**Code for movement in N-S/S-W AND W-E/E-W with U-turns**

MVI A, 80H: Initialize 8255

OUT 83H (CR)

START: MVI A, 09H

OUT 80H (PA): Send data on PA to glow R2 and R5

MVI A, 24H

OUT 81H (PB): Send data on PB to glow G2 and G9 AND G13 AND G6

MVI C, 28H: Load multiplier count (40ıο) for delay

CALL DELAY: Call delay subroutine

MVI A, 12H

OUT (81H) PA: Send data on Port A to glow Y1 and Y2

OUT (81H) PB: Send data on port B to glow Y3 and Y4

MVI C, 0AH: Load multiplier count (10ıο) for delay

CALL: DELAY: Call delay subroutine

MVI A, 24H

OUT (80H) PA: Send data on port A to glow G12 and G5 and G1 and G6

MVI A, 09H

OUT (81H) PB: Send data on port B to glow R1 and R4

MVI C, 28H: Load multiplier count (40ıο) for delay

CALL DELAY: Call delay subroutine

MVI A, 12H

OUT PA: Send data on port A to glow Y1 and Y2

OUT PB: Send data on port B to glow Y3 and Y4

MVI C, 0AH

CALL DELAY: Call delay subroutine

JMP START

**Code for Diagonals**

START: MVI A, 07H

OUT 80H (PC): Send data on PA to glow R5 , R2,R1 and R4

MVI A, 20H

OUT 81H (PD): Send data on PB to glow G14 and G 7

MVI C, 30H

CALL DELAY: Call delay subroutine

Delay Subroutine:

DELAY: LXI D,

BACK: DCX D

MOV A, D

ORA E

JNZ BACK

DCR C

JNZ DELAY

RET