ASSIGNMENT 4

CODE:

```
#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();

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

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

  delay(100);
}
```
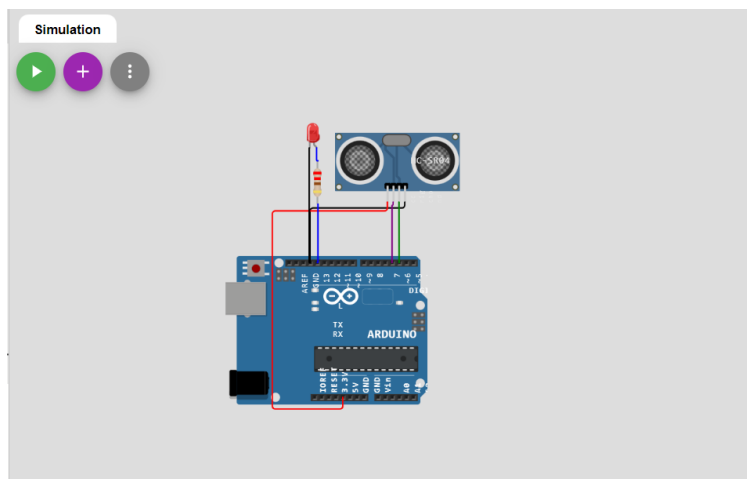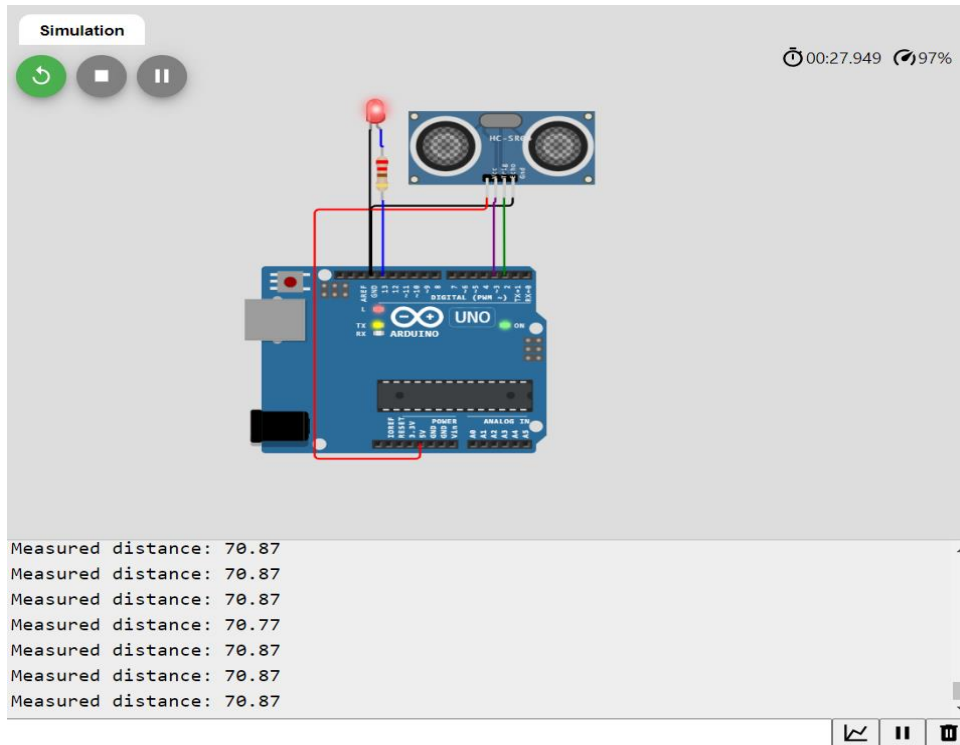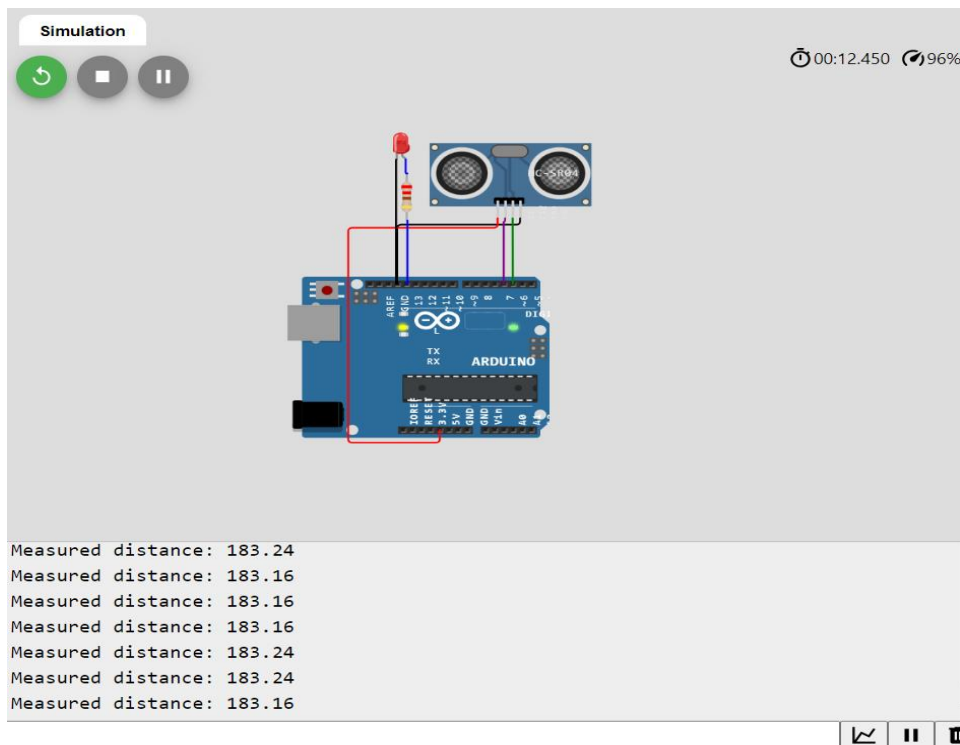
INPUT:

OUTPUT:

Distance when less than 100 cm:


```
Measured distance: 70.87
Measured distance: 70.87
Measured distance: 70.87
Measured distance: 70.77
Measured distance: 70.87
Measured distance: 70.87
Measured distance: 70.87
```

Distance greater than 100 cm:


```
Measured distance: 183.24
Measured distance: 183.16
Measured distance: 183.16
Measured distance: 183.16
Measured distance: 183.24
Measured distance: 183.24
Measured distance: 183.16
```

LINK : https://wokwi.com/projects/346771966281122386