**ASSIGNMENT-4**

**DISTANCE DETECTION USING ULTRASONIC SENSOR**

| | |
|---|---|
| Date | 28 October 2022 |
| Team ID | PNT2022TMID39945 |
| Student Roll Number | 511319106014 |
| Maximum Marks | 2 Marks |

# Question1 :

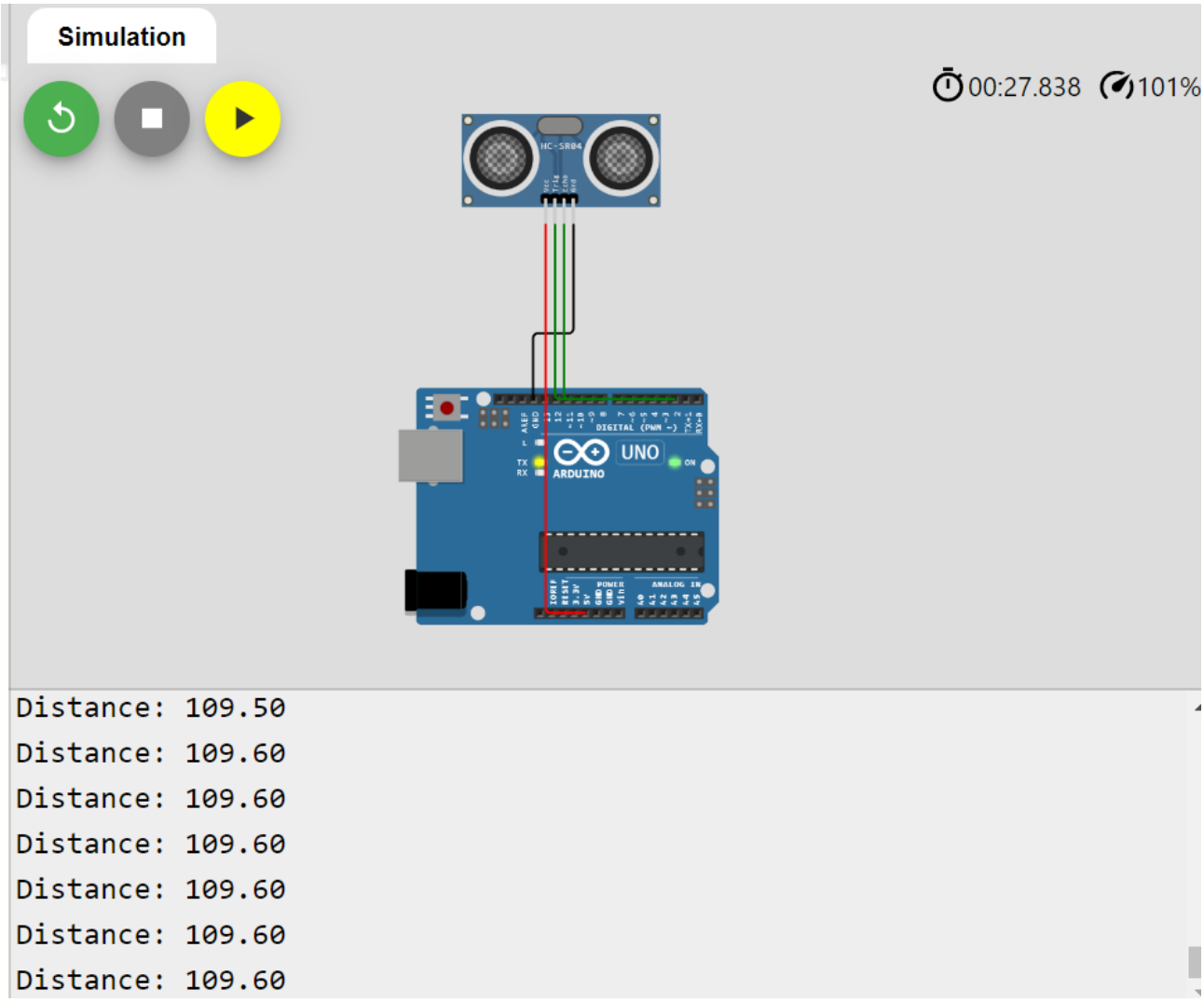
Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100 cms send"alert" to ibm cloud and display in device recent events.

WOKWI LINK :
https://wokwi.com/projects/347047781825774162
CODE:

```
#define ECHO_PIN 2
#define TRIG_PIN 3


void setup() {
  Serial.begin(9600);
  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();
  if (distance <= 100)
  {
    Serial.println("Movement detected ");
  }
  else {
    Serial.print("Distance: ");
    Serial.println(readDistanceCM());
  }
  delay(100);
}
```

OUTPUT:


Simulation
00:27.838
101%
HC-SR04
UNO
ARDUINO
Distance: 109.50
Distance: 109.60
Distance: 109.60
Distance: 109.60
Distance: 109.60
Distance: 109.60
Distance: 109.60

| Event | Value | Format | Last Received |
|---|---|---|---|
| event_1 | {"Persondetected" } | json | a few seconds ago |
| event_1 | {"Persondetected" } | json | a few seconds ago |
| event_1 | {"Persondetected" } | json | a few seconds ago |
| event_1 | {"Persondetected" } | json | a few seconds ago |
| event_1 | {"Persondetected" } | json | a few seconds ago |