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COMPUTER SCIENCE & ENGINEERING
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Experiment-8

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SECTION: 902/B BRANCH: B.E CSE
SUBJECT: IOT LAB **Subject Code:** 20CSP-358

Aim: Interfacing Air Quality Sensor (MQ135), displays data on LCD .

Components Required:

You will need the following components

- 1 × Breadboard
- 1 × Arduino Uno R3
- 1 × MQ 135 Ai rQuality Sensor Module
- 1×LED
- 1×LCD
- 1 × 330Ω Resistor
- 2 × Jumper

Theory:

Air Quality Sensor:

MQ-135 sensor belongs to the MQ series that are used to detect different gasses present in the air. The MQ-135 sensor is used to detect gases such as NH3,NOx, alcohol, Benzene, smoke,CO2 ,etc. steel exoskeleton houses a sensing device within the gas sensor module.

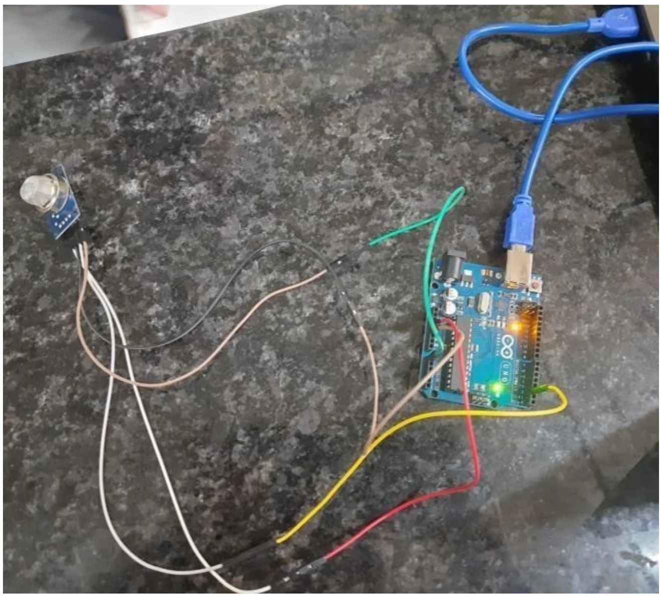
Code:

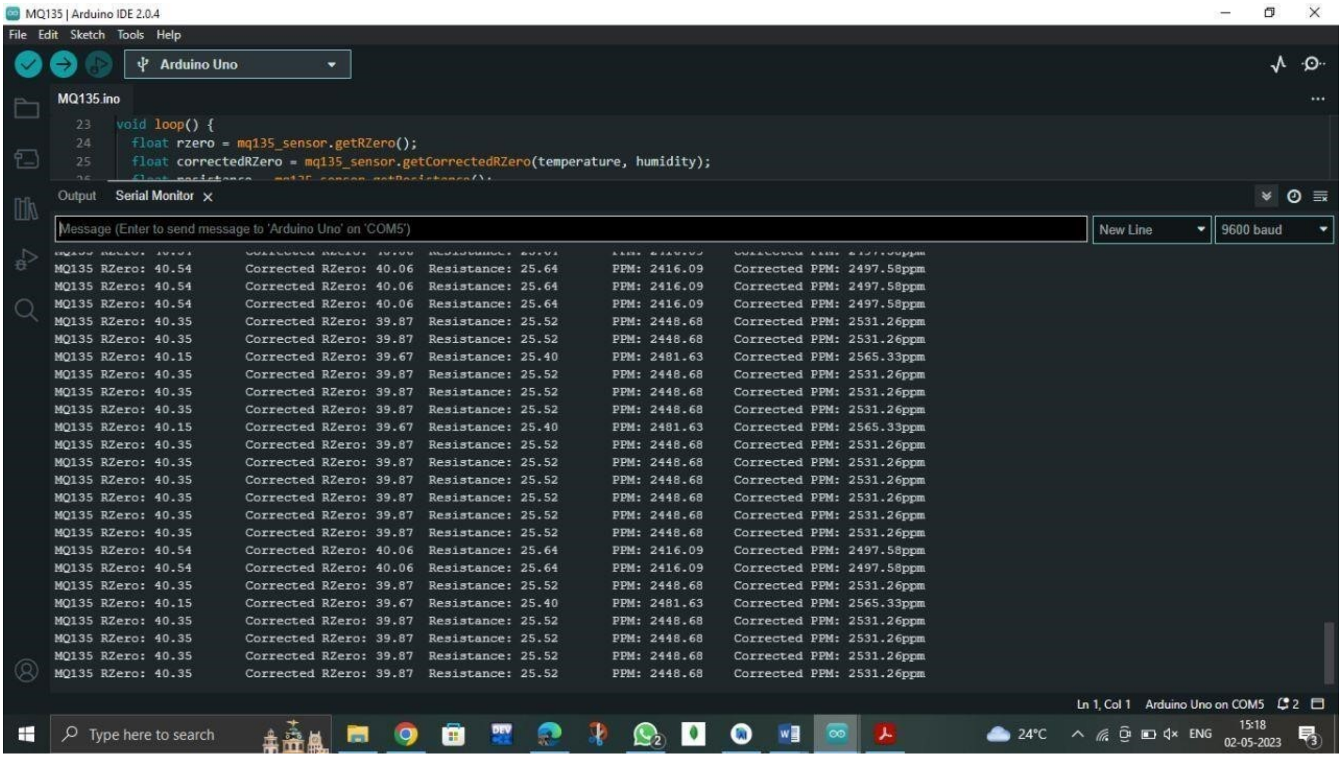
```
int sensorValue;
int digitalValue;
 void setup()
 {
 Serial.begin(9600); // sets the serial port to
 9600 pinMode(13, OUTPUT) pinMode(2,
 INPUT);
```

```
}
 void loop()
{ sensorValue = analogRead(0); // read analog input pin 0  digitalValue = digitalRead(2);

 if (sensorValue > 400)
                  {       digitalWrite(13,
HIGH);
 }  else
digital   Write(  13, LOW);
Serial.println(sensorValue, DEC); // prints the value read
Serial.println(digitalValue, DEC);
delay(1000);  // wait 100ms for next reading}
```

Output:-




MQ135 | Arduino IDE 2.0.4
File Edit Sketch Tools Help
Arduino Uno
MQ135.ino
23 void loop() {
24 float rzero = mq135_sensor.getRZero();
25 float correctedRZero = mq135_sensor.getCorrectedRZero(temperature, humidity);
Output Serial Monitor
Message (Enter to send message to 'Arduino Uno' on 'COM5')
New Line
9600 baud
MQ135 RZero: 40.54 Corrected RZero: 40.06 Resistance: 25.64 PPM: 2416.09 Corrected PPM: 2497.58ppm
MQ135 RZero: 40.54 Corrected RZero: 40.06 Resistance: 25.64 PPM: 2416.09 Corrected PPM: 2497.58ppm
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Ln 1, Col 1 Arduino Uno on COM5
Type here to search
24°C
ENG
15:18
02-05-2023