

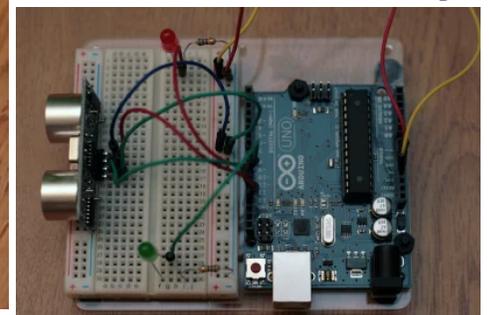
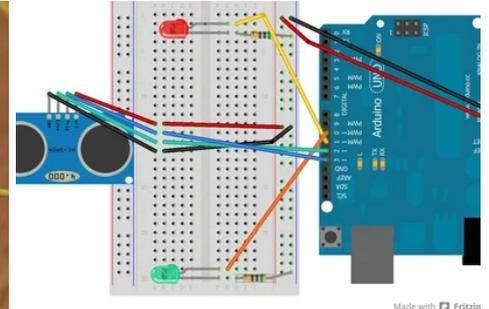
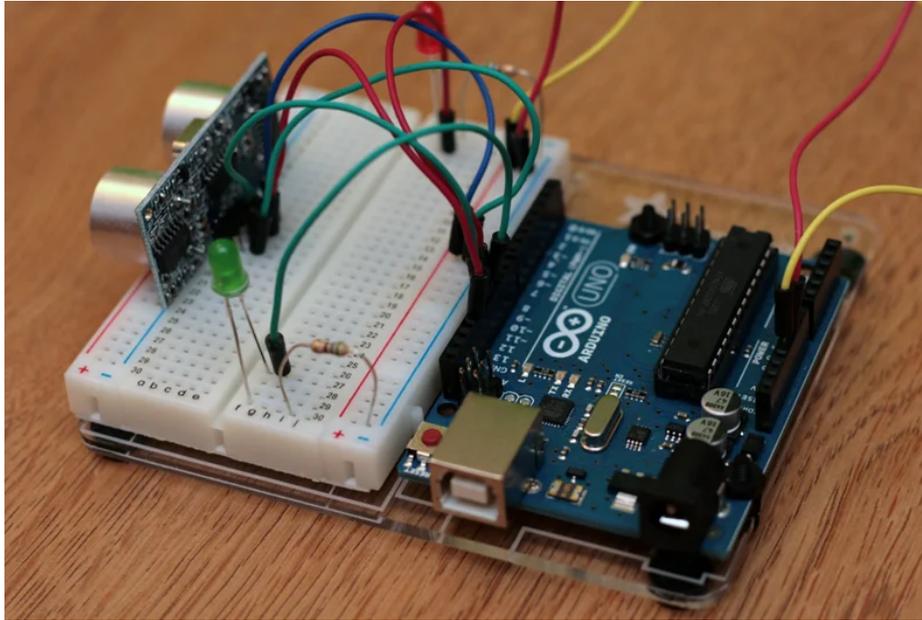
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Instructables

## Simple Arduino and HC-SR04 Example

By [jsvester](#) in [CircuitsArduino](#)



### Introduction: Simple Arduino and HC-SR04 Example



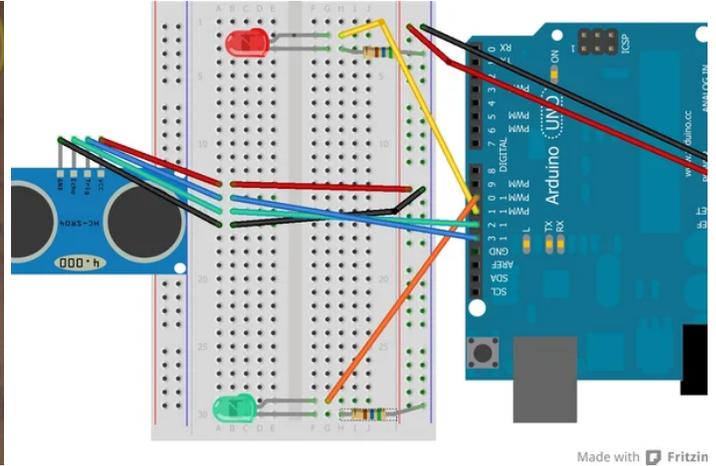
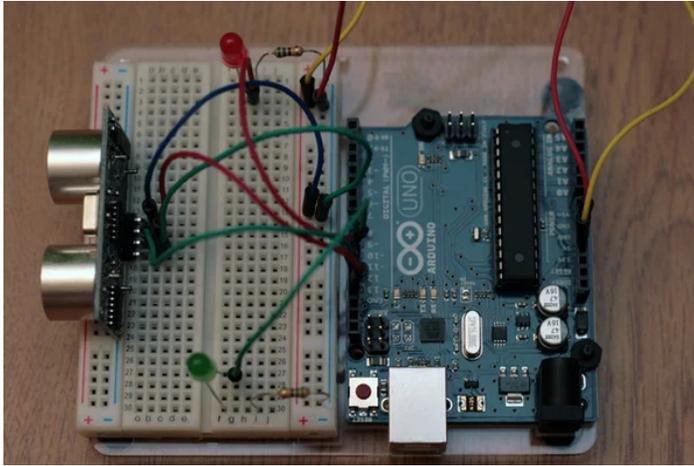
After buying a HC-SR04 from Amazon, I could not get it to work out of the box. Not wanting to concede I had a DOA sensor on my hands, I searched for a simple example setup. After spending far too long on this than I felt I needed to, I decided to make this instructable to help other emerging tinkerers get their project off the ground.

I admit this example is more than bare-bones in that it has LEDs, but this lets me test it without needing a PC to show distance and check the accuracy of the sensor.

### Step 1: Parts List

- Arduino UNO R3 (I use the Adafruit mount)
- One (1) HC-SR04 Ultrasonic Sensor
- One (1) Red LED
- One (1) Green LED
- Two (2) 560 ohm (Green, Blue, Brown, Gold) Resistors
- Half Breadboard
- Eight (8) Male/Male hookup wires
- A ruler that measures centimeters (or use the serial monitor)

## Step 2: Connect the Components



Connect the components and wires as shown in the two pictures.

## Step 3: Upload the Sketch

Copy the sketch to your Arduino and watch the blinky lights.

```
/*  
HC-SR04 Ping distance sensor]  
VCC to arduino 5v GND to arduino GND  
Echo to Arduino pin 13 Trig to Arduino pin 12  
Red POS to Arduino pin 11  
Green POS to Arduino pin 10  
560 ohm resistor to both LED NEG and GRD power rail  
More info at: http://goo.gl/kJ8GI  
Original code improvements to the Ping sketch sourced from Trollmaker.com  
Some code and wiring inspired by http://en.wikiversity.org/wiki/User:Dstaub/robotcar  
*/  
  
#define trigPin 13  
#define echoPin 12  
#define led 11  

```

```
digitalWrite(trigPin, LOW); // Added this line
delayMicroseconds(2); // Added this line
digitalWrite(trigPin, HIGH);
// delayMicroseconds(1000); - Removed this line
delayMicroseconds(10); // Added this line
digitalWrite(trigPin, LOW);
duration = pulseIn(echoPin, HIGH);
distance = (duration/2) / 29.1;
if (distance < 4) { // This is where the LED On/Off happens
  digitalWrite(led,HIGH); // When the Red condition is met, the Green LED should turn off
  digitalWrite(led2,LOW);
}
else {
  digitalWrite(led,LOW);
  digitalWrite(led2,HIGH);
}
if (distance >= 200 || distance <= 0){
  Serial.println("Out of range");
}
else {
  Serial.print(distance);
  Serial.println(" cm");
}
delay(500);
}
```