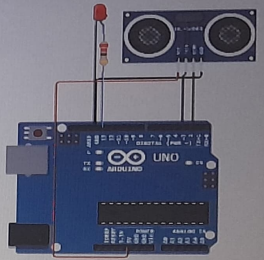
S.HEMAMEENA
UCE THIRUKUVALAI
III- YEAR ECE

hc-sr04.ino | diagram.json | Library Manager

```
/*
  HC-SR04 Ultrasonic Sensor Example.

  Turn the LED on when an object is within 100cm range.

  Copyright (C) 2021, Uri Shaked
*/

#define ECHO_PIN 2
#define TRIG_PIN 3

void setup() {
  Serial.begin(115200);
  pinMode(LED_BUILTIN, OUTPUT);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
}

void loop() {
  float distance = readDistanceCM();
```

Simulation



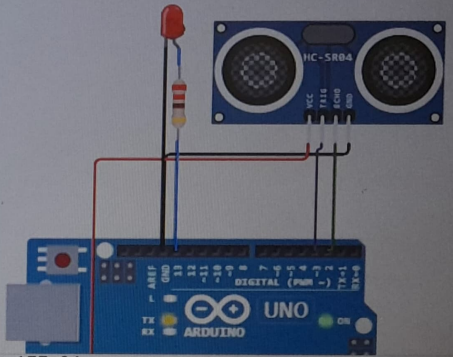

```
Measured distance: 177.26
Measured distance: 177.16
Measured distance: 177.26
Measured distance: 177.16
Measured distance: 177.26
Measured distance: 177.23
Measured distance: 177.26
```

hc-sr04.ino | diagram.json | Library Manager

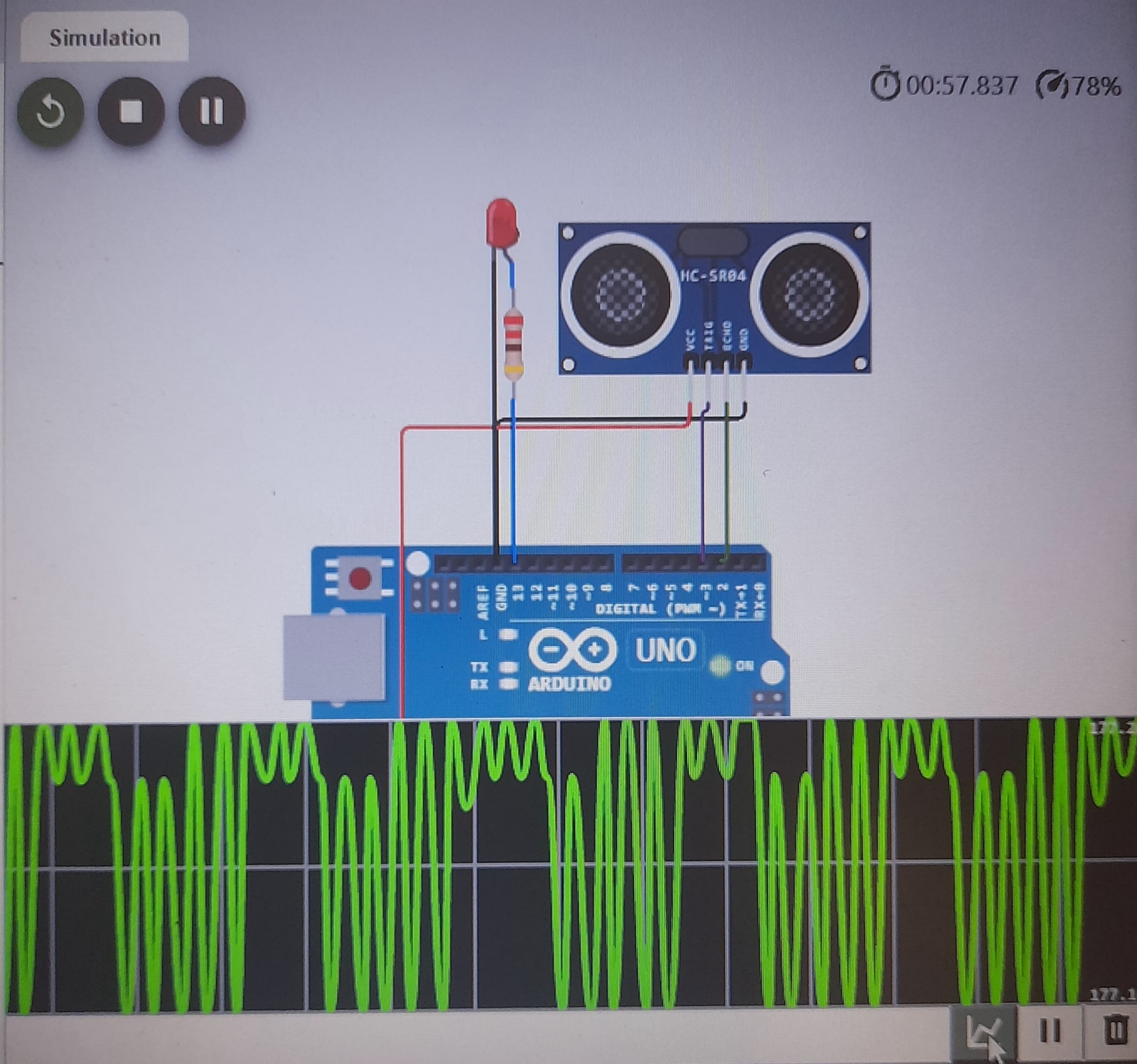
```
void setup() {
  Serial.begin(115200);
  pinMode(LED_BUILTIN, OUTPUT);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
}

void loop() {
  float distance = readDistanceCM();

  bool isNearby = distance < 100;
  digitalWrite(LED_BUILTIN, isNearby);

  Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());

  delay(100);
}
```

Simulation

01:11.397




```
Measured distance: 177.24
Measured distance: 177.26
Measured distance: 177.24
Measured distance: 177.26
Measured distance: 177.24
Measured distance: 177.16
Measured distance: 177.24
```


Simulation
00:57.837
78%
HC-SR04
VCC
TRIG
ECHO
GND
DIGITAL (PWM ~)
AREF
GND
UNO
ARDUINO
TX
RX
ON
177.1