







Speed of sound:

$$v = 340 \text{ m/s}$$

$$v = 0,034 \text{ cm}/\mu\text{s}$$

Time = distance / speed:

$$t = s / v = 10 / 0,034 = 294 \mu\text{s}$$

Distance in cm:

$$s = t \cdot 0,034 / 2$$

```
Ultrasonic_sensor_HC-SR04_Tutorial | Arduino 1.6.5
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Ultrasonic_sensor_HC-SR04_Tutorial

const int trigPin = 9;
const int echoPin = 10;

long duration;
int distance;

void setup() {
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  Serial.begin(9600);
}

void loop() {
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);

  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
```



```
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Ultrasonic_sensor_HC-SR04_Tutorial

pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);
Serial.begin(9600);
}

void loop() {
    digitalWrite(trigPin, LOW);
    delayMicroseconds(2);

    digitalWrite(trigPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(trigPin, LOW);

    duration = pulseIn(echoPin, HIGH);
    distance= duration*0.034/2;

    Serial.print("Distance: ");
    Serial.println(distance);
}
```