

#### ASSIGNMENT-4

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**Qn: Write code and connections in wokwi for the ultrasonic sensor.**

**Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events.**

**Upload document with wokwi share link and images of IBM cloud**

#### **LINK:**

<https://wokwi.com/projects/346645645004636756>

#### **CODE:**

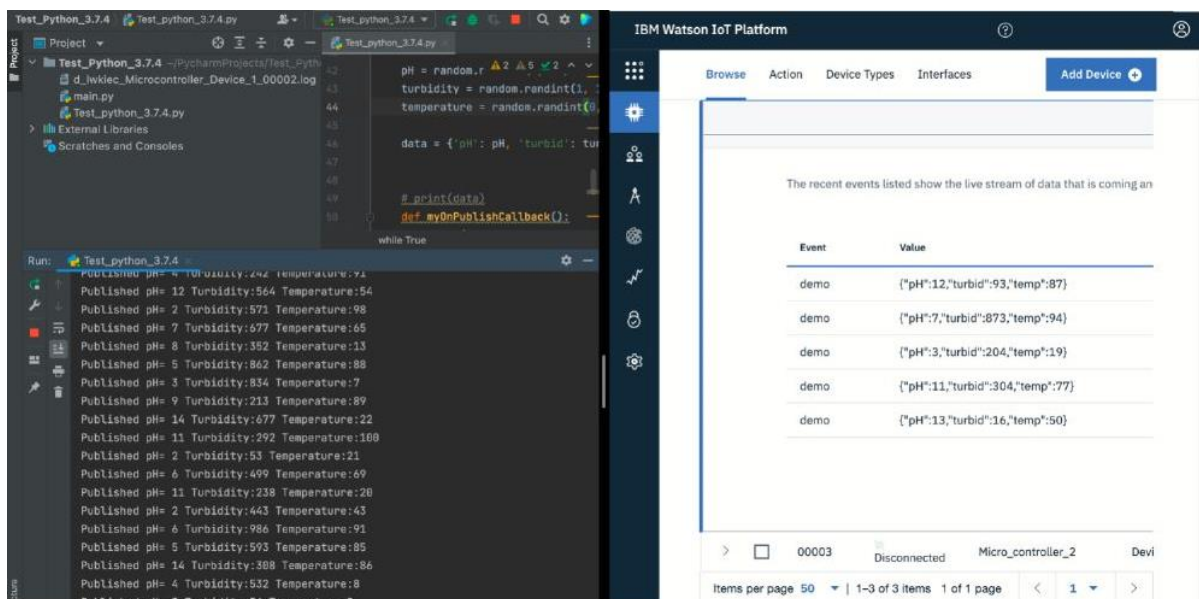
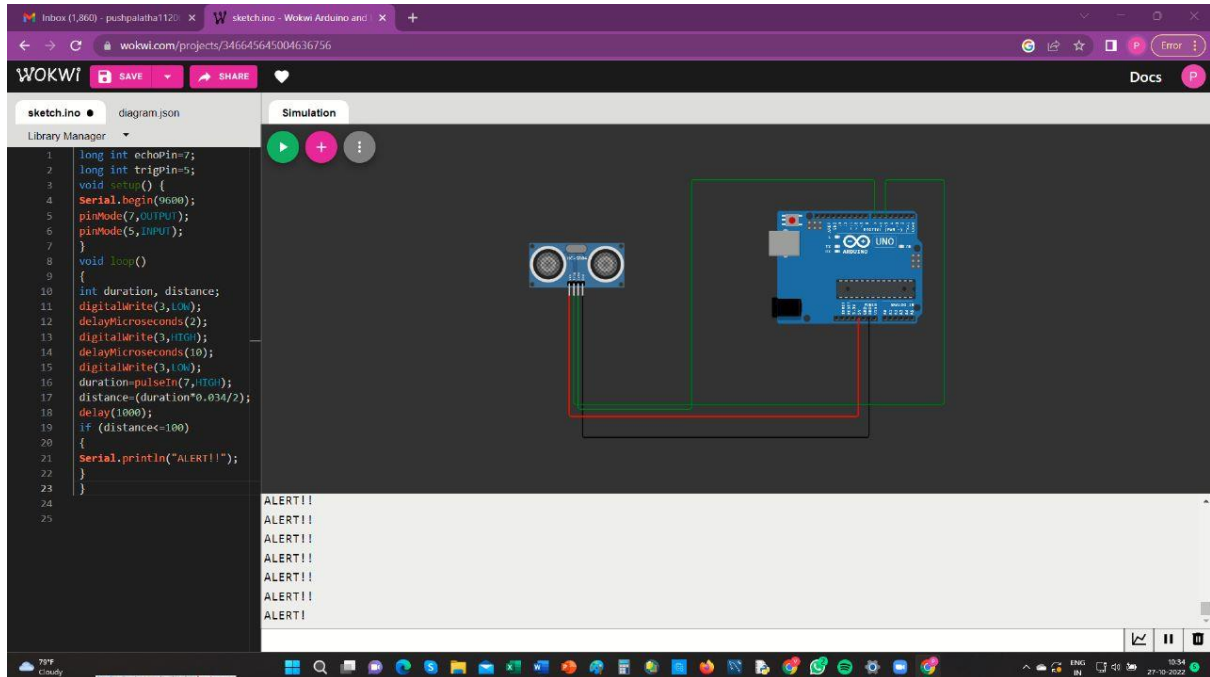
```
long int echoPin=7;
long int trigPin=5;
void setup()
{
  Serial.begin(9600);
  pinMode(7,OUTPUT);
  pinMode(5,INPUT);
}

void loop()
{
  int duration, distance;
  digitalWrite(3,LOW);
  delayMicroseconds(2);
  digitalWrite(3,HIGH);
  delayMicroseconds(10);
  digitalWrite(3,LOW);

  duration=pulseIn(7,HIGH);
  distance=(duration*0.034/2);
  delay(1000);
  if (distance<=100)
  {
    Serial.println("ALERT!!");
  }
}
```

}

## SIMULATIONS:



The screenshot shows the Node-RED web interface. On the left is a dark sidebar with icons for various components like injectors, functions, and debug console. The top navigation bar includes links for Browse, Action, Device Types, Interfaces, and an Add Device button. The main workspace contains a single flow with a red node labeled "Live Stream". Below the flow, a message box displays the text: "The recent events listed show the live stream of data that is coming an". At the bottom, a table lists recent events with columns for Event and Value.

Event	Value
demo	{"pH":12,"turbid":93,"temp":87}
demo	{"pH":7,"turbid":873,"temp":94}
demo	{"pH":3,"turbid":204,"temp":19}
demo	{"pH":11,"turbid":304,"temp":77}
demo	{"pH":13,"turbid":16,"temp":50}

At the very bottom of the interface, there is a status bar showing a search icon, the ID "00003", the status "Disconnected", the device name "Micro\_controller\_2", and the label "Dev1". Below this is a pagination control showing "Items per page 50", a range "1 - 3 of 3 items", and the current page "1 of 1 page", along with navigation arrows.