

#### Assignment -4

Assignment Date	30 OCTOBER 2022
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Student Roll Number	913119106032
Maximum Marks	2 Marks

**PROBLEM STATEMENT:** IOT BASED Signs With Smart Connectivity For Better Road Safety

**QUESTION:** Write code and connection in wokwi for ultrasonic sensor. Whenever distance is less than 100cm and send "alert" to ibm cloud and display in device recent events.

WOKWI LINK:

<https://wokwi.com/projects/347620137102213714>



The screenshot shows a development environment with a code editor on the left and a terminal on the right. The code is for an Arduino Uno connected to an Ultrasonic sensor (HC-SR04) and an I2C module (PCA9685). The code defines pins, variables, and functions for sensor reading and I2C communication. The terminal shows the output of the program, displaying distance measurements in cm.

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4 J+ IBMWfifOnloPlatform
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6 WOKWI
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8 ske, ch.lno dllgram json lllory Manager
9
10 const int TRIG_PIN = 7;
11 const int ECHO_Prn = a;
12
13 // Anything over 409 cm (5809 us pulse) is 'out of range'
14 const unsigned int MAX_OJST = 5809;
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16 void setup() {
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18     pinMode(TRIG_PIN, OUTPUT);
19     digitalWrite(TRIG_PU1, LOW);
20     pinMode(ECHO_Prn, INPUT);
21     Serial.begin(9600);
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sketch.ino diagram.json library.Manager

Simulation

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const int TRIG_PIN = 7;
const int EOO_PIN = 8;

// Anything over 400 cm (5800 us pulse) is "out of range"
const unsigned int KAX_OIST = 5800;

void setup() {

    pinMode(TRIG_Pnn, OUTPUT);
    digitalWrite(TTUG_PJN, LI);
    pi <> (EOO)_PJN, INPUT),
    serial.begin(9600);

}

#define OILG "bb2bpw"
#define OEVICE_TYPE "ultrasonic"
#define OEVICE_IO "123"
#define I[INEN "12345678"

char server[] = OILG ".messaging.internetofthings.ibmcloud.cce";
char publicip[] = "iot-2/cvt/strust/hit/json";
char publicip2[] = "iot-2/cmd/testIf*tfstring";
char authMethod[] = "use-tokeo-ectn";
char token[] = I[INEN;
char clientId[] _ "d:" ORG -r- OEVICE_TYPE -. OEVICE_IO;

volatile : :)long tl;

unsigned long t2;
unsigned long pulse_width;
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Alert  
Alert  
76.07 cm

IBM CLOUD:

