

ASSESSMENT-4

ASSESSMENT DATE	05 November 2022
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REGISTER NUMBER	621319106075
MARKS	2 Marks

PROBLEM:

Write code and connections in wokwi for ultrasonic sensors.

Whenever distance is less than 100cms send "alert" to ibm cloud and display in device recent events.

Upload document with wokwi share link and images of ibm cloud

CODE:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define Device_Id "9876"
#define Device_type "wokwi"
#define Token "987654321"

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;
}

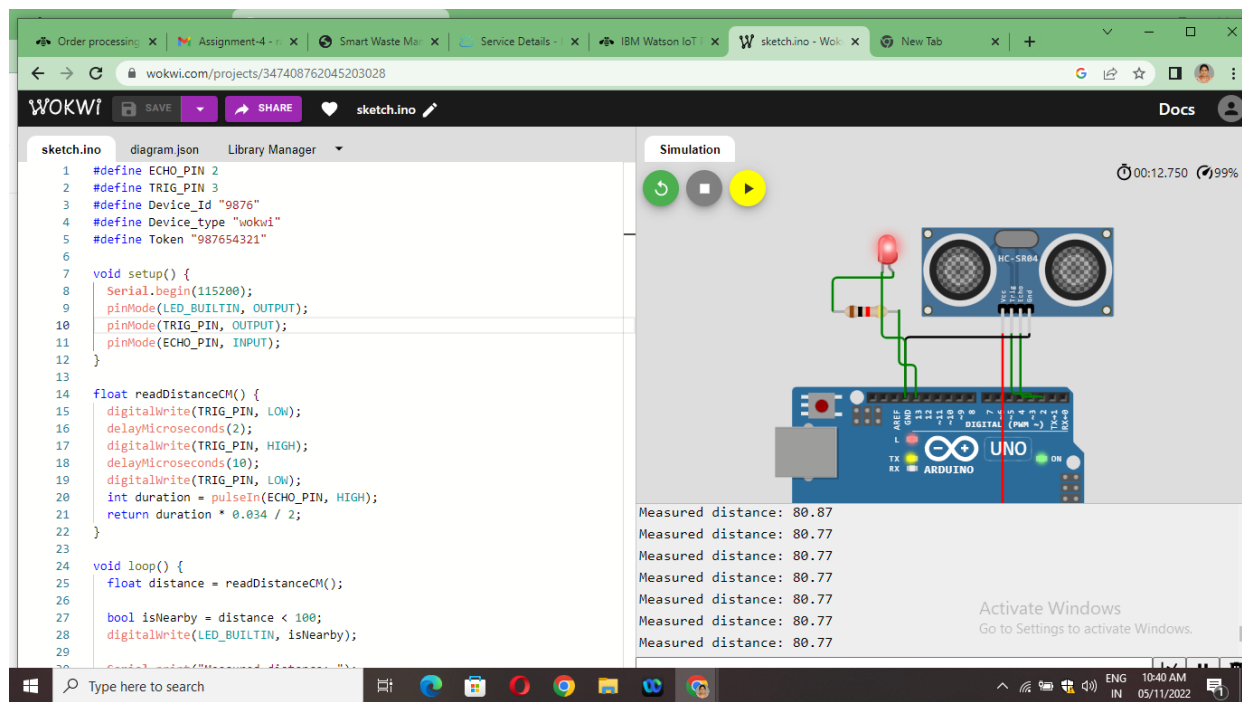
void loop() {
  float distance = readDistanceCM();

  bool isNearby = distance < 100;
  digitalWrite(LED_BUILTIN, isNearby);

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

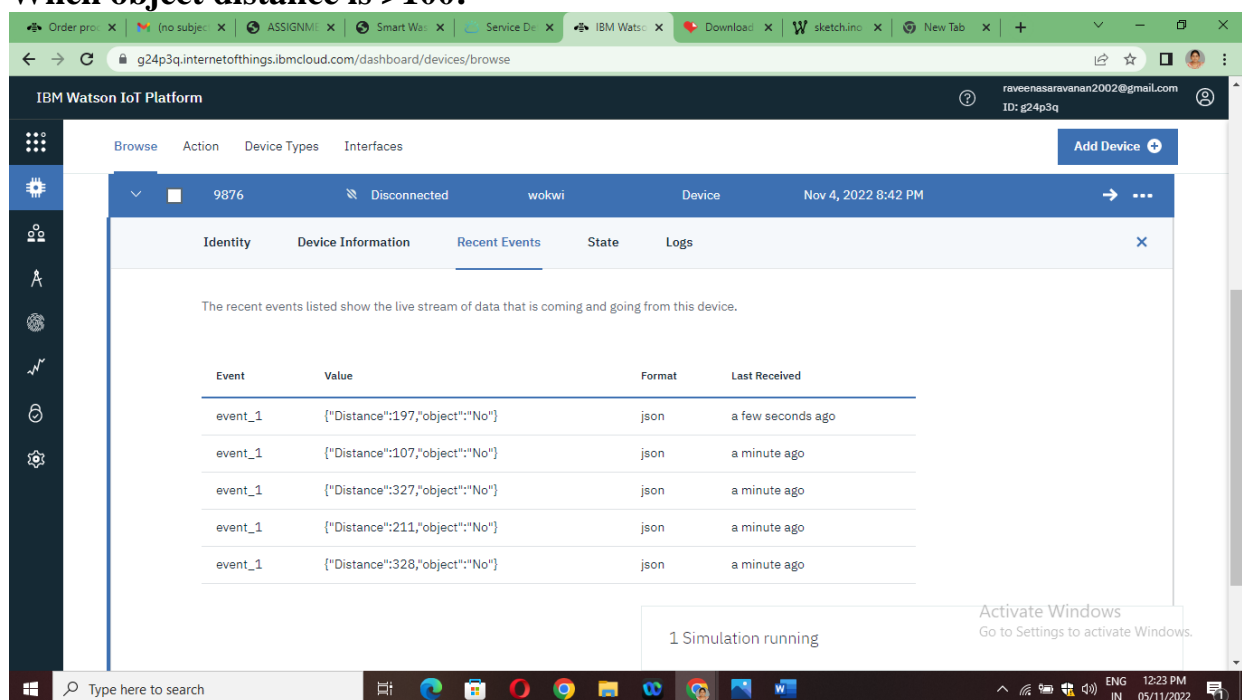
  delay(100);
}

SIMULATION:
```



Link: <https://wokwi.com/projects/347408762045203028>

When object distance is >100:



When object distance is <100:

IBM-Pro x Ferd x Node-RE x My IBM x Service x IBM Wat x IBM-Pro x (6) What x Spring x W Wokel x sketch x +

vtcfyy.internetofthings.ibmcloud.com/dashboard/devices/browse

vtcfyy

mahisacr97@gmail.com
ID: vtcfy

IBM Watson IoT Platform

Browse Action Device Types Interfaces

Add Device

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
123456	Disconnected	NodeMCU	Device	Nov 5, 2022 10:37 AM	

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"Alert Distance":95,"Object":"near"}	json	a few seconds ago
event_1	{"Alert Distance":14,"Object":"near"}	json	a few seconds ago
event_1	{"Alert Distance":8,"Object":"near"}	json	a few seconds ago
event_1	{"Alert Distance":13,"Object":"near"}	json	a few seconds ago
event_1	{"Alert Distance":5,"Object":"near"}	json	a few seconds ago

1 Simulation running

11:41 AM
11/5/2022