

SMART FARMER – IoT ENABLED SMART FARMER APPLICATION

ASSIGNMENT – 4

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1. Write Code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100 centimetres send an '*alert*' to the ibm cloud and display in device recent events.

Program:

```
#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);
}

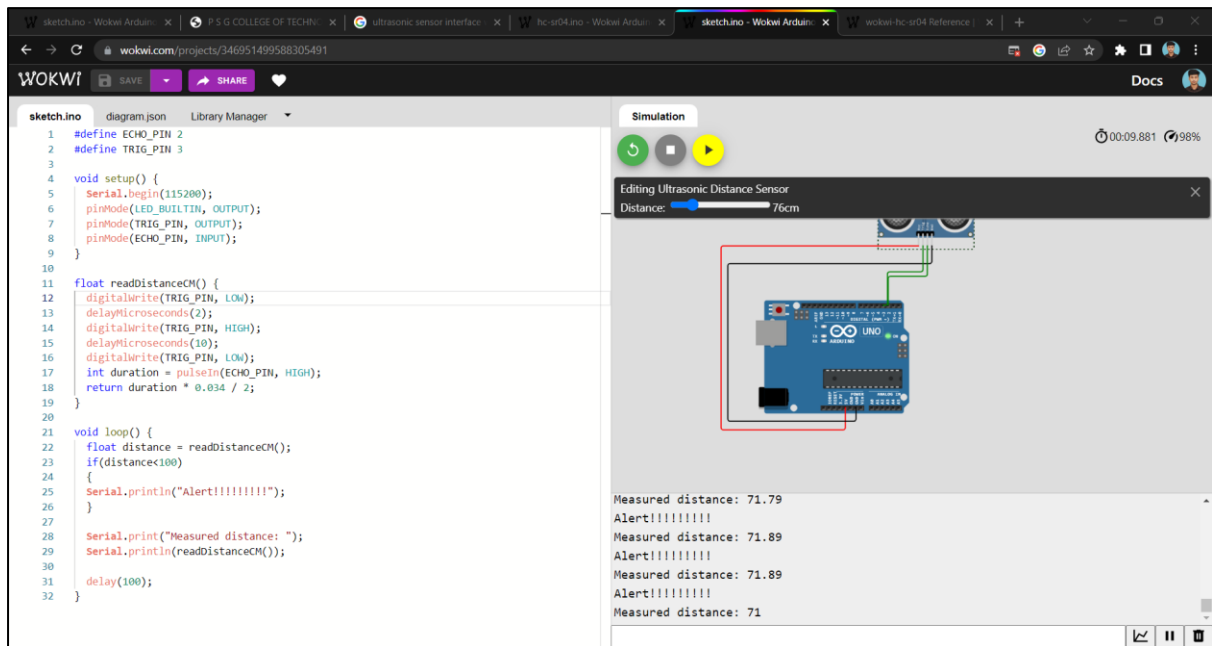
float readDistanceCM() {
    digitalWrite(TRIG_PIN, LOW);
    delayMicroseconds(2);
    digitalWrite(TRIG_PIN, HIGH);
    delayMicroseconds(10);
    digitalWrite(TRIG_PIN, LOW);
    int duration = pulseIn(ECHO_PIN, HIGH);
    return duration * 0.034 / 2;
}

void loop() {
    float distance = readDistanceCM();
    if(distance<100)
    {
        Serial.println("Alert!!!!!!!!!!");
    }

    Serial.print("Measured distance: ");
    Serial.println(readDistanceCM());

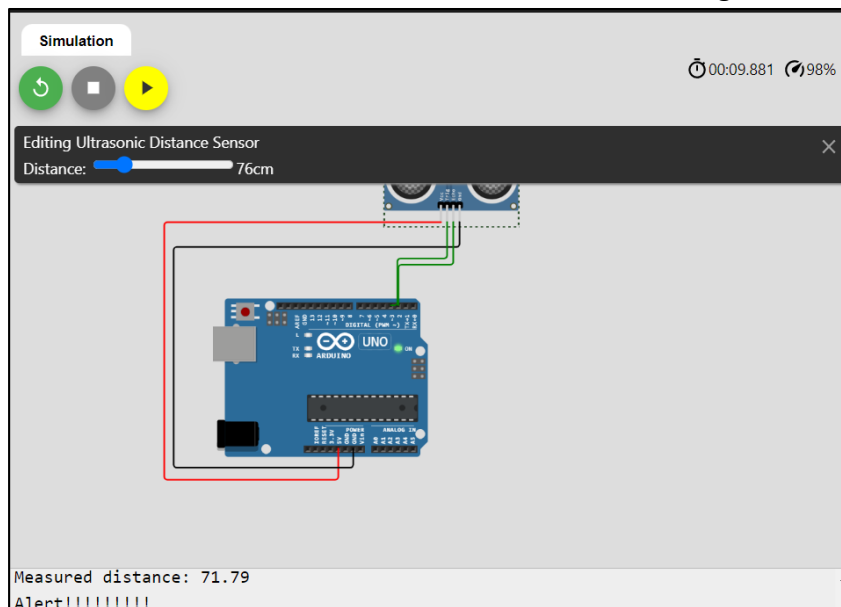
    delay(100);
}
```

Wokwi Editor window:

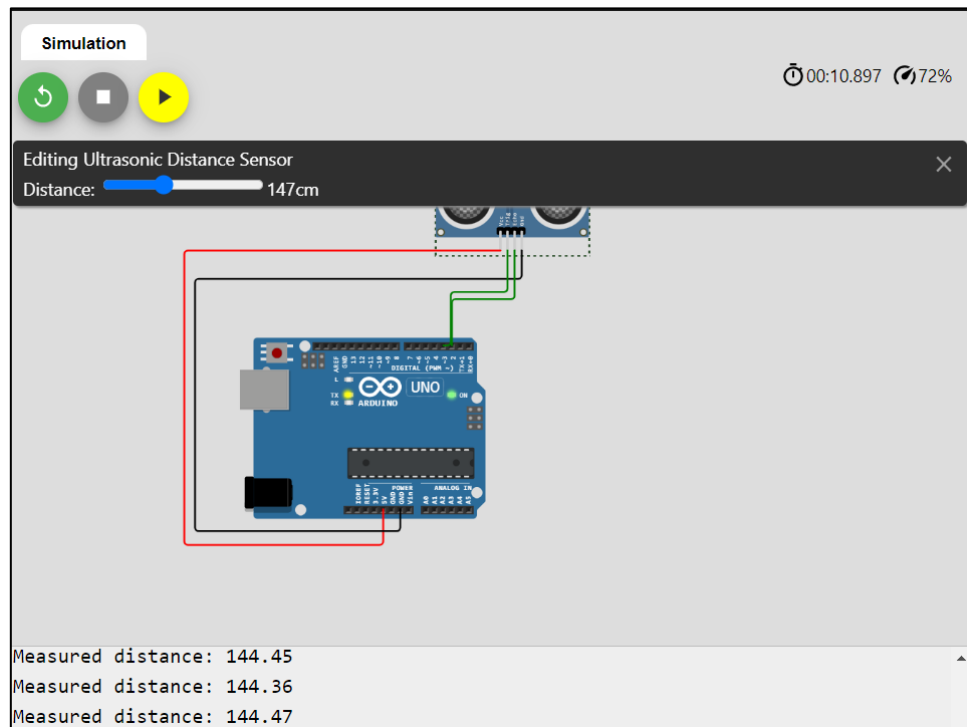


Results:

1. The measured distance is less than 100 centimetres, it gives alert message



2. The measured distance is more than 100 centimetres, it will not give alert message



Wokwi Link:

<https://wokwi.com/projects/346951499588305491>