

ASSIGNMENT 1

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PROJECT TITLE: Gas leakage monitoring and alerting system.

SOURCE CODE :

```
//LDR sensor-----
```

```
int sensorReading = 0;
```

```
//LDR sensor-----
```

```
//Ultrasonic sensor-----
```

```
int inches = 0;
```

```
int cm = 0;
```

```
int triggerPin = 13;
```

```
int echoPin = 12;
```

```
int default = 0;
```

```
long readUltrasonicDistance(int triggerPin,int echoPin)
```

```
{
```

```
    pinMode(triggerPin, OUTPUT);
```

```

    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
    pinMode(echoPin, INPUT);
    return pulseIn(echoPin, HIGH);
}

//Ultrasonic sensor-----

//Gas sensor-----

int adcPin = 0;
int adcValue = 0;
float v;
float rs,ppm;

int buttonState = 0;
void setup() {

    //LDR sensor-----

    pinMode(8, OUTPUT);
    pinMode(A0, INPUT);

    Serial.begin(9600);
    //LDR sensor-----

    //Ultrasonic sensor-----

    pinMode(2, OUTPUT);
    cm = 0.01723*readUltrasonicDistance(triggerPin, echoPin);

```

```

    default = cm;

    Serial.print(default);

//Ultrasonic sensor-----

//PIR sensor-----

    pinMode(3, INPUT);
    pinMode(9, OUTPUT);

//PIR sensor-----


//Motor-----


    pinMode(5, OUTPUT);
    pinMode(4, INPUT);


//Motor-----

    pinMode(7, OUTPUT);
    pinMode(A1, INPUT);
}

void loop() {/#####

//LDR sensor-----

    sensorReading = analogRead(A0);


    if(sensorReading < 900){
        digitalWrite(8, HIGH);
    }else{
        digitalWrite(8, LOW);
    }

//LDR sensor-----


//Ultrasonic sensor-----

```

```

cm = 0.01723*readUltrasonicDistance(triggerPin, echoPin)    ;
if(cm < default){
    digitalWrite(2,HIGH);
    delay(50);
    digitalWrite(2,LOW);
}else{
    digitalWrite(2,LOW);

}
//Ultrasonic sensor-----

//PIR sensor-----
    int value = digitalRead(3);
    if (value == 1)
    {
        tone(9, 440, 1000);
    }
//PIR sensor-----

//Motor-----
    buttonState = digitalRead(4);
    if(buttonState == 1){
        digitalWrite(5,0);
    }
    else{
        digitalWrite(5,HIGH);
    }
//Motor-----

//Gas sensor-----

```

```
int sensor_gas = analogRead(A1);

if(sensor_gas >= 400){
    digitalWrite(7,HIGH);
}
else{
    digitalWrite(7,LOW);
}

//-----

delay(1000);
}
```

