

ASSIGNMENT-4

1. CODE:

```
#define ECHO_PIN2
#define TRIG_PIN3
#define organization = "qaagjr"
#define deviceType = "abcd"
#define deviceId = "12"
#define authMethod = "token"
#define authToken = "12345678"

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)
{
    Serial.println("person detected");
}
else{
    Serial.print("Measured distance:");
    Serial.println(readDistanceCM());
}
delay(1000);
}
```

2. LINK:

<https://wokwi.com/projects/347023980601803348>

3. IBM CLOUD:

The screenshot shows the IBM Watson IoT Platform dashboard. The main view is the 'Recent Events' tab for a device named 'abcd'. It displays a table of events with columns: Event, Value, Format, and Last Received. The events are generated by a script that sends JSON payloads containing random numbers and distances.

Event	Value	Format	Last Received
eventadd	{"randomNumber":33,"distance":114}	json	a few seconds ago
eventadd	{"randomNumber":13,"distance":78}	json	a few seconds ago
eventadd	{"randomNumber":69,"distance":123}	json	a few seconds ago
eventadd	{"randomNumber":82,"distance":108}	json	a few seconds ago
eventadd	{"randomNumber":92,"distance":65}	json	a few seconds ago

Below the table, it indicates 'Items per page 50' and '1-1 of 1 item'.

On the right, a configuration modal for 'Device Type: abcd' is open. It shows the 'Events' tab with a single event type named 'eventadd'. The schedule is set to 'Every Minute' with a delay of '10' seconds. The payload is a JSON object with two fields: 'randomNumber' (random(0, 100)) and 'distance' (random(50, 150)).

The screenshot shows the IBM Watson IoT Platform dashboard for a device named 'Ultrasonicsensor'. The main view displays two charts: a 'Line chart' showing 'distance' and 'randomNumber' over time, and a 'Donut chart' showing the total distance traveled (126 km/h). The line chart shows a fluctuating line for 'distance' and a lower line for 'randomNumber'. The donut chart shows a total distance of 126 km/h, with a legend indicating 'distance' (85.0 km/h) and 'randomNumber' (41.0 km/h).

On the right, a configuration modal for 'Device Type: abcd' is open, showing the same event configuration as in the first screenshot.

4. WOOLKI:

WOKWI

SAVE SHARE

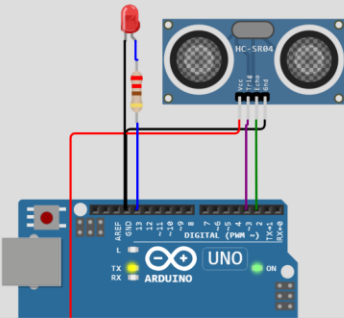
Docs SIGN UP

hc-sr04.ino

```
1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3 #define organization = "gaagjr"
4 #define deviceType = "abcd"
5 #define deviceId = "12"
6 #define authMethod = "token"
7 #define authToken = "12345678"
8
9 void setup(){
10   Serial.begin(9600);
11   pinMode(TRIG_PIN,OUTPUT);
12   pinMode(ECHO_PIN,INPUT);
13 }
14
15 float readDistanceCM(){
16   digitalWrite(TRIG_PIN,LOW);
17   delayMicroseconds(2);
18   digitalWrite(TRIG_PIN,HIGH);
19   delayMicroseconds(10);
20   digitalWrite(TRIG_PIN,LOW);
21   int duration=pulseIn(ECHO_PIN,HIGH);
22   return duration*0.034/2;
23 }
24 void loop(){
25   float distance=readDistanceCM();
26
27   if(distance<=100)
28   {
29     Serial.println("person detected");
30   }
31   else{
32     Serial.print("Measured distance:");
33     Serial.println(readDistanceCM());
34   }
35 }
```

Simulation

00:05.133 100%



Measured distance:177.65
Measured distance:177.67
Measured distance:177.67
Measured distance:177.67
Measured distance:177.57
Measured d

31°C Haze

14:30 31-10-2022