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1  ;EXP NO.1(A):LCD INTERFACING IN 8 BIT MODE FOR DISPLAYING "WELCOME
   TO VIIT" SUCH THAT 'WELCOME'
2  ;ON FIRST LINE AND 'TO VIIT' ON SECOND LINE
3  ;NAME - AAADESH PISE
4  ;ROLL NO.312041
5  ;BATCH -B2
6  ;DATE OF PERFORMANCE - 25/7/18
7
8  ORG 000H
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 A,#'W'      ; MOVE 'W' TO ACC
30 ACALL DISPLAY  ;DISPLAY SUBROUTINE
31 MOV A,#'E'      ; MOVE 'E' TO ACC
32 ACALL DISPLAY  ;DISPLAY SUBROUTINE
33 MOV A,#'L'      ; MOVE 'L' TO ACC
34 ACALL DISPLAY  ;DISPLAY SUBROUTINE
35 MOV A,#'C'      ; MOVE 'C' TO ACC
36 ACALL DISPLAY  ;DISPLAY SUBROUTINE
37 MOV A,#'O'      ; MOVE 'O' TO ACC
38 ACALL DISPLAY  ;DISPLAY SUBROUTINE
39 MOV A,#'M'      ; MOVE 'M' TO ACC
40 ACALL DISPLAY  ;DISPLAY SUBROUTINE
41 MOV A,#'E'      ; MOVE 'E' TO ACC
42 ACALL DISPLAY  ;DISPLAY SUBROUTINE
43
44 MOV A,#0C0H     ;SELECT 2ND LINE AND POSITION TO DISPLAY MESSAGE
45 ACALL COMMAND  ;DISPLAY SUBROUTINE
46 MOV A,#'T'      ; MOVE 'T' TO ACC
47 ACALL DISPLAY  ;DISPLAY SUBROUTINE
48 MOV A,#'O'      ; MOVE 'O' TO ACC

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49  ACALL DISPLAY ;DISPLAY SUBROUTINE
50  MOV A,#' '    ; MOVE ' ' TO ACC
51  ACALL DISPLAY ;DISPLAY SUBROUTINE
52  MOV A,#'V'    ; MOVE 'V' TO ACC
53  ACALL DISPLAY ;DISPLAY SUBROUTINE
54  MOV A,#'I'    ; MOVE 'I' TO ACC
55  ACALL DISPLAY ;DISPLAY SUBROUTINE
56  MOV A,#'I'    ; MOVE 'I' TO ACC
57  ACALL DISPLAY ;DISPLAY SUBROUTINE
58  MOV A,#'T'    ; MOVE 'T' TO ACC
59  ACALL DISPLAY ;DISPLAY SUBROUTINE
60
61  HERE: SJMP HERE; TO HOLD CHARACTERS
62
63  COMMAND:      ;SUBROUTINE TO COMMND INSTRUCTION TO LCD
64  ACALL DELAY   ;DELAY CALL
65  MOV P0,A      ;MOVE COMMAND TO LCD THROUGH PORT
66  CLR RS        ;SELECTING COMMAND REGISTER FOR COMMAND
67  CLR RW        ;SELECTING WRITING MODE
68  SETB EN       ;FOR WRITE GIVE HIGH TO LOW PULSE
69  NOP
70  NOP
71  CLR EN        ;CLR EN PIN
72  RET
73
74  DISPLAY:      ;SUBROUTINE TO DISPLAY INSTRUCTION TO LCD
75  ACALL DELAY   ;DELAY CALL
76  MOV P0,A      ;MOVE DATA TO LCD THROUGH PORT
77  SETB RS       ;SELECTING DATA REGISTER FOR COMMAND
78  CLR RW        ;SELECTING WRITING MODE
79  SETB EN       ;FOR WRITE GIVE HIGH TO LOW PULDE
80  NOP
81  NOP
82  CLR EN        ;CLR EN PIN
83  RET
84
85  DELAY:
86      MOV TMOD,#01H ;TIMER 0,MODE 1
87      MOV TH0,#0F8H ;LOAD HIGH BYTE
88      MOV TL0,#0CCH ;LOAD LOW BYTE
89      SETB TR0      ;START TIMER
90  L3: JNB TF0,L3    ;MONITOR FLAG UNTILL IT ROLL OVER
91      CLR TR0       ;STOP TIMER
92      CLR TF0       ;CLEAR FLAG
93      RET
94      END
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