Assignment -4 ULTRASONIC SENSOR

Assignment Date	29 October 2022
Student Name	SATHISHKUMAR K
Student Roll Number	412519106136
Maximum Marks	2 Marks

QUESTION:

Write code and connections in wokwi for the ultrasonic sensor.

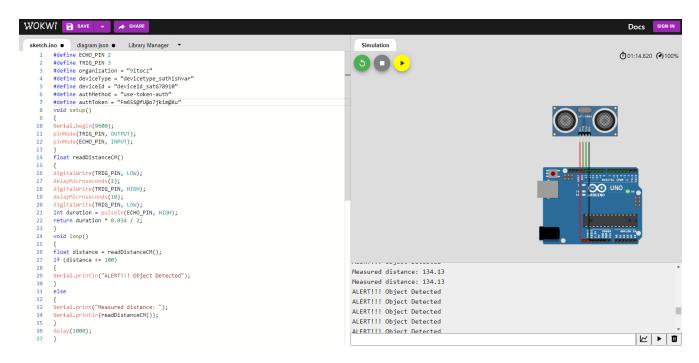
Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events.

Upload document with wokwi share link and images of IBM cloud

SOLUTION:

```
#define ECHO_PIN 2
#define TRIG PIN 3
#define organization = "9itocz"
#define deviceType = "devicetype_sathishvar"
#define deviceId = "deviceid_sat678910"
#define authMethod = "use-token-auth"
#define authToken = "Fm65S@fU@o7jkim@Xu"
void setup()
Serial.begin(9600);
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)</pre>
Serial.println("ALERT!!! Object Detected");
}
else
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
}
delay(1000);
```

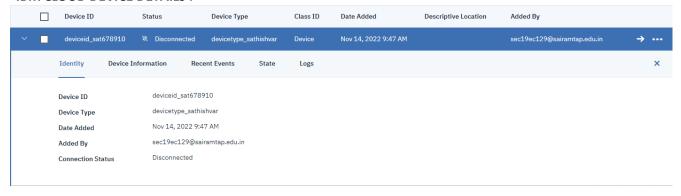
SIMULATION OUTPUT:



WOKWI SHARE LINK:

https://wokwi.com/projects/348276850068292179

IBM CLOUD DEVICE DETAILS:



IBM CLOUD DEVICE RECENT EVENTS:

Identity	Device Information	Recent Events	State	Logs		
The recent events listed show the live stream of data that is coming and going from this device.						
Event	Value			Format	Last Received	
event_1	{"ALERT OBJECT DI	ETECTED ":93}		json	a few seconds ago	
event_1	{"ALERT OBJECT DI	ETECTED ":25}		json	a few seconds ago	
event_1	{"ALERT OBJECT DI	ETECTED ":68}		json	a few seconds ago	
event_1	{"ALERT OBJECT DI	ETECTED ":79}		json	a few seconds ago	
event_1	{"ALERT OBJECT DI	ETECTED ":82}		json	a few seconds ago	

LINE CHART OF IBM CLOUD DEVICE:

DISTANCE

