

## GOMATHI B 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 ="7vwoet"
#define deviceType=" Arduino"
#define deviceId ="17200"
#define authMethod ="use-token-auth"
#define authToken ="jSAXnaYfw_XEDYz65"
```

```
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() {
```

```
    // put your main code here, to run repeatedly:
```

```
    float distance = readDistanceCM();
```

```
    if(distance <= 100)
```

```
    {
```

```
        Serial.println("person detected ");
```

```
    }
```

```
    else{
```

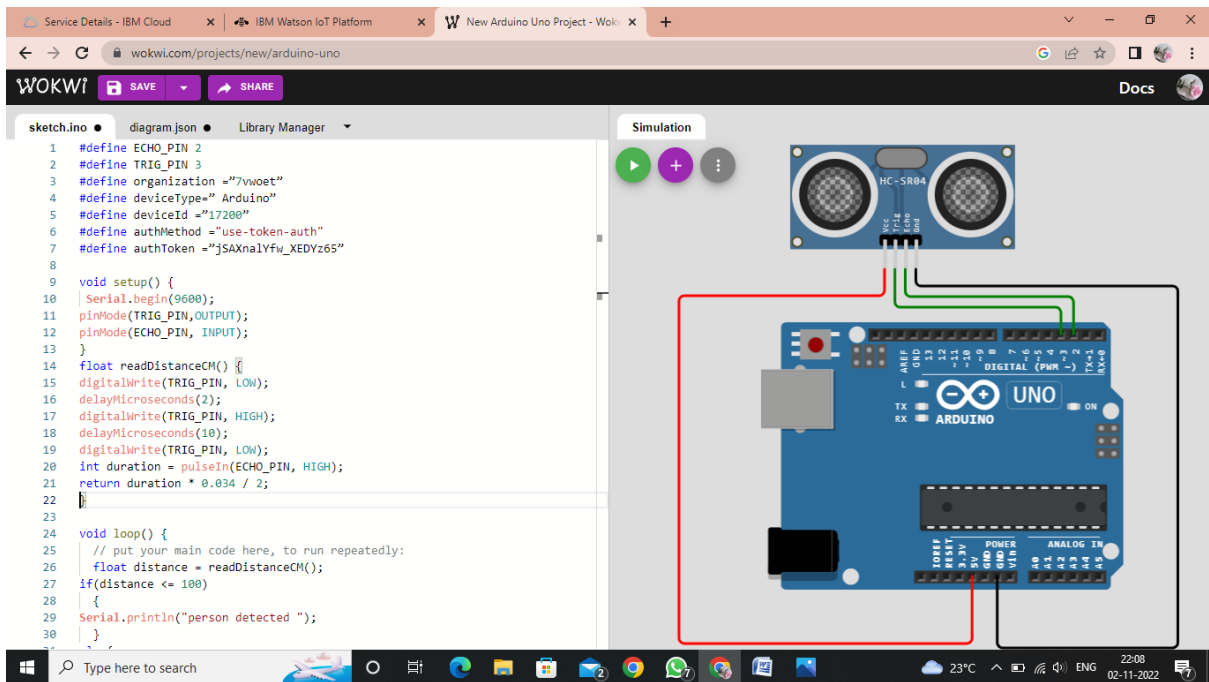
```
        Serial.print("Measured distance: ");
```

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

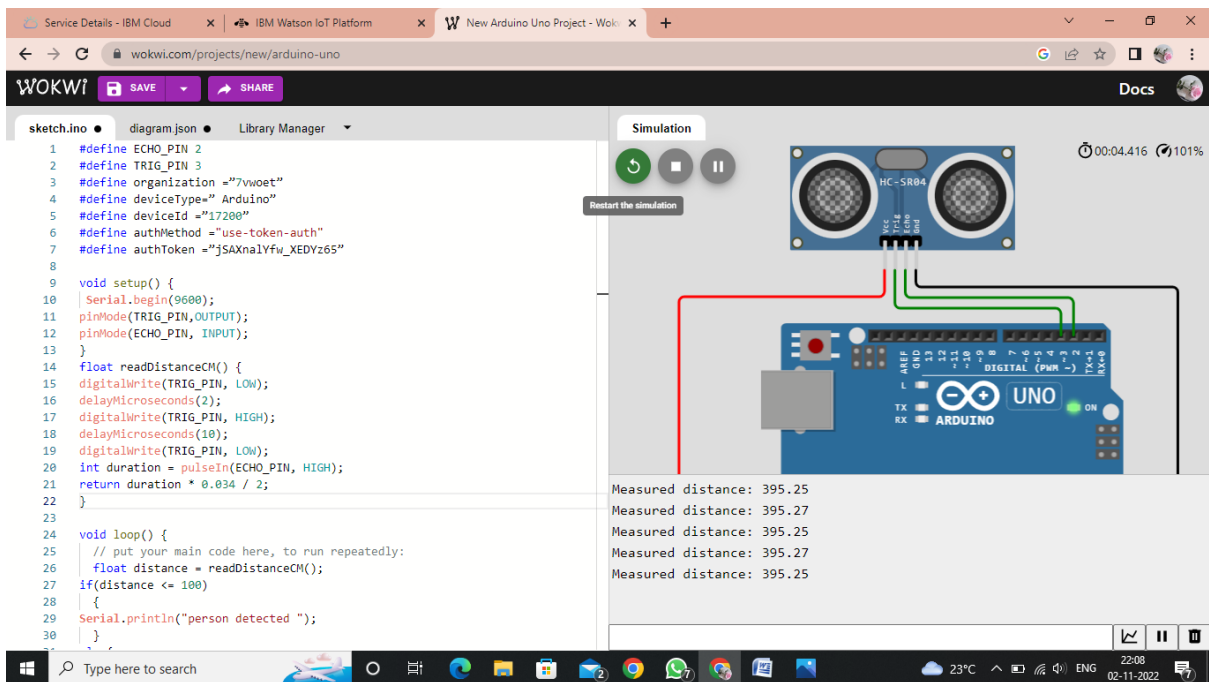
```
    }
```

```
    delay(1000);
```

```
}
```



## Output:



Wokwi Link: <https://wokwi.com/projects/347234661805589074>

## IBM CLOUD

The screenshot shows the 'Device Drilldown - 17200' page in the IBM Watson IoT Platform. The left sidebar contains a navigation menu with options: Device Credentials, Connection Information, Recent Events, State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The main content area is titled 'Device Credentials' and includes a description: 'You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.' Below this is a table of credentials:

Property	Value
Organization ID	7vwoet
Device Type	Arduino
Device ID	17200
Authentication Method	use-token-auth
Authentication Token	Cr_1SU0e?N3zqgWGL

A warning message states: 'Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.' A link at the bottom says 'Find out how to add these credentials to your device'.

## Device Recent Events

The screenshot shows the 'Recent Events' page for device 'Arduino\_1'. The page header includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A table lists the recent events:

Event	Value	Format	Last Received
event_1	{"version":1,"author":"GOMATHI B","editor":"wo..."}	json	a few seconds ago
event_1	{"version":1,"author":"GOMATHI B","editor":"wo..."}	json	a few seconds ago
event_1	{"version":1,"author":"GOMATHI B","editor":"wo..."}	json	a few seconds ago

Below the table, it says 'Items per page 50 | 1-2 of 2 Items'. A status message at the bottom right indicates '1 Simulation running'.