TRAFFIC SIGNAL CONTROL

TEAM MEMBERS

RAMACHANDRAN C

SUBIKSHA T

PRABA SHREE S

Traffic Signal Control with Arduino

Introduction:

In our project, we designed and implemented a circuit for traffic signal control using various electronic components. To validate and test the functionality of our circuit design, we utilized Proteus software for simulation. Proteus provides a powerful environment that allows us to simulate and visualize the behaviour of our circuit before physically assembling it.

Procedure:

- ➢ Write and compile your Arduino code in the Arduino IDE. Ensure that "Verbose output during compilation" is enabled to track the location of the generated .hex file.
- ➢ Locate the .hex file in the output directory specified by the Arduino IDE after compilation.
- ➢ Open Proteus and design your circuit, including the appropriate Arduino board model and any additional components you plan to use.
- ➢ Double-click the Arduino board in Proteus, then browse to and load the .hex file into the "Program File" field.
- ➢ Run the simulation in Proteus to test the circuit and verify that the Arduino operates as intended with the connected components.

Execution Proteus:

After completing the initial programming on the Arduino, I further developed the project by simulating the traffic signal control system in Proteus software. This allowed me to visualize the circuit and test the functionality in a virtual environment.

proteus diagram:
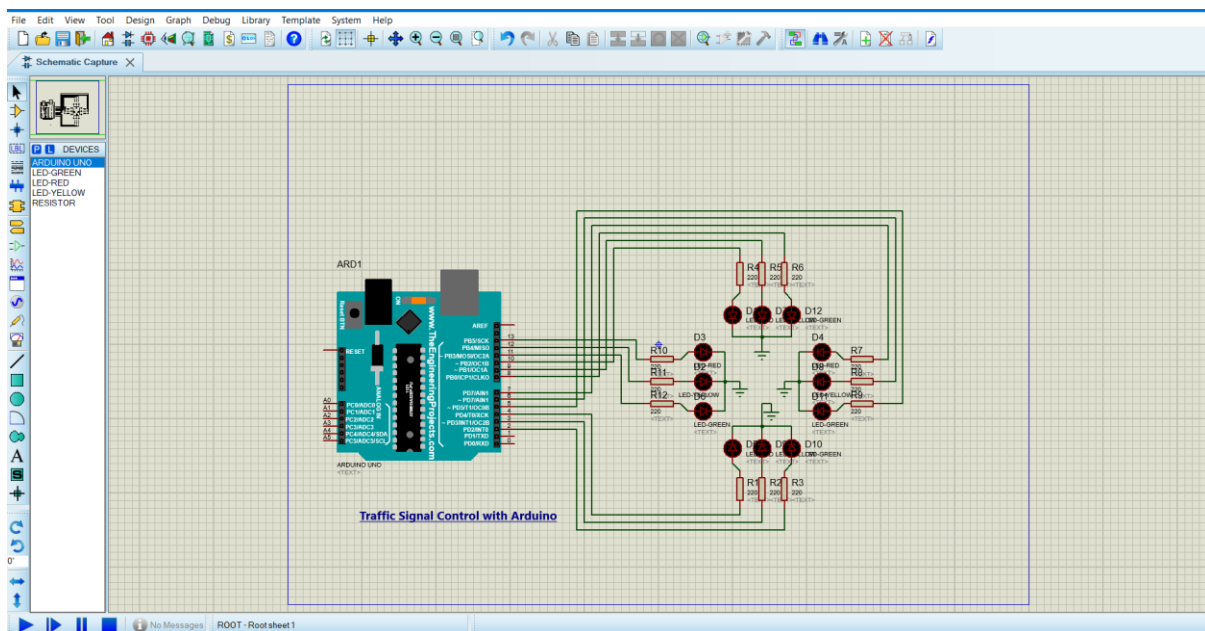
➢ Successfully completed interfacing Arduino with Proteus for simulation.
➢ Plan to create a full extension of the project by developing a comprehensive simulation video.
➢ The video will offer a detailed walkthrough of the project's functionality.
➢ It will showcase the practical implementation within a simulated environment.

Conclusion:

By simulating the circuit in Proteus, we can confidently proceed with the hardware implementation, knowing that our design is robust and functional. The simulation allows us to identify and resolve potential issues early in the development process, saving time and resources. We can test various scenarios, optimize component selection, and ensure the circuit behaves as expected under different conditions.