

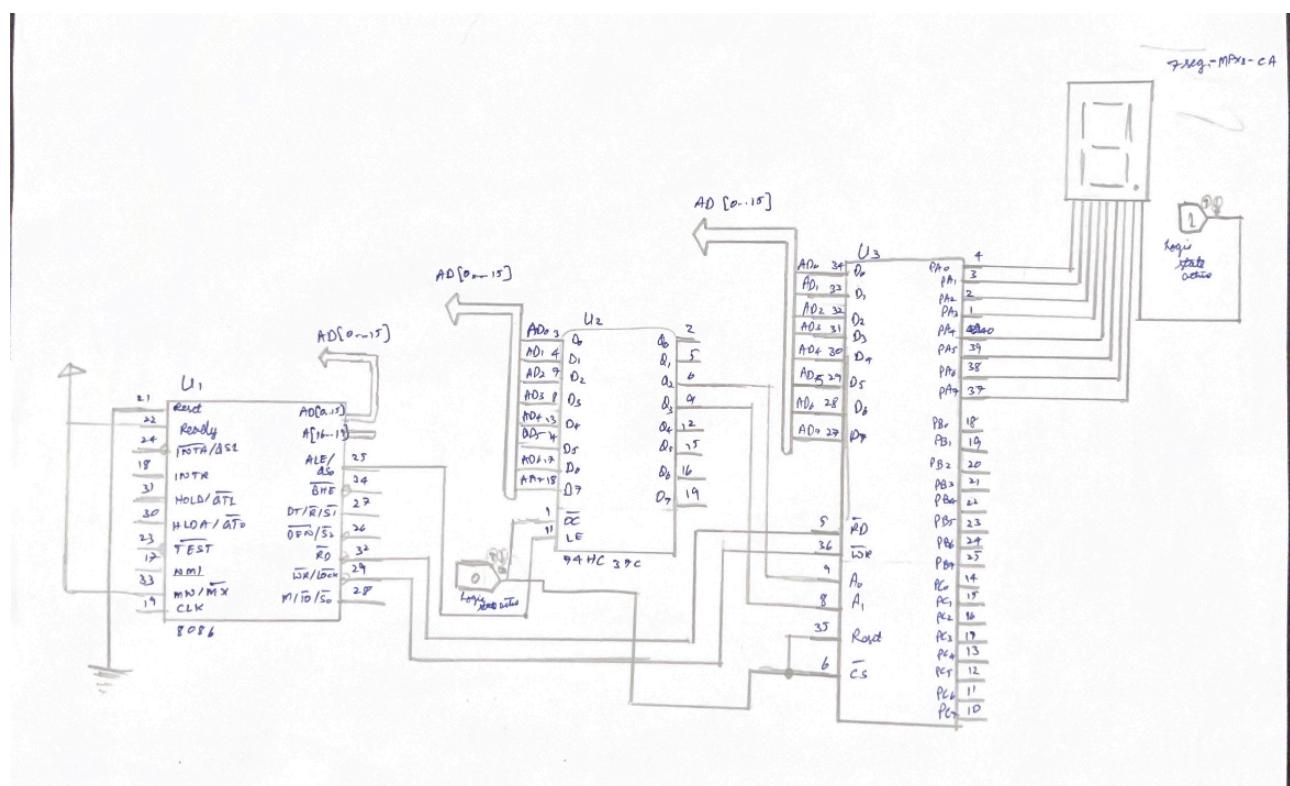
EXPERIMENT-7

HARDWARE DESIGN AND SIMULATION USING PROTEUS

7-SEGMENT LED INTERFACING

Aim: To Interface a 7 Segment LED to 8086 Microprocessor through 8255 Programmable Peripheral Controller using PROTEUS

schematic diagram of the circuit:



ASM code for interfacing:

```

DATA SEGMENT
PORTA DB 00H
PORTB DB 02H
PORTC DB 04H
PORT_CON DB 08H
DATA ENDS

CODE SEGMENT
MOV AX, DATA
MOV DS, AX
ORG 0000H

START:
MOV DX, PORT_CON
MOV AL, 10000000B
OUT DX, AL
MOV SI, 0
MOV DI, 0

L0: MOV CX, 1FFFH
    MOV AL, SI[SI]
    MOV DX, PORTA
    OUT DX, AL
    LOOP L1
    INC SI
    CMP SI, 16
    JLE L0

    MOV DX, PORT_CON
    MOV AL, 10000000B
    OUT DX, AL
    JMP START
    ORG 1000H

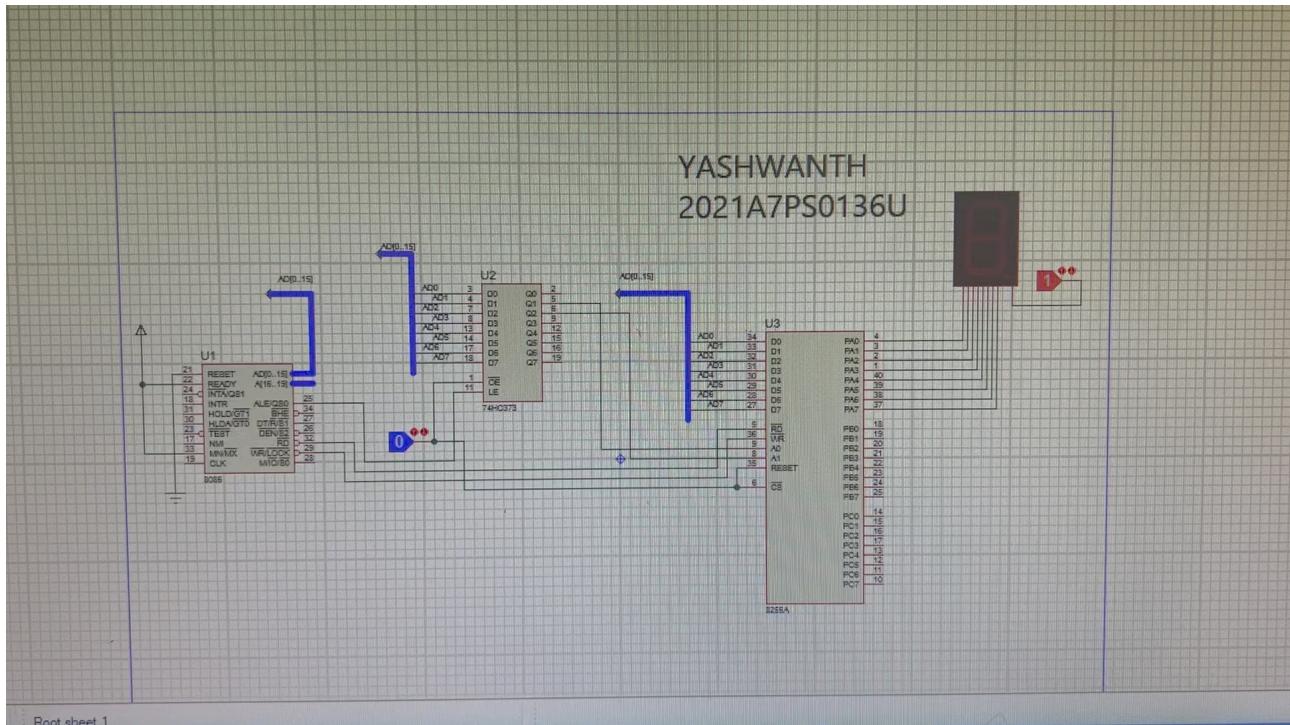
SI DB 11000000B
DB 1111001B
DB 10100100B
DB 10110000B
DB 10011001B
DB 10010010B
DB 10000010B
DB 11011000B
DB 10000000B

DB 10010000B
DB 10001000B
DB 10000011B
DB 11000110B
DB 10100001B
DB 10000110B
DB 10001110B

CODE ENDS
END

```

Video recording of circuit simulation:



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Video recording of assignment circuit simulation:

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