

```

#include<Servo.h>
const int pingPin = 7;
int servoPin = 8;

Servo servol;

void setup() {
  // initialize serial communication:
  Serial.begin(9600);
  servol.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);

  servol.write(0);

  if(cm < 40)
  {
    servol.write(90);
    delay(2000);
  }
}

```

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else
{
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;
}

```