0,L3           ;MONITOR FLAG UNTILL IT ROLL OVER
90      CLR TR0              ;STOP TIMER
91      CLR TF0              ;CLEAR FLAG
92      RET
93      END
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