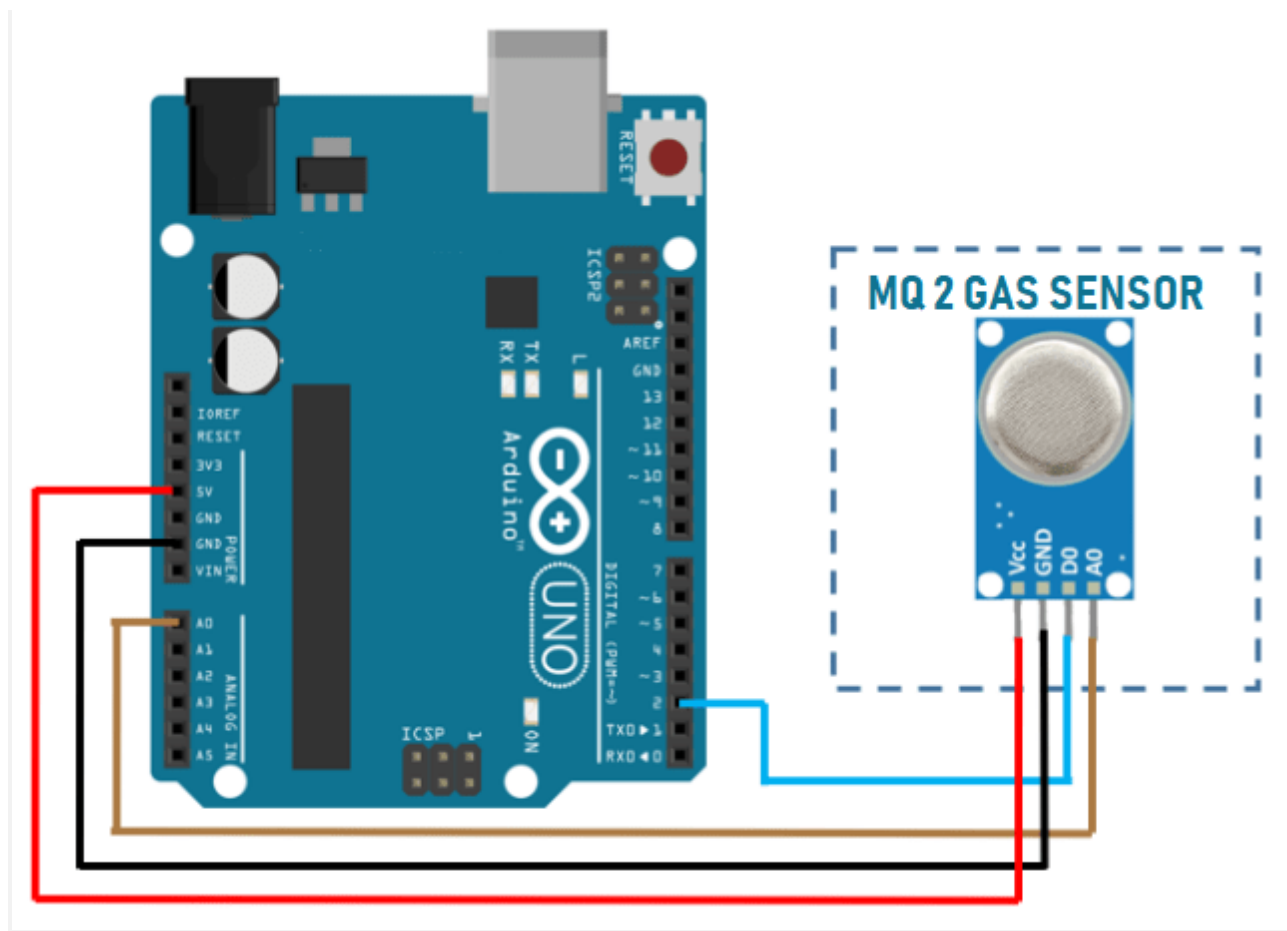
 Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Foundation Skills in Sensor Interfacing (01CT11032)	Aim: To interface MQ2 Gas Sensor with Arduino UNO	
Experiment No: 05	Date: 20-1-22	Enrolment No: 92100133020


Aim: To interface MQ2 gas sensor with Arduino UNO.

Apparatus: MQ2 gas sensor, Arduino UNO, Jumper wire

Theory: So basically what is MQ2 gas sensor, MQ2 gas sensor is an electronic sensor used for sensing the concentration of gases in the air such as LPG, propane, methane, hydrogen, alcohol, smoke and carbon monoxide. It contains a sensing material whose resistance changes when it comes in contact with the gas. In this experiment we are going to interface MQ2 gas sensor with Arduino, there are four pins in MQ2 gas sensor, Vcc, GND, D0, A0, the Vcc pin is connected to 5V, D0 pin is connected Digital pin, A0 pin is connected to Analog pin. And by writing code in Arduino IDE the sensor will detect smoke and display it in serial monitor that whether the smoke is detected or not.

Interfacing Diagram:




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Code:

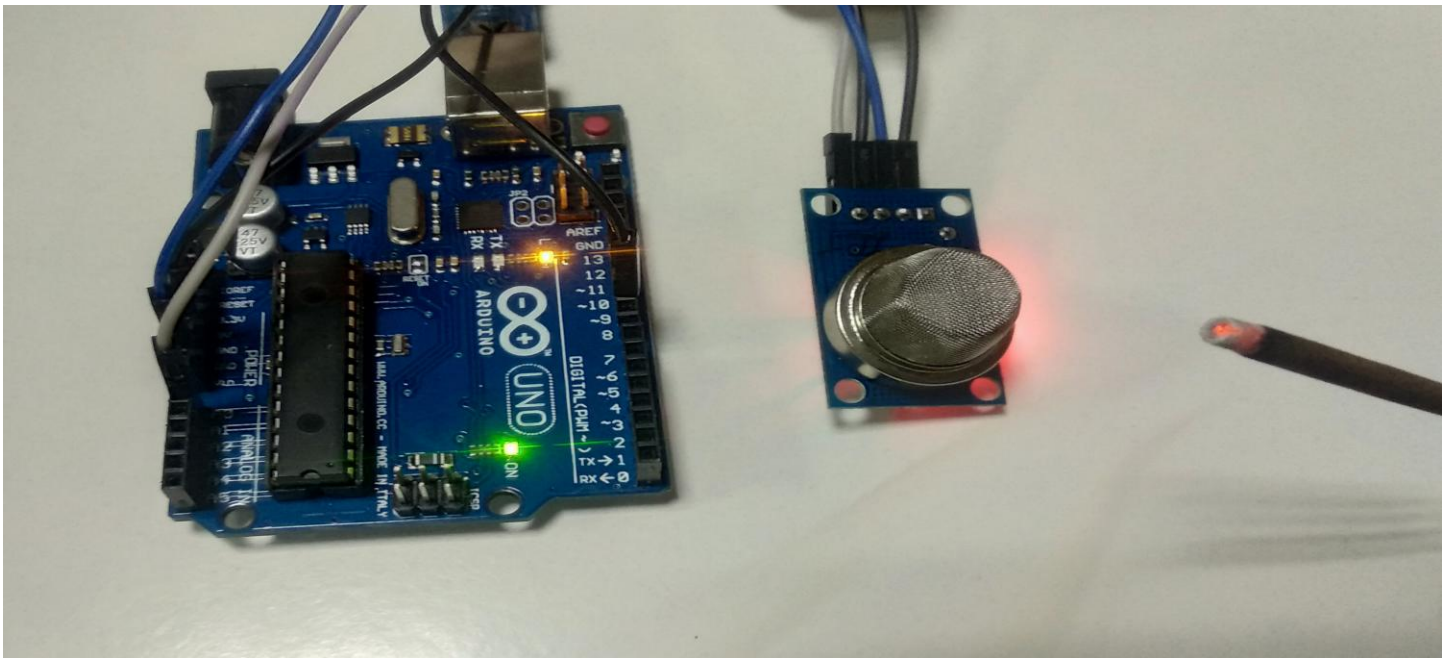
```

#define MQ2pin (0)
float sensorValue;
void setup()
{
  Serial.begin(9600);
  Serial.println("Gas sensor warming up! ");
  pinMode(10,OUTPUT);
  delay(2000);
}
void loop()
{
  sensorValue = analogRead(MQ2pin);
  Serial.print("sensor Value : ");
  Serial.print(sensorValue);
  if(sensorValue > 300)
  {
    Serial.print("\n | Smoke dectected! ");
    pinMode(10,OUTPUT);
  }
  Else
  {
    Serial.print("\n | Smoke not dectected! ")
  }
}

```

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Output:




```

COM16
Sensor Value : 204.00 | Smoke Detected!
Sensor Value : 202.00 | Smoke Detected!
Sensor Value : 201.00 | Smoke Detected!
Sensor Value : 199.00 | No Smoke
Sensor Value : 196.00 | No Smoke
Sensor Value : 195.00 | No Smoke
Sensor Value : 193.00 | No Smoke
Sensor Value : 191.00 | No Smoke
Sensor Value : 190.00 | No Smoke
Sensor Value : 189.00 | No Smoke
Sensor Value : 188.00 | No Smoke
Sensor Value : 187.00 | No Smoke
Sensor Value : 187.00 | No Smoke
Sensor Value : 189.00 | No Smoke
Sensor Value : 229.00 | Smoke Detected!
Sensor Value : 239.00 | Smoke Detected!
Sensor Value : 237.00 | Smoke Detected!
Sensor Value : 231.00 | Smoke Detected!
Sensor Value : 239.00 | Smoke Detected!
Sensor Value : 251.00 | Smoke Detected!
Sensor Value : 259.00 | Smoke Detected!
Sensor Value : 256.00 | Smoke Detected!
Sensor Value : 253.00 | Smoke Detected!
Sensor Value : 249.00 | Smoke Detected!
Sensor Value : 244.00 | Smoke Detected!
  
```

☐ Autoscroll ☐ Show timestamp
 Newline 9600 baud Clear output

Windows taskbar: 12:43 PM, 09-12-2021

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Conclusion: From this experiment we learnt how to interface MQ2 gas sensor with Arduino, how to code for that and after coding we get the detected data in the serial monitor.