Lesson 5 Passive Buzzer

Introduction

In this lesson, you will learn how to use a passive buzzer to generate eight different sounds, each sound lasting 1 seconds: from Alto Do (262Hz), Re (294Hz), Mi (330Hz), Fa (349Hz), So (392Hz), La (440Hz), Si (494Hz) to Treble Do (524Hz).

Hardware Required

✓ 1 * RuiiGuu UNO R3

✓ 1 * Breadboard

✓ 1 * Passive buzzer

✓ 2 * M-M Jumper Wires

Principle

Passive Buzzer

a passive buzzer does not have such a source, so it will not beep if DC signals are used; instead, you need to use square waves whose frequency is between 2K and 5K to drive it. The active buzzer is often more expensive than the passive one because of multiple built-in oscillating circuits.

Code interpretation

//The purpose of the experiment is to generate eight different sounds, each sound

//lasting 1 seconds: from Alto Do (262Hz), Re (294Hz), Mi (330Hz), Fa (349Hz), So

(392Hz), La (440Hz), Si (494Hz) to Treble Do (524Hz).

```
int Do = 262, Re = 294 , Mi = 330 , Fa = 349 , Sol = 392 ,

     La = 440 , Si = 494, Do2 = 524;

int buzz = 12; //Not necessarily a PWM pin, any digital pin will
work!!!

int wait = 0;

void setup()

{

  pinMode(buzz, OUTPUT);//initialize the buzzer pin as an output

}

void loop()

{

  wait = 500;

  tone(buzz, Do, wait);

  delay(1000);//wait for 1s

  tone(buzz, Re, wait);

  delay(1000);//wait for 1s

  tone(buzz, Mi, wait);

  delay(1000);//wait for 1s

  tone(buzz, Fa, wait);

  delay(1000);//wait for 1s

  tone(buzz, Sol, wait);

  delay(1000);//wait for 1s
```

```
tone(buzz, La, wait);

delay(1000);//wait for 1s

tone(buzz, Si, wait);

delay(1000);//wait for 1s

tone(buzz, Do2, wait);

delay(1000);//wait for 1s

    noTone(buzz);

}
```
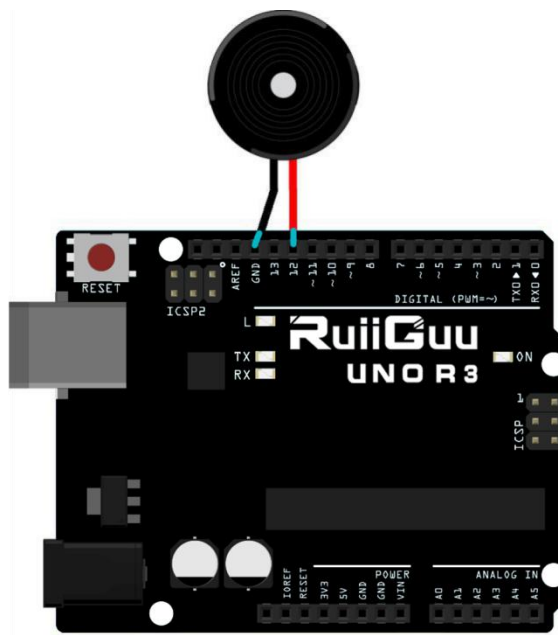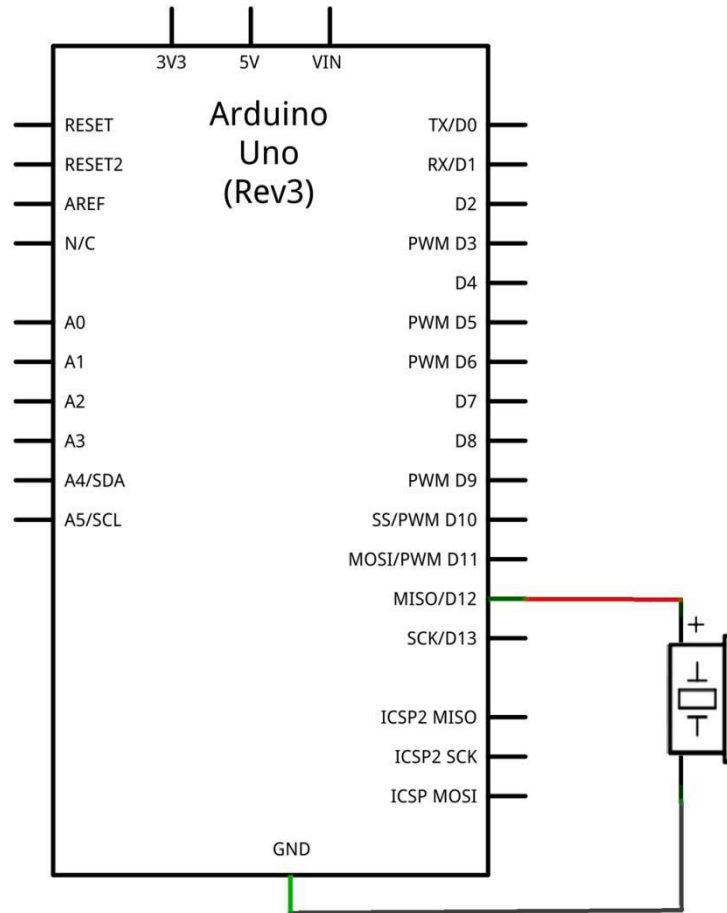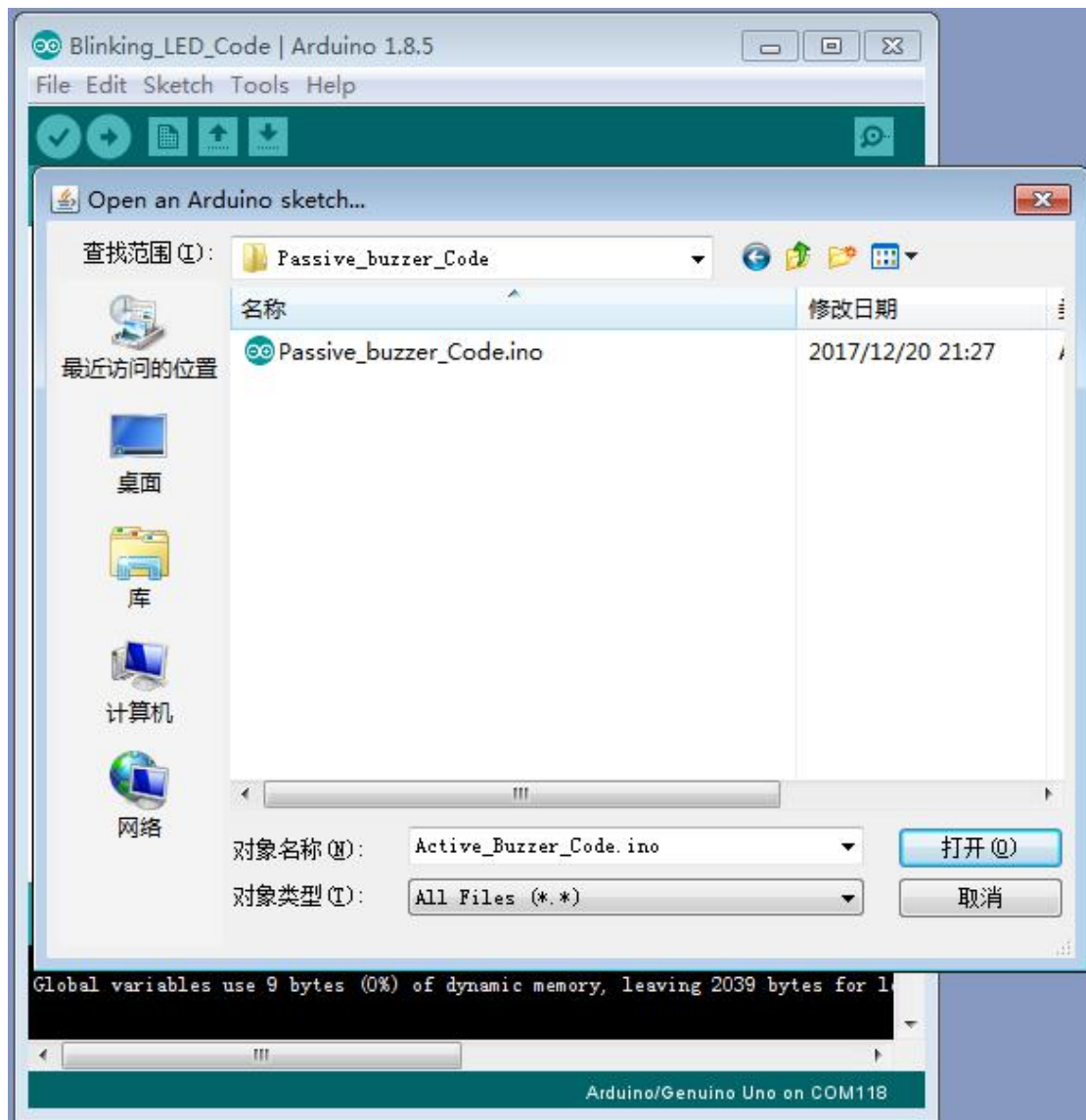
Experimental Procedures
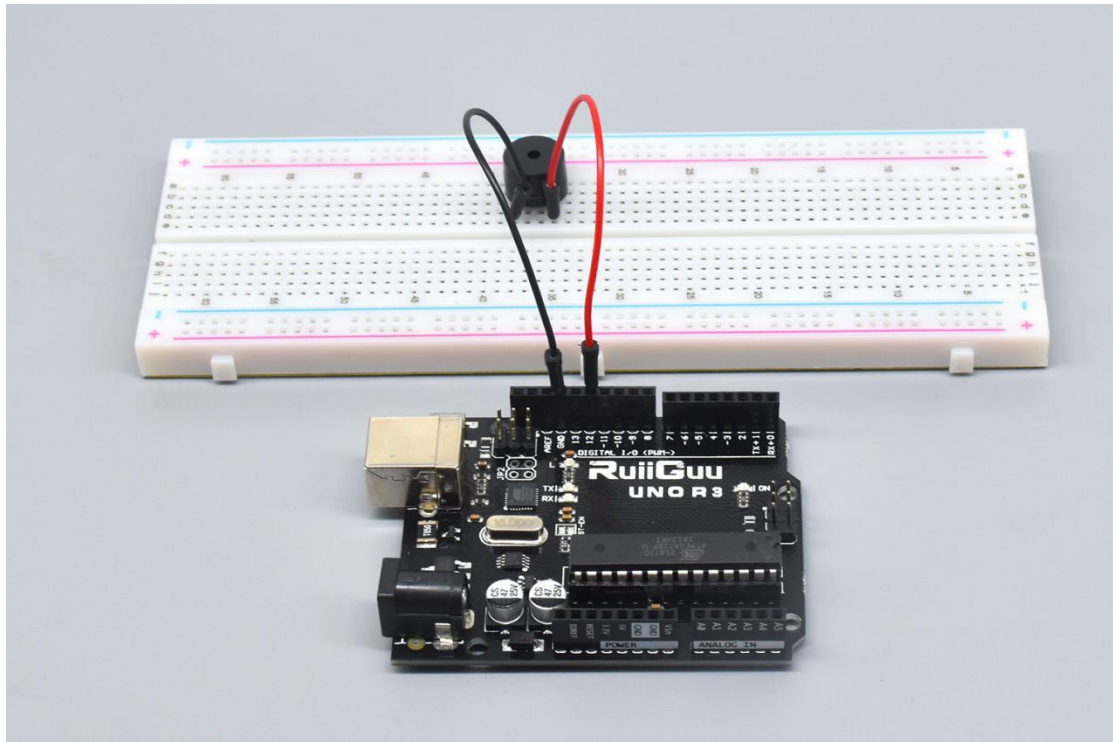
Step 1: Build the circuit

Schematic Diagram

Step 2: Open the code:Passive_buzzer_Code

Step 3: Attach Arduino UNO R3 board to your computer via USB cable and check that the 'Board Type' and 'Serial Port' are set correctly.

Step 4: Upload the code to the RuiiGuu UNO R3 board.

Now, Listen carefully, You can hear the passive buzzer sounding Alto Do, Re, Mi, Fa, So, La, Si, Treble Do.

If it isn't working, make sure you have assembled the circuit correctly, verified and uploaded the code to your board. For how to upload the code and install the library, check Lesson 0 Preface.