Assignment -4

Python Programming

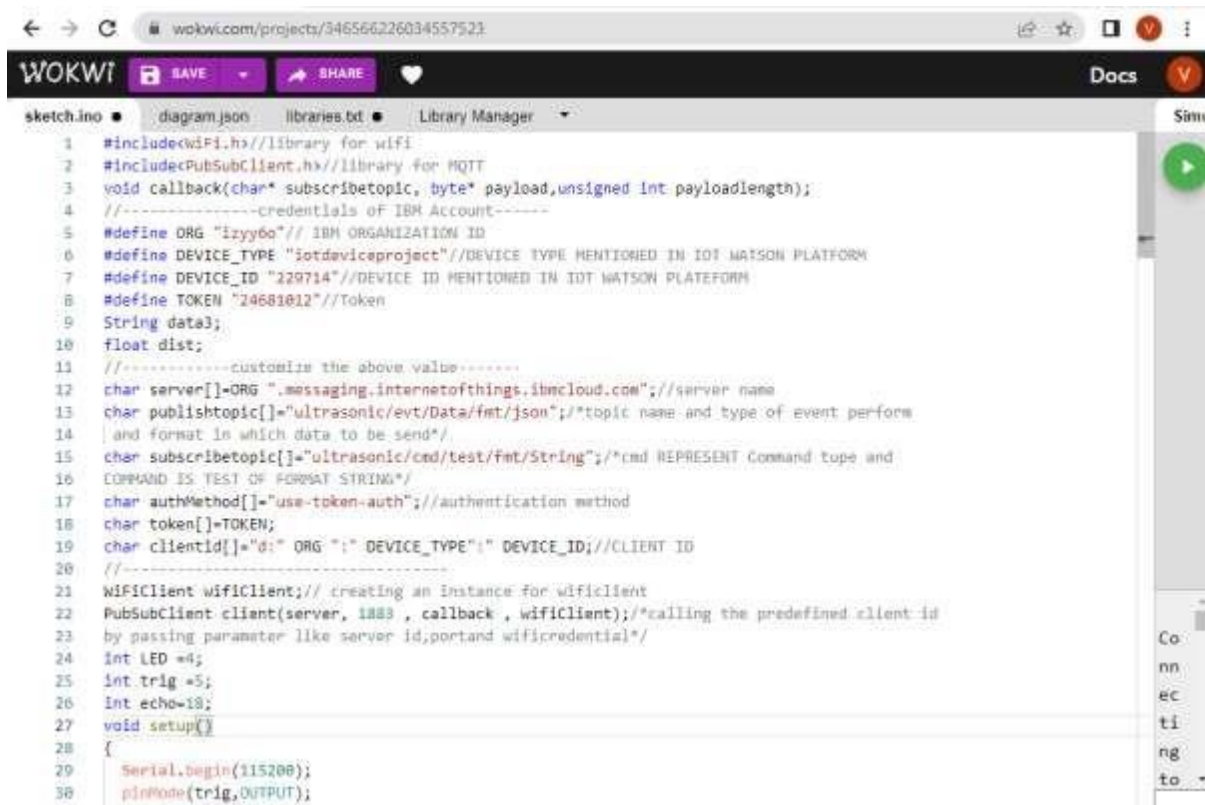|	
Assignment Date	26 October 2022
Student Name	Navaneeshwar SR
Student Roll Number	814719106038
Maximum Marks	2 Marks

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

| | DISTANCEDETECT | 🔌 Disconnected | ULTRASON | Device | Oct 20, 2022 9:46 AM | → ... |

Identity   Device Information   Recent Events   State   Logs

Event	Value	Format	Last Received
Data	{"distance":79.66,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.64,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.66,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.64,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.66,"object":"Near"}	json	a few seconds ago

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
```