ASSIGNMENT -4

**WRITE A CODE AND CONNECTION IN WOWKI FOR ULTASONIC SENSOR.WHENEVER DISTANCE IS LESS THAN 100 CMS SEND “ALERT” TO IBM CLOUD AND DISPLAY IN DEVICE RECENT EVENTS**

**CODE**

// Pins

const int TRIG\_PIN = 7;

const int ECHO\_PIN = 8;

// Anything over 400 cm (23200 us pulse) is "out of range"

const unsigned int MAX\_DIST = 23200;

void setup() {

// The Trigger pin will tell the sensor to range find

pinMode(TRIG\_PIN, OUTPUT);

digitalWrite(TRIG\_PIN, LOW);

//Set Echo pin as input to measure the duration of

//pulses coming back from the distance sensor

pinMode(ECHO\_PIN, INPUT);

// We'll use the serial monitor to view the sensor output

Serial.begin(9600);

}

void loop() {

unsigned long tl;

unsigned long t2;

unsigned long pulse\_width;

float cm;

float inches;

// Hold the trigger pin high for at least 10 us

digitalWrite(TRIG\_PIN, HIGH);

delayMicroseconds(10);

digitalWrite(TRIG\_PIN, LOW);

// Wait for pulse on echo pin

while (digitalRead(ECHO\_PIN) == 0);

// Measure how long the echo pin was held high (pulse width)

// Note: the micros() counter will overflow after ~70 min

tl = micros();

while (digitalRead(ECHO\_PIN) == 1);

t2 = micros();

pulse\_width = t2- tl;

// Calculate distance in centimeters and inches. The constants

// are found in the datasheet, and calculated from the assumed speed

//of sound in air at sea level (~340 m/s).

cm = pulse\_width/58.0;

inches = pulse\_width/148.0;

// Print out results

if (pulse\_width > MAX\_DIST) { Serial.println("Out of range");

} else {

Serial.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*”);

Serial.print("The Measured Distance in cm: ");

Serial.println(cm);

if(cm<100){

// while(true)

{

Serial.println("Alert!!");

// }

}

Serial.print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

}

// Wait at least 1000ms before next measurement

delay(1000);

}



