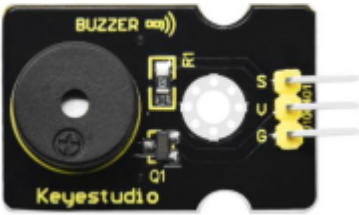# Project 03 Passive Buzzer

1. Description

There are prolific interactive works completed by Arduino. The most common one is sound and light display. We always use LED to make experiments. For this lesson, we design circuit to emit sound. Generally, sound components are buzzer and horns, in which the former is easier to use.
Buzzer includes about active buzzer and passive buzzer. In this experiment, we adopt passive buzzer. While using passive buzzer, we can control different sound by inputting square waves with distinct frequency.
During this experiment, we control code to make buzzer sound, begin with "tick, tick" sound, then make passive buzzer emit "do re mi fa so la si do", and play specific songs.

2. Needed Components

PLUS control board*1	Expansion board*1	Passive buzzer*1	USB cable*1	3Pin F-F Dupont wire*1

3.Wiring Diagram：
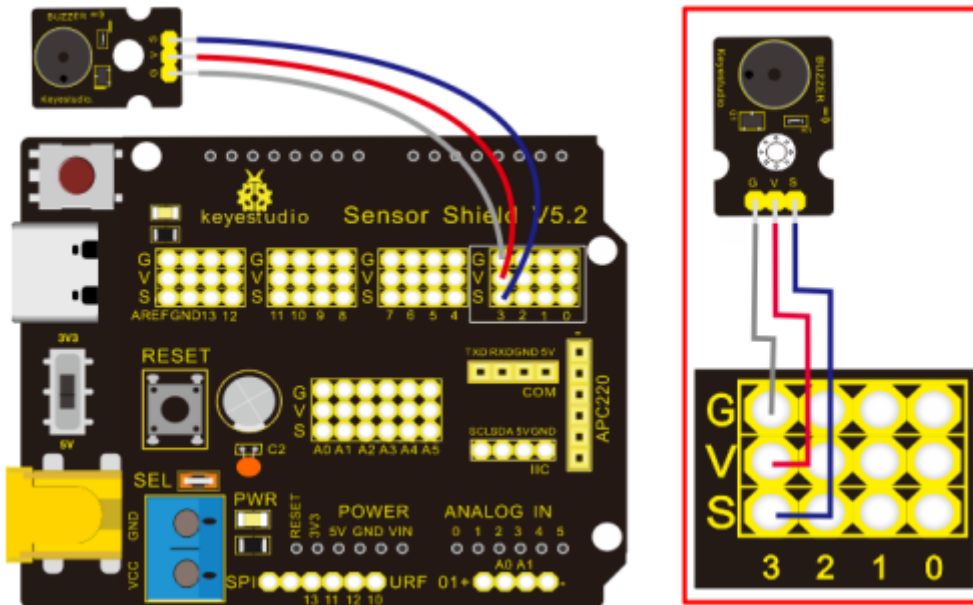
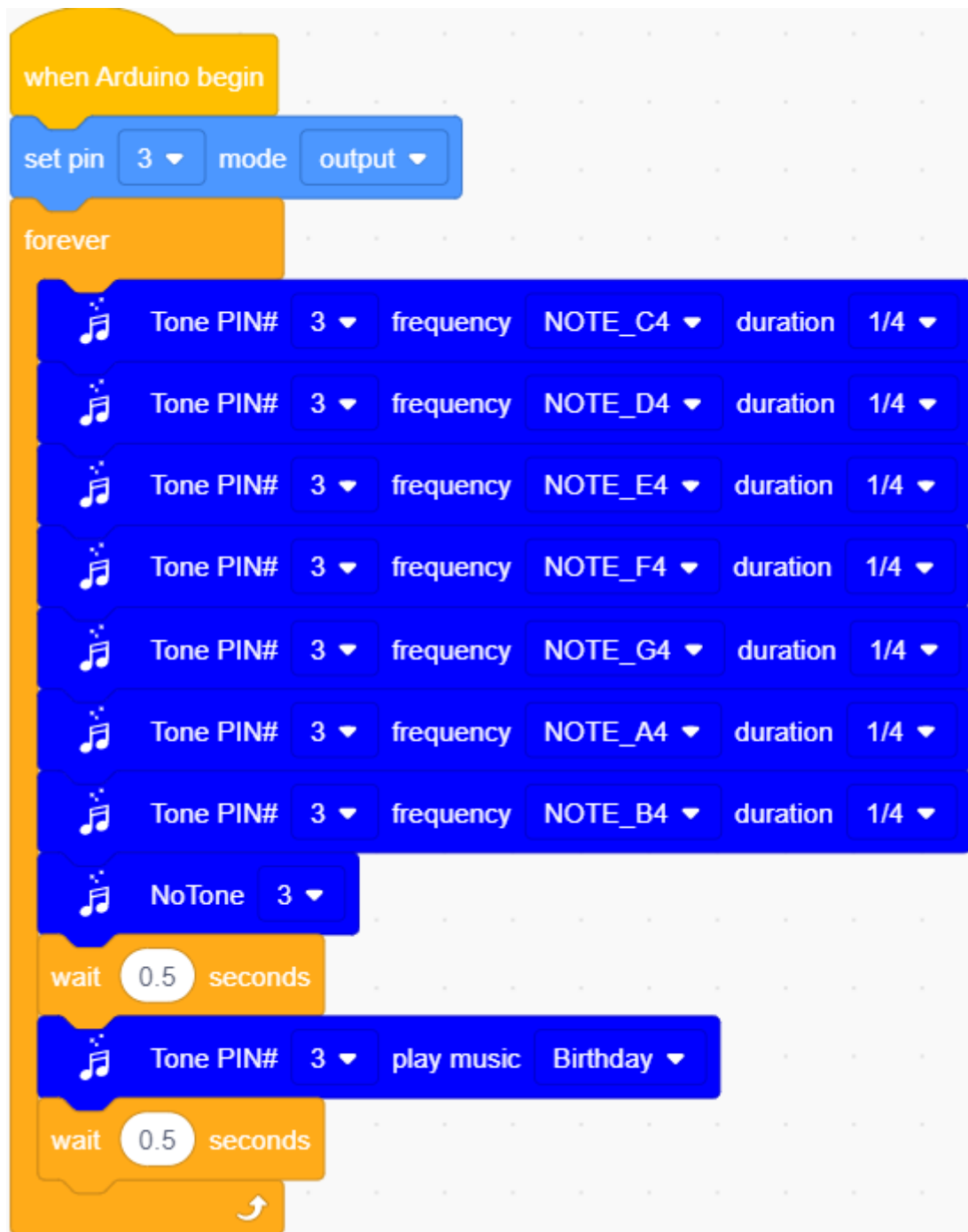Note:The G, V and S pins of passive buzzer are connected to G, V and 3.

4. Test Code 1

5. Test Result 1

After the code is uploaded, "tick, tick" sound emit from the passive buzzer.

6. Test Code 2

```
when Arduino begin
set pin  3 ▼  mode  output ▼
forever
    ♫  Tone PIN#  3 ▼  frequency  NOTE_C4 ▼  duration  1/4 ▼
    ♫  Tone PIN#  3 ▼  frequency  NOTE_D4 ▼  duration  1/4 ▼
    ♫  Tone PIN#  3 ▼  frequency  NOTE_E4 ▼  duration  1/4 ▼
    ♫  Tone PIN#  3 ▼  frequency  NOTE_F4 ▼  duration  1/4 ▼
    ♫  Tone PIN#  3 ▼  frequency  NOTE_G4 ▼  duration  1/4 ▼
    ♫  Tone PIN#  3 ▼  frequency  NOTE_A4 ▼  duration  1/4 ▼
    ♫  Tone PIN#  3 ▼  frequency  NOTE_B4 ▼  duration  1/4 ▼
    ♫  NoTone  3 ▼
    wait  0.5  seconds
    ♫  Tone PIN#  3 ▼  play music  Birthday ▼
    wait  0.5  seconds
```

7. Test Result 2

After the code is uploaded, the passive buzzer sings like "do re mi fa so la si do" and play a specific song.