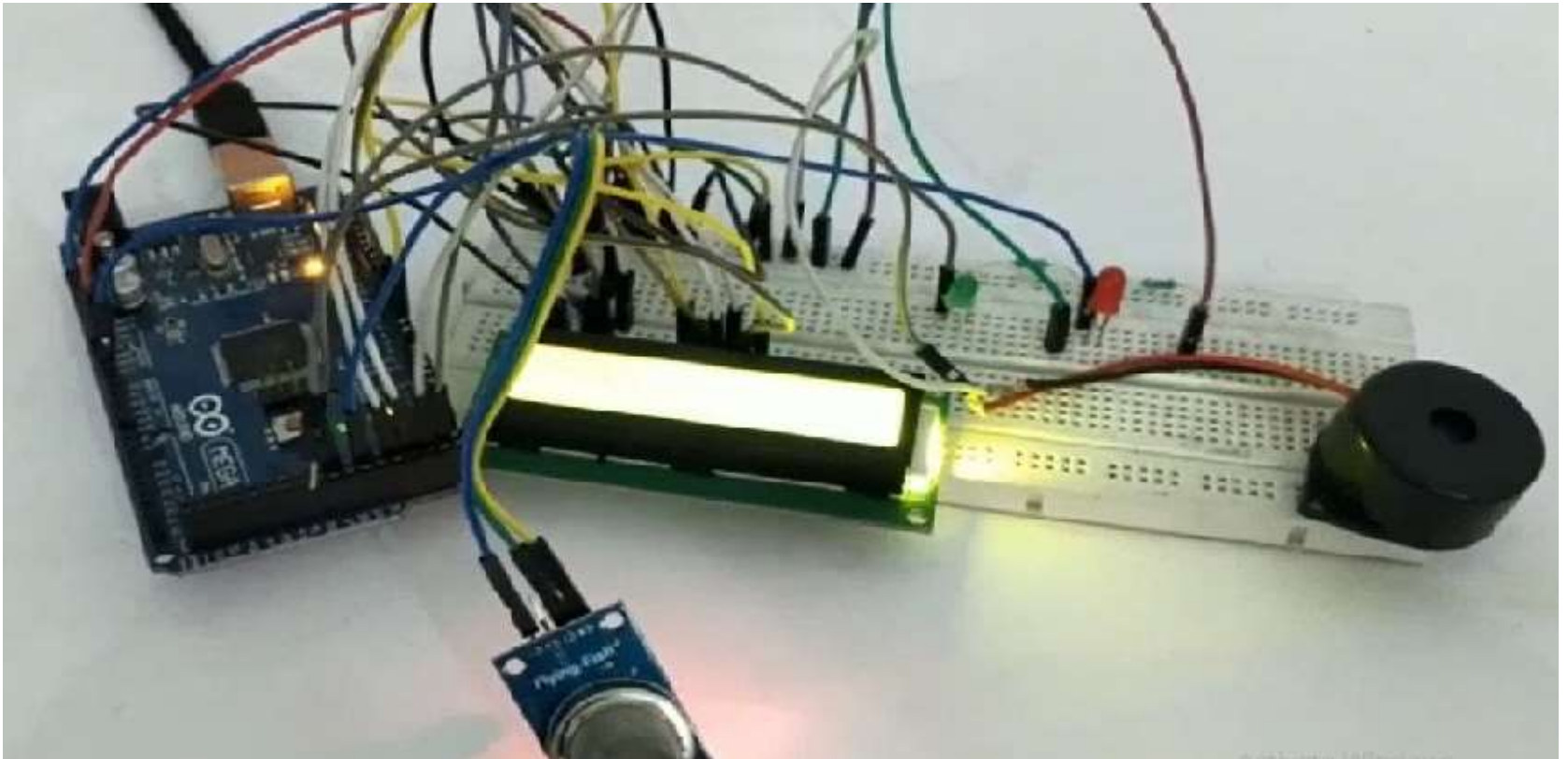# Smoke Detector

Smoke Sensor(MQ-2)

- The MQ-2 Smoke LPG Butane Hydrogen Gas Sensor Detector Module is useful for gas leakage detection (home and industry). It is suitable for detecting H2, LPG, CH4, CO, Alcohol, Smoke or Propane.

- Due to its high sensitivity and fast response time, measurement can be taken as soon as possible. The sensitivity of the sensor can be adjusted by the potentiometer.

- When the sensor when flammable gases are present in the environment in which the conductivity of the sensor with an increasing concentration of combustible gas in the air increases.

Working of MQ-2 (Smoke Sensor)

- The MQ2 has an electrochemical sensor, which changes its resistance for different concentrations of varied gasses.

- The sensor is connected in series with a variable resistor to form a voltage divider circuit, and the variable resistor is used to change sensitivity.

- When one of the above gaseous elements comes in contact with the sensor after heating, the sensor's resistance change. The change in the resistance changes the voltage across the sensor, and this voltage can be read by a microcontroller.

- The voltage value can be used to find the resistance of the sensor by knowing the reference voltage and the other resistor's resistance. The sensor has different sensitivity for different types of gasses.

Working of project

Basically in this project we have interfaced Smoke sensor with Arduino UNO to check the level of smoke in the environment. At normal level, green led will glow and as the smoke level increases, red led will glow and alert will create through buzzer.

Components Required

- Arduino UNO

- MQ-2

- Big buzzer

- LEDs

- Resistors(220ohm)

- Breadboard

- Jumper wires

Connection Diagram
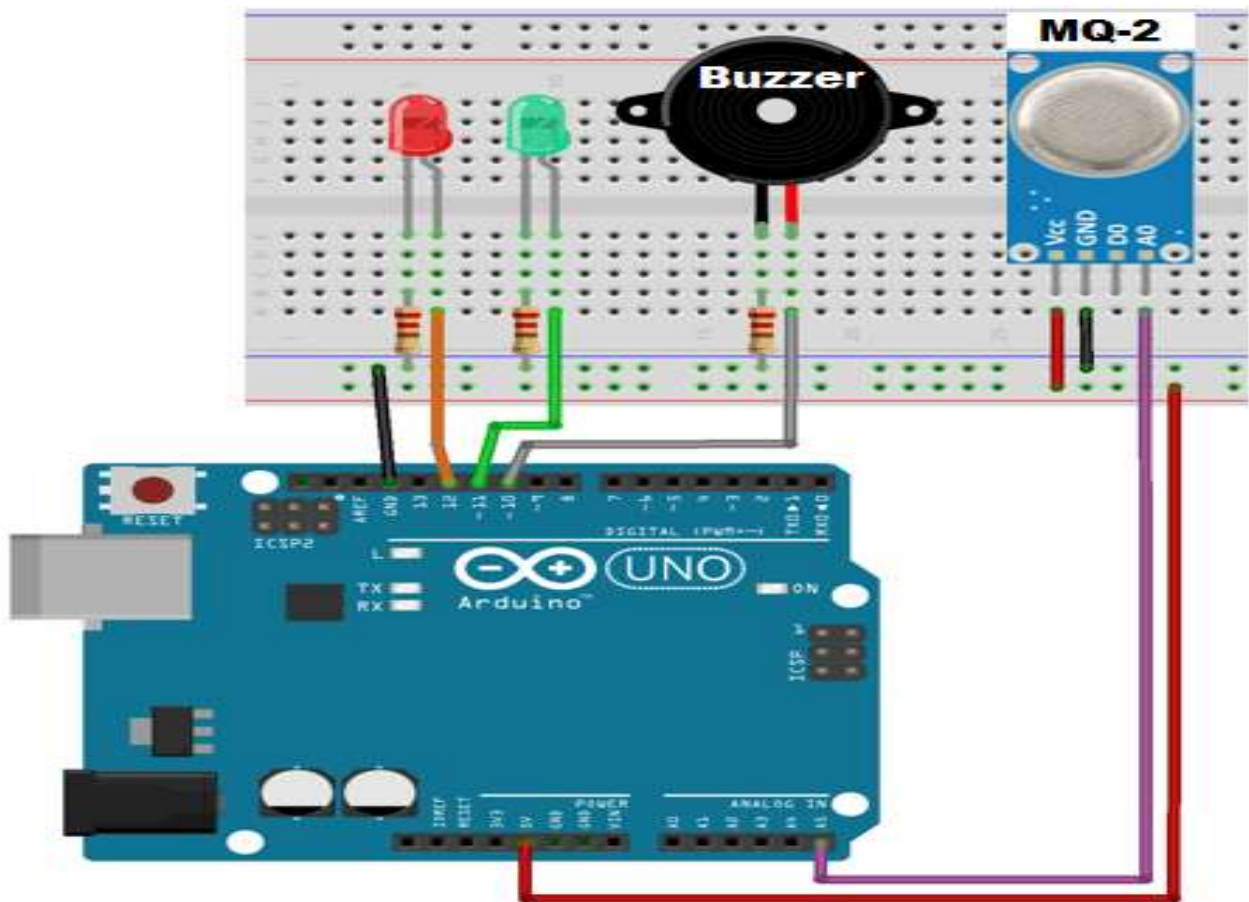
MQ-2 sensor and other connections :

- Connect A0 pin of MQ-2 sensor with A0 pin of Arduino.

- Connect Vcc and GND(ground) pin of MQ-2 sensor with Arduino's +5V and GND respectively.

- Connect LED 1 positive with 12 pin of Arduino and LED's negative with GND of Arduino.(Connect resistor of 220 ohms)as shown in interfacing circuit.

- Connect LED 2 positive with 11 pin of Arduino and LED's negative with GND of Arduino .(Connect resistor of 220 ohms)as shown in interfacing circuit.

- Connect buzzer's positive with 10 pin of Arduino and buzzer's negative with GND of Arduino.

Project Link : https://youtu.be/AtK-jmd8zUM