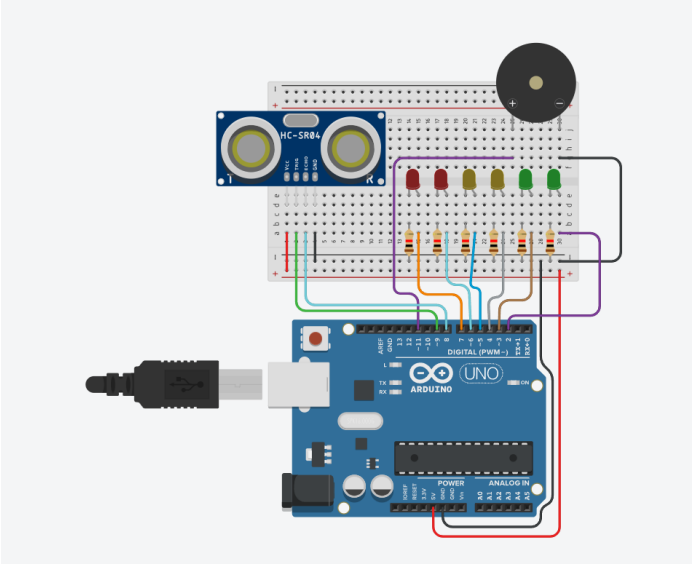
Atividade 4- Sensor de Ré



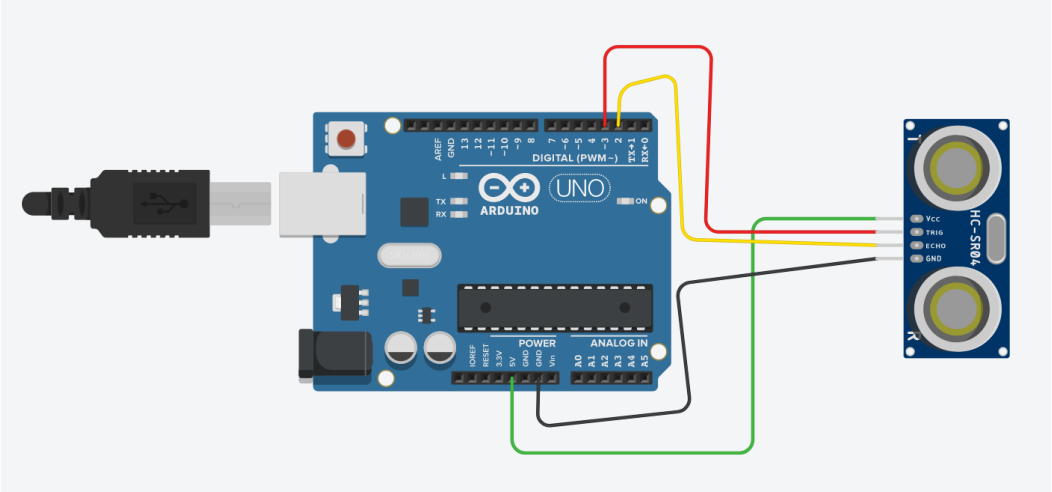

```
float time = 0;
float distancia = 0;

void setup (){
pinMode (9, OUTPUT) ;
pinMode (8, INPUT) ;
Serial.begin (9600);
}


void loop (){

digitalWrite(9, LOW);
delayMicroseconds(2);
digitalWrite (9, HIGH) ;
delayMicroseconds (10);
time = pulseIn (8, HIGH) ;
Serial.println ("Tempo: " + String (time/1000) + "ms") ;
// time = microssegundos
distancia = time/1000000 * 170 * 100;
Serial.println ("Distancia: " + String(distancia) + "cm") ;
delay (10);

  if (distancia > 0 && distancia < 50){
    digitalWrite(2, HIGH);
    digitalWrite(3, LOW);
    digitalWrite(4, LOW);
    digitalWrite(5, LOW);
    digitalWrite(6, LOW);
    digitalWrite(7, LOW);
    tone(11,500,10);
    digitalWrite(11,LOW);
}
  else if (distancia > 50 && distancia < 100){
    digitalWrite(2, HIGH);
    digitalWrite(3, HIGH);
    digitalWrite(4, LOW);
    digitalWrite(5, LOW);
    digitalWrite(6, LOW);
    digitalWrite(7, LOW);
    tone(11,500,70);
    digitalWrite(11,LOW);
}
  else if (distancia > 100 && distancia < 150){
    digitalWrite(2, HIGH);
    digitalWrite(3, HIGH);
    digitalWrite(4, HIGH);
    digitalWrite(5, LOW);
    digitalWrite(6, LOW);
    digitalWrite(7, LOW);
    tone(11,500,150);
    digitalWrite(11,LOW);
  }
  else if (distancia > 150 && distancia < 200){
    digitalWrite(2, HIGH);
    digitalWrite(3, HIGH);
    digitalWrite(4, HIGH);
    digitalWrite(5, HIGH);
    digitalWrite(6, LOW);
    digitalWrite(7, LOW);
    tone(11,500,180);
    digitalWrite(11,LOW);
  }
  else if (distancia > 200 && distancia < 250){
    digitalWrite(2, HIGH);
    digitalWrite(3, HIGH);
    digitalWrite(4, HIGH);
    digitalWrite(5, HIGH);
    digitalWrite(6, HIGH);
    digitalWrite(7, LOW);
    tone(11,500,500);
    digitalWrite(11,LOW);
  }
  else if (distancia > 250 && distancia < 300){
    digitalWrite(2, HIGH);
    digitalWrite(3, HIGH);
    digitalWrite(4, HIGH);
    digitalWrite(5, HIGH);
    digitalWrite(6, HIGH);
    digitalWrite(7, HIGH);
    tone(11,500,1000);
    digitalWrite(11,LOW);
  }
}
```




```ino
float time = 0;
float distancia = 0;

void setup ()
{

pinMode (3, OUTPUT) ;
pinMode (2, INPUT);
Serial.begin (9600);
}
void loop ()
{
digitalWrite (3, LOW);
delayMicroseconds (2);
digitalWrite (3, HIGH);
delayMicroseconds (10);
time = pulseIn (2, HIGH) ;
Serial.println ("Tempo: " + String (time/1000) + "ms");
// time = microssegundos
distancia = time/1000000 * 170 * 100;
Serial.println ("Distancia: " + String (distancia) + "cm");
delay (10);
}
```

Serial Monitor

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