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Sub: IoT
Practical – 7[Batch-71]

```
#include <Servo.h>

// Define pins for ultrasonic sensor
const int trigPin = 7;
const int echoPin = 6;

// Create a Servo object
Servo myServo;

void setup() {
  // Start the Serial Monitor for debugging
  Serial.begin(9600);

  // Set ultrasonic sensor pins
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);

  // Attach the servo to pin 9
  myServo.attach(9);
}

void loop() {
  // Measure distance using ultrasonic sensor
  long duration, distance;
```

```
// Send out a trigger pulse (10us HIGH)
digitalWrite(trigPin, LOW);
delayMicroseconds(2);
digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);

// Read echo pulse duration
duration = pulseIn(echoPin, HIGH);

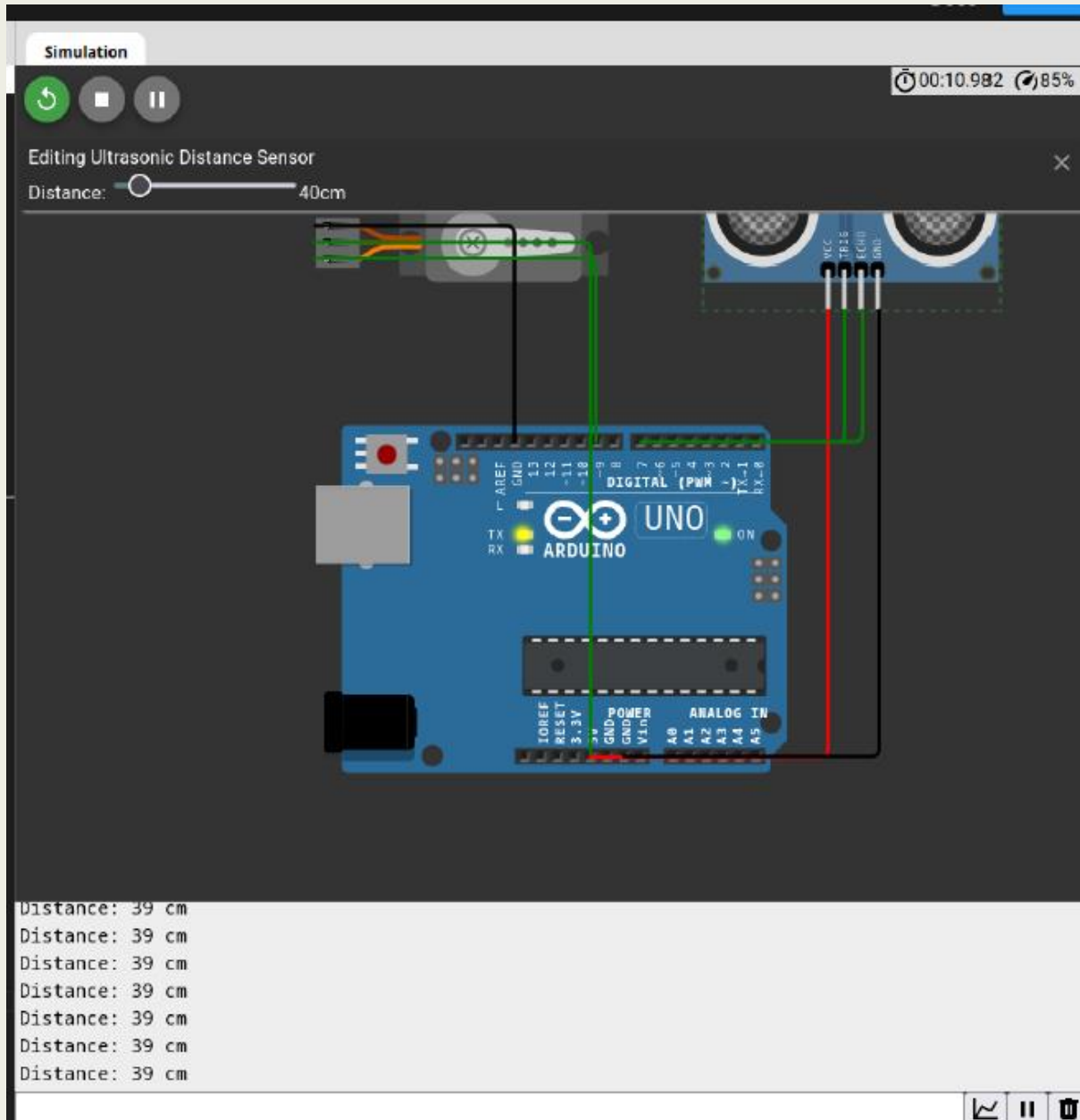
// Calculate distance (duration / 2 * speed of sound in cm/us)
distance = duration * 0.034 / 2;

// Print the distance to the Serial Monitor
Serial.print("Distance: ");
Serial.print(distance);
Serial.println(" cm");

// Control the servo based on distance
if (distance <= 10) {
    // If object is within 10 cm, move the servo to 0 degrees
    myServo.write(0);
} else if (distance > 10 && distance <= 20) {
    // If object is between 10 and 20 cm, move the servo to 90 degrees
    myServo.write(90);
} else {
    // If object is farther than 20 cm, move the servo to 180 degrees
    myServo.write(180);
}
```

```
// Add a delay before the next reading
delay(100);
}
```

Output:



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