

**CODE:**

```
#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
{
    servo1.write(0);
}

int pir = digitalRead(2);

if(pir == HIGH)
{
    digitalWrite(4,HIGH);
    delay(1000);
}
else if(pir == LOW)
{
    digitalWrite(4,LOW);
}

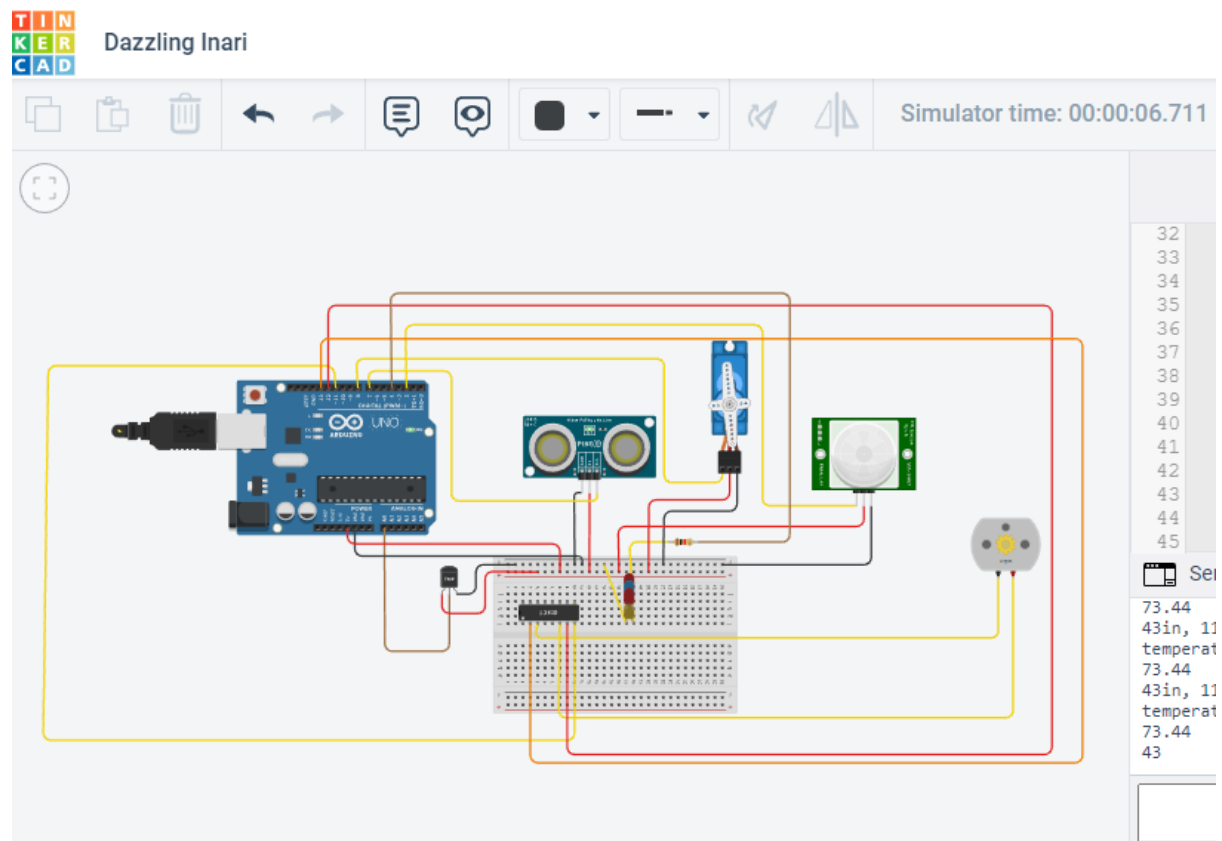
float value=analogRead(A0);
float temperature=value*0.48;

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;
}
```



TIN

KER

CAD

Dazzling Inari

All changes saved

Simulator time: 00:00:10.600

Code

Stop Simulation

Send To

1 (Arduino Uno R3)

Serial Monitor

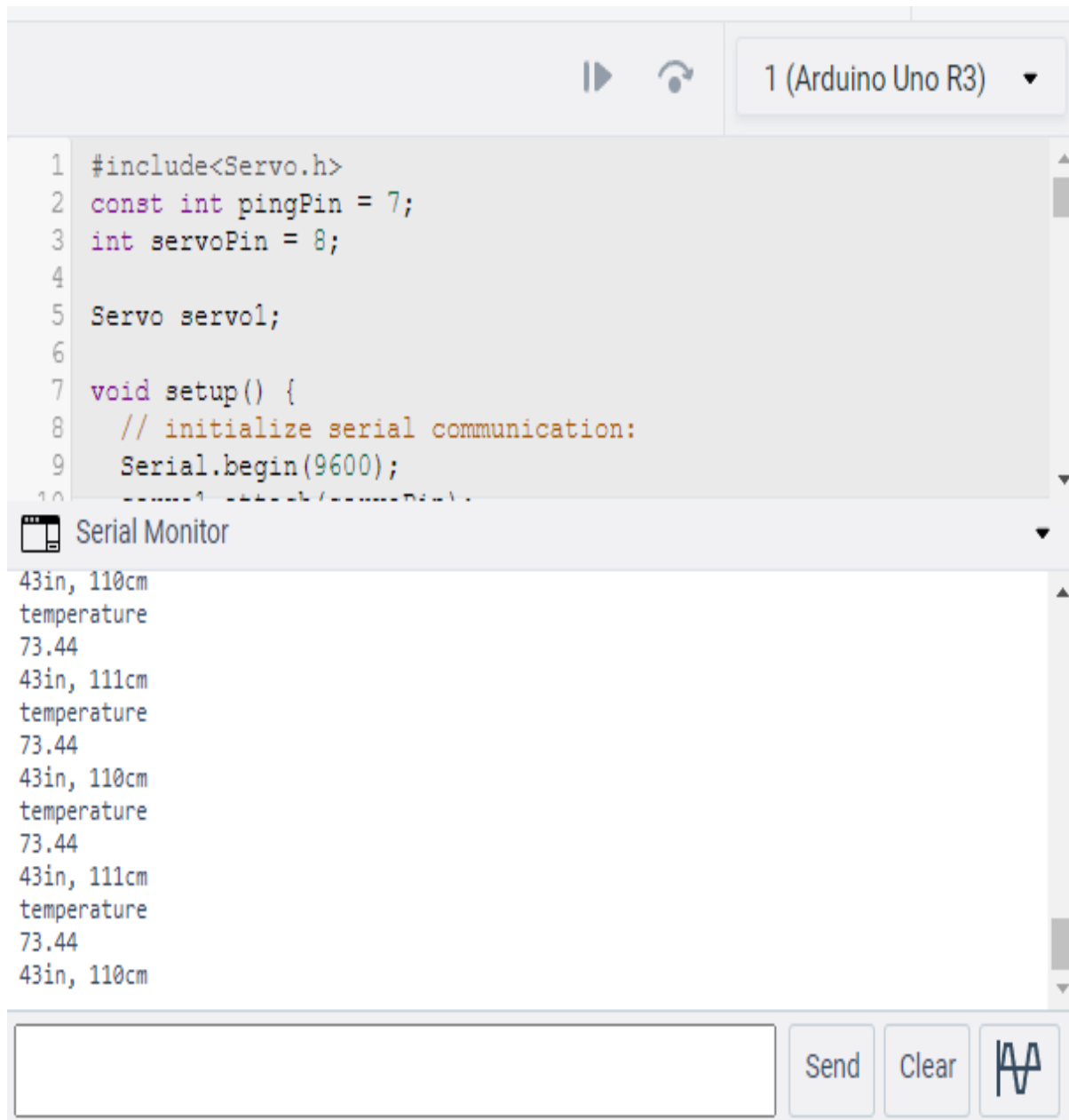
```

temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm

```

Send

Clear



The screenshot displays the Arduino IDE interface. At the top, the board is set to "1 (Arduino Uno R3)". The code editor shows a program that includes the Servo library, defines pins 7 and 8, and initializes a servo motor. The Serial Monitor is open, showing the output of the program, which consists of alternating distance and temperature readings. The bottom of the interface includes a text input field for sending commands, along with "Send", "Clear", and a waveform icon button.

```
1 #include<Servo.h>
2 const int pingPin = 7;
3 int servoPin = 8;
4
5 Servo servol;
6
7 void setup() {
8   // initialize serial communication:
9   Serial.begin(9600);
10  servol.attach(servoPin);
11 }
```

Serial Monitor

43in, 110cm  
temperature  
73.44  
43in, 111cm  
temperature  
73.44  
43in, 110cm  
temperature  
73.44  
43in, 111cm  
temperature  
73.44  
43in, 110cm

Send Clear 