# ASSIGNMENT -III

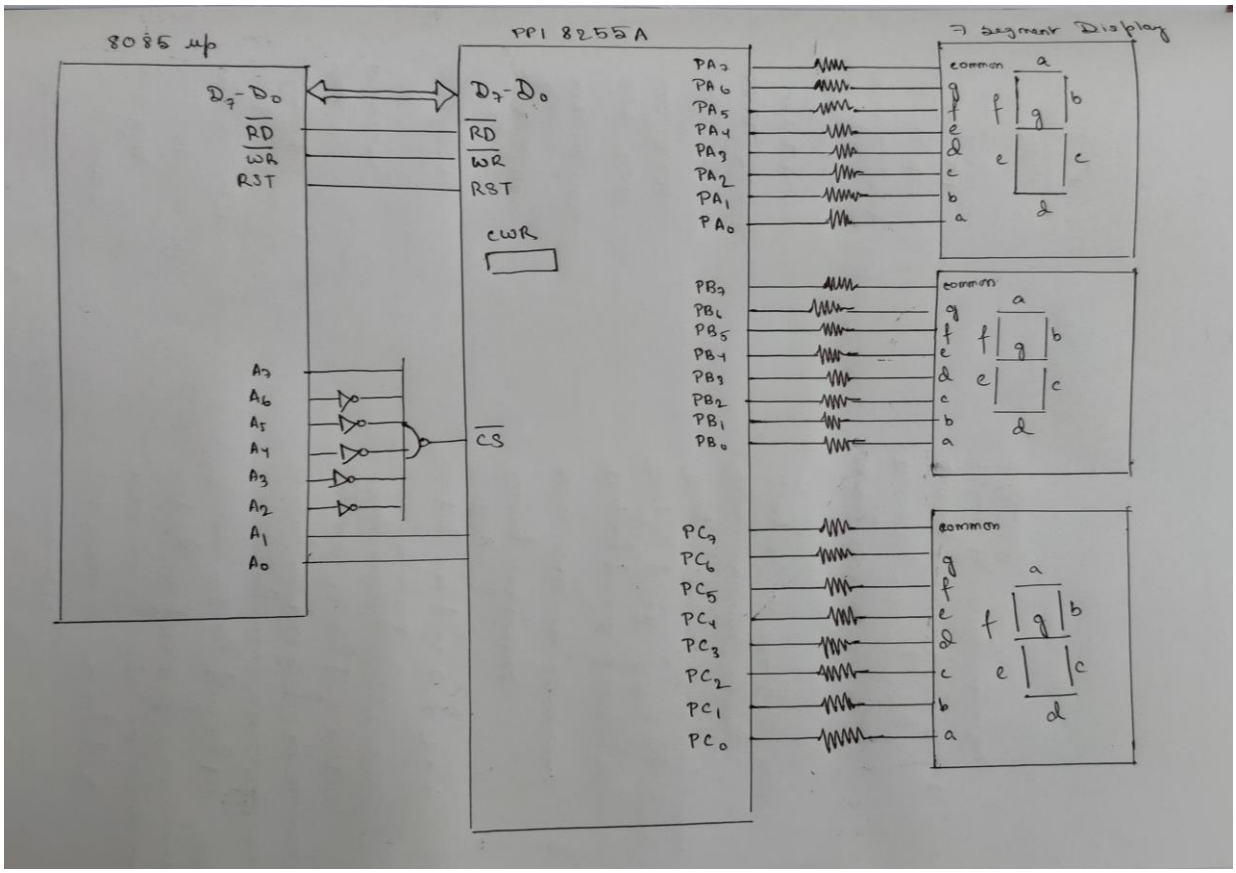
NAME: SOUMYADIP GHOSH

STREAM: CSE-A

ROLL NUMBER: 1951007

SUBJECT: MICROPROCESSORS LAB

Circuit Diagram:



Question 1a:

Write an ALP of 8085 to glow CSE/ HIT (HIT) in Three Seven Segment Displays, connected through 8-bit Latches individually.

Code:

```
        ORG 2000H
L1:     LXI H,2500H
        MOV A,M
        OUT 80H
        INX H
        MOV A,M
        OUT 81H
        INX H
        MOV A,M
        OUT 82H
        JMP L1
        HLT
        ORG 2500H
        DB 39H,6DH,79H
        END
```

Output:

1] a] Write an ALP of 8085 to glow CSE in 3 seven segment displays connected through 8-bit latches individually

| | MNEMONICS | COMMENTS |
|---|---|---|
| L1: | LXI H, 2500H | Loads contents 2500 H into HL register pair |
| | MOV A, M | Moves contents of memory pointed by HL pair to accumulator |
| | OUT 80H | Displaying result in port A of 7 segment display |
| | INX H | Increases HL reg pair by 1 |
| | MOV A, M | Moves memory content to reg A |
| | OUT 81H | Displaying result in port B of 7 segment display |
| | INX H | Increases HL reg pair by 1 |
| | MOV A, M | Moves memory content to reg. A |
| | OUT 82H | Displaying result in port C of 7 segment display |
| | JMP L1 | Jumps to label L1 |
| | HLT | Halts program to termination |

Question 1b:

Write an ALP of 8085 to blink the above glow.

Code:

```
        ORG 2000H
        LXI SP,3FFFH
        MVI A,80H
        OUT 83H
L1:     LXI H,2500H
        MOV A,M
        OUT 80H
        INX H
        MOV A,M
        OUT 81H
        INX H
        MOV A,M
        OUT 82H
        CALL 2600H          ;subroutine DELAY
        MVI A,00H
        OUT 80H
        OUT 81H
        OUT 82H
        CALL 2600H          ;subroutine DELAY calling
        JMP L1
        ORG 2600H
        MVI C,10H
L2:     DCR C
        JNZ L2
        RET
        ORG 2500H
        DB 39H,6DH,79H
        END
```

17 b) Write an ALP of 8085 to blink the above glow

| | MNEMONICS | COMMENTS |
|---|---|---|
| L1: | LXI H, 2500H | Load 2500H into HL reg. pair |
| | MOV A,M | Move memory contents into accumulator |
| | OUT 80H | Display into port A of 7 bit segment |
| | INX H | Increments HL reg. pair by 1 |
| | MOV A,M | Move memory contents into accumulator |
| | OUT 81H | Display into port B of 7 bit segment |
| | INX H | Increments HL reg pair by 1 |
| | MOV A,M | Move memory contents into accumulator |
| | OUT 82H | Display into port C of 7 bit Display segment |
| | CALL 2600H | Delay subroutine |
| | MVI A,00H | Move 00H into accumulator |
| | OUT 80H | Display port A of Display segment |
| | OUT 81H | Display port B of Display segment |
| | OUT 82H | Display port C of Display segment |
| | CALL 2600H | Delay subroutine calling |
| | JMP L1 | Jump to L1 label |
| | ORG 2600H | |
| | MVI C, 10H | Moving 10H to C |
| L2: | DCR C | Decrementy value of C by 1 |
| | JNZ L2 | Jumping back to L2 label |
| | RET | Return to delay subroutine call end |