

SNEGA.M

Assignment -4

Question-1: 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.

Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization ="8kxw8g"
#define deviceType=" ARDUINO"
#define deviceId ="9876"
#define authMethod ="use-token-auth"
#define authToken ="123456789"

void setup() {
  // put your setup code here, to run once:
  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);
```

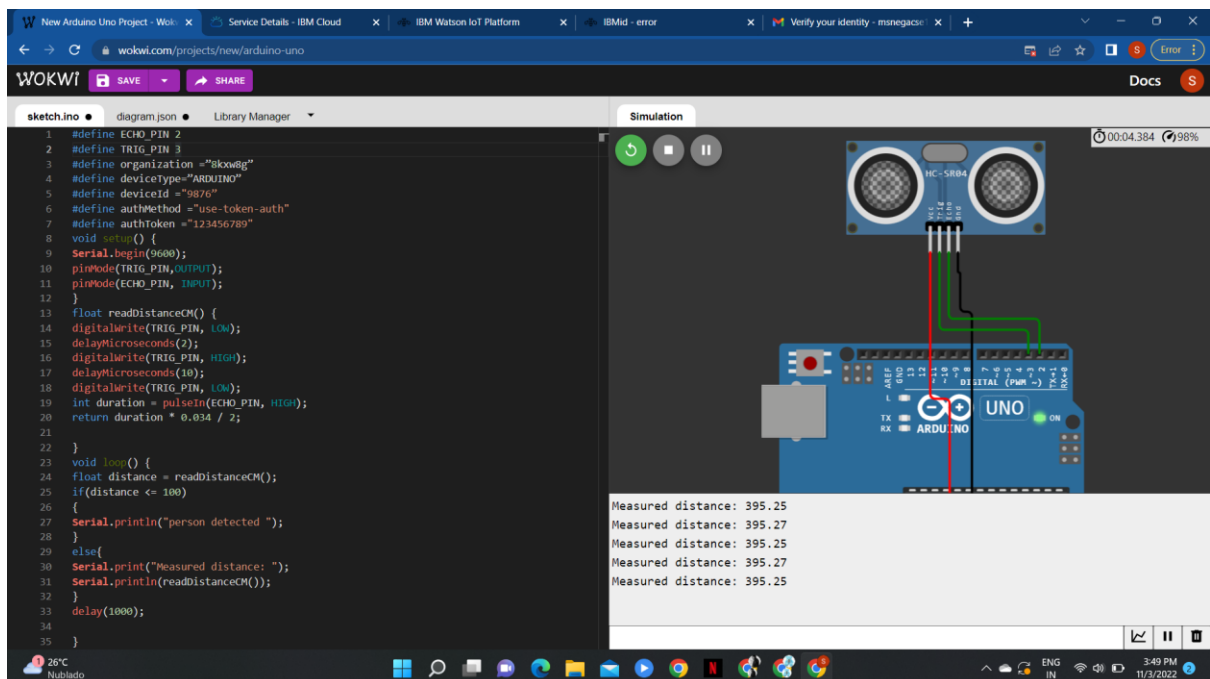
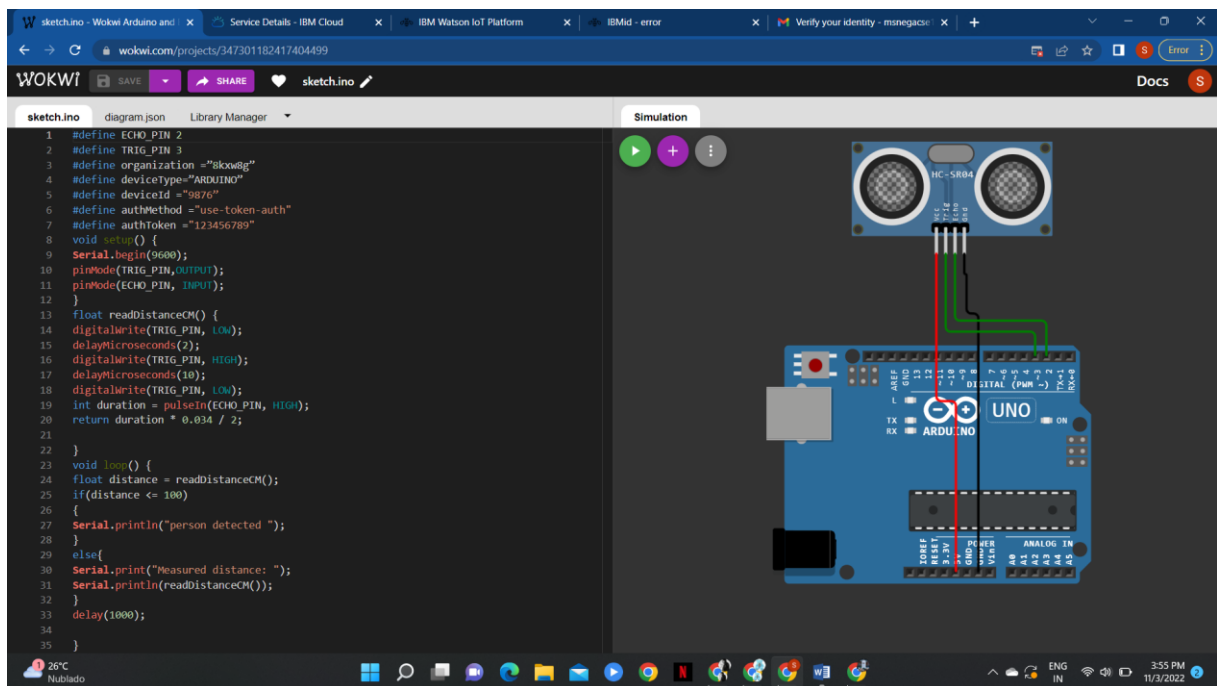
```
int duration = pulseIn(ECHO_PIN, HIGH);  
return duration * 0.034 / 2;
```

```
}
```

```
void loop() {  
    // put your main code here, to run repeatedly:  
    float distance = readDistanceCM();  
    if(distance <= 100)  
    {  
        Serial.println("person detected ");  
    }  
    else{  
        Serial.print("Measured distance: ");  
        Serial.println(readDistanceCM());  
    }  
    delay(1000);
```

```
}
```

Output:



Wokwi Link: <https://wokwi.com/projects/346964780074926676>

IBM CLOUD

Device Recent Events

The screenshot displays the IBM Watson IoT Platform interface. At the top, there's a navigation bar with tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. Below this, a table lists devices. The first device shown is 'ARDUINO_1', which is 'Connected'. A modal window is open, showing details for this device. The details include:

- Device ID:** ARDUINO_1
- Device Type:** ARDUINO
- Date Added:** Nov 3, 2022 3:46 PM
- Add By:** msnegacse123@gmail.com
- Connection Status:** Connected
 - Connection Time: Nov 3, 2022 3:46 PM
 - Client Address: 157.49.221.167
 - SecureToken

At the bottom of the modal, it indicates '1 Simulation running'.