**Home Automation**

#include<Servo.h>

Servo s;

int t=2;

int e=3;

int l=11;

void setup()

{

pinMode(t,OUTPUT);

pinMode(e,INPUT);

pinMode(l,OUTPUT);

pinMode(13,OUTPUT);

pinMode(4,INPUT);

s.attach(5);

Serial.begin(9600);

}

void loop()

{

//ultrasonic sensor used to indicatate BULB glowing and Door open(servo motor)

digitalWrite(t,1);

digitalWrite(t,0);

delayMicroseconds(10);

digitalWrite(t,0);

float dur=pulseIn(e,1);

float dis=(dur\*0.0343)/2;

Serial.print("distance:");

Serial.println(dis);

if(dis>150){

digitalWrite(l,0);

s.write(180);

}

else{

digitalWrite(l,1);

s.write(0);

}

//Temprature sensor

double a= analogRead(A0);

double t= (((a/1024)\*5)-0.5)\*100;

Serial.print("temprature value:");

Serial.println(t);

delay(1000);

if(t>100)

digitalWrite(13,1);

else

digitalWrite(13,0);

delay(1000);

//PIR sensor

digitalWrite(13,0);

int a1=digitalRead(4);

Serial.println(a);

if(a1==1){

Serial.println("motion detected:");

digitalWrite(13,1);

}

delay(1000);

}

