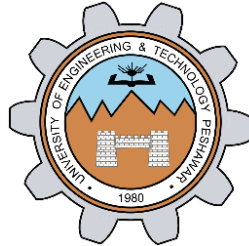**MICROPROCESSOR BASED SYSTEM DESIGN LAB**

Lab #2

Spring 2021

CSE307L MBSD Lab

Submitted by: **Shah Raza**

Registration No.: **18PWCSE1658**

Class Section: **B**

"On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work."

Student Signature: _____

Submitted to:

Engr. Amaad Khalil

Thursday, May 13, 2021

Department of Computer Systems Engineering

University of Engineering and Technology, Peshawar

Task 1:

Even and Odd LEDs glow.

Code:

```
ORG 0000H

Start:
    MOV R1,#0AAH
    MOV P1,R1
    ACALL Delay
    MOV R2,#55H
    MOV P1,R2
    ACALL Delay

    SJMP Start

Delay:
    MOV R3,#250
AGAIN:
    MOV R4,#250
HERE:
    NOP
    NOP
    DJNZ R4,HERE
    DJNZ R3,AGAIN
    RET
END
```
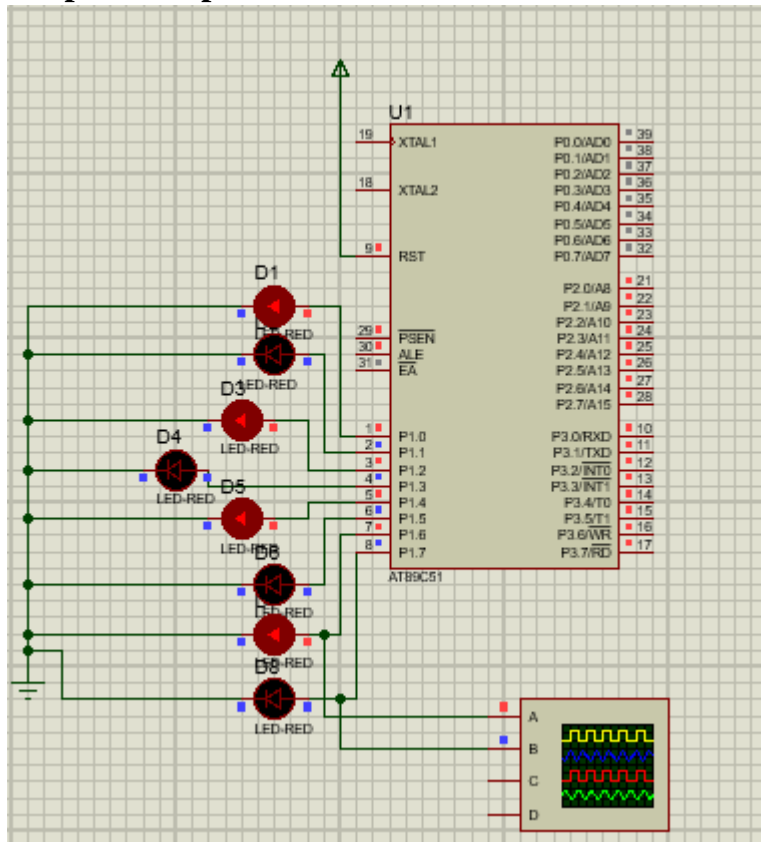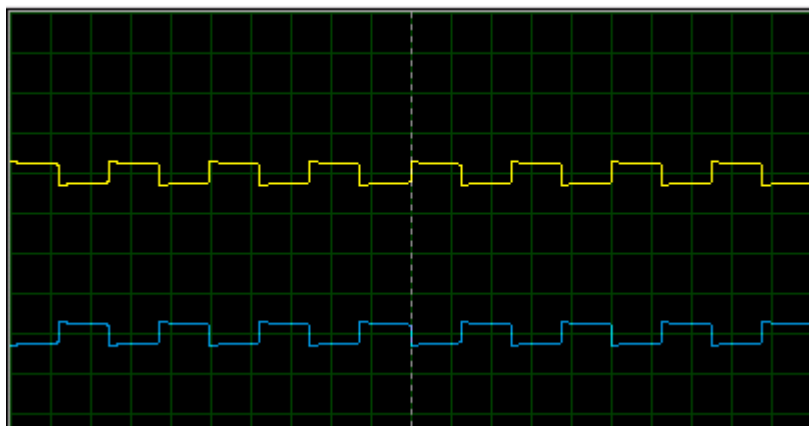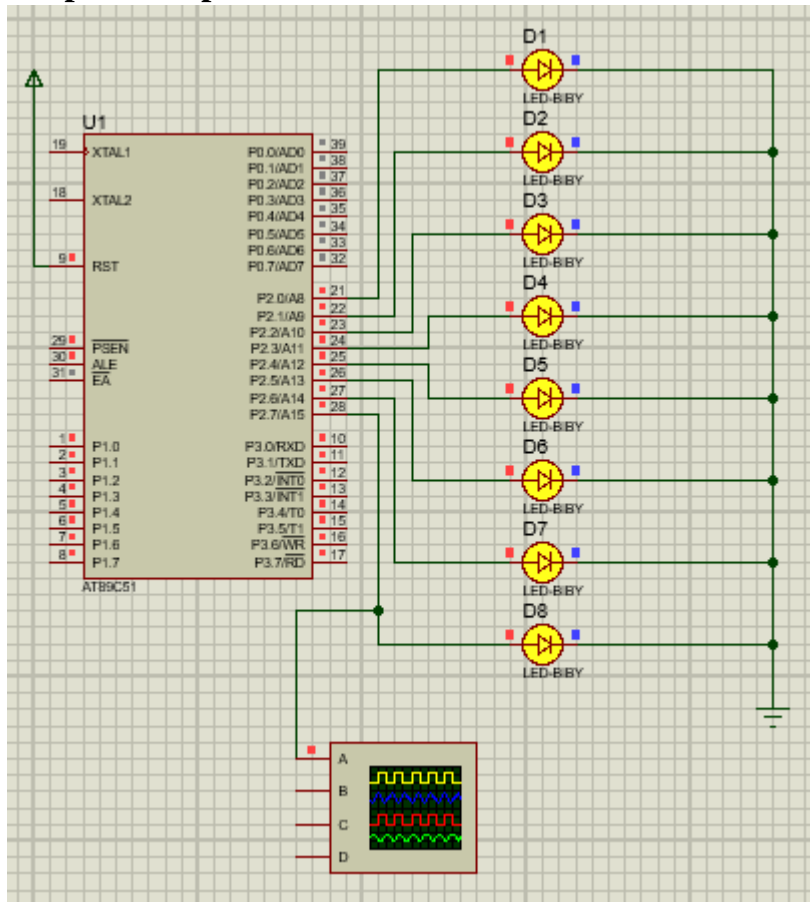
Output / Graphs / Plots / Results:

Oscilloscope Verification:

Digital Oscilloscope

Task 2:

All ON and OFF LEDs pattern.

Code:

```
ORG 0000H

Start:
    MOV R1,#00H
    MOV P2,R1
    ACALL Delay
    MOV R2,#0FFH
    MOV P2,R2
    ACALL Delay

    SJMP Start

Delay:
    MOV R3,#250
AGAIN:
    MOV R4,#250
HERE:
    NOP
    NOP
    DJNZ R4,HERE
    DJNZ R3,AGAIN
    RET
END
```
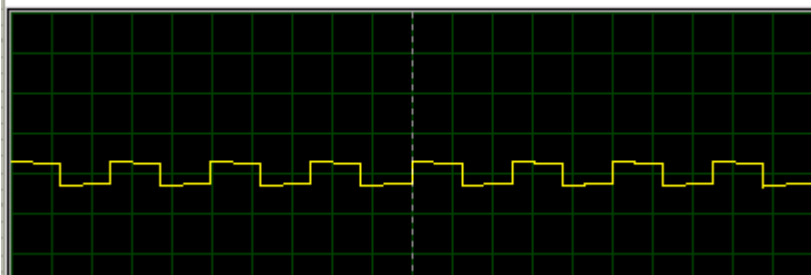
Output / Graphs / Plots / Results:

Oscilloscope Verification:

Task 3:

First Four LEDs ON and Last Four OFF.

Code:

```
ORG 0000H

Start:
    MOV R1,#0F0H
    MOV P2,R1
    ACALL Delay
    MOV R2,#0FH
    MOV P2,R2
    ACALL Delay

    SJMP Start

Delay:
    MOV R3,#250
AGAIN:
    MOV R4,#250
HERE:
    NOP
    NOP
    DJNZ R4,HERE
    DJNZ R3,AGAIN
    RET
END
```
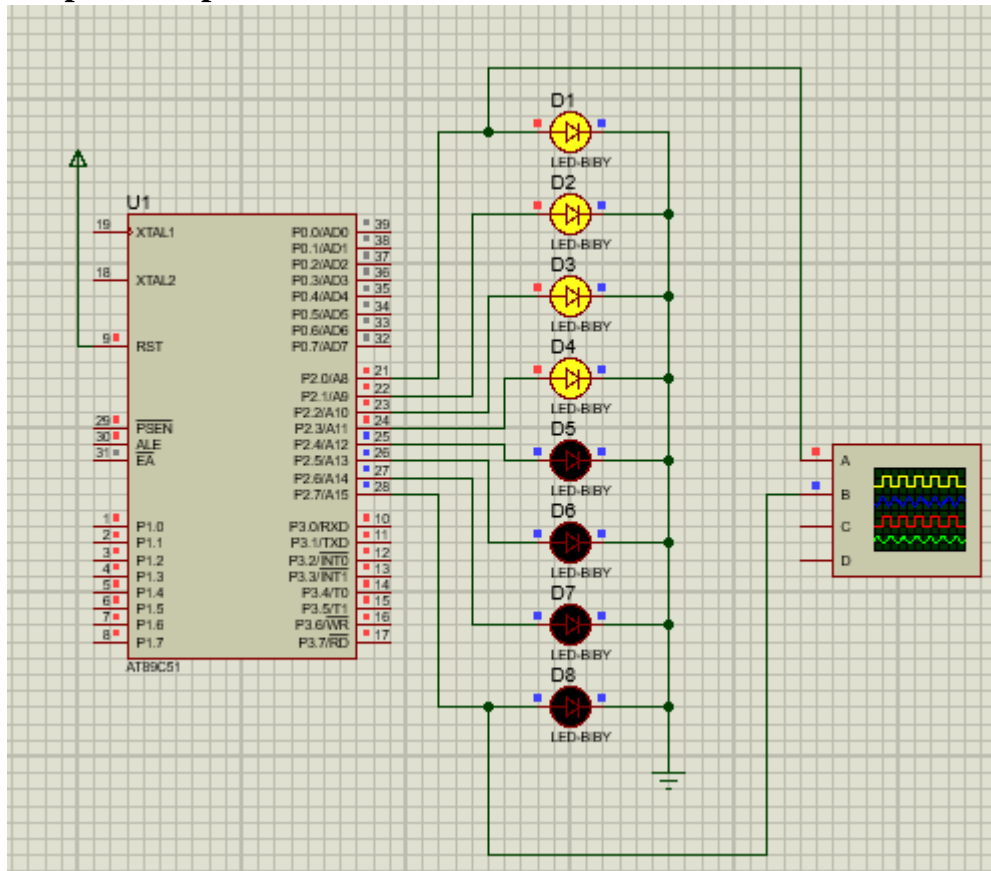
Output / Graphs / Plots / Results:

Oscilloscope Verification: