

# Assignment 1

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VITAP

**Question: In Wokwi, if the distance is less than 100 cms for ultrasonic sensor, glow a LED**

**sketch.ion**

```
#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);
}
```

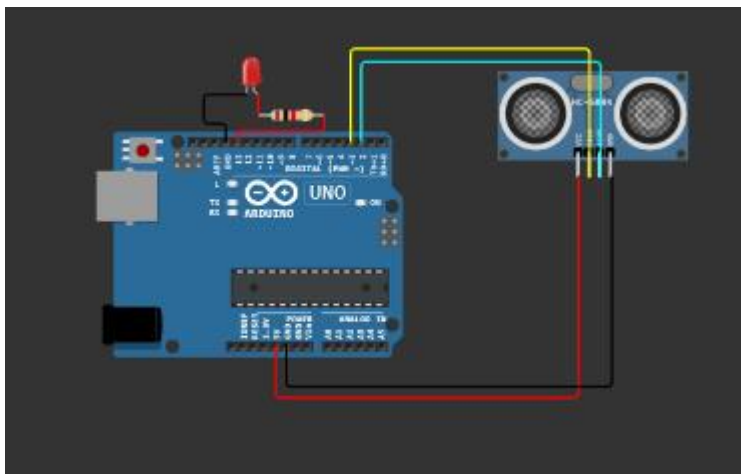
**diagram.json**

```
{
  "version": 1,
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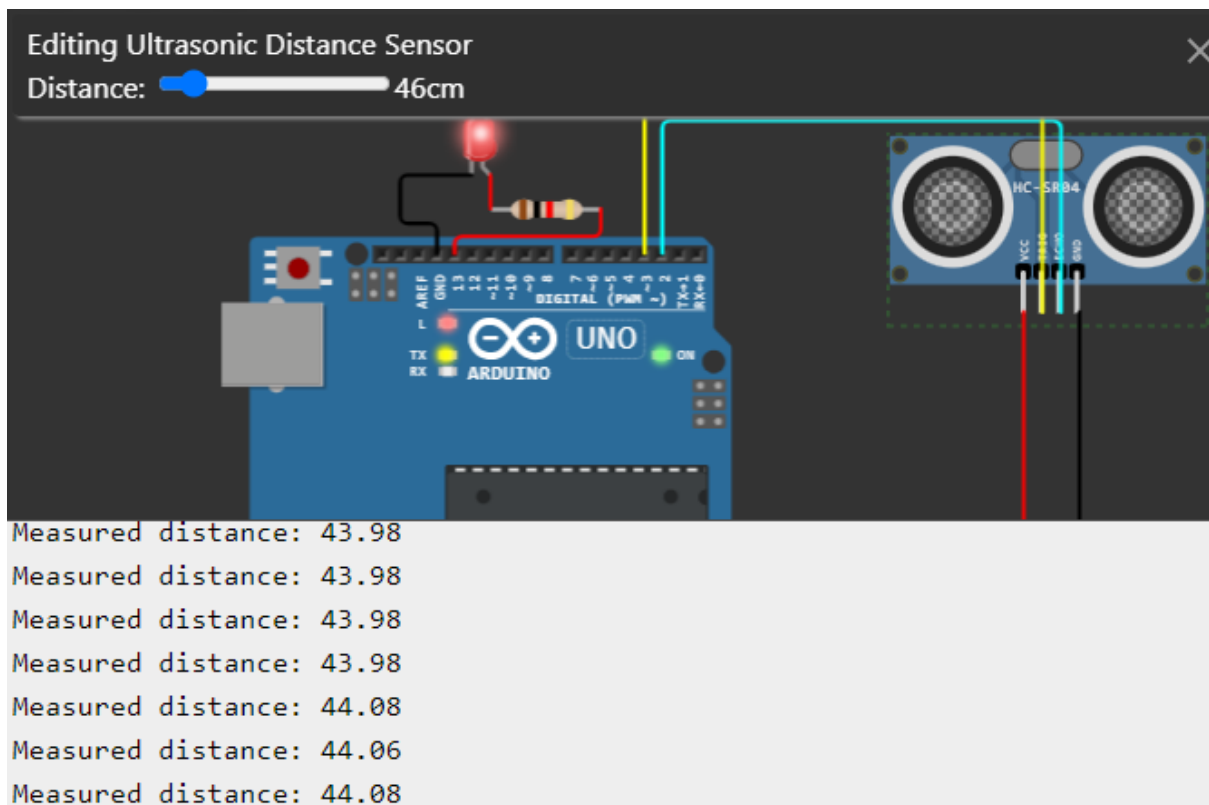
```

"author": "Abhijeet Bose Das",
"editor": "wokwi",
"parts": [
  { "type": "wokwi-arduino-uno", "id": "uno", "top": 0, "left": 0, "attrs": {} },
  { "type": "wokwi-hc-sr04", "id": "ultrasonic1", "top": -53.85, "left": 359.29, "attrs": {} },
  {
    "type": "wokwi-led",
    "id": "led1",
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    "left": 144.6,
    "attrs": { "value": "1000" }
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],
"connections": [
  [ "ultrasonic1:VCC", "uno:5V", "red", [ "v197.68", "h-270.59" ] ],
  [ "ultrasonic1:ECHO", "uno:2", "cyan", [ "v-102.65", "h-214.09" ] ],
  [ "ultrasonic1:TRIG", "uno:3", "yellow", [ "v-114.53", "h-213.59" ] ],
  [ "ultrasonic1:GND", "uno:GND.2", "black", [ "v187.9", "h-291.09" ] ],
  [ "led1:C", "uno:GND.1", "black", [ "h-38.48", "v26", "h19.73" ] ],
  [ "led1:A", "r1:1", "red", [ "v0" ] ],
  [ "r1:2", "uno:13", "red", [ "v14.99", "h-71.42" ] ]
],
"dependencies": {}
}

```

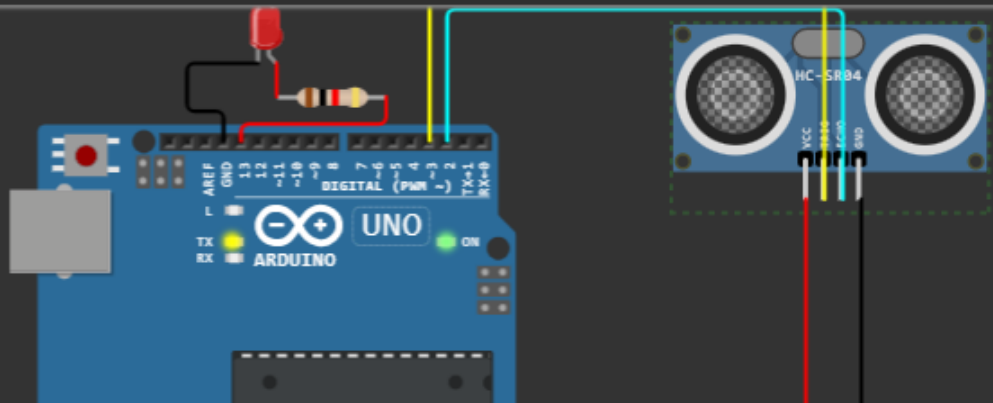


## Output



## Editing Ultrasonic Distance Sensor

Distance:  165cm



Measured distance: 162.35

Measured distance: 162.27

Measured distance: 162.27

Measured distance: 162.37

Measured distance: 162.37

Measured distance: 162.35

Measured distance: 162.27