

Assignment 4

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.

```
const int pingPin = 7; // Trigger Pin of Ultrasonic Sensor

const int echoPin = 6; // Echo Pin of Ultrasonic Sensor

void setup() {
    Serial.begin(9600); // Starting Serial Terminal
}

void loop() {
    long duration, inches, cm;
    pinMode(pingPin, OUTPUT);
    digitalWrite(pingPin, LOW);
    delayMicroseconds(2);
    digitalWrite(pingPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(pingPin, LOW);
    pinMode(echoPin, INPUT);
    duration = pulseIn(echoPin, HIGH);
    inches = microsecondsToInches(duration);
```

```
    cm = microsecondsToCentimeters(duration);  
    Serial.print(inches);  
    Serial.print("in, ");  
    Serial.print(cm);  
    Serial.print("cm");  
    Serial.println();  
    delay(100);  
}  
  
long microsecondsToInches(long microseconds) {  
    return microseconds / 74 / 2;  
}  
  
long microsecondsToCentimeters(long microseconds) {  
    return microseconds / 29 / 2;
```