**int sensorReading = 0;**

**int photoResister = 0;**

**int inches = 0;**

**int cm = 0;**

**int gas = 0;**

**int pir = 0;**

**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()**

**{**

**pinMode(7, INPUT);**

**pinMode(A5, INPUT);**

**pinMode(A3, INPUT);**

**pinMode(A0, INPUT);**

**Serial.begin(9600);**

**pinMode(13, OUTPUT);// bulb**

**pinMode(6, OUTPUT);//led**

**pinMode(3, OUTPUT);//peizo(buzzer)**

**pinMode(2, OUTPUT);//dcmotor(fan)**

**}**

**void loop()**

**{**

**// Starting of car parking sensor program.**

**cm = 0.01723 \* readUltrasonicDistance(7, 7);**

**inches = (cm / 2.54);**

**Serial.println("Distance measured between obstacle and car in inches and cm is as follows");**

**Serial.print(inches);**

**Serial.print("in, ");**

**Serial.print(cm);**

**Serial.println("cm");**

**delay(1000);**

**sensorReading = digitalRead(7);**

**Serial.println(sensorReading);**

**if( cm>=0 && cm <=20)**

**digitalWrite(3,HIGH);**

**else if(cm>=20 && cm<=60)**

**digitalWrite(3,HIGH);**

**else if(cm>=60 && cm<=100)**

**digitalWrite(3,HIGH);**

**else**

**digitalWrite(3,LOW);**

**delay(10);**

**//End of car parking sensor program.**

**//Starting of smoke detection ( gas sensor ) program.**

**gas = analogRead(A5);**

**Serial.println("Value of smoke or gas at the gas sensor is");**

**Serial.println(gas);**

**delay(1000);**

**if( gas>=400)**

**digitalWrite(2,HIGH);**

**else if(gas>=90 && gas<400)**

**digitalWrite(2,HIGH);**

**else if(gas>=0 && gas<90)**

**digitalWrite(2,LOW);**

**delay(10);**

**//End of gas sensor program.**

**//Stating of night lamp (photoResister) program.**

**photoResister = analogRead(A3);**

**Serial.println("Night lamp value");**

**Serial.println(photoResister);**

**if(photoResister>=479&& photoResister<1023)**

**digitalWrite(6,HIGH);**

**else**

**digitalWrite (6,LOW);**

**delay(10);**

**//End of night lamp( photoResistor )program.**

**//Stating of washroom or security light(pirsensor) program.**

**pir = analogRead(A0);**

**Serial.println("Is human detected ?");**

**Serial.println(pir);**

**if(pir>=1018)**

**{**

**digitalWrite(13,HIGH);**

**Serial.println(" Human detected");**

**delay(5000);**

**}**

**else**

**{**

**digitalWrite(13,LOW);**

**Serial.println("Human not detected");**

**}**

**delay(10);**

**}**