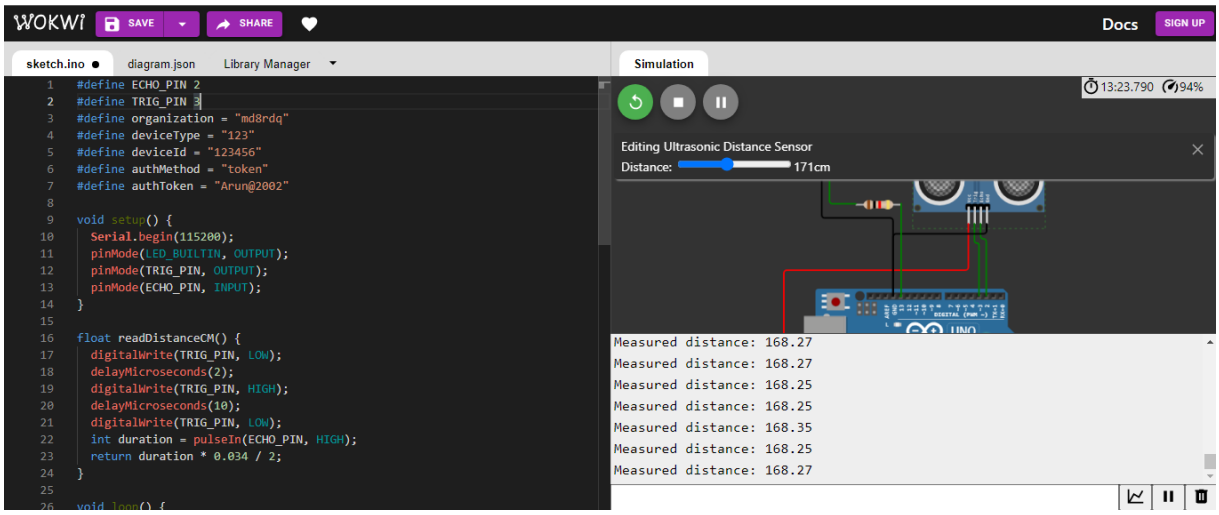
ASSIGNMENT 4

Ultrasonic sensor simulation in Wokwi

Question : Write a code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100cms send an “Alert” to IBM cloud and display in the device recent events.

Wokwi simulation link: https://wokwi.com/projects/347124503089775177

WOKWI OUTPUT SCREENSHOT:



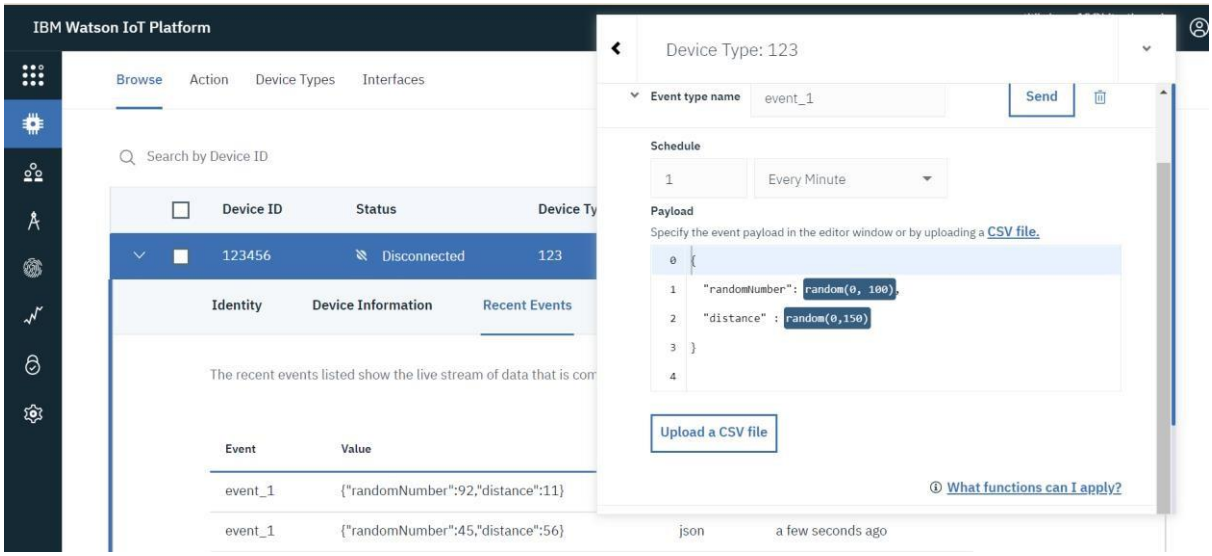
CODE:

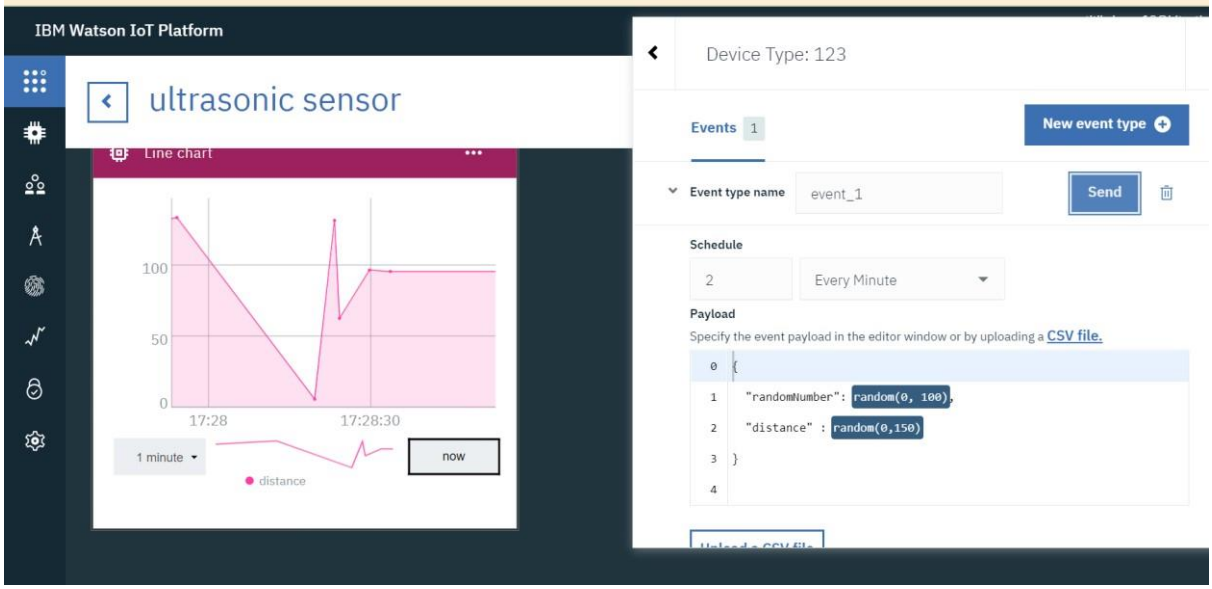
```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization = "md8rdq"
#define deviceType = "123"
#define deviceId = "123456"
#define authMethod = "token"
#define authToken = "Arun@2002"

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(); if(distance<=100)
{
  Serial.println(" person detected");
}
else{
  Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());

}
delay(1000);
}
```




IBM Watson IoT Platform
ultrasonic sensor
Line chart
100
50
0
17:28
17:28:30
1 minute
now
distance
Device Type: 123
Events 1
New event type
Event type name
event_1
Send
Schedule
2
Every Minute
Payload
Specify the event payload in the editor window or by uploading a CSV file.
{
"randomNumber": random(0, 100),
"distance" : random(0,150)
}