**Assignment–4**

**Write code and connections in wokwi for ultra sonic sensor.When ever distance is less than 100 cm send “alert” to ibm cloud and display in device recent event**

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| DATE | 11 NOV 2022 |
| TEAM ID | PNT2022TMID02471 |
| PROJECT NAME | SMART CROP PROTECTION |
| MAXIMUM MARKS | 2 MARKS |

**PROGRAM:**

//ARDUINOPINS(TRIGGERPIN,ECHO PIN)const int

TRIG\_PIN=7;constintECHO\_PIN=8;

//Anythingover400cm(23200uspulse)is"outofrange"constunsignedintmax

\_ dist=23200; voidsetup() {

//TheTriggerpinwilltellthesensortorangefindpinMode(TRIG\_PIN,OUTPU

T) ; digitalWrite(TRIG\_PIN,LOW);

//SetEchopinasinputto measure the time durationofpulsereturning backfrom thedistancesensorpinMode(ECHO\_PIN,INPUT);

//We'llusethe serialmonitortoviewthesensoroutput Serial.begin(9600);

} voidloop()

{

unsigned long t1;unsignedlong t2; unsigned longpulse\_width; float

cm;floatinches;

//Holdthetriggerpinhighforatleast10us digitalWrite(TRIG\_PIN, HIGH); delayMicroseconds(10); digitalWrite(TRIG\_PIN,LOW);

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

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

//Note: themicros()counterwilloverflowafter ~70 mint1 = micros();while(digitalRead(ECHO\_PIN)== 1);t2=micros(); pulse\_width=t2-t1;

// Calculate distance in centimeters and inches. The constants

//arefoundinthe datasheet,andcalculatedfromtheassumedspeed

//ofsoundinairatsealevel(~340m/s).cm=pulse\_widt h/58.0; inches=pulse\_width/148.0;

//Printoutresults if(pulse\_width >max\_dist ){ Serial.println("Outofrange");

} else {

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

Serial.print("Distance Measuredincm:");

Serial.println(cm); if(cm <100)

{ //while(true){ Serial.println("Alert!!"); //} }

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

// Wait at least1000ms before next measurement delay(1000); }

**OUTPUT:**



