

## IBM ASSIGNMENT- 4 TEAM

ID : PPNT2022TMID26592

NAME : A.SUMITHRA

ROLL NO: 212919104051

**Write Code and connections in wokwi for ultrasonic sensor. whatever distance is less than 100 cms send "Alert" to ibm cloud aand display in device recent events.**

**Solution:** //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

Pin Mode(TRIG\_PIN, OUTPUT); digital

Write(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 t1; 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  t1=
micros ();
    while (digitalRead(ECHO_PIN) == 1);
t2= micros ();  pulse_width = t2-t1;

// 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 (~ 340m/s)

```

```

cm=pulse_Width / 58 ; 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);

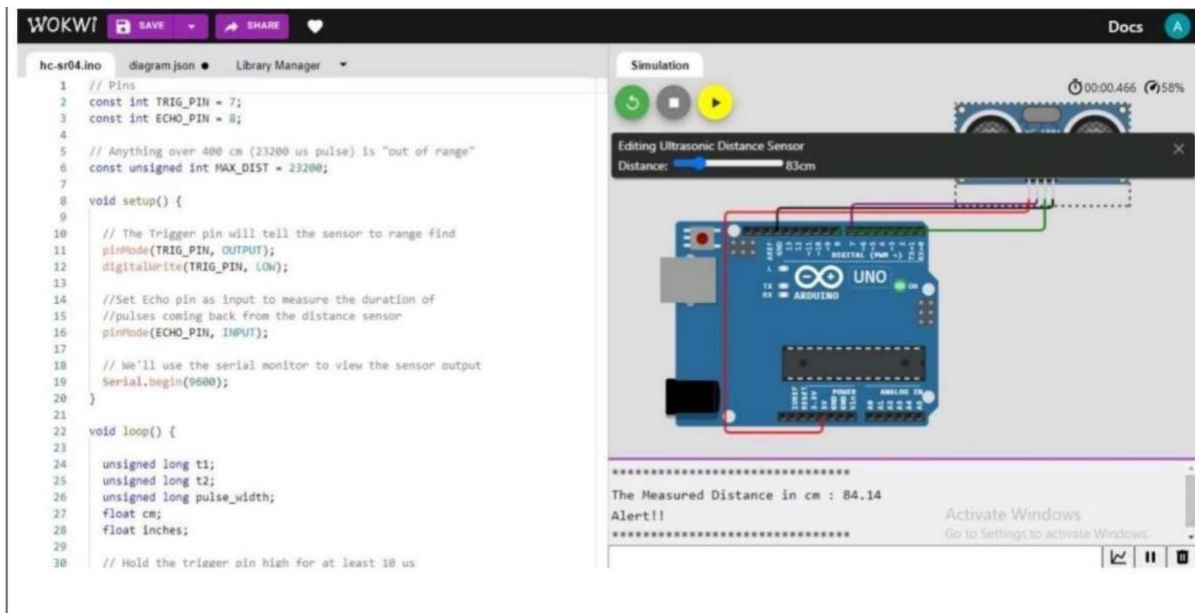
  if( cm < 100 ){
    //while(true){
      Serial.println("Alert!!");
    //}
  }
  Serial.print("*****");
}

//wait at least 1000ms before next measurement
Delay(1000);
}

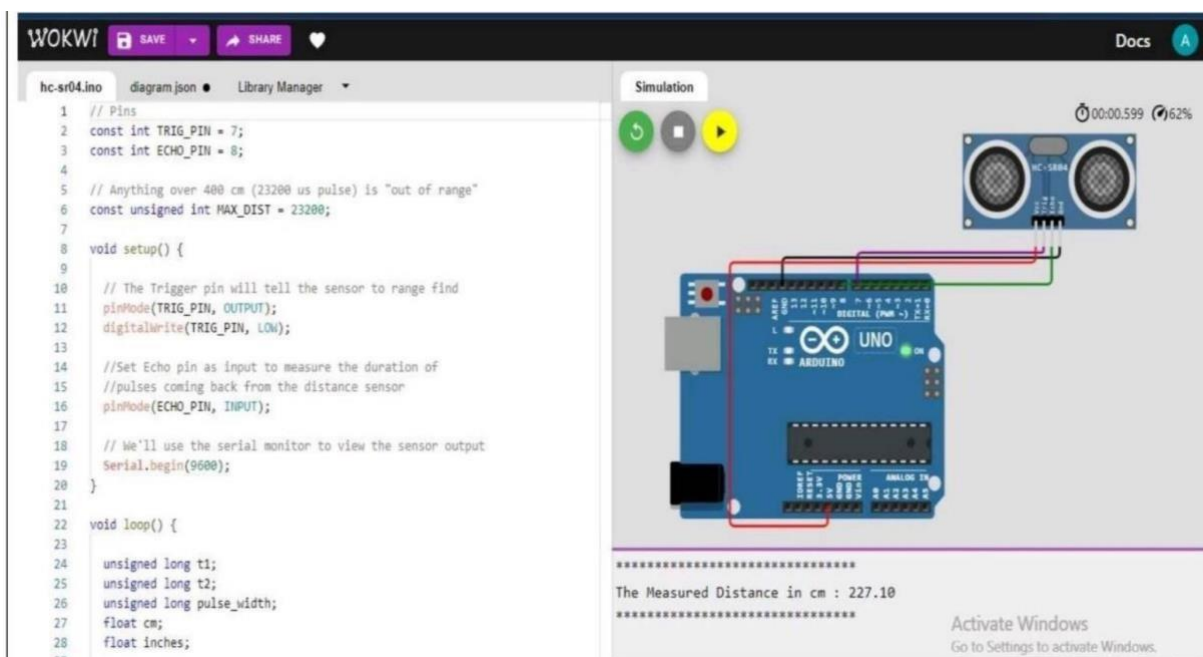
```

## Output:

1.If the distance is less than 100 cms ,it alerts.



2.If the distance is more than 100 cms,it won't alert



3.Simulation and code execution

