IBM Nalaiyathiran
Assignment-4

Aim:

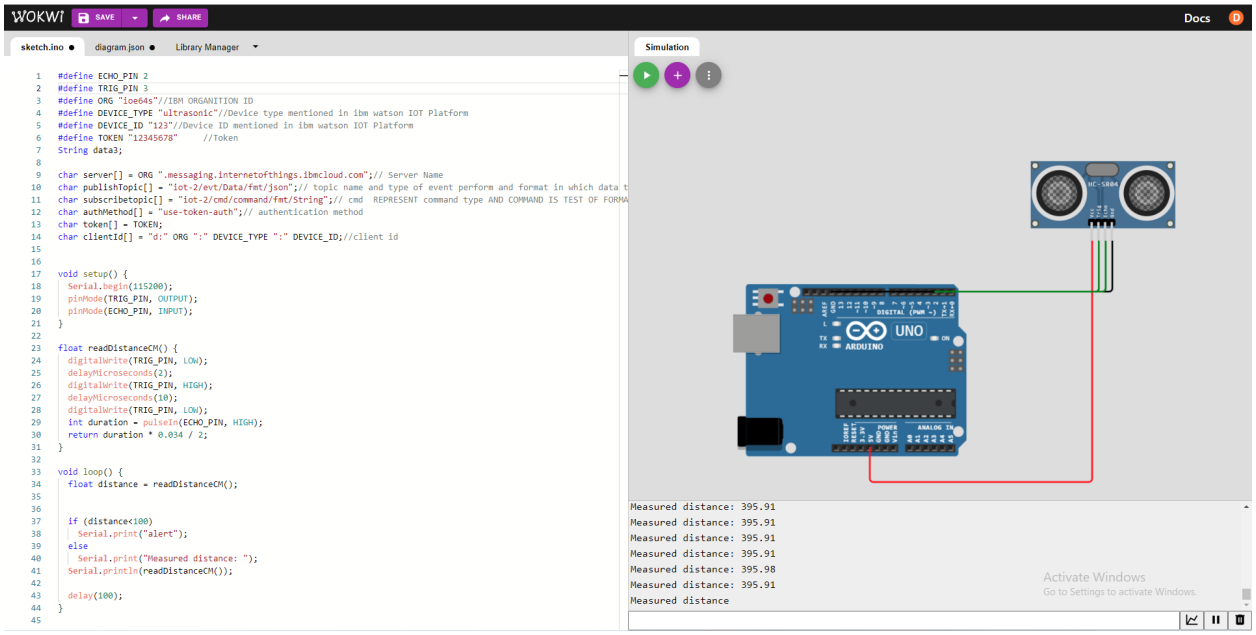
Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events.

Source code:

```
#define ECHO_PIN 2
#define TRIG_PIN 3



#define ORG "ioe64s"//IBM ORGANIZATION ID
#define DEVICE_TYPE "ultrasonic"//Device type mentioned in ibm
watson IOT Platform
#define DEVICE_ID "123"//Device ID mentioned in ibm watson IOT
Platform
#define TOKEN "12345678"     //Token
String data3;

char server[] = ORG ".messaging.internetofthings.ibmcloud.com";//
Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and
type of event perform and format in which data to be send
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd
REPRESENT command type AND COMMAND IS TEST OF FORMAT STRING
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client
id



void setup() {
  Serial.begin(115200);
  pinMode(TRIG_PIN, OUTPUT);
```

```
  pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
}

void loop() {
  float distance = readDistanceCM();


  if (distance<100)
    Serial.print("alert");
  else
    Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());

  delay(100);
}
```

Output:


WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
Simulation
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#define TRIG_PIN 3
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void loop() {
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Serial.print("alert");
else
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
delay(100);
}
HC-SR04
UNO
ARDUINO
Measured distance: 395.91
Measured distance: 395.91
Measured distance: 395.91
Measured distance: 395.91
Measured distance: 395.98
Measured distance: 395.91
Measured distance
Activate Windows
Go to Settings to activate Windows.