TEAM ID : PNT2022TMID14142

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
```

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```
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);
}
```

OUTPUT:

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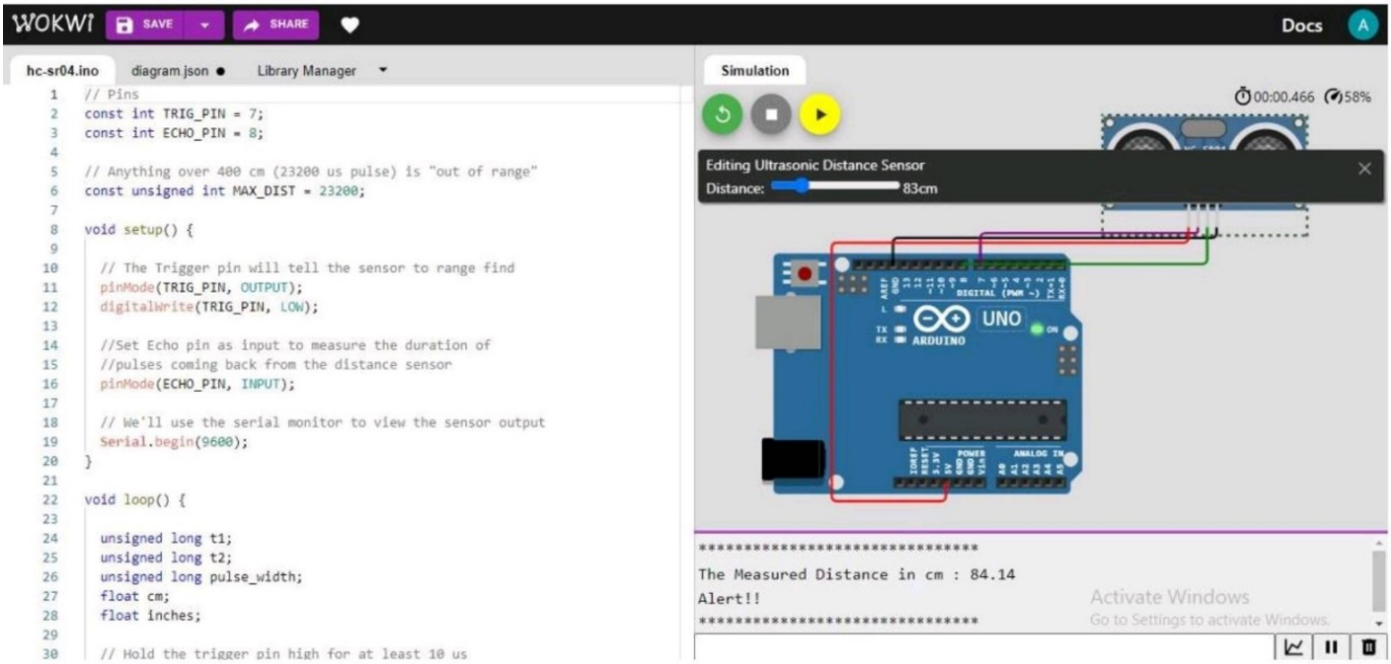
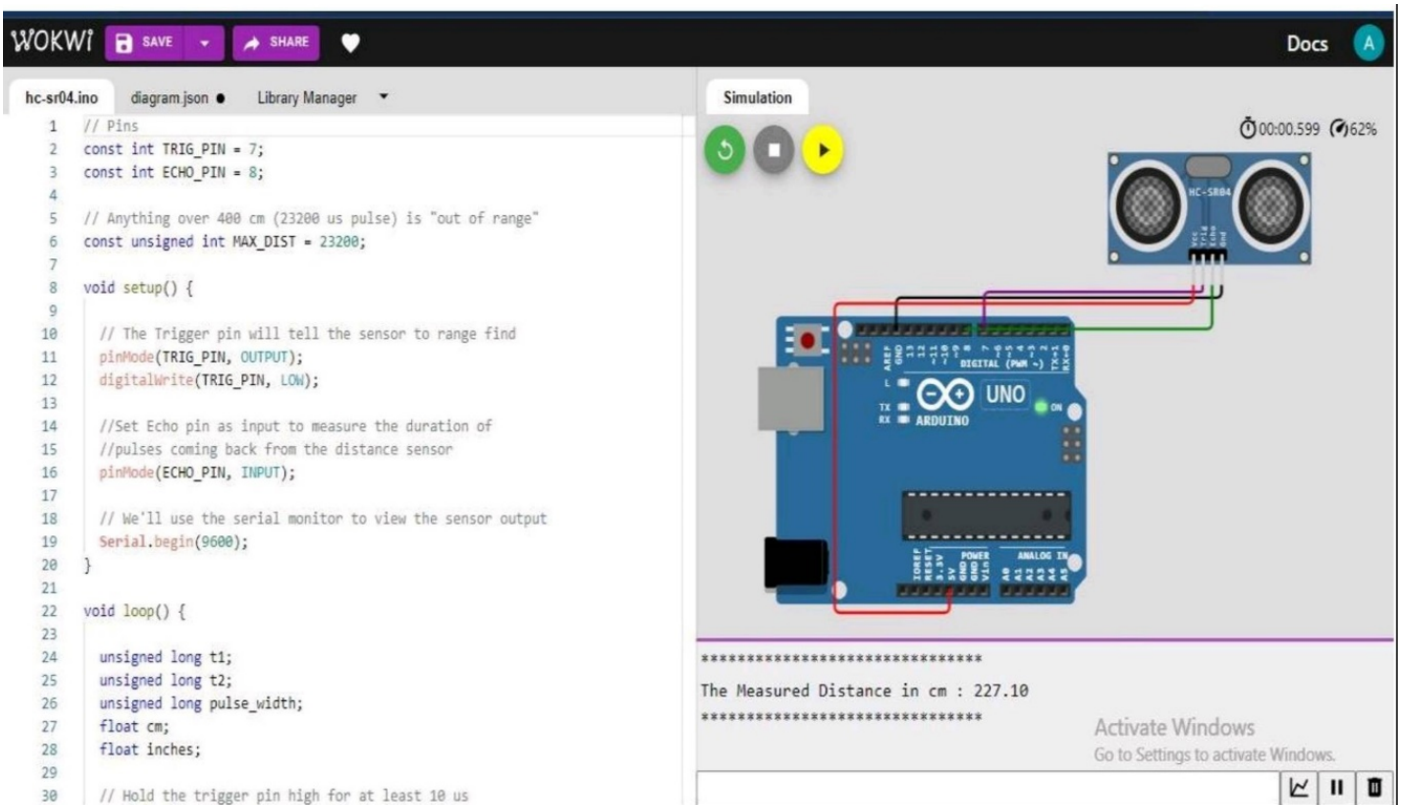
1.if the distance is less than 100 cms ,it alerts.



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



3.Simulation and code execution

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