

W hc-sr04.ino - Wokwi Arduino and x

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hc-sr04.ino  
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hc-sr04.ino

diagram.json

Library Manager

```
1  /*
2  HC-SR04 Ultrasonic Sensor Example.
3
4  Turn the LED on when an object is within 100cm range.
5
6  Copyright (C) 2021, Uri Shaked
7  */
8
9  #define ECHO_PIN 2
10 #define TRIG_PIN 3
11
12 void setup() {
13   Serial.begin(115200);
14   pinMode(LED_BUILTIN, OUTPUT);
15   pinMode(TRIG_PIN, OUTPUT);
16   pinMode(ECHO_PIN, INPUT);
17 }
18
19 float readDistanceCM() {
20   digitalWrite(TRIG_PIN, LOW);
21   delayMicroseconds(2);
22   digitalWrite(TRIG_PIN, HIGH);
23   delayMicroseconds(10);
24   digitalWrite(TRIG_PIN, LOW);
25   int duration = pulseIn(ECHO_PIN, HIGH);
26   return duration * 0.034 / 2;
27 }
28
29 void loop() {
30   float distance = readDistanceCM();
31 }
```

Simulation

▶

+

⋮

Measured distance: 177.16  
Measured distance: 177.26  
Measured distance: 177.16  
Measured distance: 177.26  
Measured distance: 177.24  
Measured distance: 177.26  
Measured distance: 177.24

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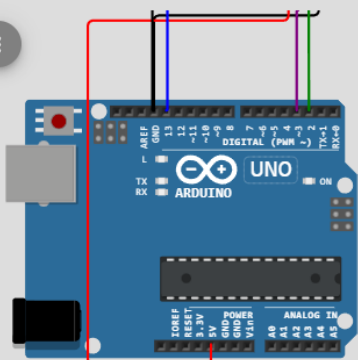
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24   digitalWrite(TRIG_PIN, LOW);
25   int duration = pulseIn(ECHO_PIN, HIGH);
26   return duration * 0.034 / 2;
27 }
28
29 void loop() {
30   float distance = readDistanceCM();
31
32   bool isNearby = distance < 100;
33   digitalWrite(LED_BUILTIN, isNearby);
34
35   Serial.print("Measured distance: ");
36   Serial.println(readDistanceCM());
37
38   delay(100);
39 }
40
```

Simulation



Measured distance: 177.16  
Measured distance: 177.26  
Measured distance: 177.16  
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Measured distance: 177.24