ASSIGNMENT - 4

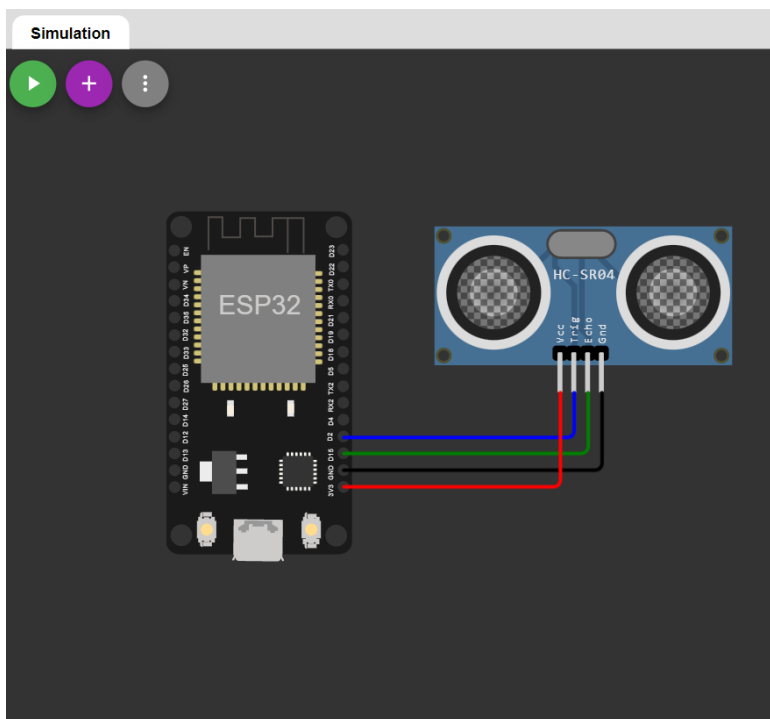| Date	28 September 2022
Team ID	PNT2022TMID04717
Project name	IoT based safety gadget for child safety monitoring & notification
Maximum Marks	2 marks

Question:

Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events.

Link: https://wokwi.com/projects/348637687173874258

Circuit Diagram:

```
1  #include <WiFi.h> //wifi library
2  #include <PubSubClient.h> //MQtt library
3  #define TRIG 2 // pin trigger
4  #define ECHO 15 // pin echo
5  void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
6  //<<<<<<<<-------------------IBM credentials------------------->>>>>>>
7
8  #define ORG "619i71"//IBM ORGANITION ID
9  #define DEVICE_TYPE "IoT"//Device type mentioned in ibm watson IOT Platform
10 #define DEVICE_ID "12344321"//Device ID mentioned in ibm watson IOT Platform
11 #define TOKEN "12345678"      //Token
12
13 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
14 char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform a
15 char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd  REPRESENT command type AND
16 char authMethod[] = "use-token-auth";// authentication method
17 char token[] = TOKEN;
18 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id
19
20 WiFiClient wifiClient; // creating the instance for wificlient
21 PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client
22
23 void setup() {
24   Serial.begin(115200);
25   Serial.println("Hello, ESP32!");
26   pinMode(TRIG, OUTPUT);
27   pinMode(ECHO, INPUT);
28   delay(10);
29   wificonnect();
30   mqttconnect();
31 }
```

Connecting to ...
WiFi connected
IP address:
10.10.0.2
Reconnecting client to 619i71.messaging.internetofthings.ibmcloud.com

OUTPUT:

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Recent Events

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
Data	{"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"MESSAGE":"ALERT"}	json	a few seconds ago