

**Assignment -4**  
**Python Programming**

Assignment Date	26 October 2022
Student Name	Mr.Hariharan.B
Student Roll Number	810419104030
Maximum Marks	2 Marks

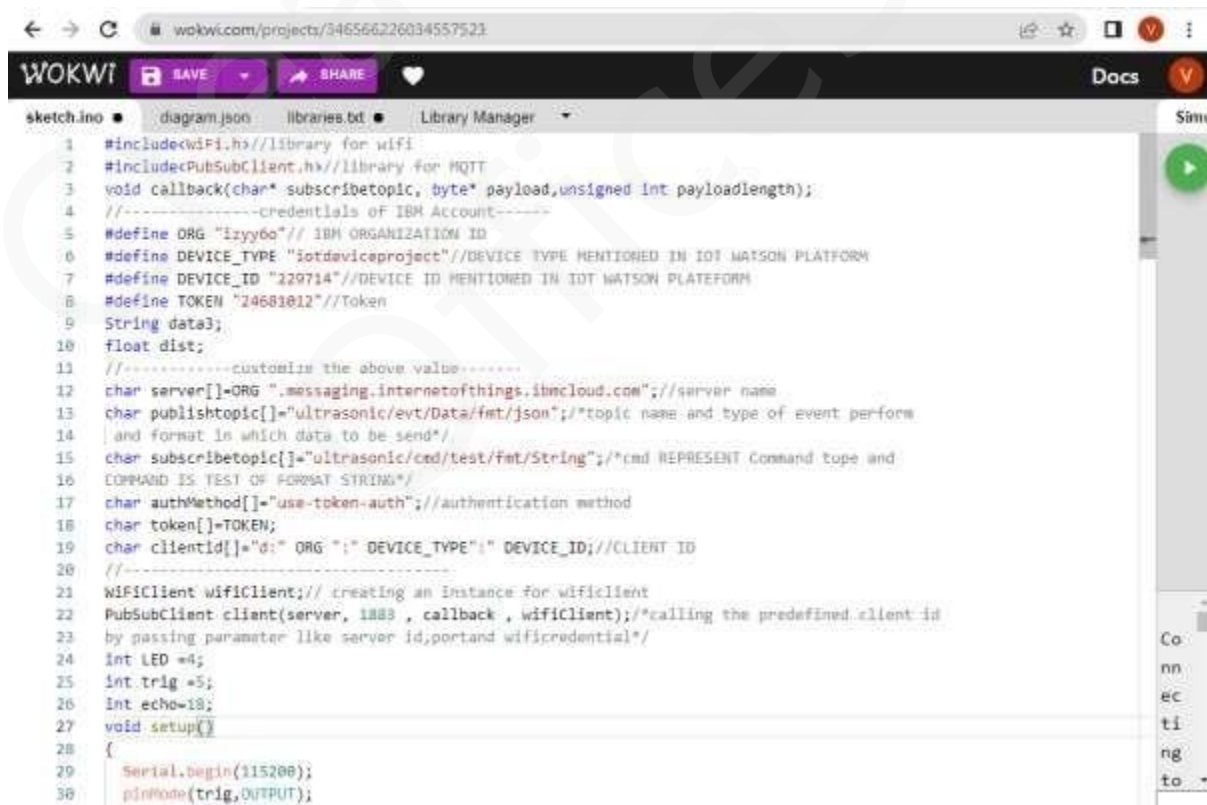
**Question-1:**

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:**



← → ↻ wokwi.com/projects/346566226034557523

WOKWI SAVE SHARE Docs

sketch.ino • diagram.json libraries.txt • Library Manager

```
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", "",0);//PASSING THE WIFI CREDENTIALS 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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WOKWI
SAVE SHARE
sketch.ino diagram.json libraries.txt Library Manager
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

Browser Action Device Types Interfaces Add Device

Identity	Device Information	Recent Events	State	Logs
The world's most reliable cloud-based IoT platform for connecting and managing devices.				
Event	Value	Format	Last Received	
Data	"Distance": 79.64, "Object": "Near"	json	a few seconds ago	
Data	"Distance": 79.64, "Object": "Near"	json	a few seconds ago	
Data	"Distance": 79.64, "Object": "Near"	json	a few seconds ago	
Data	"Distance": 79.64, "Object": "Near"	json	a few seconds ago	
Data	"Distance": 79.64, "Object": "Near"	json	a few seconds ago	

Items per page: 50 1 of 2 items

When no object is detected

**DistanceDetect**

Disconnected    ULTRASON    Device    Oct 20, 2022 9:46 AM

Identity    Device Information    Recent Events    State    Logs

No events have been added to this page.

Event	Value	Error	Last Received
Data	"Distance": 79.66,"Object": "None"	null	a few seconds ago
Data	"Distance": 79.66,"Object": "None"	null	a few seconds ago
Data	"Distance": 79.66,"Object": "None"	null	a few seconds ago
Data	"Distance": 79.66,"Object": "None"	null	a few seconds ago
Data	"Distance": 79.66,"Object": "None"	null	a few seconds ago

Items per page: 50 | 1 / 2 of 2 items

When object is detected in ultrasonic detector

