Assignment 4

Vasanthakumar

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);
}

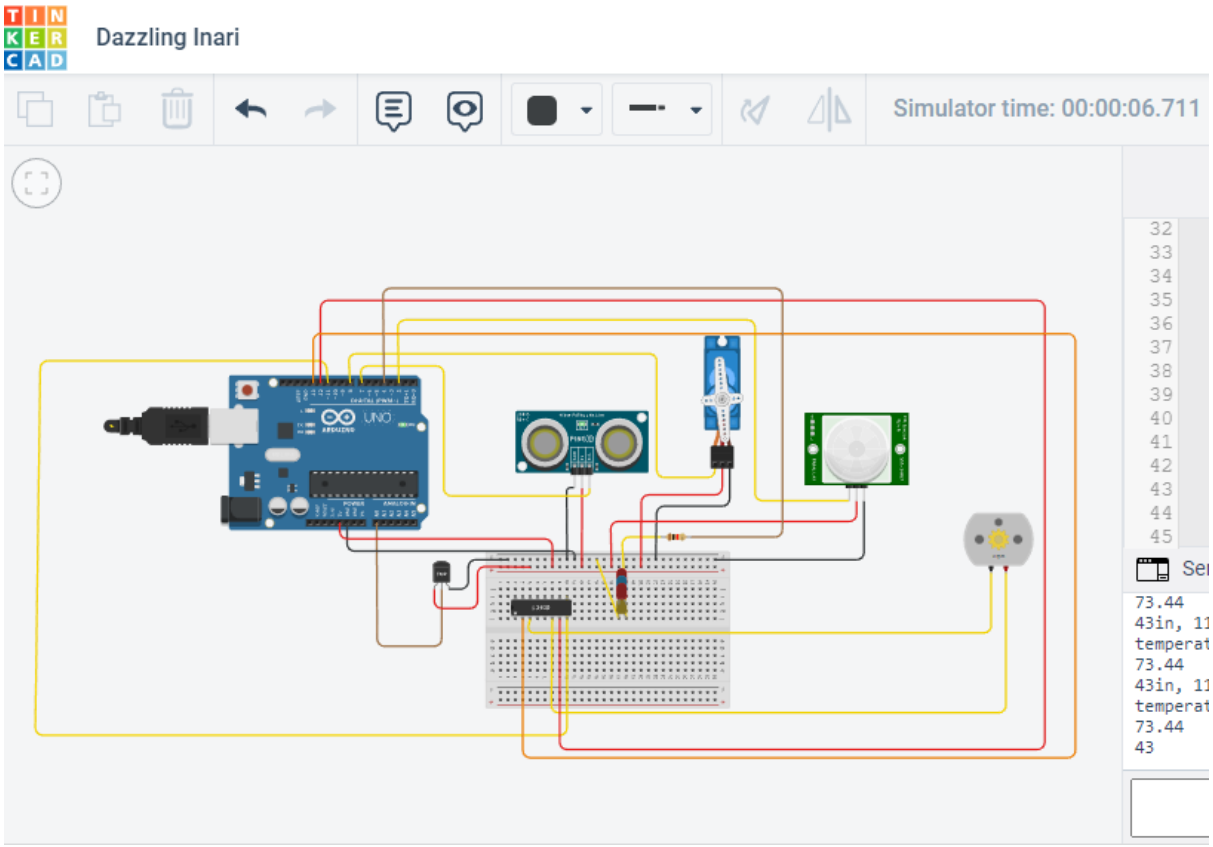

float value=analogRead(A0);
float temperature=value*0.48;

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;
}
```



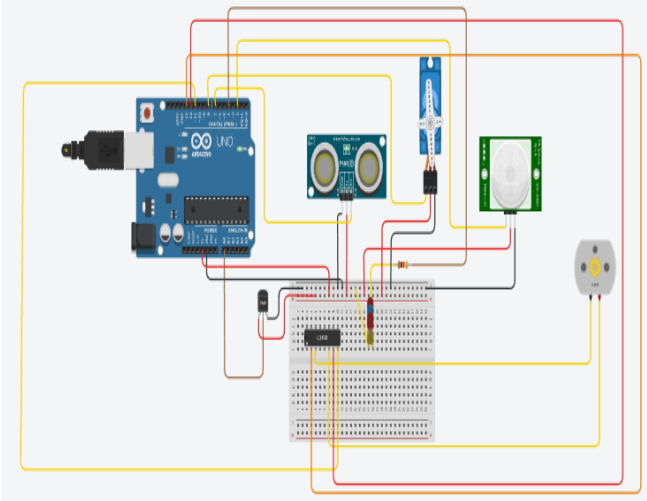
Dazzling Inari

All changes saved

Simulator time: 00:00:09.007

Code | Stop Simulation | Send To

1 (Arduino Uno R3)



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Servo servo1;

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  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;
```

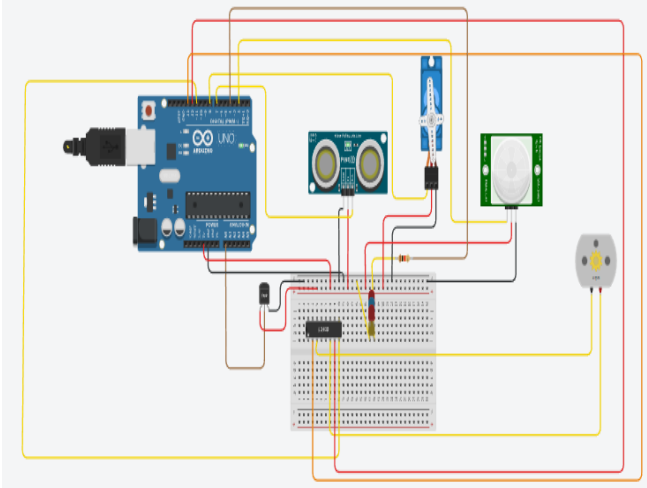
Dazzling Inari

All changes saved

Simulator time: 00:00:10.600

Code | Stop Simulation | Send To

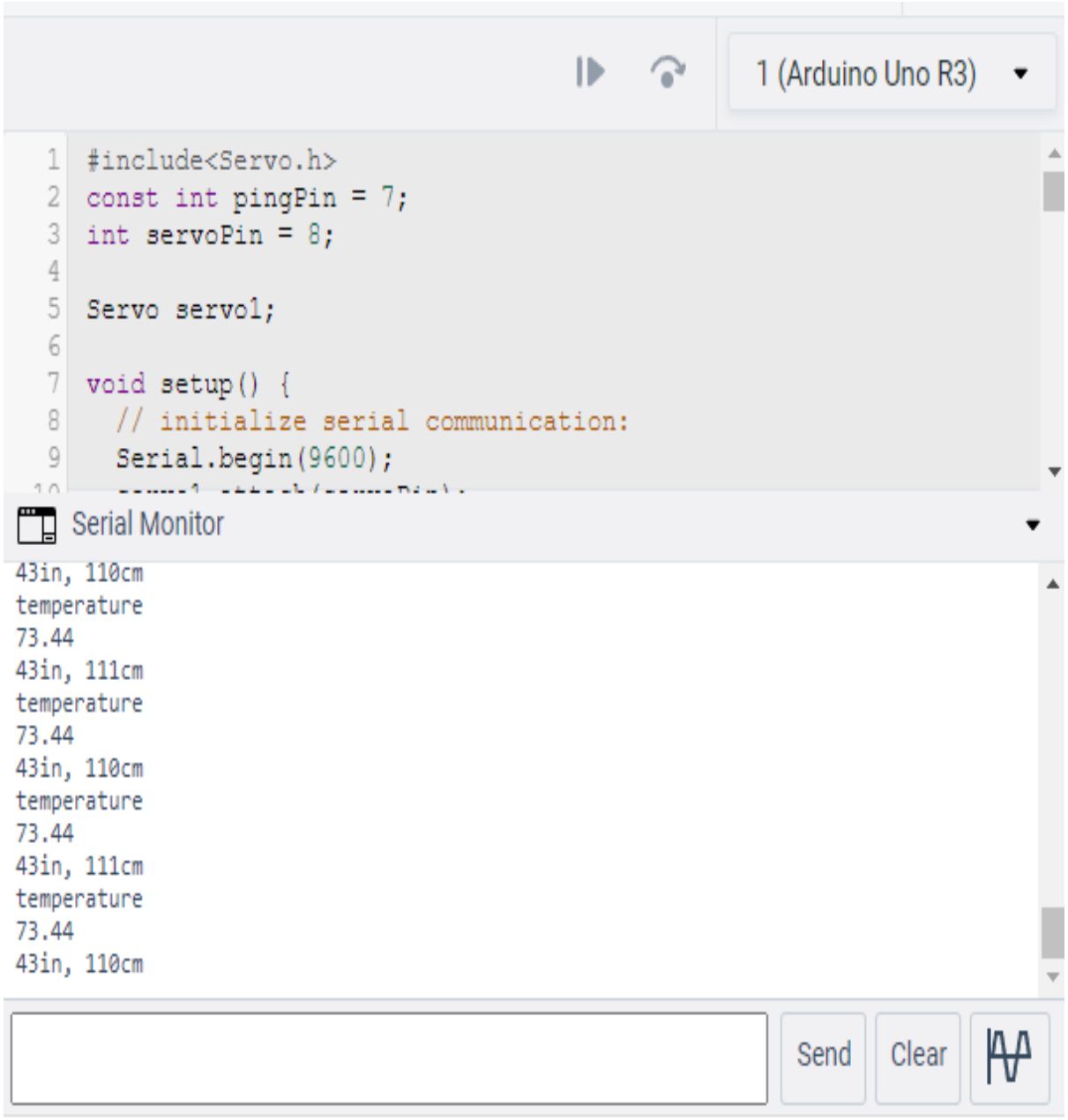
1 (Arduino Uno R3)



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
```

Send | Clear


1 (Arduino Uno R3)
#include<Servo.h>
const int pingPin = 7;
int servoPin = 8;
Servo servo1;
void setup() {
// initialize serial communication:
Serial.begin(9600);
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