

ASSIGNMENT-4

Code and connections using wokwi

Assignment Date	25 th October 2022
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Maximum Marks	4 Marks

Question:

Write code and connections in Wokwi for ultrasonic sensor whenever distance is less than 100m send alert message.

Solution:**Code:**

```

#define ECHO_PIN 2
#define TRIG_PIN 3

void setup() {
    Serial.begin(115200);
    pinMode(LED_BUILTIN, OUTPUT);
    pinMode(TRIG_PIN, OUTPUT);
    pinMode(ECHO_PIN, INPUT);
} float readDistanceCM() {
    digitalWrite(TRIG_PIN, LOW);
    delayMicroseconds(2);
    digitalWrite(TRIG_PIN, HIGH);
    delayMicroseconds(10);
    digitalWrite(TRIG_PIN, LOW);
    int duration = pulseIn(ECHO_PIN, HIGH);
    return duration * 0.034 / 2;
}

void loop() { float distance =
readDistanceCM();

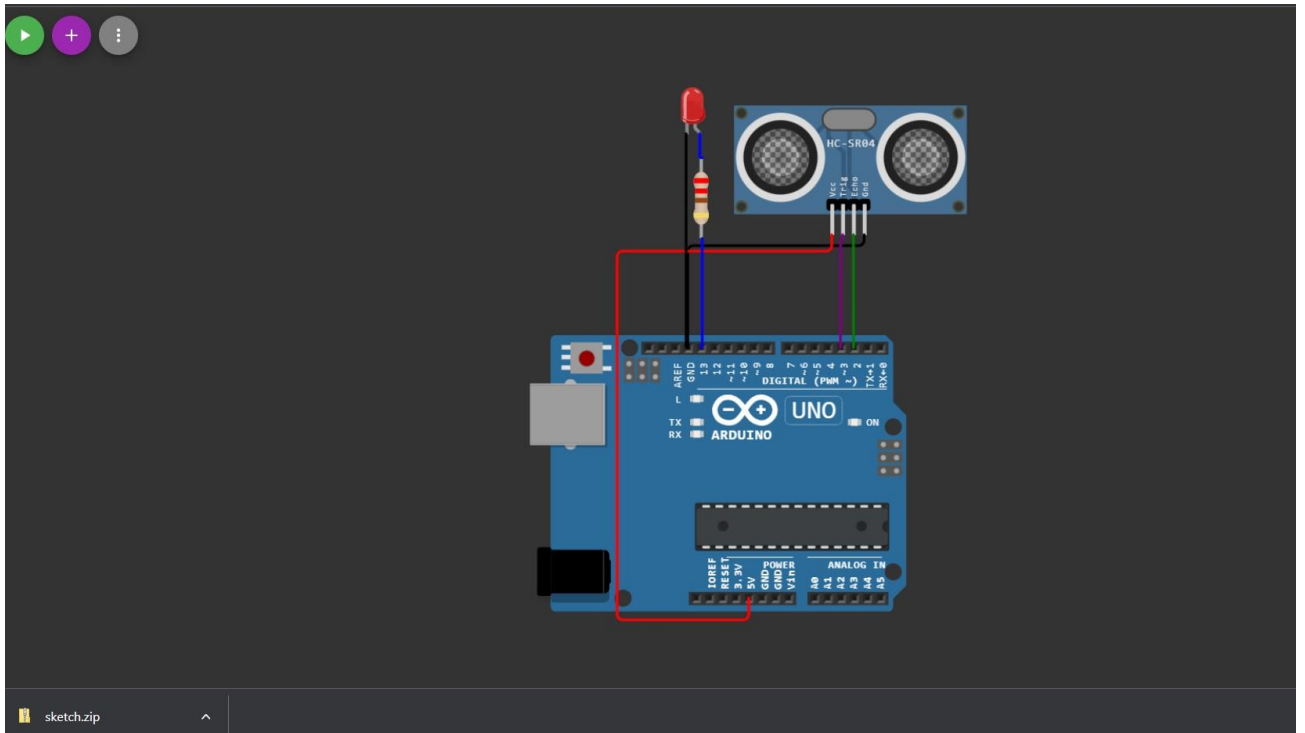
    bool isNearby = distance < 100;
    digitalWrite(LED_BUILTIN, isNearby);
    Serial.print("Measured distance: ");

    Serial.println(readDistanceCM());

    delay(100);
}

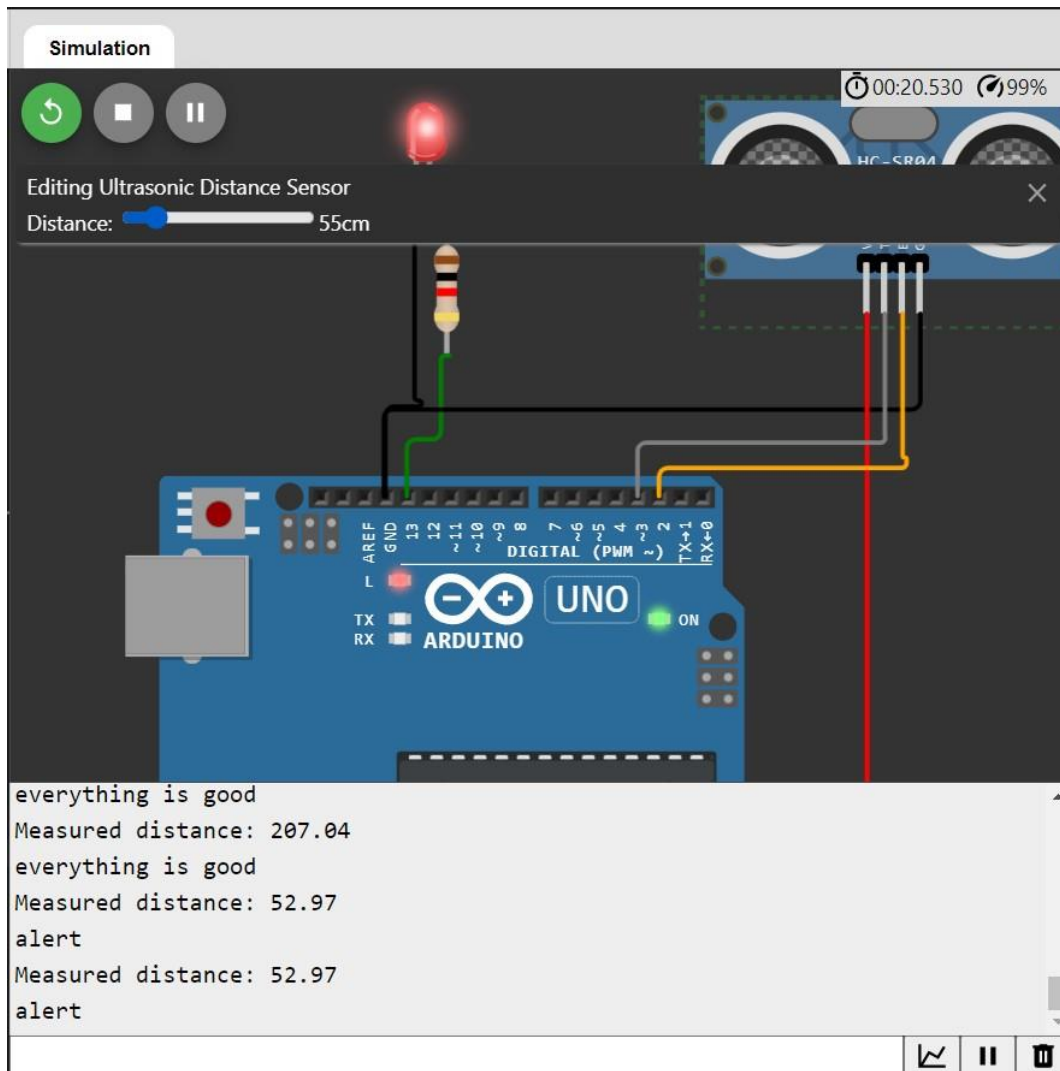
```

Circuit connections:



Case (i):

When distance is less than 100m sends “alert” message.



Case (ii):

When distance is greater than 100m sends "everything is good" message.

Simulation

00:08.766 100%

Editing Ultrasonic Distance Sensor

Distance: 176cm

everything is good
Measured distance: 137.46
everything is good
Measured distance: 173.25
everything is good
Measured distance: 173.26
everything is good