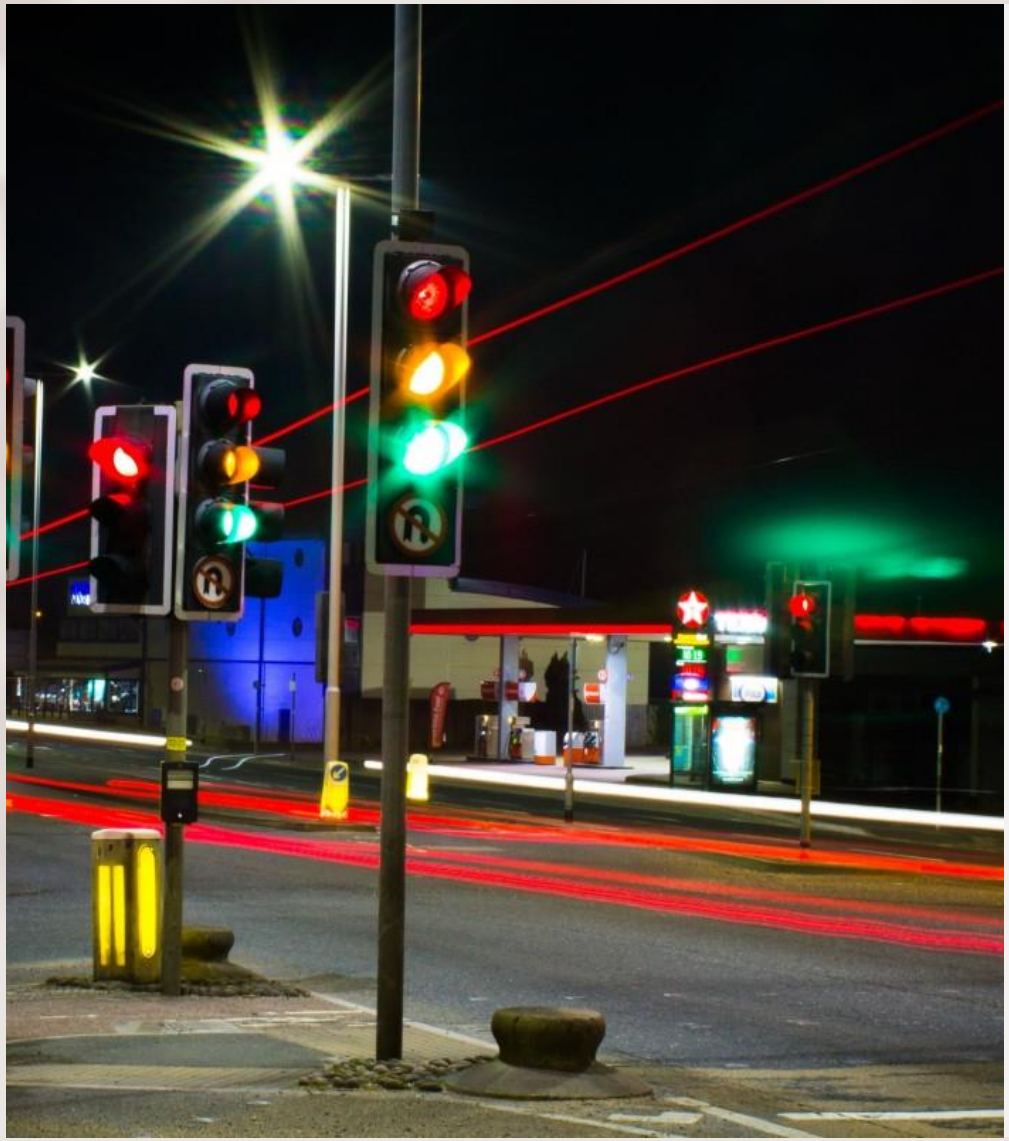

TRAFFIC LIGHT CONTROL SYSTEM

TEAM-13

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ABSTRACT:

The Traffic Light Control System with the 8051 microcontroller efficiently regulates intersection traffic by orchestrating signal sequences and timings. It manages traffic lights, prioritizes pedestrian safety, his system aims to minimize congestion, enhance safety, Additionally, it includes features for power conservation. It's an automated, effective solution for intersection traffic management.

OBJECTIVE:

The main objective of a Traffic Light Control System using the 8051 microcontroller is

“ to ensure safe and efficient traffic flow at intersections. ”

CHALLENGES:

- **Connecting two seven-segment displays to an 8051 microcontroller**

It involves expanding connections while considering limited I/O pins; it often requires multiplexing techniques or additional hardware to manage both displays efficiently and might involve increased power consumption.

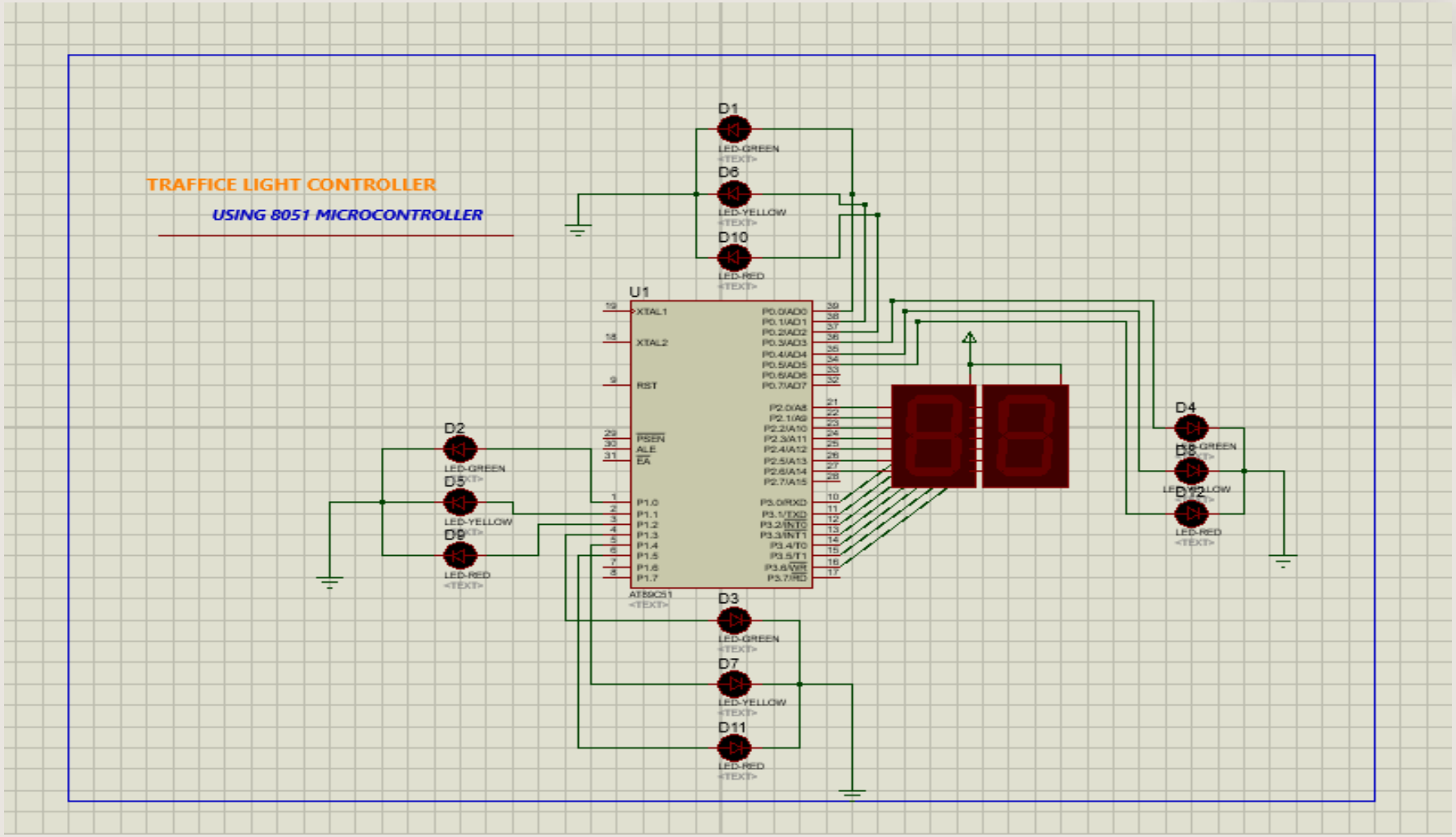
- **Connecting LEDs to a microcontroller**

Due to limited output pins, necessitating current regulation with resistors or drivers to prevent damage, while managing power consumption and optimizing programming for efficient control.

COMPONENTS REQUIRED:

- BREAD BOARD
- JUMPER WIRE
- 8051 MICR CONTTROLLER
- LEDS-12
- SEVEN SEGMENT DISPLAY -2
- RESISTOR-14

BLOCK DIAGRAM:(using proteus app)



CODE:

```
ORG 00H
 LJMP MAIN       ORG
30HMAIN:
MOV P1,#00H
MOV DPTR,#200H
A1:  MOV P1,#24H
MOV P0,#11H
 MOV P2,#0A4H
MOV P3,#98H
ACALL DELAY
 MOV P3,#80H
ACALL DELAY
 MOV P3,#0F8H
ACALL DELAY
 MOV P3,#82H
 ACALL DELAY
 MOV P3,#92H
 ACALL DELAY
 MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0F9H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0C0H
 MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H

B1:     MOV
P1,#14H
MOV P0,#0CH
MOV P2,#00H
MOV P3,#00H
MOV P2,#0A4H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
```

```
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0F9H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
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MOV P3,#82H
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ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0C0H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
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MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
C1:     MOV
P1,#0AH
MOV P0,#24H
MOV P2,#0A4H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0F9H
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MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
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MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0C0H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
```

```
D1:     MOV
P1,#21H
MOV P0,#22H
MOV P2,#0A4H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0F9H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
MOV P2,#0C0H
MOV P3,#98H
ACALL DELAY
MOV P3,#80H
ACALL DELAY
MOV P3,#0F8H
ACALL DELAY
MOV P3,#82H
ACALL DELAY
MOV P3,#92H
ACALL DELAY
MOV P3,#99H
ACALL DELAY
MOV P3,#0B0H
ACALL DELAY
MOV P3,#0A4H
ACALL DELAY
MOV P3,#0F9H
ACALL DELAY
MOV P3,#0C0H
LJMP
MAINDELAY:
MOV R4,#50H3:
MOV
R5,#20HH2:
MOV
R6,#0FFHH1:
DJNZ R6,H1
DJNZ R5,H2
DJNZ R4,H3
 RET
END
```

LINK FOR VIDEO:

https://drive.google.com/drive/u/0/folders/184x0hKXtzZqS8s8h4X6e-N2sXl8EHE73

WORKING OF THE PROJECT:

- We use the two seven segment display to control the timings of signal at four side
- When timer goes from 30 to zero one side of the signal glows green next side glows yellow and other two side red
- Next the signal which is yellow becomes green and next signal becomes yellow and other two becomes red and this continuous

THANK YOU