Assignment -4
Python Programming

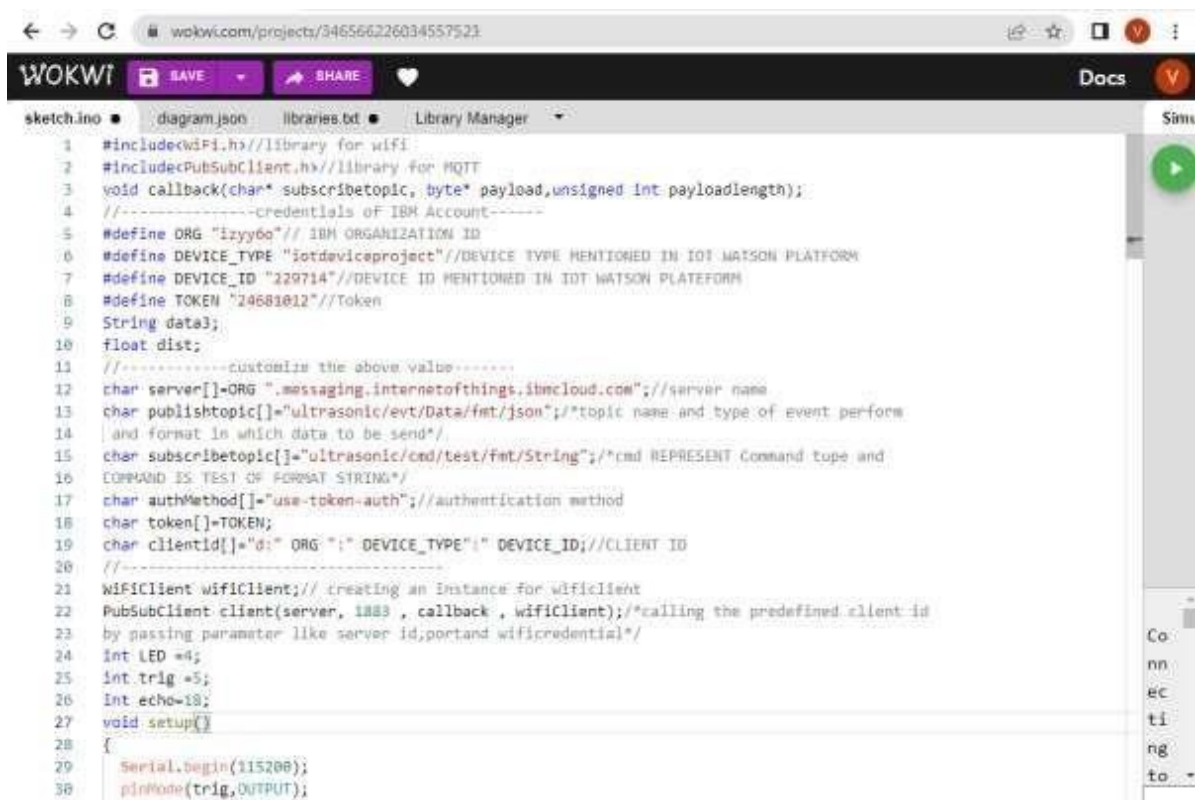**Question-1:**

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.

Solution:

sketch.ino ●   diagram.json   libraries.txt ●   Library Manager ▾   Simu

```
 92      }
 93        initManagedDevice();
 94        Serial.println();
 95      }
 96    }
 97    void wificonnect()//function defenition for wificonnect
 98    {
 99      Serial.println();
100      Serial.print("Connecting to ");
101      WIFI.begin("Wokwi.GUEST", "",6);//PASSING THE WIFI CREDIDENTIALS TO ESTABLISH CONNECTION
102      while (WiFi.status() !=WL_CONNECTED){
103        delay(500);
104        Serial.print(".");
105      }
106      Serial.println("");
107      Serial.println("WiFi connected");
108      Serial.println("IP address");
109      Serial.println(WIFI.localIP());
110    }
111    void initManagedDevice(){
112      if(client.subscribe(subscribetopic)){
113        Serial.println((subscribetopic));
114        Serial.println("subscribe to cmd OK");
115      }else{
116        Serial.println("subscribe to cmd failed");
117      }
118    }
119    void callback(char* subscribetopic,byte*payload,unsigned int payloadLength)
120    {
121      Serial.print("callback invoked for topic: ");
122      Serial.println(subscribetopic);
```
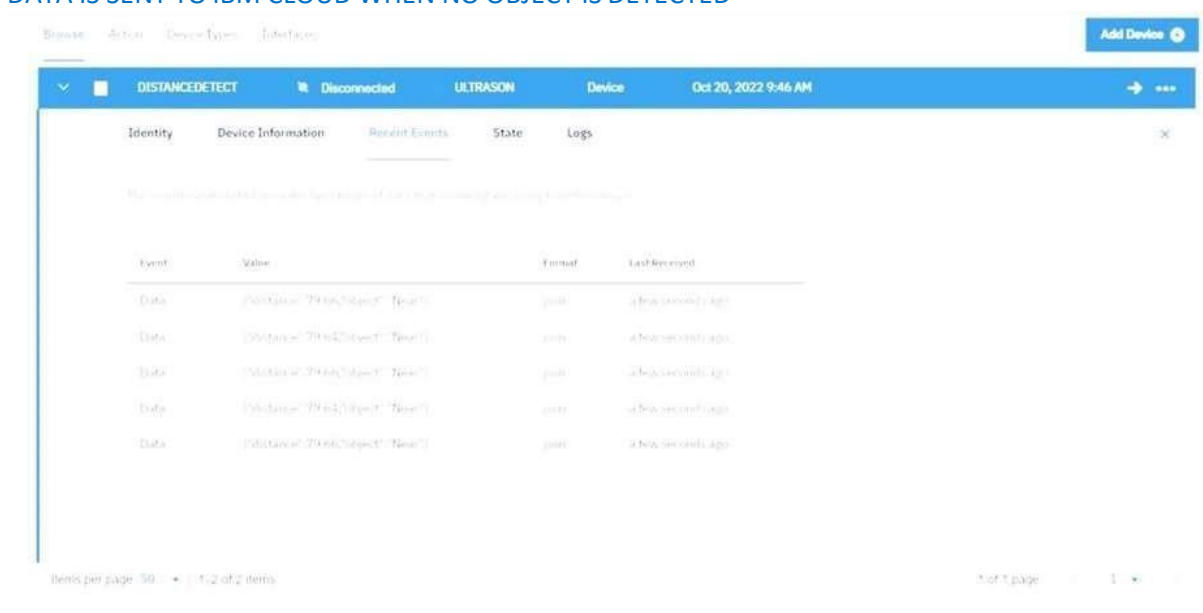
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```
123    for(int i=0; i< payloadLength; i++){
124      //Serial.print((char)payload[i]);
125      data3 +=(char)payload[i];
126    }
127    //Serial.println("dta: "+ data3);
128    //if(data3=="Near")
129    //{
130    //Serial.println(data3);
131    //digitalwrite(LED,HIGH);
132    //}
133    //else
134    //{
135    //Serial.println(data3);
136    //digitalwrite(LED,LOW);
137    //}
138    data3="";
139  }
```

OUTPUT:
DATA IS SENT TO IBM CLOUD WHEN NO OBJECT IS DETECTED

When no object is detected

When object is detected in ultrasonic detector


```
object is near
Sending payload: {"distance":97.82,"object":"Near"}
Publish ok
Distancein cm97.82
object is near
Sending payload: {"distance":97.82,"object":"Near"}
Publish ok
```