

## ASSESSMENT-4

ASSESSMENT DATE	05 November 2022
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MARKS	2 Marks

### PROBLEM:

### 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);

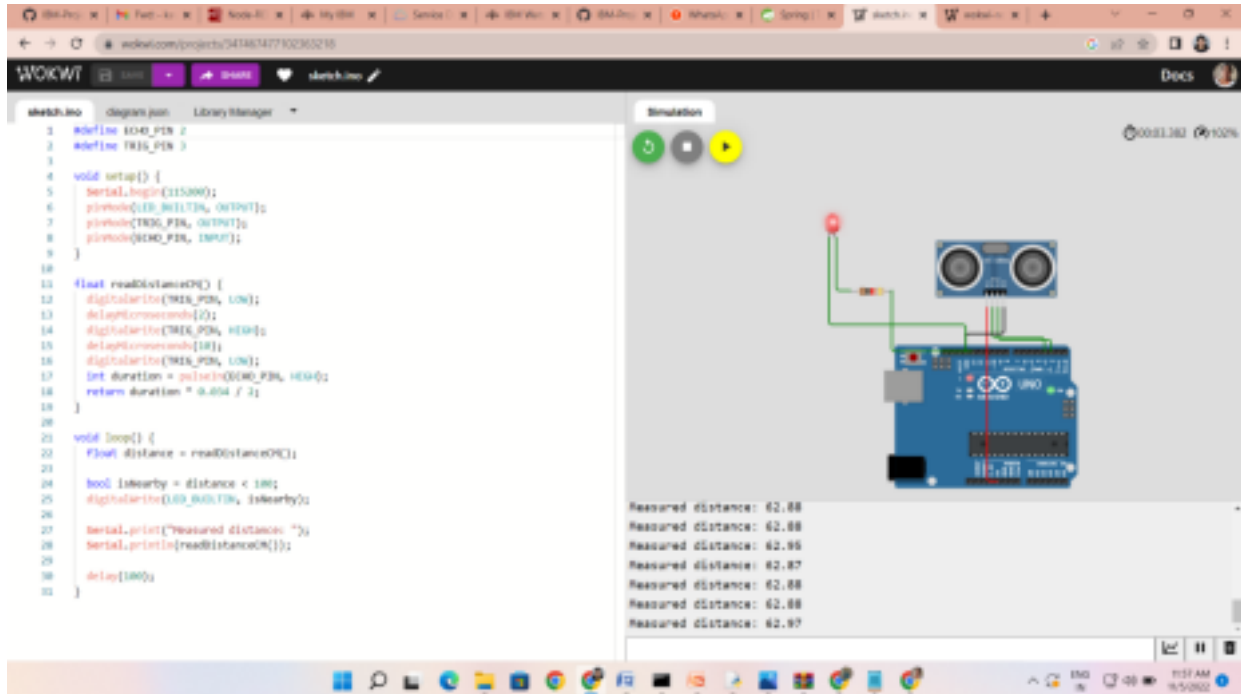
  Serial.print("Measured distance: ");
```

```
Serial.println(readDistanceCM());
```

```
delay(100);
```

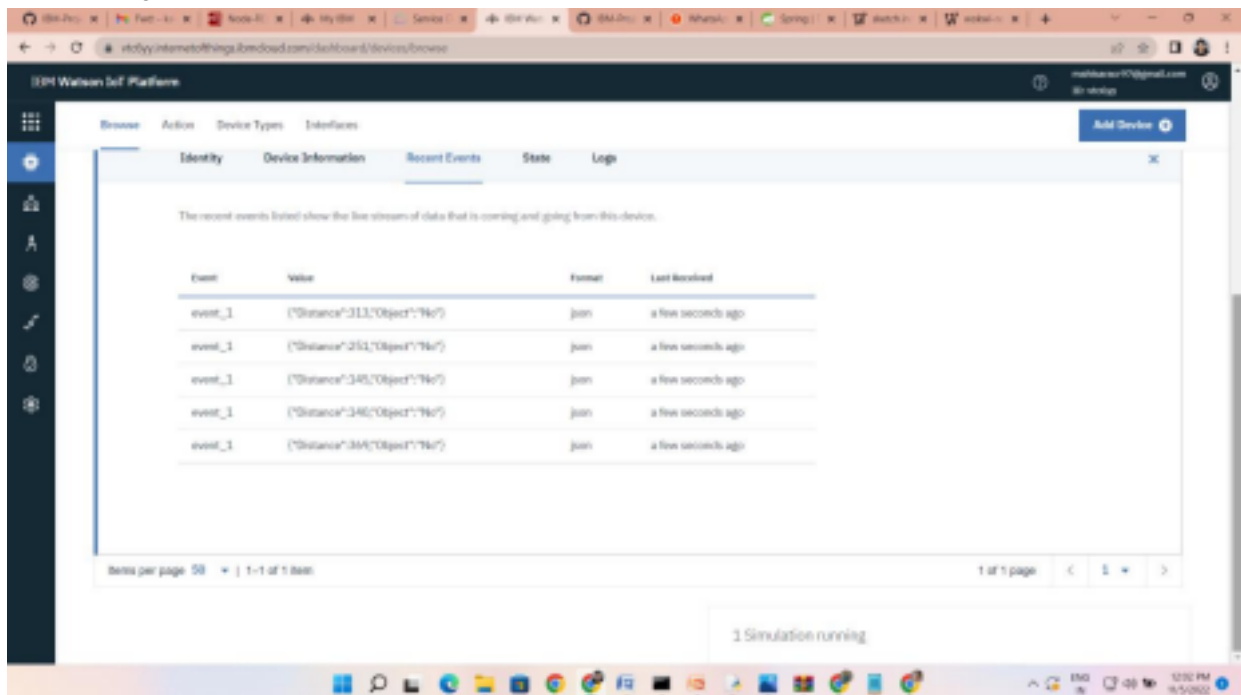
```
}
```

**SIMULATION:**



Link: <https://wokwi.com/projects/347467477102363218>

When object distance is >100:



**When object distance is <100:**

The screenshot displays the IBM Watson IoT Platform interface. At the top, there's a navigation bar with 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar labeled 'Search by Device ID' is present. Below this, a table lists devices. The first device, ID 123456, is 'Disconnected' and of type 'NodeMCU'. A 'Recent Events' modal is open for this device, showing a stream of events. The events table has columns: Event, Value, Format, and Last Received. The values are JSON objects representing distance measurements. A status box at the bottom right indicates '1 Simulation running'.

Event	Value	Format	Last Received
event_1	{"Met Distance": 95, "Object": "near"}	json	a few seconds ago
event_1	{"Met Distance": 34, "Object": "near"}	json	a few seconds ago
event_1	{"Met Distance": 8, "Object": "near"}	json	a few seconds ago
event_1	{"Met Distance": 33, "Object": "near"}	json	a few seconds ago
event_1	{"Met Distance": 5, "Object": "near"}	json	a few seconds ago

1 Simulation running