ASSIGNMENT 1

TEAM ID: PNT2022TMID52298

NAME : C. Ajishma

REGISTER NUMBER: 963519106009

PROJECT TITLE: Gas leakage monitoring and alarting 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 defult = 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);
```

```
        defult = cm;

            Serial.print(defult);

    //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 < defult){
         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);
}
```