**HOME AUTOMATION CODE**

**#include<Servo.h>**

**int hps = 7;**

**int servoPin = 8;**

**int buzzerpin=3;**

**Servo servo1;**

**void setup() {**

**Serial.begin(9600);**

**servo1.attach(servoPin);**

**pinMode(2,INPUT);**

**pinMode(4,OUTPUT);**

**pinMode(11,OUTPUT);**

**pinMode(12,OUTPUT);**

**pinMode(13,OUTPUT);**

**pinMode(A0,INPUT);**

**pinMode(buzzerpin,OUTPUT);**

**digitalWrite(2,LOW);**

**digitalWrite(11,HIGH);**

**}**

**void loop() {**

**long duration, inches, cm;**

**pinMode(hps, OUTPUT);**

**digitalWrite(hps, LOW);**

**delayMicroseconds(2);**

**digitalWrite(hps, HIGH);**

**delayMicroseconds(5);**

**digitalWrite(hps, LOW);**

**pinMode( hps, INPUT);**

**duration = pulseIn(hps, HIGH);**

**inches = microsecondsToInches(duration);**

**cm = microsecondsToCentimeters(duration);**

**servo1.write(0);**

**int pir = digitalRead(2);**

**if(cm < (45))**

**{**

**servo1.write(145);**

**Serial.println("Person is detected,Door opens");**

**delay(4000);**

**}**

**else**

**{**

**servo1.write(0);**

**Serial.println("No motion detected , Door closes");**

**}**

**pir = digitalRead(2);**

**if(digitalRead(3)==HIGH)**

**{tone(buzzerpin,200);**

**delay(50);**

**tone(buzzerpin,500);**

**delay(50);**

**tone(buzzerpin,900);**

**delay(50);**

**tone(buzzerpin,1000);**

**delay(50);**

**tone(buzzerpin,1300);**

**delay(50);**

**tone(buzzerpin,1800);**

**delay(50);**

**}else**

**noTone(buzzerpin);**

**if(pir == HIGH)**

**{**

**digitalWrite(4,HIGH);**

**Serial.println(" Lights ON");**

**delay(1000);**

**}**

**else if(pir == LOW)**

**{**

**digitalWrite(4,LOW);**

**Serial.println("Lights OFF");**

**}**

**float value=analogRead(A0);**

**float temperature=value\*0.48;**

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

**Serial.print(temperature);**

**if(temperature > 25)**

**{**

**digitalWrite(12,HIGH);**

**digitalWrite(13,LOW);**

**}**

**else**

**{**

**digitalWrite(12,LOW);**

**digitalWrite(13,LOW);**

**}**

**}**

**long microsecondsToInches(long microseconds) {**

**return microseconds / 74 / 2;**

**}**

**long microsecondsToCentimeters(long microseconds) {**

**return microseconds / 29 / 2;**

**}**