

IBM ASSIGNMENT – 4

sketch.ino

```
#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,
  "author": "Nandhini",
  "editor": "wokwi",
  "parts": [
    {
```

```

    "type": "wokwi-arduino-uno",
    "id": "uno",
    "top": 275.99,
    "left": 47.73,    "rotate": 0,
    "hide": false,
    "attrs": {}
  },
  {
    "type": "wokwi-resistor",
    "id": "r1",
    "top": 165.87,
    "left": 142.81,
    "rotate": 90,
    "hide": false,
    "attrs": { "value": "220" }
  },
  {
    "type": "wokwi-led",
    "id": "led",
    "top": 87.29,
    "left": 147.05,
    "rotate": 0,
    "hide": false,
    "attrs": { "color": "red" } },  {
    "type": "wokwi-hc-sr04",
    "id": "ultrasonic",
    "top": 108.43,
    "left": 196.5,
    "rotate": 0,
    "hide": false,
    "attrs": { "distance": "180" }
  }
],

```

```

"connections": [

  [ "uno:GND.1", "ultrasonic:GND", "black", [ "v-8", "*", "v8" ] ],

  [ "uno:2", "ultrasonic:ECHO", "green", [] ],

  [ "uno:3", "ultrasonic:TRIG", "purple", [ "*", "v4" ] ],

  [ "uno:5V", "ultrasonic:VCC", "red", [ "v16", "h-96", "*", "v12" ] ],

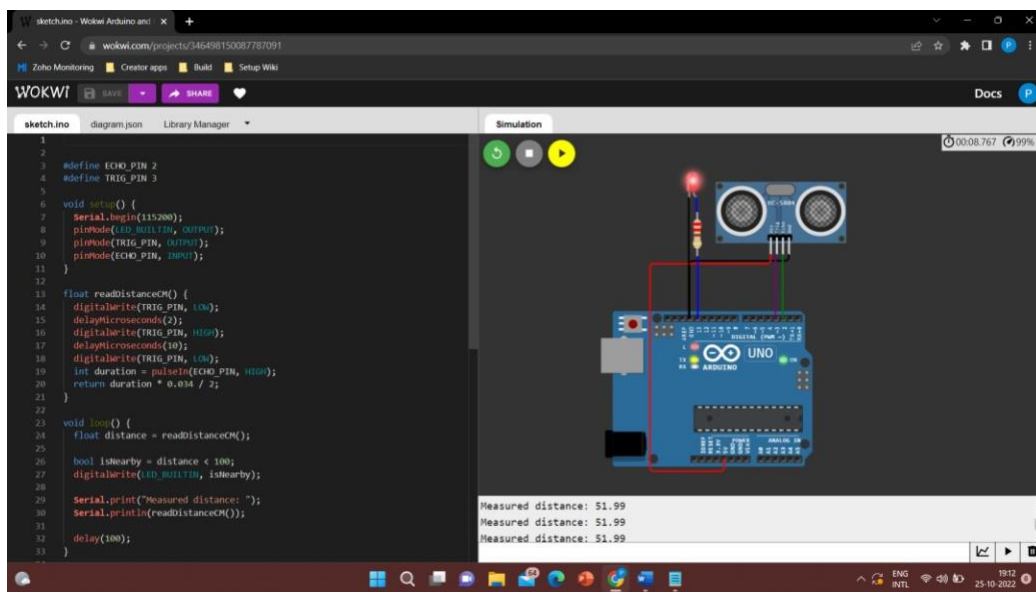
  [ "uno:GND.1", "led:C", "black", [] ],

  [ "r1:1", "led:A", "blue", [] ], [ "uno:13", "r1:2",

"blue", []]

}

```



<https://wokwi.com/projects/346498150087787091>