WOWKI SIMULATION

Assignment 4 Date	31 October 2022
TEAM ID	PNT2022TMID33862
Project name	Iot Safety Gadgets for Child Safety and Monitoring .
Maximum Marks	2 Marks

Question-1:

Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100cms send an alert to the ibmcloudanddisplay in the device recent events.

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);
}
```

WOWKI SIMULATION


```
{
  "version": 1,
  "author": "sindhuja",
  "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": "blue" } },
    {
      "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", "blue", [ "v16", "h-96", "*", "v12" ] ], [ "uno:GND.1",
"led:C", "black", [] ],
[ "r1:1", "led:A", "red", [] ],
[ "uno:13", "r1:2", "red", [] ]
]
}
```

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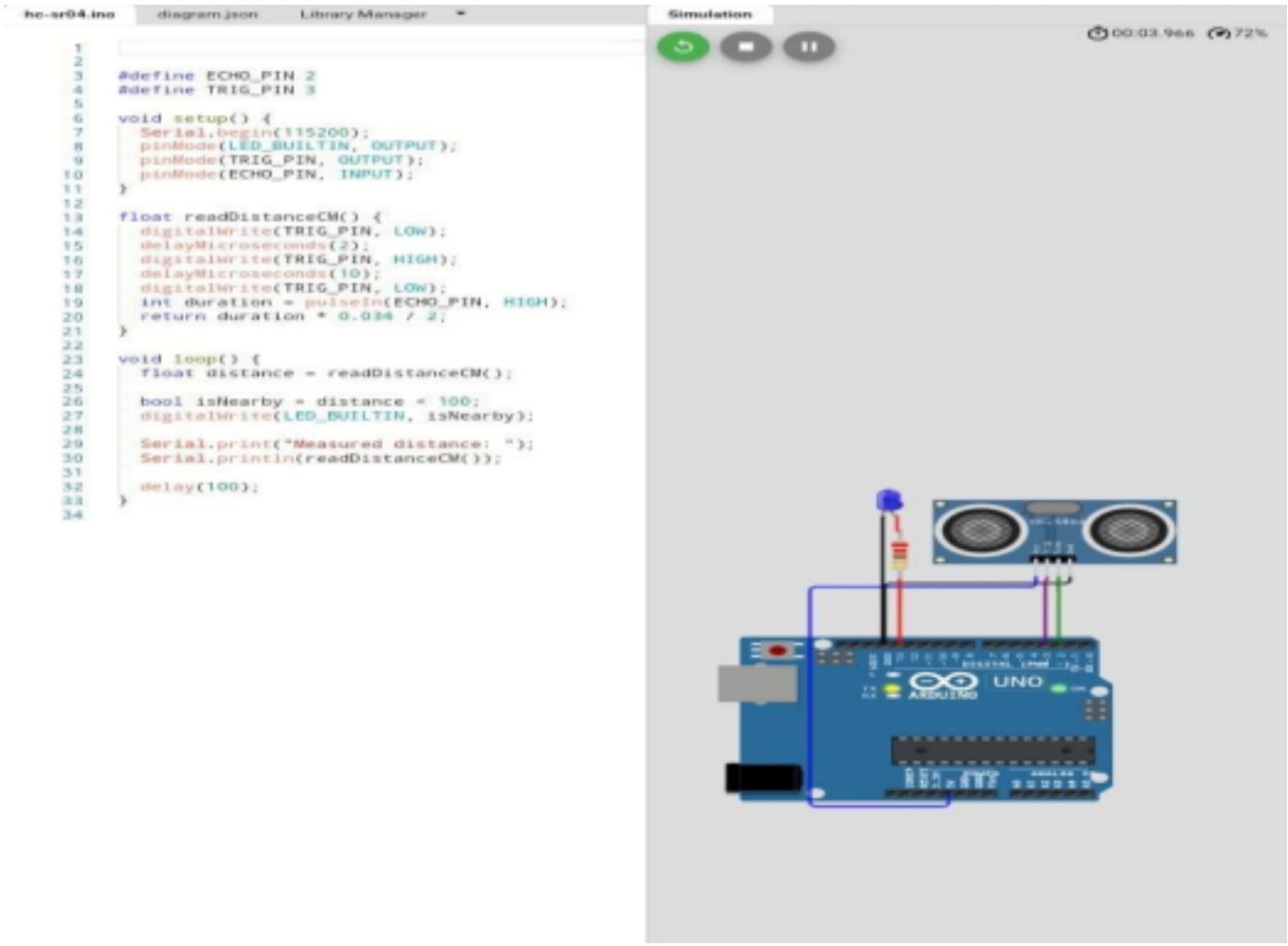
OUTPUT:



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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);
}
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