# Assignment-4

Python
Programming

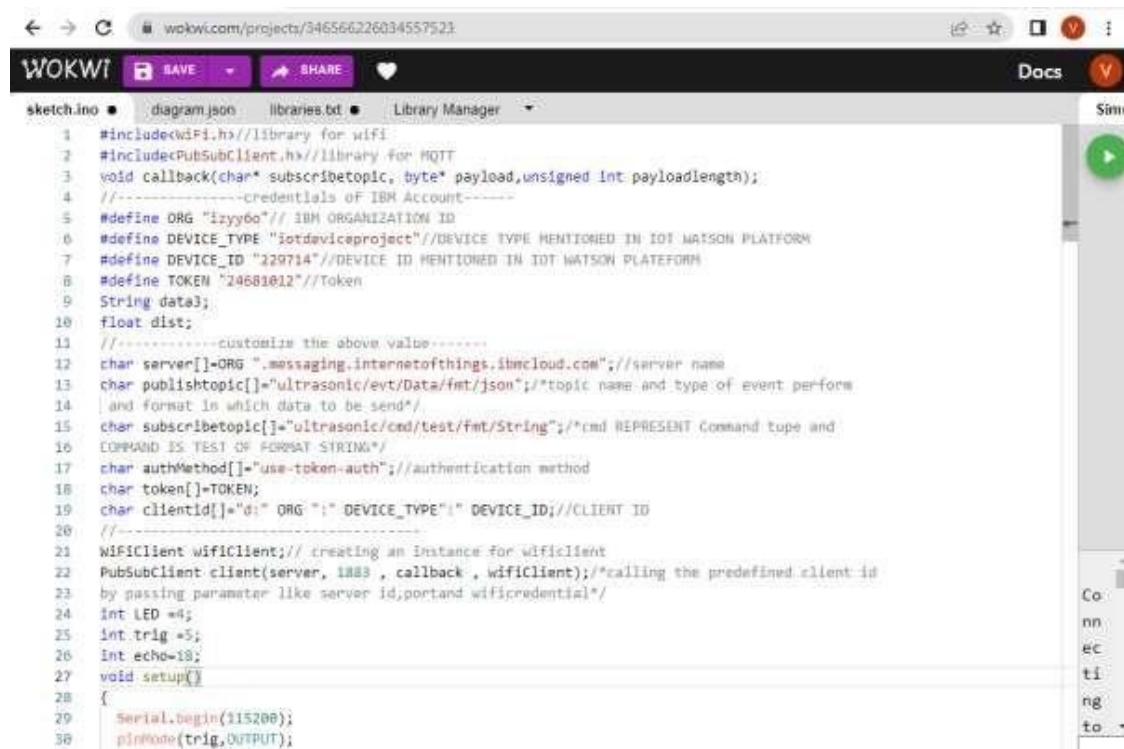| Assignment Date | 03 NOVEMBER 2022 |
|---|---|
| Student Name | Mr.P.Sarathi |
| Student Roll No | 732919ECR116 |
| Maximum Marks | 2 Marks |

**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  🖫 SAVE  ▾   ➔ SHARE   ♥                                    Docs   Ⓥ

**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);
```

Co
nn
ec
ti
ng
to ▾

```
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

Browse  Action  Device Types  Interfaces                                    Add Device +

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":79.66,"object":"Near"} | json | a few seconds ago |
| Data | {"distance":79.66,"object":"Near"} | json | a few seconds ago |
| Data | {"distance":79.66,"object":"Near"} | json | a few seconds ago |
| Data | {"distance":79.66,"object":"Near"} | json | a few seconds ago |

Items per page: 50  ▾   1-2 of 2 items                              1 of 1 page    1  ▾

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
```