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#include<Servo.h>

const int pingPin = 7;
int servoPin = 8;
Servo servo1;
void setup() {
    // initialize serial communication:
    Serial.begin(9600);
    servo1.attach(servoPin);
    pinMode(2,INPUT);
    pinMode(4,OUTPUT);
    pinMode(11,OUTPUT);
    pinMode(12,OUTPUT);
    pinMode(13,OUTPUT);
    pinMode(A0,INPUT);
    digitalWrite(2,LOW);
    digitalWrite(11,HIGH);
}
void loop() {
    long duration, inches, cm;
    pinMode(pingPin, OUTPUT);
    digitalWrite(pingPin, LOW);
    delayMicroseconds(2);
    digitalWrite(pingPin, HIGH);
    delayMicroseconds(5);
    digitalWrite(pingPin, LOW);
    pinMode(pingPin, INPUT);
    duration = pulseIn(pingPin, HIGH);
    // convert the time into a distance
    inches = microsecondsToInches(duration);
    cm = microsecondsToCentimeters(duration);
    Serial.print(inches);
    Serial.print("in, ");
    Serial.print(cm);
    Serial.print("cm");
    Serial.println();
    delay(100);
    servo1.write(0);
    if(cm < 40)
    {
        servo1.write(90);
        delay(2000);
    }
    else

```

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{
    servo1.write(0);
}
int pir = digitalRead(2);
if(pir == HIGH)
{
    digitalWrite(4,HIGH);
    delay(1000);
}
else if(pir == LOW)
{
    digitalWrite(4,LOW);
}
float value=analogRead(A0);
float temperature=value*0.48;
Serial.println("temperature");
Serial.println(temperature);
if(temperature > 20)
{
    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;
}

```