

Name: Gowtham S

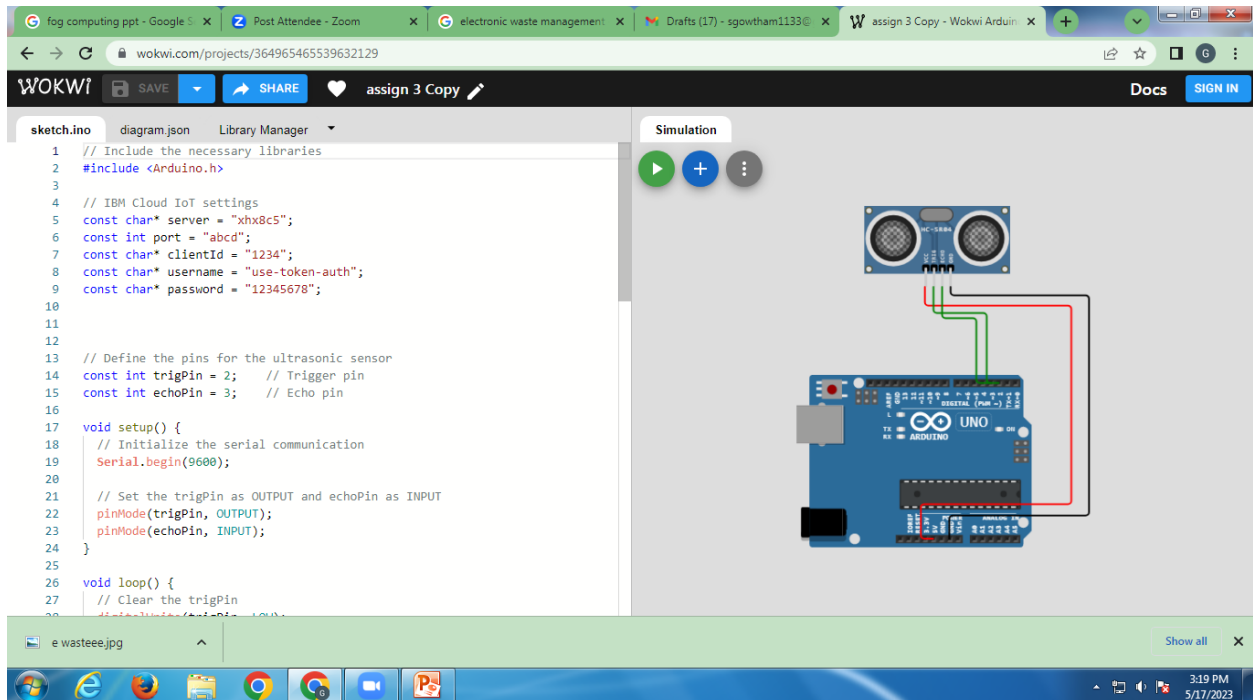
Reg no: 711120106029

III ECE

Assignment 3

Website link:

<https://wokwi.com/projects/364965465539632129>



Sketch.ino :

```
// Include the necessary libraries
#include <Arduino.h>

// IBM Cloud IoT settings
const char* server = "xhx8c5";
const int port = "abcd";
const char* clientId = "1234";
const char* username = "use-token-auth";
const char* password = "12345678";

// Define the pins for the ultrasonic sensor
const int trigPin = 2;    // Trigger pin
const int echoPin = 3;    // Echo pin

void setup() {
    // Initialize the serial communication
    Serial.begin(9600);

    // Set the trigPin as OUTPUT and echoPin as INPUT
    pinMode(trigPin, OUTPUT);
    pinMode(echoPin, INPUT);
}

void loop() {
    // Clear the trigPin
    digitalWrite(trigPin, LOW);
    delayMicroseconds(2);

    // Send a trigger pulse
    digitalWrite(trigPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(trigPin, LOW);

    // Measure the duration of the echo pulse
    long duration = pulseIn(echoPin, HIGH);
```

```

// Calculate the distance
// Speed of sound = 343 m/s or 34300 cm/s
// Divide by 2 to account for the round trip of the sound wave
// Distance in cm = duration * 34300 / 2
int distance = duration * 34300 / 2;

// Print the distance to the serial monitor
Serial.print("Distance: ");
Serial.print(distance);
Serial.println(" cm");

delay(1000); // Wait for a second before taking the next measurement
}

```

Diagram.json :

```

{
  "version": 1,
  "author": "Gowtham S",
  "editor": "wokwi",
  "parts": [
    { "type": "wokwi-arduino-uno", "id": "uno", "top": 45.33, "left": -21.33,
    "attrs": {} },
    { "type": "wokwi-hc-sr04", "id": "ultrasonic1", "top": -152.78, "left":
57.85, "attrs": {} }
  ],
  "connections": [
    [
      "ultrasonic1:VCC",
      "uno:5V",
      "red",
      [ "v21.8", "h170.67", "v232.67", "h-175.33", "v-0.67" ]
    ]
  ]
}

```

```
],  
  [ "ultrasonic1:GND", "uno:GND.3", "black", [ "v9.8", "h161.34", "v258", "h-  
178" ] ],  
  [ "ultrasonic1:ECHO", "uno:3", "green", [ "v36.47", "h40", "v-0.67" ] ],  
  [ "ultrasonic1:TRIG", "uno:2", "green", [ "v30.47", "h62", "v-4" ] ]  
],  
  "dependencies": {}  
}
```