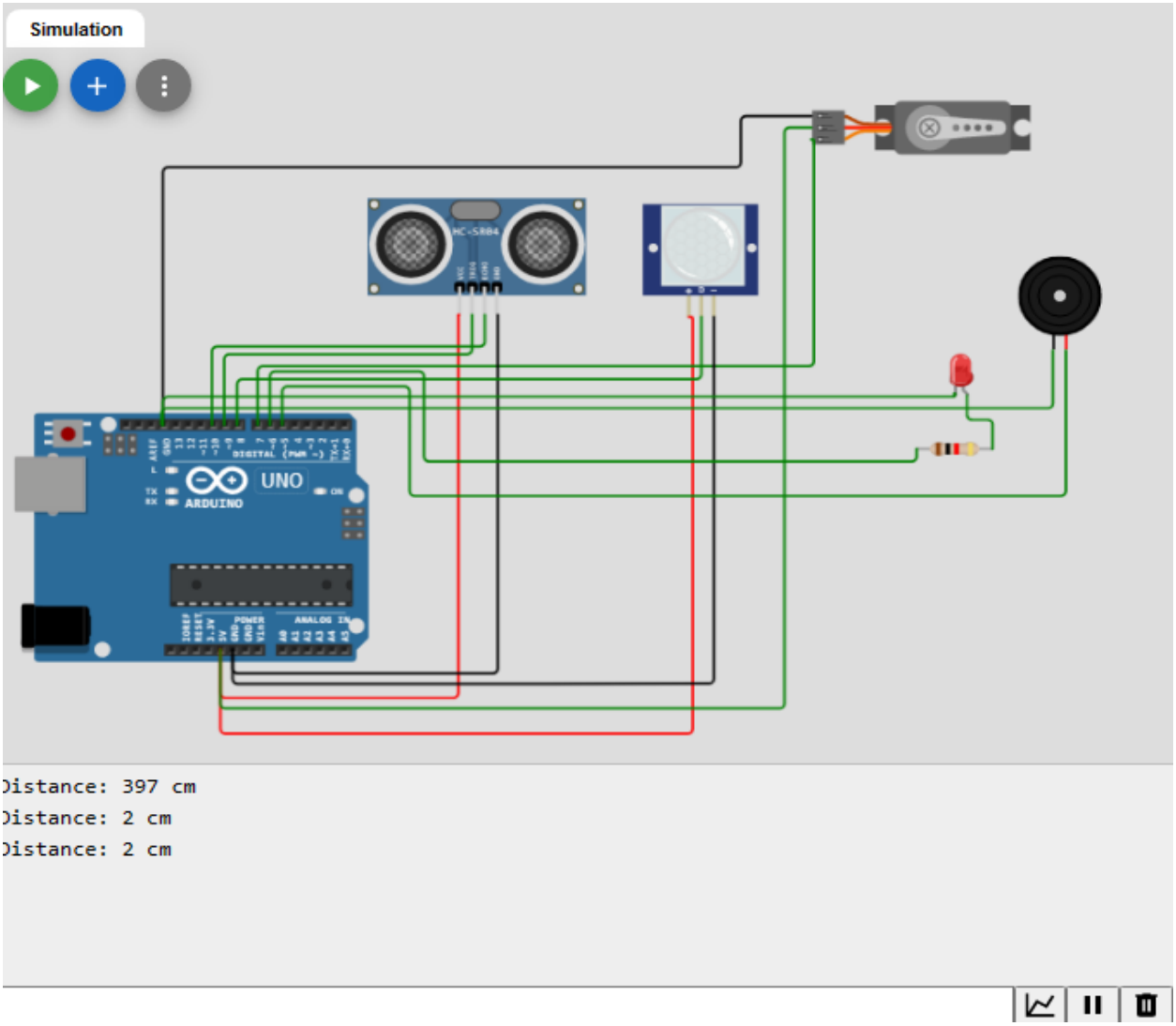
NAME- M.DHIVYADHARSHINI

REG - 711620104007

HOME AUTOMTION

Downloaded from https://wokwi.com/projects/363330950206976001

Simulated the project on https://wokwi.com



Sketch.ino

```
#include <Servo.h>
const int ultrasonicTrigPin = 9;
const int ultrasonicEchoPin = 10;
const int pirPin = 8;
const int servoPin = 7;
const int ledPin = 6;
const int buzzerPin = 5;
Servo myservo;
long duration;
int distance;
void setup() {
pinMode(ultrasonicTrigPin, OUTPUT);
pinMode(ultrasonicEchoPin, INPUT);
pinMode(pirPin, INPUT);
pinMode(ledPin, OUTPUT);
pinMode(buzzerPin, OUTPUT);
myservo.attach(servoPin);
Serial.begin(9600);
}
void loop() {
// Read distance from ultrasonic sensor
digitalWrite(ultrasonicTrigPin, LOW);
delayMicroseconds(2);
digitalWrite(ultrasonicTrigPin, HIGH);
delayMicroseconds(10);
digitalWrite(ultrasonicTrigPin, LOW);
duration = pulseIn(ultrasonicEchoPin, HIGH);
distance = duration * 0.034 / 2;
Serial.print("Distance: ");
Serial.print(distance);
Serial.println(" cm");
// Move the servo motor to lock/unlock the door
if (distance < 10) {
myservo.write(90); // Unlock the door
} else {
myservo.write(0); // Lock the door
}
// Read motion from PIR sensor
int pirValue = digitalRead(pirPin);
// Turn on/off the light based on the motion value
if (pirValue == HIGH) {
digitalWrite(ledPin, HIGH);
} else {
```

```
digitalWrite(ledPin, LOW);
}
// Sound the buzzer if there is motion detected and the door is closed
if (pirValue == HIGH && distance < 10) {
digitalWrite(buzzerPin, HIGH);
delay(500);
digitalWrite(buzzerPin, LOW);
delay(500);
}
delay(500);
}
```

Diagram.json

```
{
  "version": 1,
  "author": "Anonymous maker",
  "editor": "wokwi",
  "parts": [
    { "type": "wokwi-arduino-uno", "id": "uno", "top": 13.06, "left": -306,
"attrs": {} },
    { "type": "wokwi-hc-sr04", "id": "ultrasonic1", "top": -162.23, "left": -
32.18, "attrs": {} },
    {
      "type": "wokwi-led",
      "id": "led1",
      "top": -43.92,
      "left": 408.18,
      "attrs": { "color": "red" }
    },
    {
      "type": "wokwi-buzzer",
      "id": "bz1",
      "top": -122.52,
      "left": 472.77,
      "attrs": { "volume": "0.1" }
    },
    {
      "type": "wokwi-pir-motion-sensor",
      "id": "pir1",
      "top": -157.88,
      "left": 181.11,
      "attrs": {}
```

```
    },
    { "type": "wokwi-servo", "id": "servo1", "top": -279.29, "left": 312.3,
"attrs": {} },
    {
      "type": "wokwi-resistor",
      "id": "r1",
      "top": 35.94,
      "left": 393.99,
      "attrs": { "value": "1000" }
    }
  ],
  "connections": [
    [ "uno:GND.1", "servo1:GND", "black", [ "v-209.65", "h448.2", "v-51.31" ] ],
    [ "uno:5V", "ultrasonic1:VCC", "red", [ "v39.79", "h184.46", "v-40.12" ] ],
    [ "uno:5V", "pir1:VCC", "red", [ "v68.72", "h366.38", "v-6.53" ] ],
    [ "servo1:V+", "uno:5V", "green", [ "h-20.88", "v472.57", "h-437.61" ] ],
    [ "servo1:PWM", "uno:7", "green", [ "h2", "v184.67", "h-429.03" ] ],
    [ "uno:GND.2", "ultrasonic1:GND", "black", [ "v19.61", "h223.89" ] ],
    [ "uno:GND.2", "pir1:GND", "black", [ "v28.08", "h243.84", "v-0.08", "h146.3"
] ],
    [ "uno:10", "ultrasonic1:ECHO", "green", [ "v-63.82", "h-7.15" ] ],
    [ "ultrasonic1:TRIG", "uno:9", "green", [ "v32.37", "h-188.66" ] ],
    [ "uno:8", "pir1:OUT", "green", [ "v-37.3", "h361.95" ] ],
    [ "led1:A", "r1:2", "green", [ "v19.78", "h19.8", "v-3.75" ] ],
    [ "led1:C", "uno:GND.1", "green", [ "v-1.81", "h0.71", "v2.82", "h-614.65" ]
],
    [ "bz1:1", "uno:GND.1", "green", [ "v46.99", "h-691.46", "v-4.69" ] ],
    [ "bz1:2", "uno:5", "green", [ "v118.31", "h-509.09", "v-89.15", "h-98.53" ]
],
    [ "r1:1", "uno:6", "green", [ "v10.05", "h-382.05", "v-73.19", "h-117.3" ] ]
  ],
  "dependencies": {}
}
```