int trigpin=2;

int echopin=3;

int distance;

void setup()

{

Serial.begin(9600);

pinMode(4,INPUT);

pinMode(8,OUTPUT);

pinMode(13,OUTPUT);

pinMode(trigpin,OUTPUT);

pinMode(echopin,INPUT);

pinMode(12,OUTPUT);

}

void loop()

{

int pir=digitalRead(4);

Serial.println(pir);

if(pir)

{

digitalWrite(13,HIGH);

Serial.println("motion detected");

}

delay(1000);

double val=analogRead(A0);

double temp=(((val/1024)\*5)-0.5)\*100;

Serial.println(temp);

if(temp>25)

Serial.println("temperature is great");

delay(1000);

digitalWrite(trigpin,LOW);

digitalWrite(trigpin,HIGH);

delay(100);

digitalWrite(trigpin,LOW);

float dur = pulseIn(echopin,HIGH);

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

Serial.print("distance:");

Serial.print(dis);

Serial.println("cm");

if(distance<100)

{

digitalWrite(8,HIGH);

Serial.println("turn on light");

}

else

Serial.println("turn off the light");

if(dis>=100)

{

for(int i=0;i<=30000;i+10)

{

tone(12,i);

delay(1000);

noTone(12);

delay(1000);

}

}

}