## For Carbon Dioxide detection in air

This code communicates with the MQ135 air quality sensor with the help of the MQ135.h library. The sensor is supposed to preheat for 24 hours before taking readings. Once the code runs, it prints out the concentration of detected gases in ppm on a serial monitor, and the results are displayed on an LCD screen. An alarm system (LED light) is also set to glow if the  $CO_2$  values cross a threshold value of 1000ppm.

Detailed explanation is given in the video tutorial

## CO2Sensor.ino

```
#include "MQ135.h" //Main library that contains functions to get the
ppm values
#include <Wire.h>
#include <LiquidCrystal_I2C.h> //Header file for LCD
LiquidCrystal_I2C lcd(0x27,16,2);//set the LCD address to x27 for a 16
chars and 2 line display
#define led
                                       //led on pin 9
const int gas_pin = A0;
                                      //analog feed from MQ135
MQ135 gasSensor = MQ135(gas_pin); //Define the gas pin in the
function mg135 gas sensor as per the mg135 library
void setup(){
 lcd.init();
                                  // initialize the lcd
 lcd.begin(16,2);
                                 // consider 16 chars + 2 lines lcd
 lcd.backlight();
                                  // illuminate to produce visible
reading
  lcd.clear();
                                  // clear lcd
 lcd.setCursor(4,0);
                                  //set cursor of lcd to 1st row and
5th column
  lcd.print("Group L");
                                  // print as a sentence on lcd
  pinMode(gas_pin,INPUT); //MQ135 analog feed set for input
  pinMode(led,OUTPUT);
                            //led set for output
                            //serial comms for debugging
  Serial.begin(9600);
void loop(){
float ppm = gasSensor.getPPM(); //function to get ppm value based on
the MQ135.h library
Serial.println(ppm);
                               // print ppm on serial monitor
delay(1000);
  lcd.clear();
                                // clear lcd
  lcd.setCursor(0,0);
                                // set cursor of lcd to 1st row and
1st column
```

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```
lcd.print("Air Quality: "); // print as a sentence on lcd
   lcd.print(ppm);
                               // print value of MQ135
if(ppm>999){
                                //if co2 ppm > 1000
   digitalWrite(led,HIGH);
                               //turn on led
   lcd.setCursor(2,1);
                                // set cursor of lcd to 2nd row and
3rd column
   lcd.print("AQ Level BAD"); //print as a sentence on lcd
  }
else{
   digitalWrite(led,LOW);  //turn off led
   lcd.setCursor(1,1);
                               // set cursor of lcd to 2nd row and
2nd column
   lcd.print ("AQ Level Good"); // print as a sentence on lcd
```

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