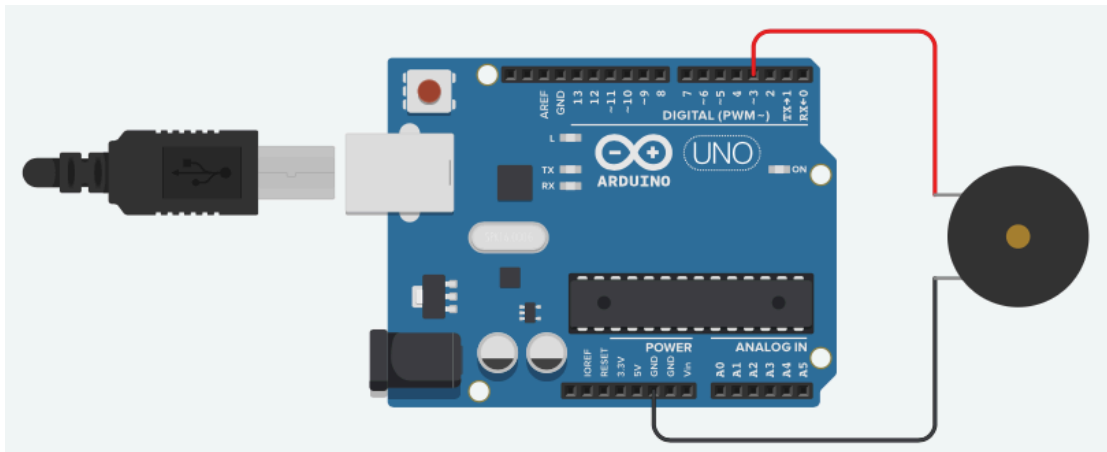


## Exercícios Repetição 02

### Circuito:

Monte o circuito



### Código-fonte base

E o código-fonte abaixo:

```
int melodia[] = {262, 196, 196, 220, 196, 0, 247, 262};
int duracao[] = {4, 8, 8, 4, 4, 4, 4, 4};

void setup() {
  int nota;

  for (nota = 0; nota < 8; nota++) {
    int duracaoNota = 1000 / duracao[nota];
    tone(3, melodia[nota], duracaoNota);

    int pausaEntreNotas = duracaoNota * 1.30;
    delay(pausaEntreNotas);

    noTone(3);
  }
}

void loop() {
}
```

## Atividades

Modifique o código fonte para realizar as seguintes atividades explique o que faz cada comando.

1. Altere a melodia e a duração para executar a seguinte sequencia (lembre de alterar a quantidade de repetições):

```
#define NOTE_B0 31
#define NOTE_C1 33
#define NOTE_CS1 35
#define NOTE_D1 37
#define NOTE_DS1 39
#define NOTE_E1 41
#define NOTE_F1 44
#define NOTE_FS1 46
#define NOTE_G1 49
#define NOTE_GS1 52
#define NOTE_A1 55
#define NOTE_AS1 58
#define NOTE_B1 62
#define NOTE_C2 65
#define NOTE_CS2 69
#define NOTE_D2 73
#define NOTE_DS2 78
#define NOTE_E2 82
#define NOTE_F2 87
#define NOTE_FS2 93
#define NOTE_G2 98
#define NOTE_GS2 104
#define NOTE_A2 110
#define NOTE_AS2 117
#define NOTE_B2 123
#define NOTE_C3 131
#define NOTE_CS3 139
#define NOTE_D3 147
#define NOTE_DS3 156
#define NOTE_E3 165
#define NOTE_F3 175
#define NOTE_FS3 185
#define NOTE_G3 196
#define NOTE_GS3 208
#define NOTE_A3 220
#define NOTE_AS3 233
#define NOTE_B3 247
#define NOTE_C4 262
#define NOTE_CS4 277
#define NOTE_D4 294
#define NOTE_DS4 311
#define NOTE_E4 330
#define NOTE_F4 349
#define NOTE_FS4 370
#define NOTE_G4 392
```

```
#define NOTE_GS4 415
#define NOTE_A4 440
#define NOTE_AS4 466
#define NOTE_B4 494
#define NOTE_C5 523
#define NOTE_CS5 554
#define NOTE_D5 587
#define NOTE_DS5 622
#define NOTE_E5 659
#define NOTE_F5 698
#define NOTE_FS5 740
#define NOTE_G5 784
#define NOTE_GS5 831
#define NOTE_A5 880
#define NOTE_AS5 932
#define NOTE_B5 988
#define NOTE_C6 1047
#define NOTE_CS6 1109
#define NOTE_D6 1175
#define NOTE_DS6 1245
#define NOTE_E6 1319
#define NOTE_F6 1397
#define NOTE_FS6 1480
#define NOTE_G6 1568
#define NOTE_GS6 1661
#define NOTE_A6 1760
#define NOTE_AS6 1865
#define NOTE_B6 1976
#define NOTE_C7 2093
#define NOTE_CS7 2217
#define NOTE_D7 2349
#define NOTE_DS7 2489
#define NOTE_E7 2637
#define NOTE_F7 2794
#define NOTE_FS7 2960
#define NOTE_G7 3136
#define NOTE_GS7 3322
#define NOTE_A7 3520
#define NOTE_AS7 3729
#define NOTE_B7 3951
#define NOTE_C8 4186
#define NOTE_CS8 4435
#define NOTE_D8 4699
#define NOTE_DS8 4978

int melodia[] = {
    NOTE_E7, NOTE_E7, 0, NOTE_E7,
    0, NOTE_C7, NOTE_E7, 0,
    NOTE_G7, 0, 0, 0,
    NOTE_G6, 0, 0, 0,

    NOTE_C7, 0, 0, NOTE_G6,
    0, 0, NOTE_E6, 0,
```

```

0, NOTE_A6, 0, NOTE_B6,
0, NOTE_AS6, NOTE_A6, 0,

NOTE_G6, NOTE_E7, NOTE_G7,
NOTE_A7, 0, NOTE_F7, NOTE_G7,
0, NOTE_E7, 0, NOTE_C7,
NOTE_D7, NOTE_B6, 0, 0,

NOTE_C7, 0, 0, NOTE_G6,
0, 0, NOTE_E6, 0,
0, NOTE_A6, 0, NOTE_B6,
0, NOTE_AS6, NOTE_A6, 0,

NOTE_G6, NOTE_E7, NOTE_G7,
NOTE_A7, 0, NOTE_F7, NOTE_G7,
0, NOTE_E7, 0, NOTE_C7,
NOTE_D7, NOTE_B6, 0, 0
};

int duracao[] = {
12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,

12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,

9, 9, 9,
12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,

12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,

9, 9, 9,
12, 12, 12, 12,
12, 12, 12, 12,
12, 12, 12, 12,
};

```

2) Altere a melodia e a duração para esses vetores:

```
int melodia[] = {NOTE_C4, NOTE_G4, NOTE_F4, NOTE_E4,  
NOTE_D4, NOTE_C5, NOTE_G4, NOTE_F4, NOTE_E4,  
NOTE_D4, NOTE_C5, NOTE_G4, NOTE_F4, NOTE_E4, NOTE_F4,  
NOTE_D4};
```

```
int duracao[] = {1, 1, 4, 4, 4, 1, 2, 4, 4, 4, 1, 2, 4, 4,  
4, 1};
```