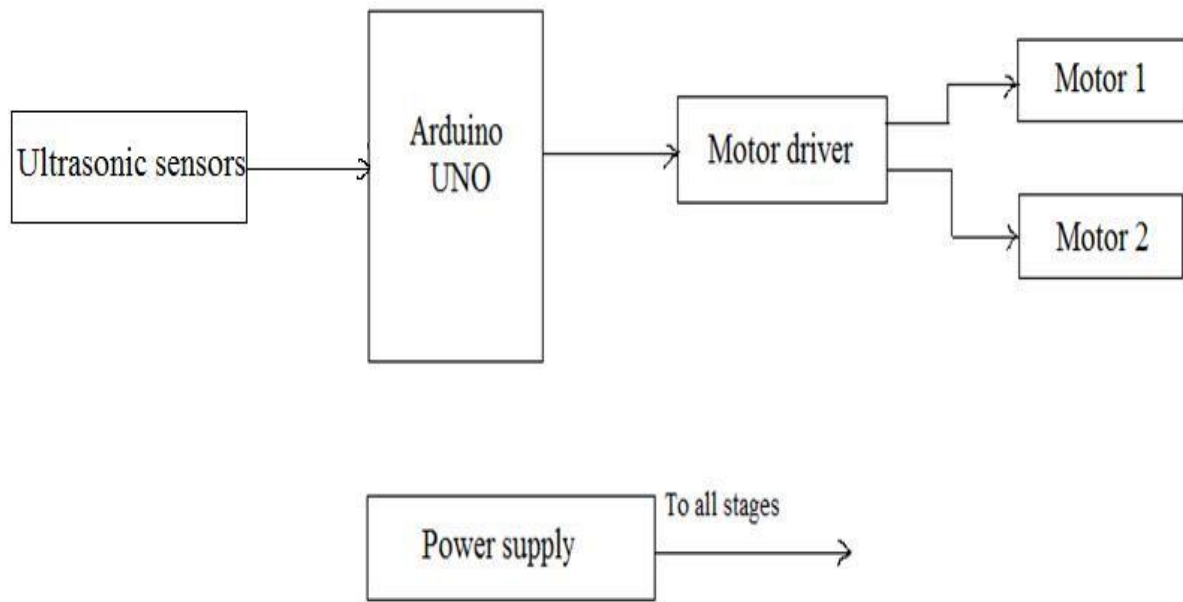


CONSCIOUS CAR

OBSTACLE AVOIDING CIRCUIT WITH ULTRASONIC SENSOR & MOTOR DRIVE

The basic concept of obstacle avoidance robotics is primarily for detecting obstacles and avoiding the collision with the obstacle.

BASIC CIRCUIT DIAGRAM

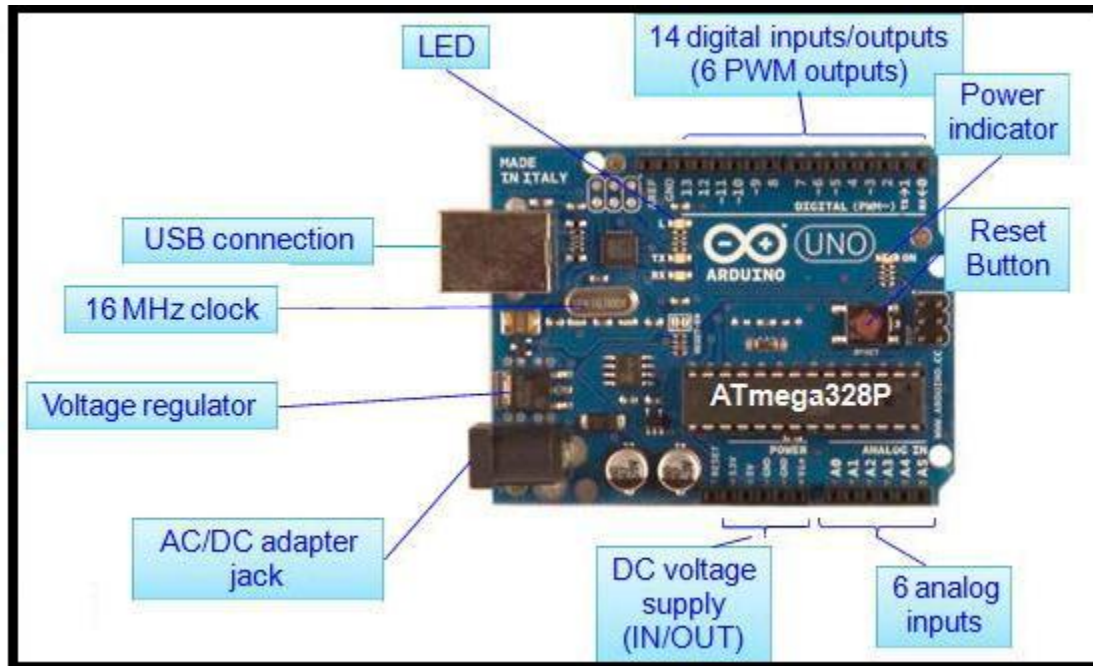


HARDWARE REQUIREMENTS

- Arduino Uno
- Ultrasonic sensor (HC SR05)
- DC Motor Driver L293D
- DC Motor
- Power Supply

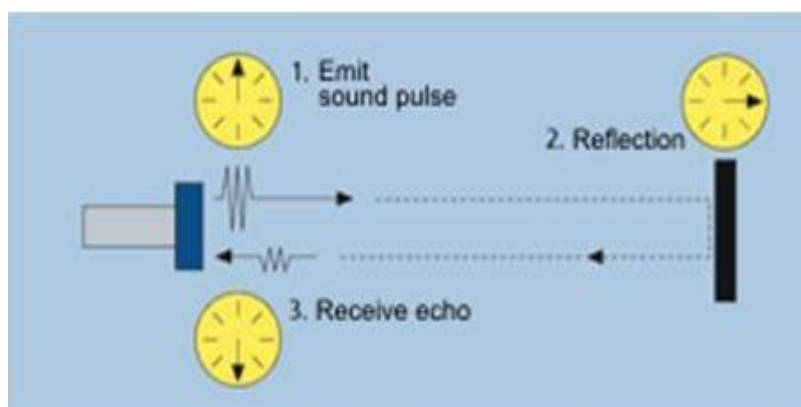
HARDWARE DETAILS

ARDUINO UNO



ULTRASONIC SENSORS (HC SR04)

Ultrasonic sensor transmits the ultrasonic waves from its sensor head and again receives the ultrasonic waves reflected from an object. It enables the system to virtually see and recognize object, avoid obstacles, measure distance. The operating range of ultrasonic sensor is 10 cm to 30 cm.



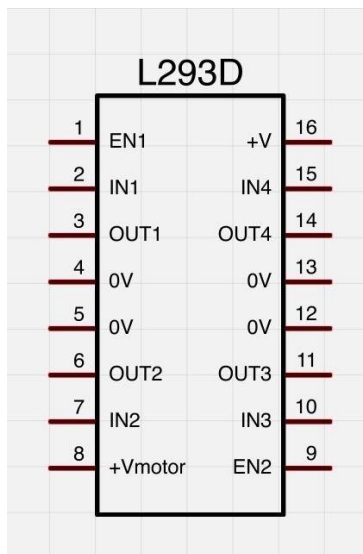
MOTOR DRIVE (L293D)

The Motor Driver is a module for motors that allows you to control the working speed and direction of two motors simultaneously. This Motor Driver is designed and developed based on L293D IC.

L293D is a 16 Pin Motor Driver IC. This is designed to provide bidirectional drive currents at voltages from 5 V to 36 V.

Working Mechanism

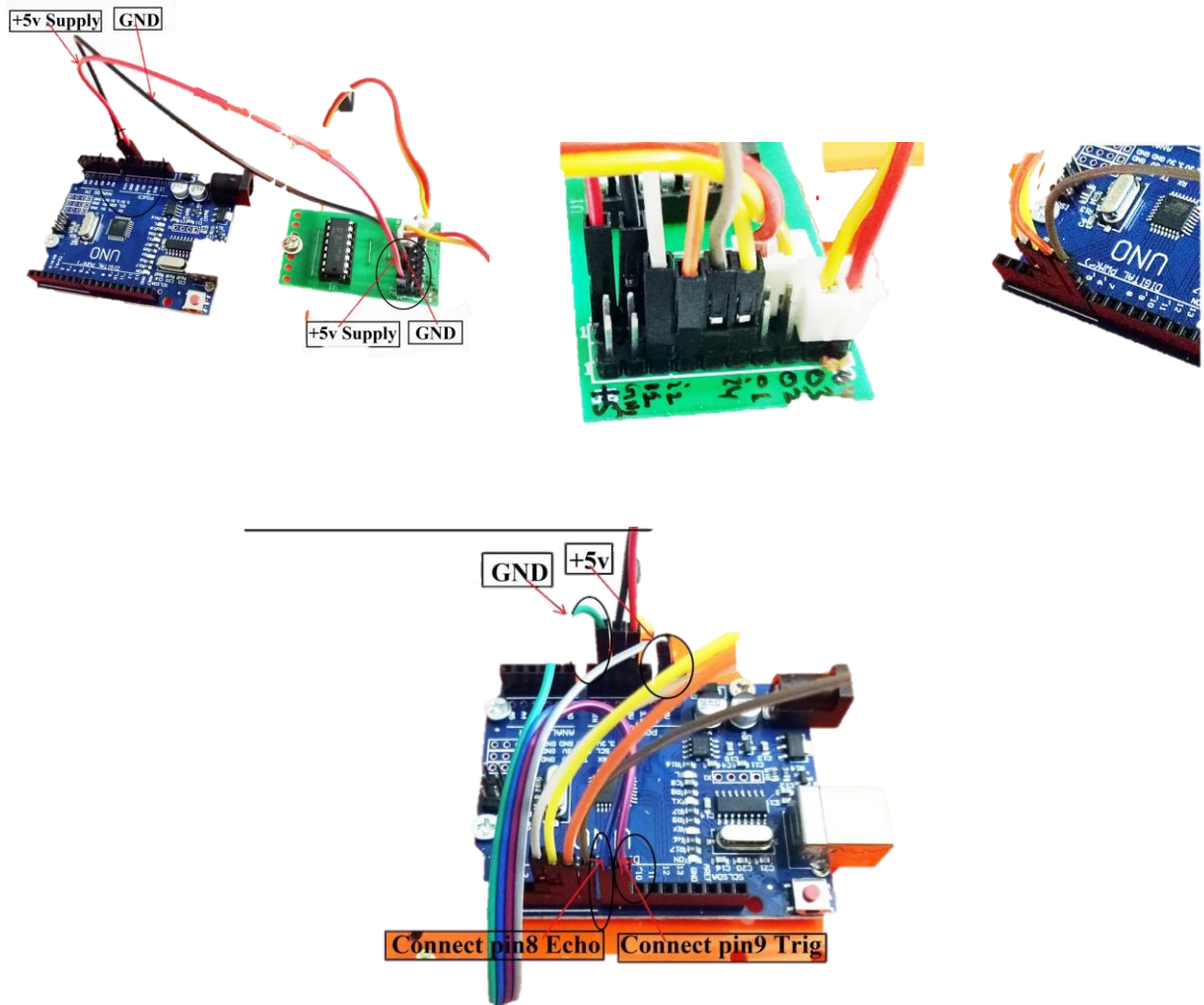
Rotation of motor depends on Enable Pins. When Enable 1/2 is HIGH, motor connected to left part of IC will rotate according to following manner:



Input 1	Input 2	Result
0	0	Stop
0	1	Anti Clockwise
1	0	Clockwise
1	1	Stop

Now, Connections of Circuit.

MAJOR CONNECTION DETAILS



The above circuit shows the important connection details. However, the complete details are available at arduino.cc webpage. Further, we need two tyres for motors and a chasis for holding Arduino board, with provisions to hold battery, motor module and Ultrasonic sensors.

Please connect with me in-case of any details required. Please go through source codes and tips & errors sections also, in the webpage.