**ASSIGNMENT- IV**

**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.**

**CODE:**

const int TRIG\_PIN = 7;

const int ECHO\_PIN = 8;

const unsigned int MAX\_DIST = 23200;

void setup() {

  pinMode(TRIG\_PIN, OUTPUT);

  digitalWrite(TRIG\_PIN, LOW);

  pinMode(ECHO\_PIN, INPUT);

**Serial**.begin(9600);

}

void loop() {

  unsigned long t1;

  unsigned long t2;

  unsigned long pulse\_width;

  float cm;

  float inches;

digitalWrite(TRIG\_PIN, HIGH);

  delayMicroseconds(10);

  digitalWrite(TRIG\_PIN, LOW);

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

  t1 = micros();

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

  t2 = micros();

  pulse\_width = t2 - t1;

  cm = pulse\_width / 58.0;

  inches = pulse\_width / 148.0;

  if ( pulse\_width > MAX\_DIST ) {

**Serial**.println("Out of range");

  } else {

**Serial**.print(cm);

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

**Serial**.print(inches);

**Serial**.println(" in");

  }

  delay(60);

}

**OUTPUT:**

