Assignment -4

Assignment Date	10 NOV 2022
Student Name	S .Saranya
Student Roll Number	731619106037
Maximum Marks	2 Marks

Question-1:

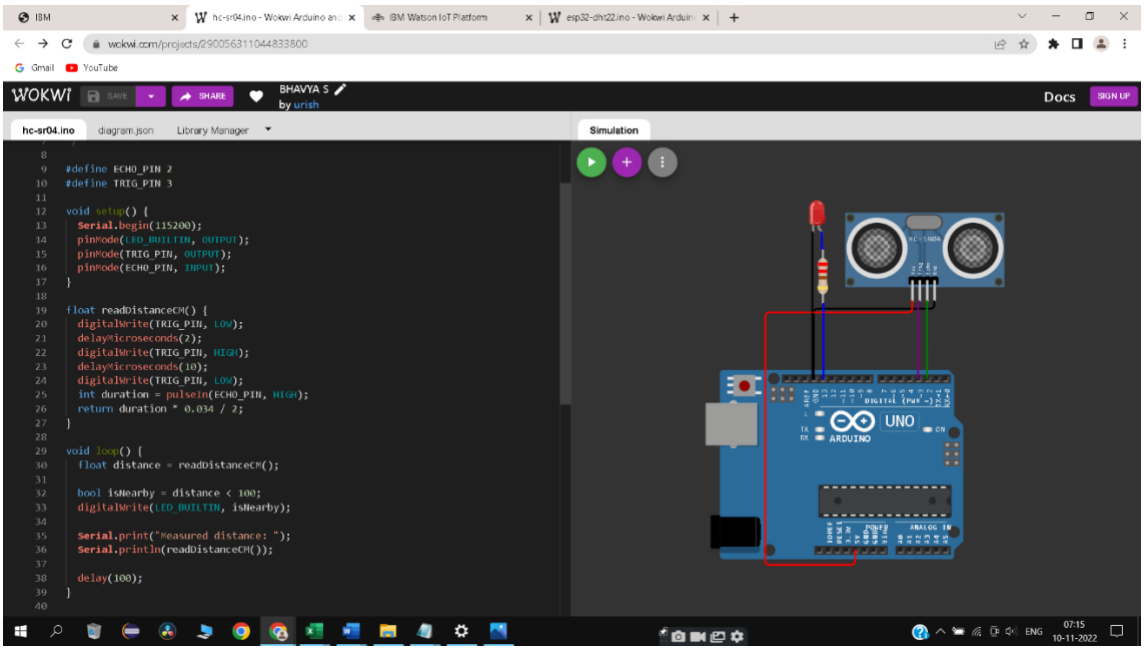
Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events. Upload document with wokwi share link and images of IBM cloud

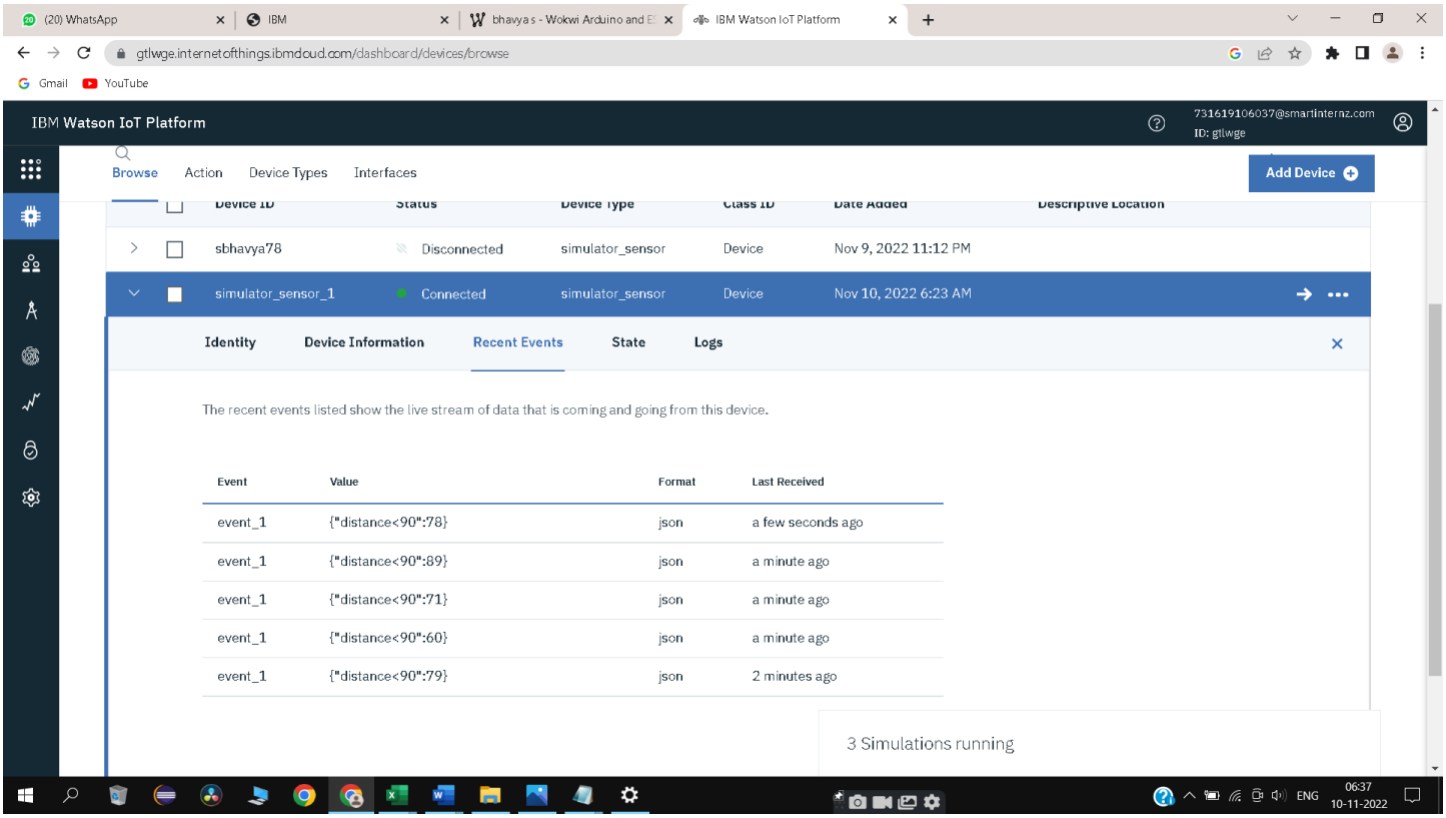
Program:

```
#define ECHO_PIN 2
#define TRIG_PIN 3

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);
}
```

Output:




(20) WhatsApp
IBM
bhavya s - Wokwi Arduino and E
IBM Watson IoT Platform
gtlwge.internetofthings.ibmcloud.com/dashboard/devices/browse
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YouTube
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ID: gtlwge
Browse
Action
Device Types
Interfaces
Add Device
Device ID
Status
Device Type
Class ID
Date Added
Descriptive Location
sbhavya78
Disconnected
simulator_sensor
Device
Nov 9, 2022 11:12 PM
simulator_sensor_1
Connected
simulator_sensor
Device
Nov 10, 2022 6:23 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
{"distance<90":78}
json
a few seconds ago
event_1
{"distance<90":89}
json
a minute ago
event_1
{"distance<90":71}
json
a minute ago
event_1
{"distance<90":60}
json
a minute ago
event_1
{"distance<90":79}
json
2 minutes ago
3 Simulations running
ENG
06:37
10-11-2022