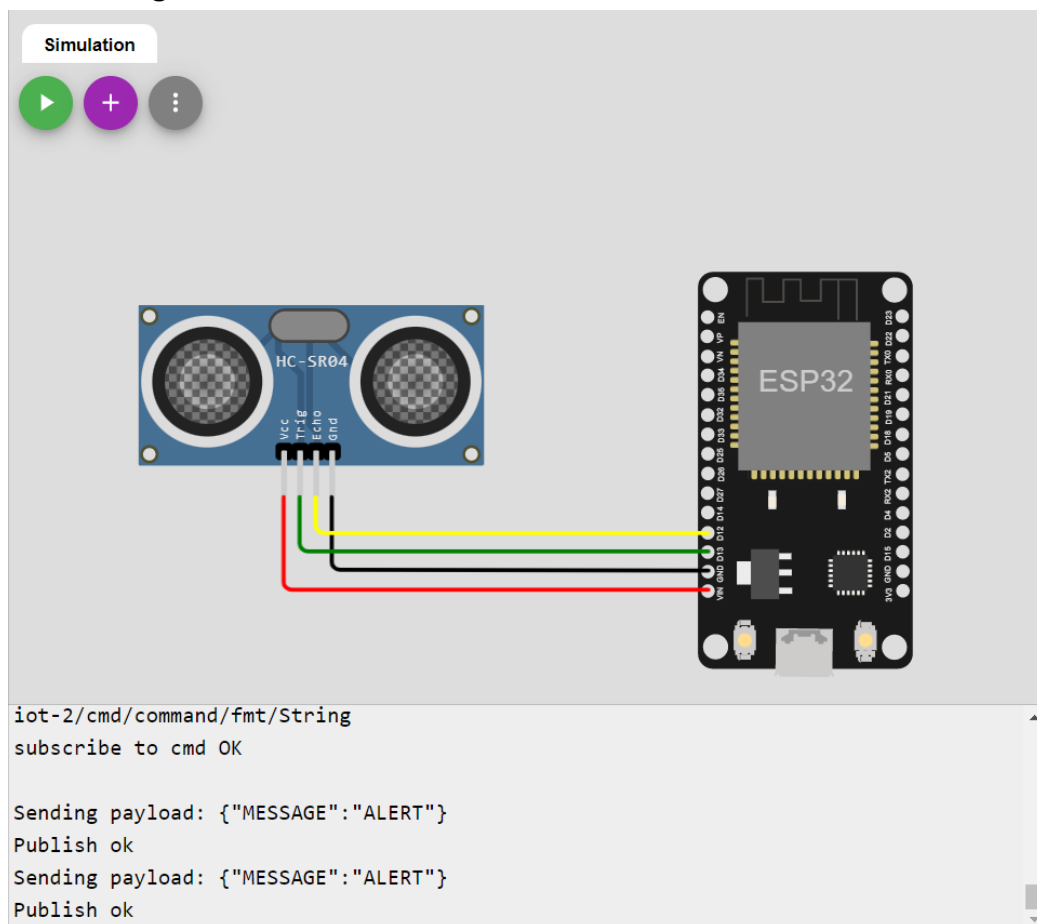# ASSIGNMENT - 4

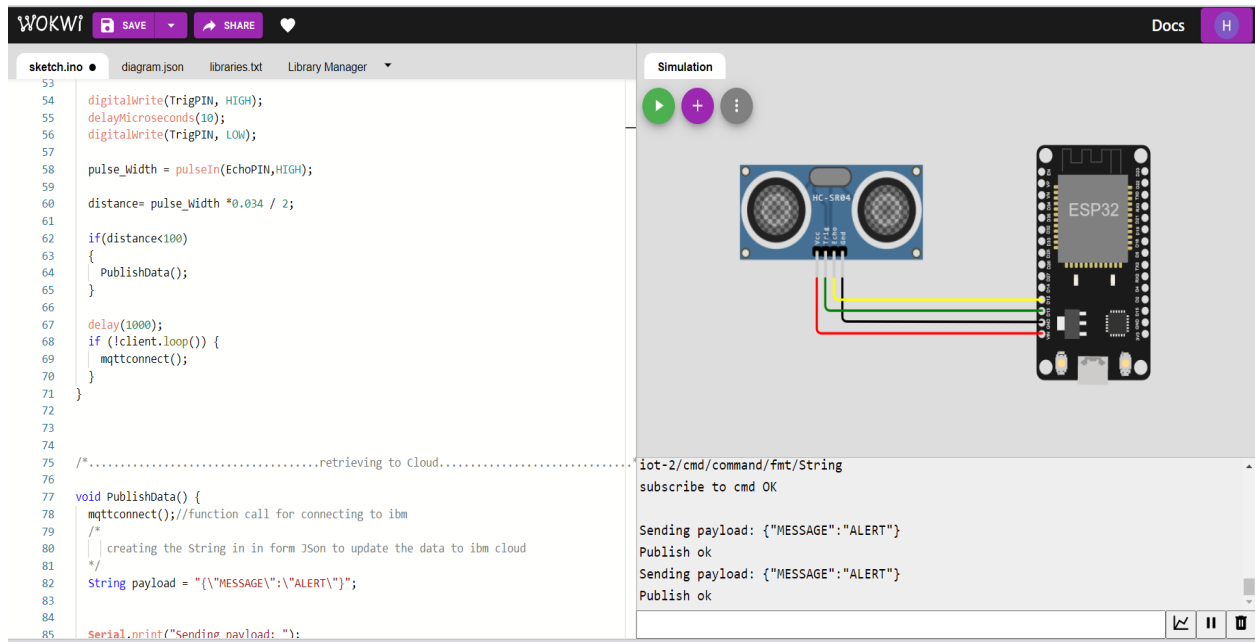| Date	28 September 2022
Student Name	Hithayathun Nihma J
Student Roll Number	917719D033
Maximum Marks	2 marks

Question:
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.

Link: https://wokwi.com/projects/346782026684170836

Circuit Diagram:

```
53
54    digitalWrite(TrigPIN, HIGH);
55    delayMicroseconds(10);
56    digitalWrite(TrigPIN, LOW);
57
58    pulse_Width = pulseIn(EchoPIN,HIGH);
59
60    distance= pulse_Width *0.034 / 2;
61
62    if(distance<100)
63    {
64      PublishData();
65    }
66
67    delay(1000);
68    if (!client.loop()) {
69      mqttconnect();
70    }
71  }
72
73
74
75  /*..............................retrieving to Cloud..............................*/
76
77  void PublishData() {
78    mqttconnect();//function call for connecting to ibm
79    /*
80      creating the String in in form JSon to update the data to ibm cloud
81    */
82    String payload = "{\"MESSAGE\":\"ALERT\"}";
83
84
85    Serial.print("Sending payload: ");
```

Simulation

iot-2/cmd/command/fmt/String
subscribe to cmd OK

Sending payload: {"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"MESSAGE":"ALERT"}
Publish ok

OUTPUT:

Browse   Action   Device Types   Interfaces   Add Device +

assign_4   Disconnected   assign   Device   Oct 28, 2022 8:31 PM   →   ...

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
Data	{"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"MESSAGE":"ALERT"}	json	3 minutes ago
Data	{"MESSAGE":"ALERT"}	json	3 minutes ago
Data	{"MESSAGE":"ALERT"}	json	4 minutes ago