

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);
}

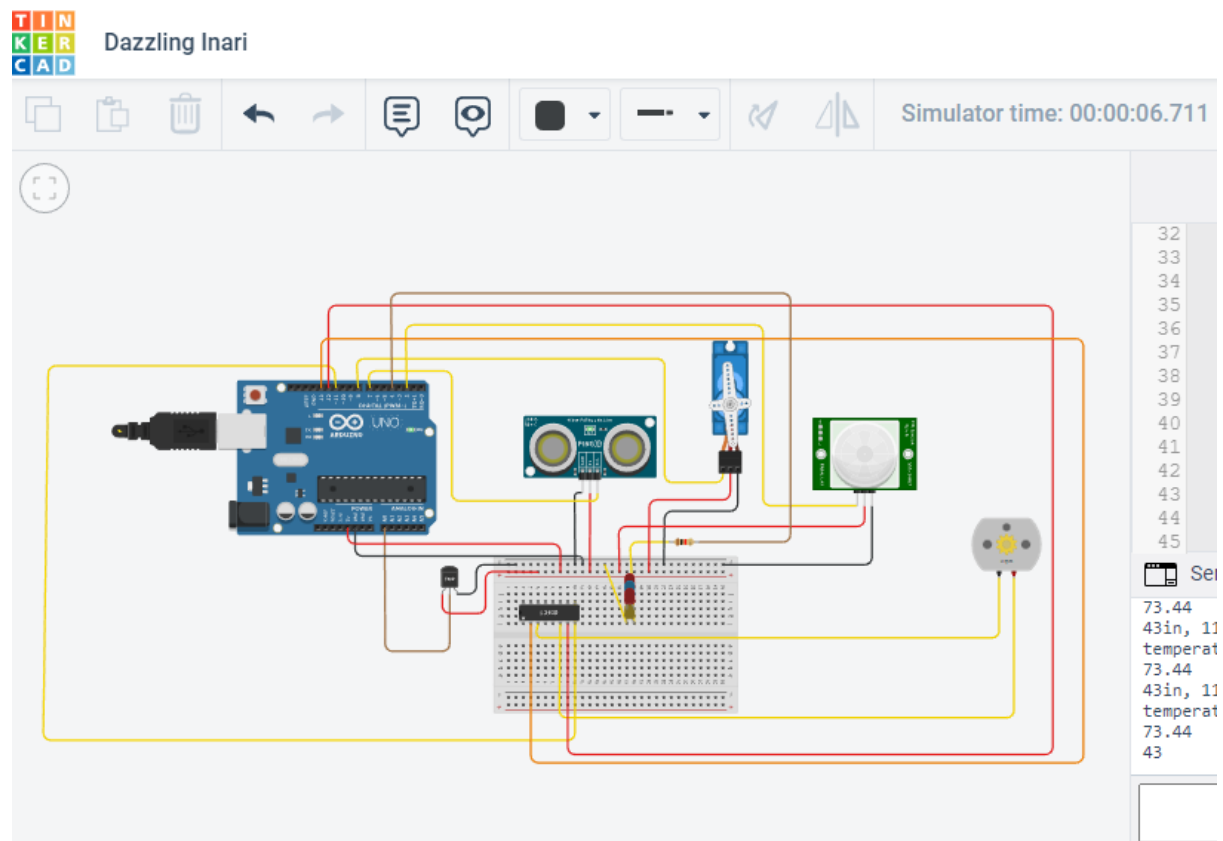
float value=analogRead(A0);
float temperature=value*0.48;

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

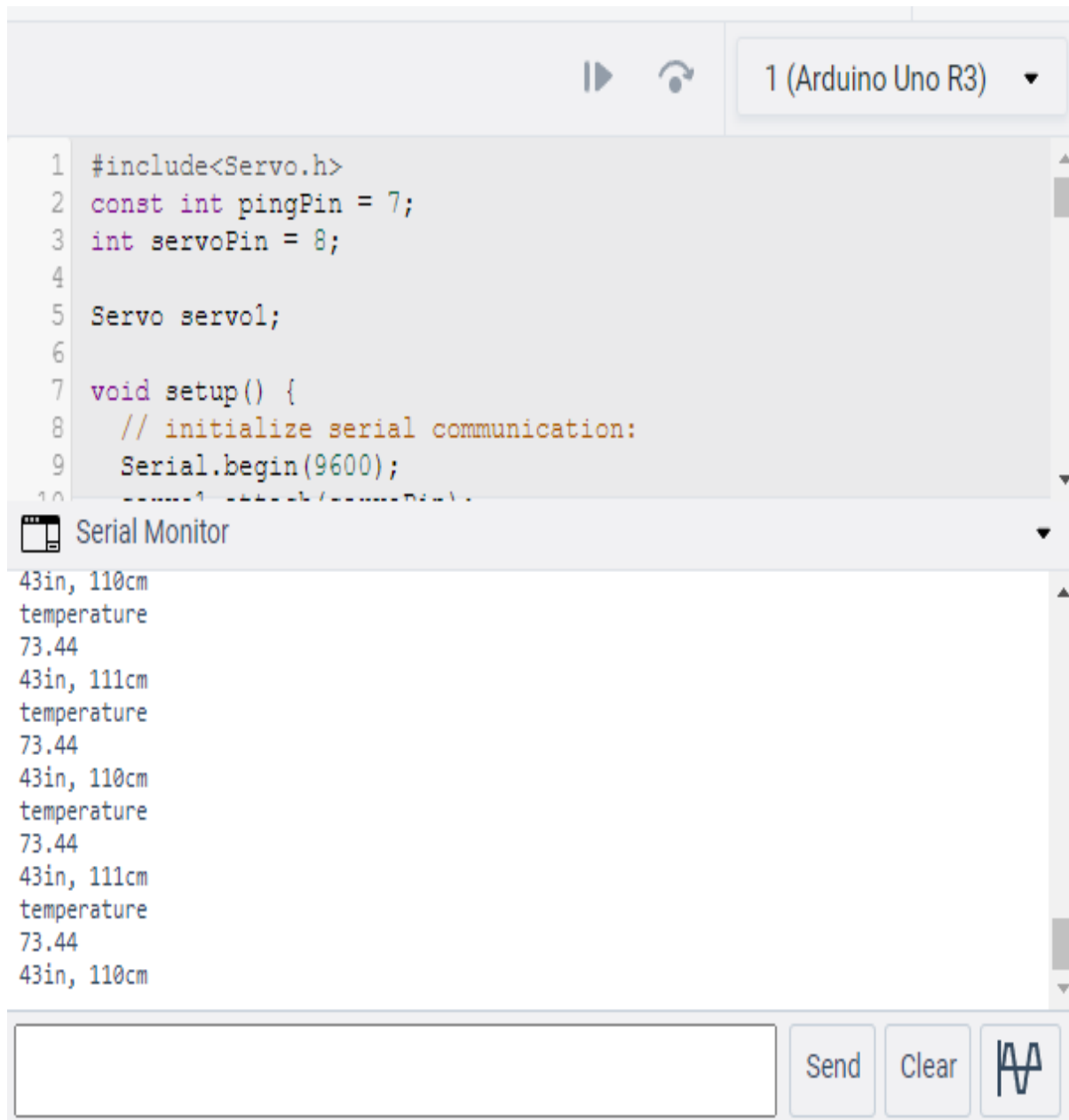
```

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 contains the following C++ code:

```
1 #include<Servo.h>
2 const int pingPin = 7;
3 int servoPin = 8;
4
5 Servo servo1;
6
7 void setup() {
8   // initialize serial communication:
9   Serial.begin(9600);
10  servo1.attach(servoPin);
11 }
```

Below the code editor, the "Serial Monitor" window is open, showing the following output:

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

At the bottom of the Serial Monitor window, there is a text input field, a "Send" button, a "Clear" button, and a waveform icon.