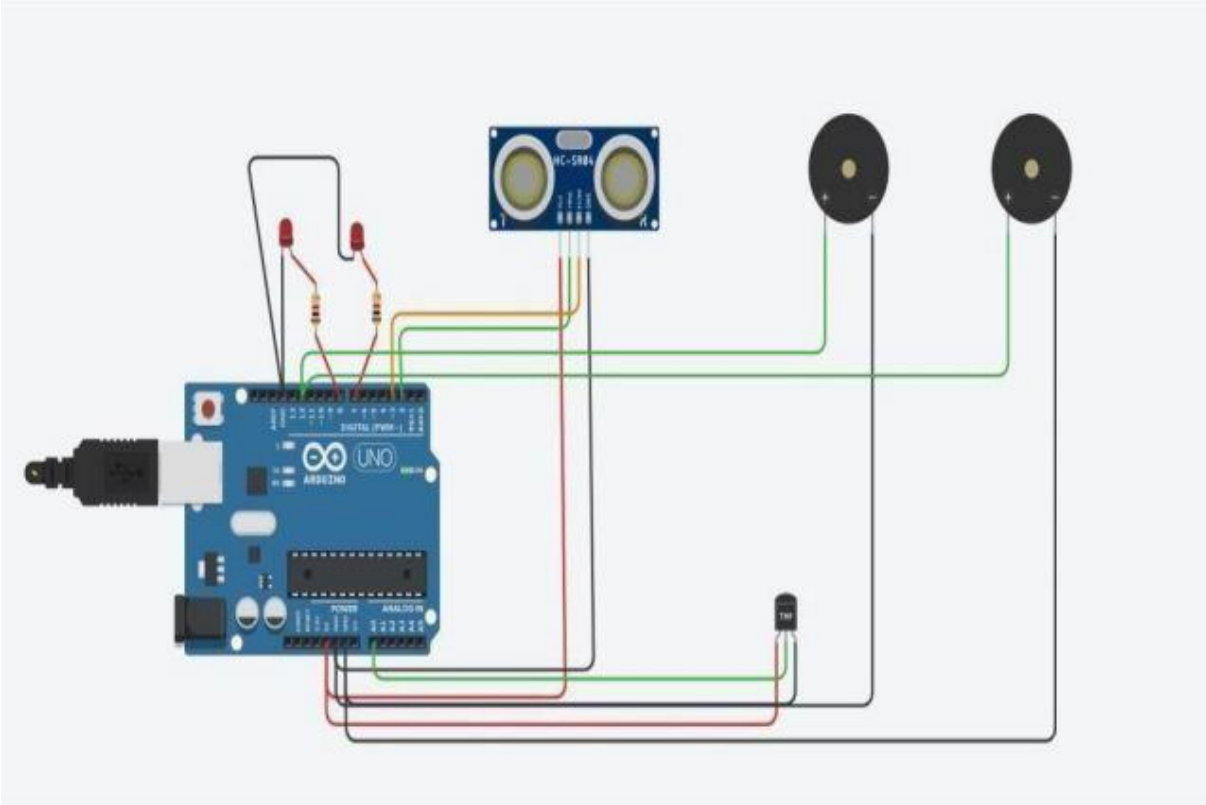
Assignment -1

```
// include the library code:
#include <LiquidCrystal.h>
// initialize the library with the numbers of the interface pins
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
//For ultrasound sensor
int distanceThreshold = 0;
int cm = 0;
int inches = 0;
//for Relay Control
int releNO = 13;
int inputPir = 8;
int val = 0;
int resuldoSensorLDR;
int sensorLDR = A0;
//For Gas sensor
int const PINO_SGAS = A1;
long readUltrasonicDistance(int triggerPin, int echoPin)
{
pinMode(triggerPin, OUTPUT);  // Clear the trigger
digitalWrite(triggerPin, LOW);
delayMicroseconds(2);
// Sets the trigger pin to HIGH state for 10 microseconds
digitalWrite(triggerPin, HIGH);
delayMicroseconds(10);
digitalWrite(triggerPin, LOW);
pinMode(echoPin, INPUT);
// Reads the echo pin, and returns the sound wave travel time in microseconds
return pulseIn(echoPin, HIGH);
}
void setup() {
// set up the LCD's number of columns and rows:
lcd.begin(16, 2);
pinMode(releNO, OUTPUT);
pinMode(inputPir, INPUT);
pinMode(sensorLDR, INPUT);
Serial.begin(9600);
}
void loop() {
// set threshold distance to activate LEDs
distanceThreshold = 350;
// measure the ping time in cm
cm = 0.01723 * readUltrasonicDistance(7, 6);
```

```
// convert to inches by dividing by 2.54
inches = (cm / 2.54);
lcd.setCursor(0,0); // Sets the location at which subsequent text written to the
LCD
will be displayed
lcd.print("D:"); // Prints string "Distance" on the LCD
lcd.print(cm); // Prints the distance value from the sensor
lcd.print("cm");
delay(10);
val = digitalRead(inputPir);
resuldoSensorLDR = analogRead(sensorLDR);
if(resuldoSensorLDR<600)
{
if(val == HIGH)
{
digitalWrite(releNO, HIGH);
lcd.setCursor(0,1);
lcd.print("L: On ");
delay(5000);
}
else{
digitalWrite(releNO, LOW);lcd.setCursor(0,1);
lcd.print("L: Off");
delay(300);
}
}
else{ digitalWrite (releNO, LOW);
Serial.println(resuldoSensorLDR);
delay(500);
}
int color = analogRead(PINO_SGAS);
lcd.setCursor(8,0);
//lcd.print("");
if(color <= 85){
lcd.print("G:Low ");
} else if(color <= 120){
lcd.print("G:Med ");
} else if(color <= 200){
lcd.print("G:High");
} else if(color <= 300){
lcd.print("G:Ext ");
}
delay(250);
}
```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