Assignment 4
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Railways1.WriteCodeandconnectionsinwokwiforultrasonicsensor.whateverdistance is less than 100 cms send “Alert” to ibm cloud and display indevicerecentevents.

Code

```
//putyoursetupcodehere,torunonce:
constintTRIG_PIN=7;constint
ECHO_PIN=8;

//Anythingover400cm(23200uspulse)is"outofrange"constunsignedint
MAX_DIST=23200;

voidsetup(){

//TheTriggerpinwilltellthesensortorangefindpinMode(ECHO_PIN,
OUTPUT);
digitalWrite(TRIG_PIN,LOW);

//SetEchopinasinputtomeasurethedurationof//pulsescomingbackfromthedistancesensor
pinMode(ECHO_PIN,INPUT);

//We'llusetheserialmonitortoviewthesensoroutput
Serial.begin(9600);
}
void loop()
   {unsignedlongt1;unsi
   gnedlongt2;
      unsigned long
         pulse_width;floatcm;
            floatinches;
//Holdthetriggerpinhighforatleast10usdigitalWrite(TRIG_PI
N, HIGH);delayMicroseconds(10);
digitalWrite(TRIG_PIN,LOW);

//Waitforpulseonechopin
while(digitalRead(ECHO_PIN)==0);

//Measurehowlongtheechopinwasheldhigh(pulsewidth)//Note:themicros()counterwilloverflo
wafter-70min
t1=micros();
```

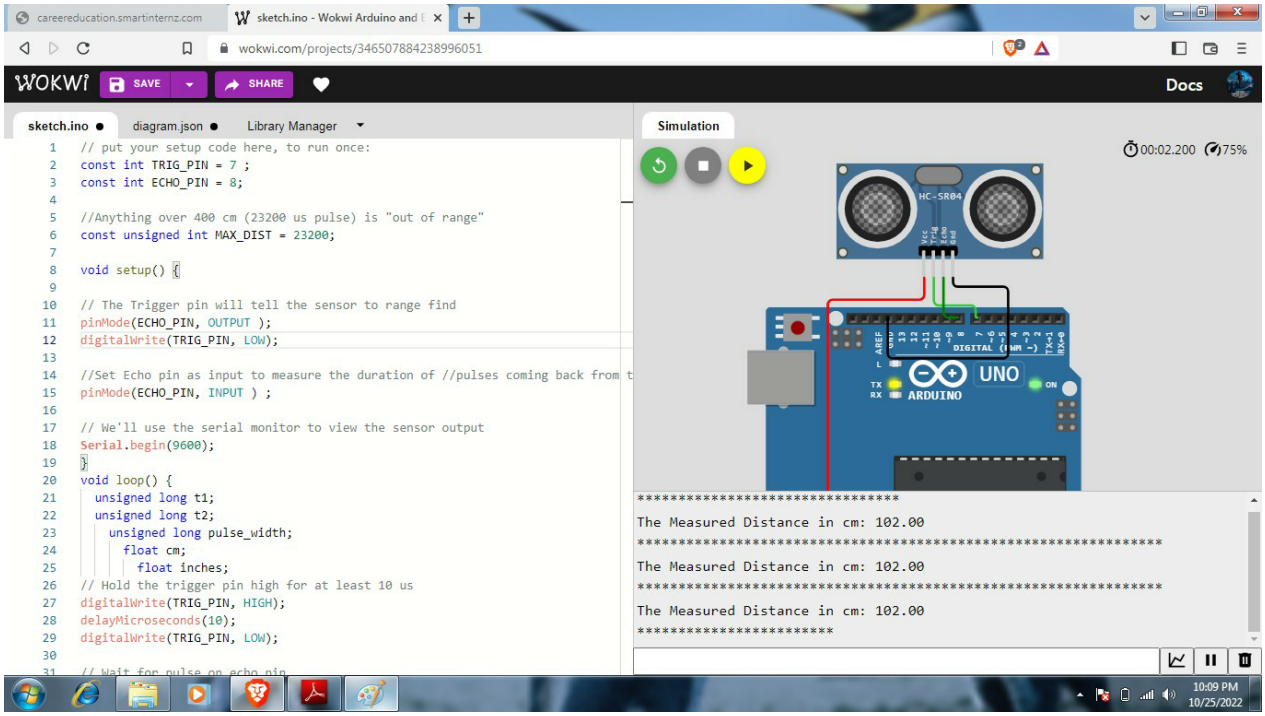
```
    while(digitalRead(ECHO_PIN)==1);t2=micro
    s();
        pulse_width=t2-t1;

//Calculatedistanceincentimetersandinches.Theconstants
//arefoundinthedatasheet,andcalculatedfromtheassumedspeed
//ofsoundinairatsealevel(-
340m/s)cm=pulse_width/58;
inches=pulse_width/148.0;

//Printoutresults
if(pulse_width>MAX_DIST){
    Serial.println("Outofrange");
}
else{
    Serial.println("**********");Serial.print("The
    Measured Distance in cm: ");Serial.println(cm);
    if(cm<100){
        Serial.println("ALERT!!");
    }
    Serial.print("**********");
}

//waitatleast1000msbeforenextmeasurementdelay(1000)
;
}
```

Ifdistanceisgreaterthan100,itwill notalert.



Ifdistanceislessthan100,itwillalert.