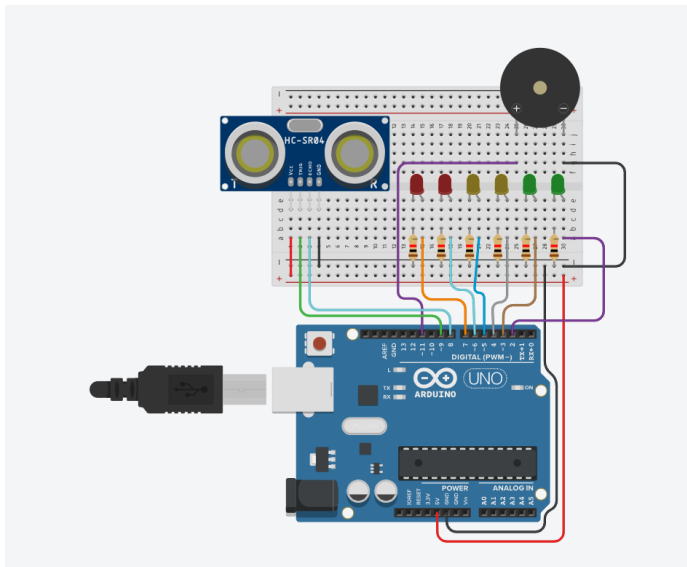
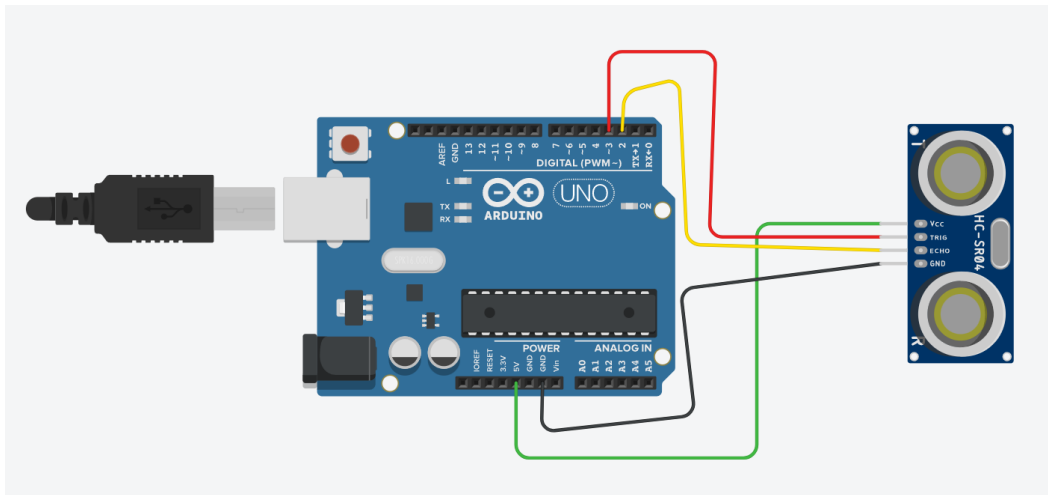


Atividade 4- Sensor de Ré



```
1 float time = 0;
2 float distancia = 0;
3
4 void setup () {
5   pinMode (9, OUTPUT) ;
6   pinMode (8, INPUT) ;
7   Serial.begin (9600);
8 }
9
10 void loop () {
11   digitalWrite(9, LOW);
12   delayMicroseconds(2);
13   digitalWrite (9, HIGH) ;
14   delayMicroseconds (10);
15   time = pulseIn (8, HIGH) ;
16   Serial.println ("Tempo: " + String (time/1000) + "ms") ;
17   // time = microssegundos
18   distancia = time/1000000 * 170 * 100;
19   Serial.println ("Distancia: " + String(distancia) + "cm") ;
20   delay (10);
21
22   if (distancia > 0 && distancia < 50){
23     digitalWrite(2, HIGH);
24     digitalWrite(3, LOW);
25     digitalWrite(4, LOW);
26     digitalWrite(5, LOW);
27     digitalWrite(6, LOW);
28     digitalWrite(7, LOW);
29     tone(11,500,10);
30     digitalWrite(11,LOW);
31   }
32   else if (distancia > 50 && distancia < 100){
33     digitalWrite(2, HIGH);
34     digitalWrite(3, HIGH);
35     digitalWrite(4, HIGH);
36     digitalWrite(5, LOW);
37     digitalWrite(6, LOW);
38     digitalWrite(7, LOW);
39     tone(11,500,70);
40     digitalWrite(11,LOW);
41   }
42   else if (distancia > 100 && distancia < 150){
43     digitalWrite(2, HIGH);
44     digitalWrite(3, HIGH);
45     digitalWrite(4, HIGH);
46     digitalWrite(5, LOW);
47     digitalWrite(6, LOW);
48     digitalWrite(7, LOW);
49     tone(11,500,150);
50     digitalWrite(11,LOW);
51   }
52   else if (distancia > 150 && distancia < 200){
53     digitalWrite(2, HIGH);
54     digitalWrite(3, HIGH);
55     digitalWrite(4, HIGH);
56     digitalWrite(5, HIGH);
57     digitalWrite(6, LOW);
58     digitalWrite(7, LOW);
59     tone(11,500,180);
60     digitalWrite(11,LOW);
61   }
62   else if (distancia > 200 && distancia < 250){
63     digitalWrite(2, HIGH);
64     digitalWrite(3, HIGH);
65     digitalWrite(4, HIGH);
66     digitalWrite(5, HIGH);
67     digitalWrite(6, HIGH);
68     digitalWrite(7, LOW);
69     tone(11,500,500);
70     digitalWrite(11,LOW);
71   }
72   else if (distancia > 250 && distancia < 300){
73     digitalWrite(2, HIGH);
74     digitalWrite(3, HIGH);
75     digitalWrite(4, HIGH);
76     digitalWrite(5, HIGH);
77     digitalWrite(6, HIGH);
78     digitalWrite(7, HIGH);
79     tone(11,500,1000);
80     digitalWrite(11,LOW);
81   }
82 }
```



```
1 float time = 0;
2 float distancia = 0;
3
4 void setup ()
5 {
6
7   pinMode (3, OUTPUT) ;
8   pinMode (2, INPUT);
9   Serial.begin (9600);
10 }
11 void loop ()
12 {
13   digitalWrite (3, LOW);
14   delayMicroseconds (2);
15   digitalWrite (3, HIGH);
16   delayMicroseconds (10);
17   time = pulseIn (2, HIGH) ;
18   Serial.println ("Tempo: " + String (time/1000) + "ms");
19   // time = microssegundos
20   distancia = time/1000000 * 170 * 100;
21   Serial.println ("Distancia: " + String (distancia) + "cm");
22   delay (10);
23 }
```

Serial Monitor

```
tempo: 0.49ms
Distancia: 110.35cm
Tempo: 0.00ms
Distancia: 0.00cm
Tempo: 6.49ms
Distancia: 110.35cm
```