Assignment -4

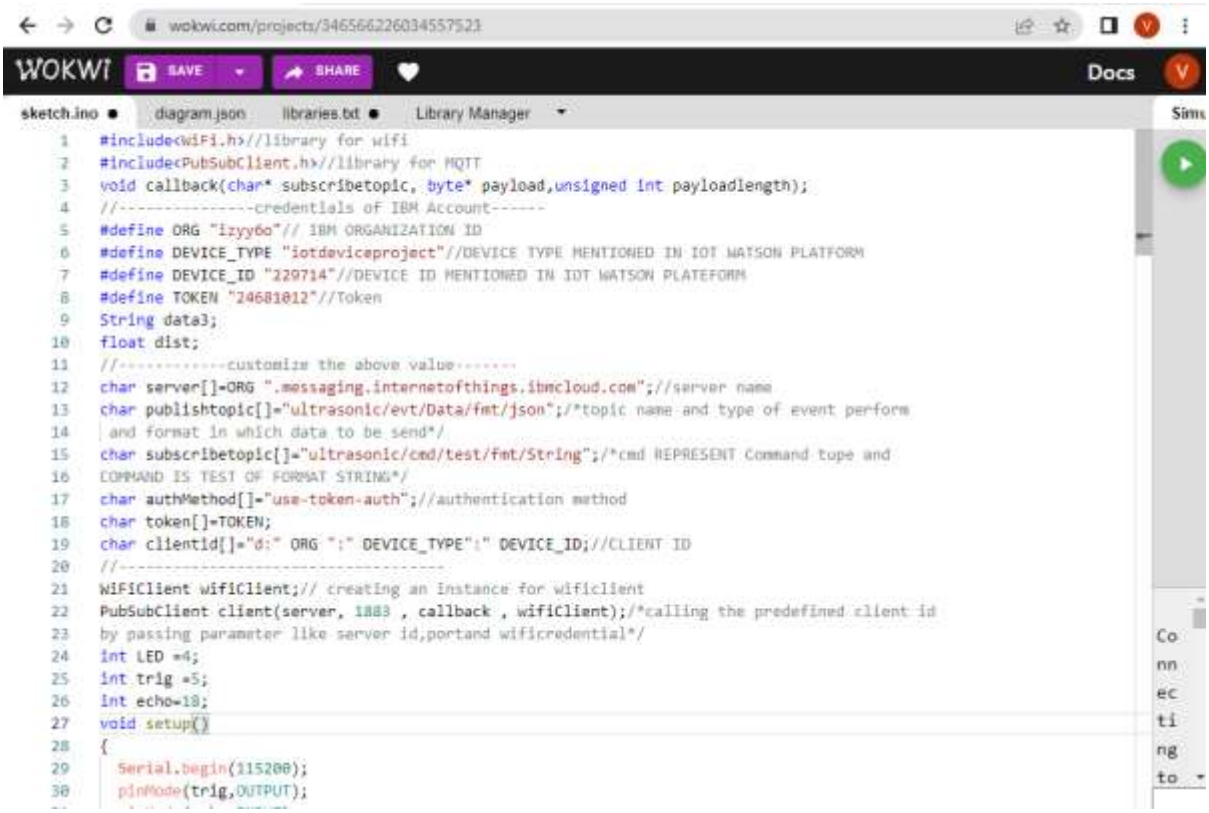
Python Programming

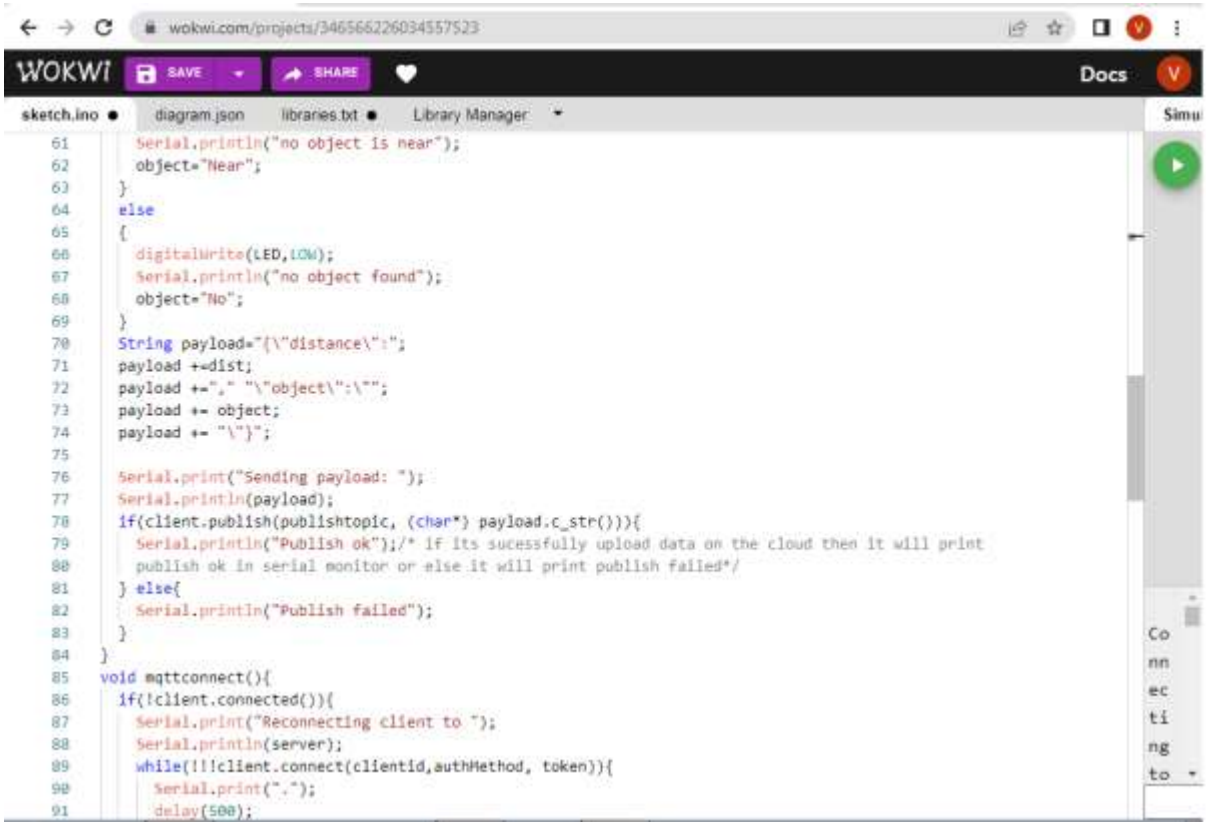
Assignment Date	30 October2022
Student Name	GAUTAM KUMAR RAI D
Student Reg Number	732219EC028
Maximum marks	2 Marks

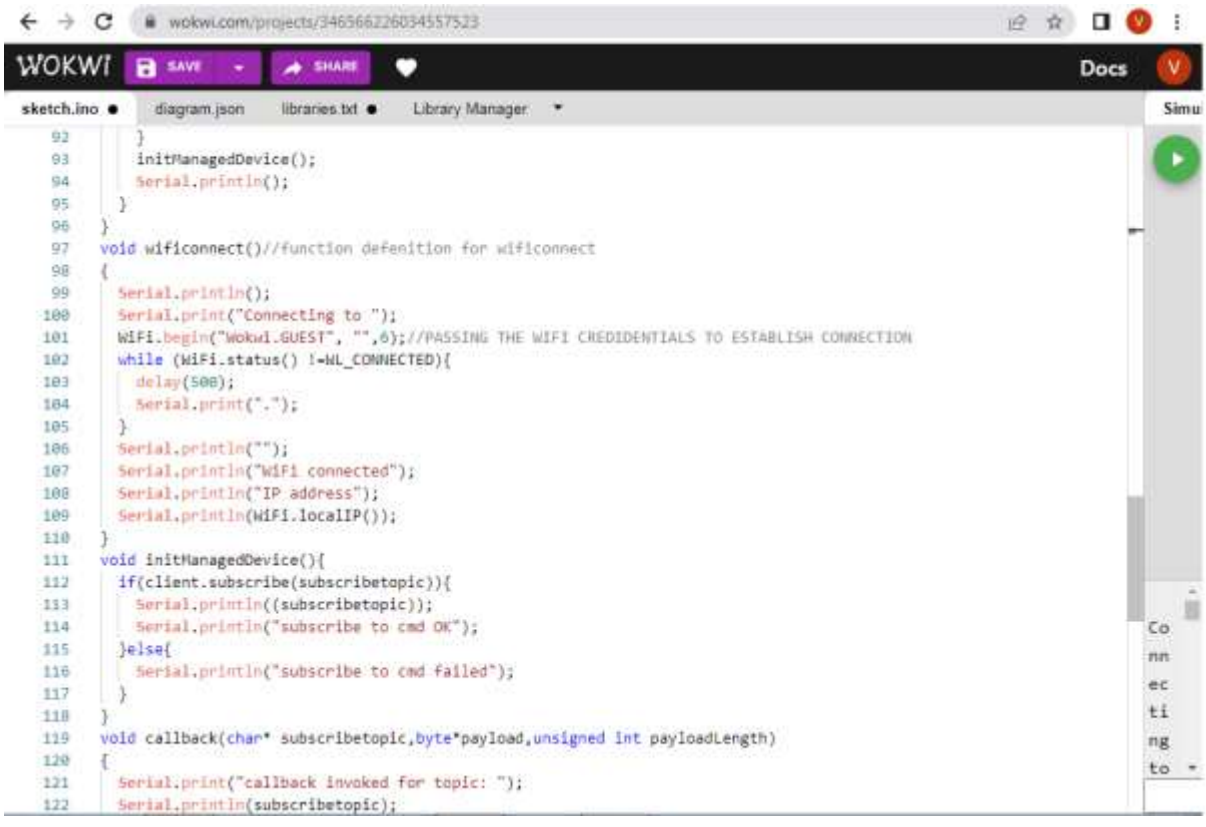
Question-1:

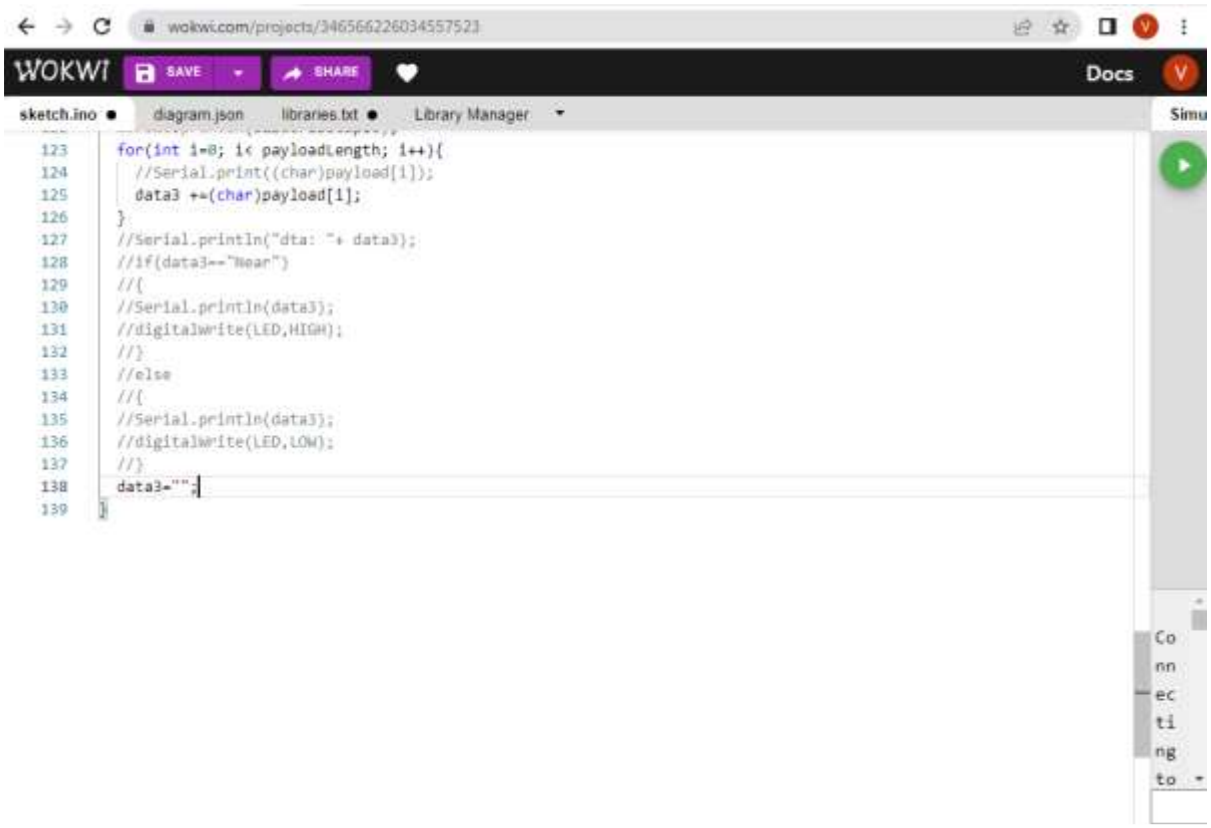
Write code and connections in wokwi for ultrasonic sensor.
Whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events.
Upload document with wokwi share link and images of ibm cloud.

Solution:



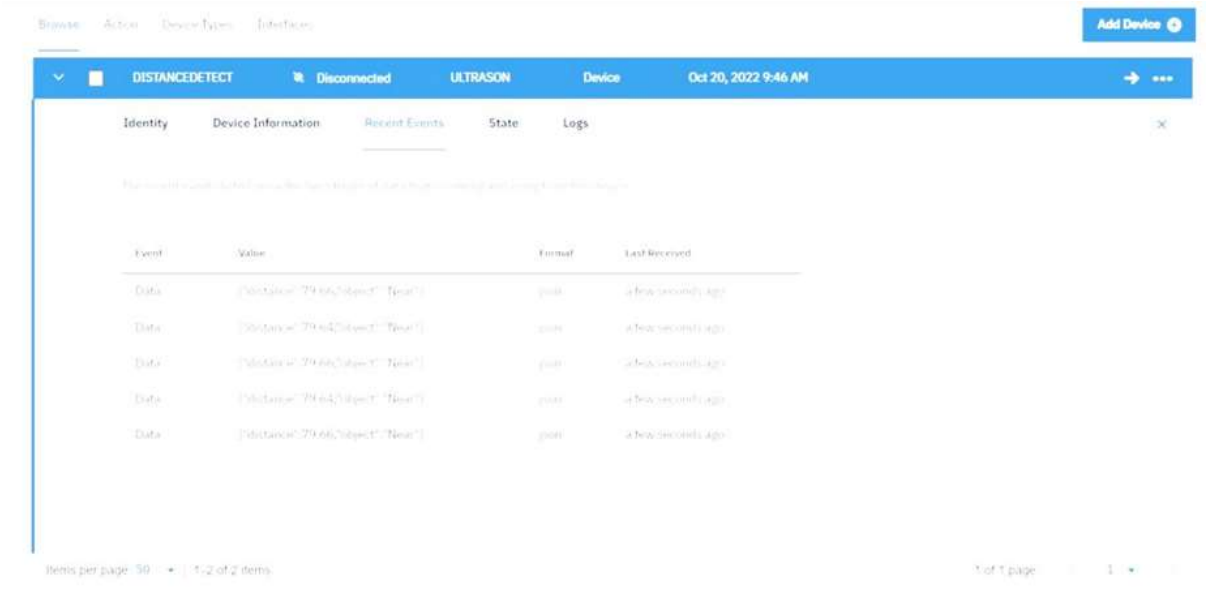

wokwi.com/projects/346566226034557523
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
Simu
Serial.println("no object is near");
object="Near";
}
else
{
digitalWrite(LED,LOW);
Serial.println("no object found");
object="No";
}
String payload="{\"distance\":";
payload +=dist;
payload +="," "\"object\":\"";
payload += object;
payload += "\"}";
Serial.print("Sending payload: ");
Serial.println(payload);
if(client.publish(publishtopic, (char*) payload.c_str())){
Serial.println("Publish ok");/* if its sucessfully upload data on the cloud then it will print
publish ok in serial monitor or else it will print publish failed*/
} else{
Serial.println("Publish failed");
}
}
void mqttconnect(){
if(!client.connected()){
Serial.print("Reconnecting client to ");
Serial.println(server);
while(!!!client.connect(clientid,authMethod, token)){
Serial.print(".");
delay(500);
Co
nn
ec
ti
ng
to


wokwi.com/projects/346566226034557523
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
Simu
}
initManagedDevice();
Serial.println();
}
}
void wificonnect()//function defenition for wificonnect
{
Serial.println();
Serial.print("Connecting to ");
WiFi.begin("Wokwi.GUEST", "",6);//PASSING THE WIFI CREDIDENTIALS TO ESTABLISH CONNECTION
while (WiFi.status() !=WL_CONNECTED){
delay(500);
Serial.print(".");
}
Serial.println("");
Serial.println("WiFi connected");
Serial.println("IP address");
Serial.println(WiFi.localIP());
}
void initManagedDevice(){
if(client.subscribe(subscribetopic)){
Serial.println((subscribetopic));
Serial.println("subscribe to cmd OK");
}else{
Serial.println("subscribe to cmd failed");
}
}
void callback(char* subscribetopic,byte*payload,unsigned int payloadLength)
{
Serial.print("callback invoked for topic: ");
Serial.println(subscribetopic);
Co
nn
ec
ti
ng
to

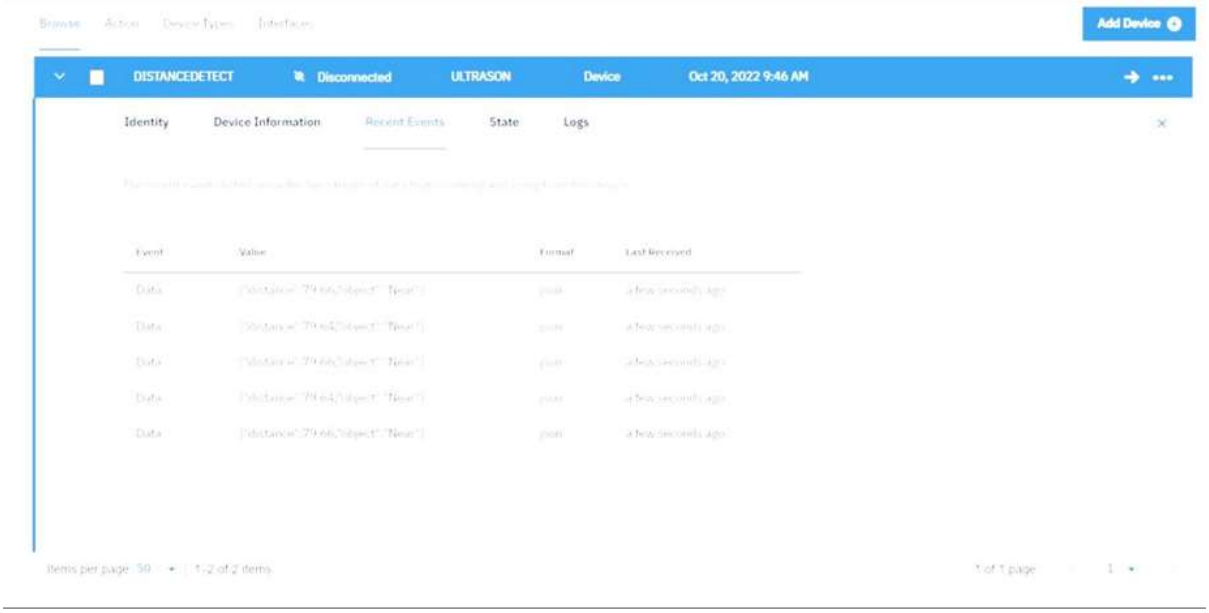


OUTPUT:

DATA IS SENT TO IBM CLOUD WHEN NO OBJECT IS DETECTED



When no object is detected



When object is detected in ultrasonic detector