## **ASSIGNMENT**

- 4

DATE	28 October 2022
TEAM ID	PNT2022TMID09994
Maximum mark	2 marks

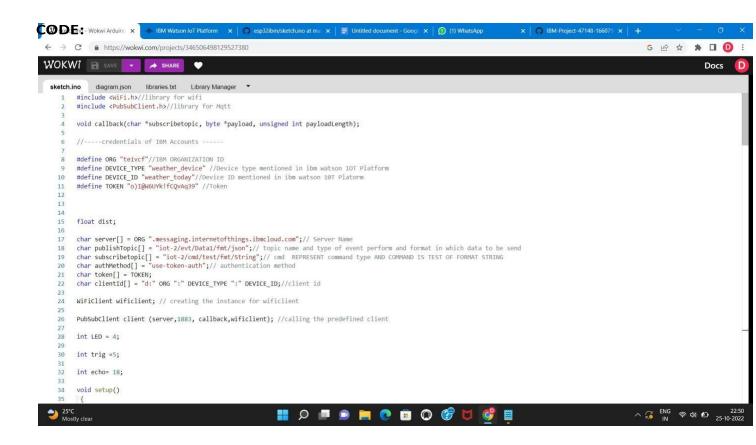
## **QUESTION:**

Write code and connections in wokwi for ultrasonic sensor.

Whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events. Upload document with wokwi share link and images of ibm cloud

## **WOKWI CODE AND IMPLEMENTATION LINK:**

https://wokwi.com/projects/346506498129527380

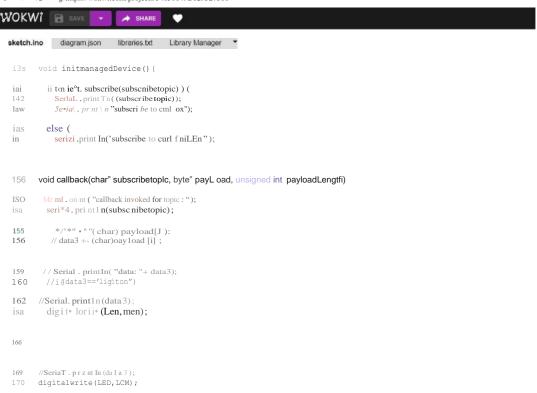


```
WOKWI 🖹 SAVE
                                 - SHARE
    34
          void setu t1
    35
     37
              serial.begin(11528B),
    38
             pi nh\ode (tr I g, OUTPuT);
    39
             pinNode (echo, INPUT) j
              pinNode(LE0, aJTPuT),
    40
    41
             delay (t6),
    43
             uiiiconnect();
    45
             nqttconnect\left(\,\right),
    A7 }
          void loop () // Recursive runs tion
    49
    51
              delayHzcroseconds(be);
    52
              digita Yuri te (I rlg, rO/),
    53
              digitalMrit e(tr l g, UM);
    54
    S5
              digstaJurite (trip,trot),
               float dur- outseIn(echo, HIr+I);
    56
              float dist = (dur" 0. e343) / :t,
Serial.print ("Distance in cm : ");
    59
              serlol.println(dist),
    61
              Pub1ishData(dist),\\
    63
              delay(1000);
    65
              If (! c1i ent . loop ()) (
    67
               oqttconnect ();
← → C
              9 Mps:Y/wok i.coni/proje«tsr346506498t29527380
WOKWI B SAVE
                               → SHARE
```

```
71
        void PubLish0ata(moat dist) {
 72
          wqtrconnect ();
 76
       if (dist<100)
 7В
             digita lurite(cen. uicti);
 79
             srrlol .pri ntln ("object is near"),
             object - "At FRT1 object is near";
          else
 aa
 8s
             digitalWrite(LED,LOW);
 87
             object ="No object TOund',
          payload += dist;
payload += "," "\"object\":\"";
payload += object;
paylaad += "\")";
 91
 92
 so
94
          sert•1.print ("sending payload: ");
 97
          Serial println(payload);
           in (ciient.publi sh (publishi opic, (chan*) payload . t_st r (\ \}))
 SS
             s_{\text{\tiny $w$}}\text{\tiny $*$-tal} . pri nt In( " publJ sh of;") , // if it sucessin I ly Upload
101
```

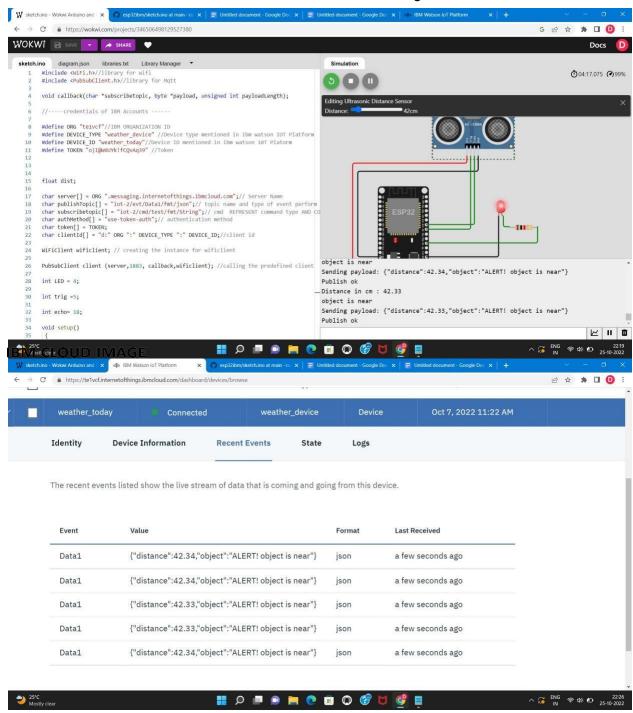
```
Yes
       void\ oqtt\ connect\ ()\ \{
1e9
         kf- ( !c Lient. connected()) {
            serial.point("Reconnecting client to ');
me
iii
            serial.printIn(server),
112
            *diile (111 client. connect( client Id, autfrHethod, token) ) (
IIS
116
118
             sar:rat. printIn(>;
       void wificonuect() //function defination for wificounect
         ser1nl.print1n(),
         sertaI . print("connecting to ");
y+
         Nil"i.begin ("uokvl—GUE 5T", "". 6); //passing the wifi c redeal sa! s to estabL i sh the connect ion
128
L29
           h3J\bullet e\ (NiFi\ .\ status\ ()\ I\bullet NL\_C0flt/ECTED)\ \{
138
            del ay(50s);
            Ariel.priMt(".");
133
         serial.println(""),
         certul. println ("airi connected");
snrial . pcintln (" ie addre ss : ");
its
its
         Serisl . println (airi . localrP());
```

'I— 4 /2 g https://wokwi.com/projects/34650649B129527380



## **OUTPUT:**

When the distance is less than 100 cms, send an "alert" message to IBM Watson IoT Platform.



When the object is far( greater than 100 cms), send "no object found" to the IBM Watson IOT Platform.

