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<sub>2<\sub> values cross a threshold value of 1000ppm.

Detailed explanation is given in the video tutorial

CO2Sensor.ino

```
#include "M0135.h"
#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);
void setup(){
 lcd.init();
                                  // initialize the lcd
                                  // consider 16 chars + 2 lines lcd
 lcd.begin(16,2);
 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.begin(9600); //serial comms for debugging
void loop(){
float ppm = gasSensor.getPPM();
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
  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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