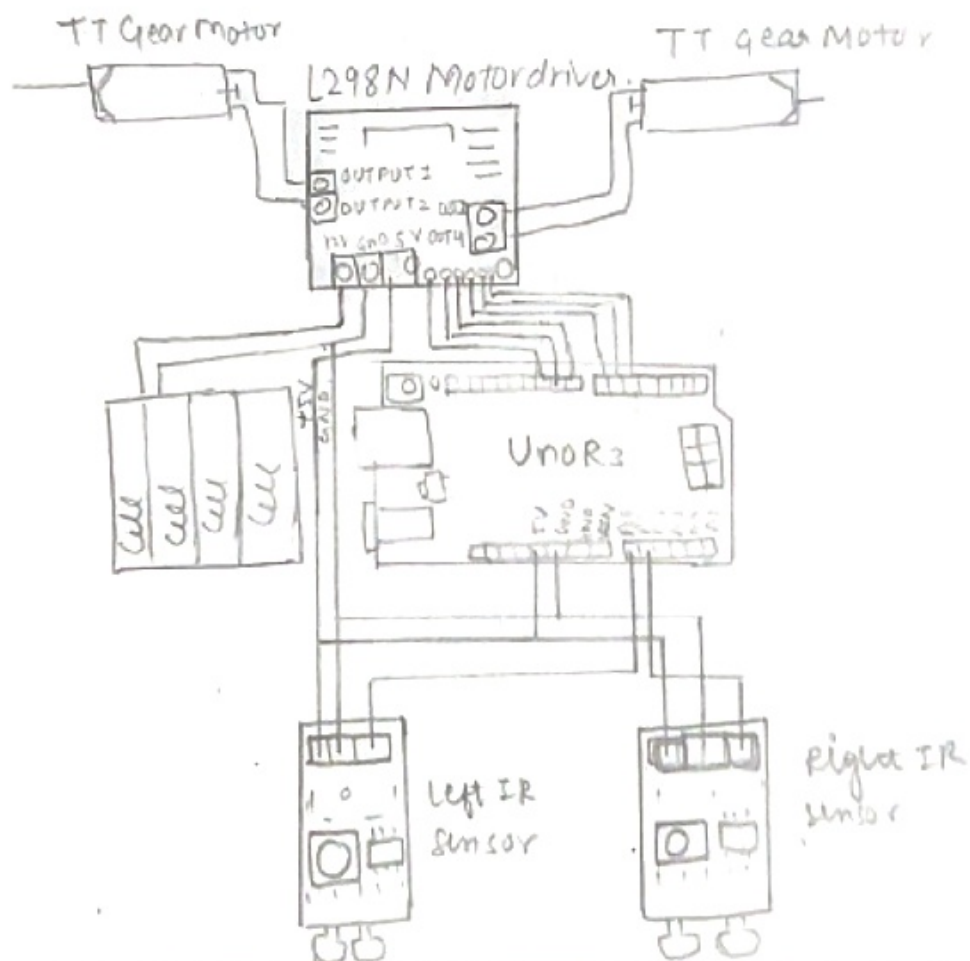


# ARDUINO BASED LINE FOLLOWER CAR

## USING INFRARED SENSORS

Aim: The aim of this project is to implement a Line Follower Robot using Infrared sensors and Arduino microcontroller. The project focuses on creating a car capable of autonomously following a designated path.

Circuit Diagram:



## Components Required

- 1) Arduino microcontroller
- 2) L298N motor driver
- 3) TT Gear Motors
- 4) Infrared sensors.
- 5) Wheels and Chassis
- 6) Battery and its holder
- 6) Jumper Wire

## About components

1) L298N motor driver - It is responsible for controlling the movement of the robot's motors. It enables bidirectional control, allowing the robot to move forward, backward, turn left and turn right. The L298N also regulates motor speed, handles higher currents and voltages and interfaces with Arduino to respond to input from IR sensors, ensuring the robot accurately follow the designated line path.

2) Infrared Sensors - They are used to detect the contrast between the path and its surroundings. Placed underneath the robot, these sensors emit infrared light and measure the reflection. By analyzing the reflected signals, the Arduino

can determine the position of the line. This information is crucial for instructing the L289N motor driver to adjust the robot's movement, ensuring it stays on the desired path while following the line.

3) TT gear motor - It is responsible for driving the movement of the robot. It converts electrical signals from the L298N motor driver into physical motion, propelling the robot's wheels. The TT gear motor's torque and speed characteristics contribute to the robot's ability to precisely follow the designated line based on input from the IR sensor and control signals from the Arduino.

Conclusion - The Line follower robot project employing Arduino IR sensors, the L289 motor driver, and TT gear motors has successfully demonstrated accurate line tracking, responsive motor control and adaptability.

Project by

Name:

DEEPANSHI VERMA

AVISHI KHATLOIYA

Roll no. -

2201CS85

2201MC09