

Program Analysis

1. File Path

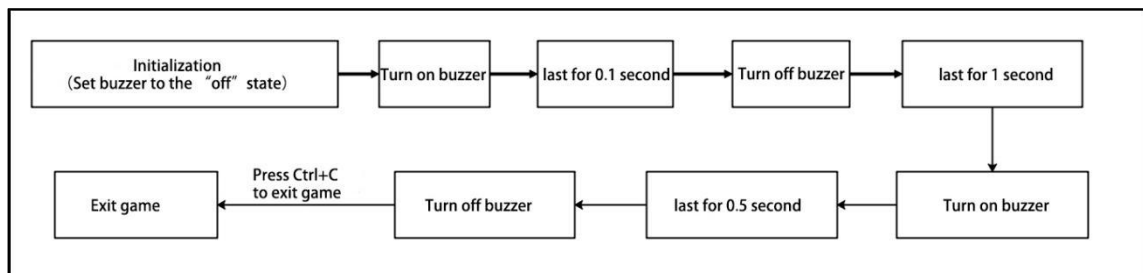
The program corresponding to this lesson is stored in:
/home/pi/MasterPi/HiwonderSDK/BuzzerControlDemo.py

2. Performance

After the program is started, the buzzer on expansion board will emit a short beep first, followed by a long beep that lasts for half of a second.

3. Program Analysis

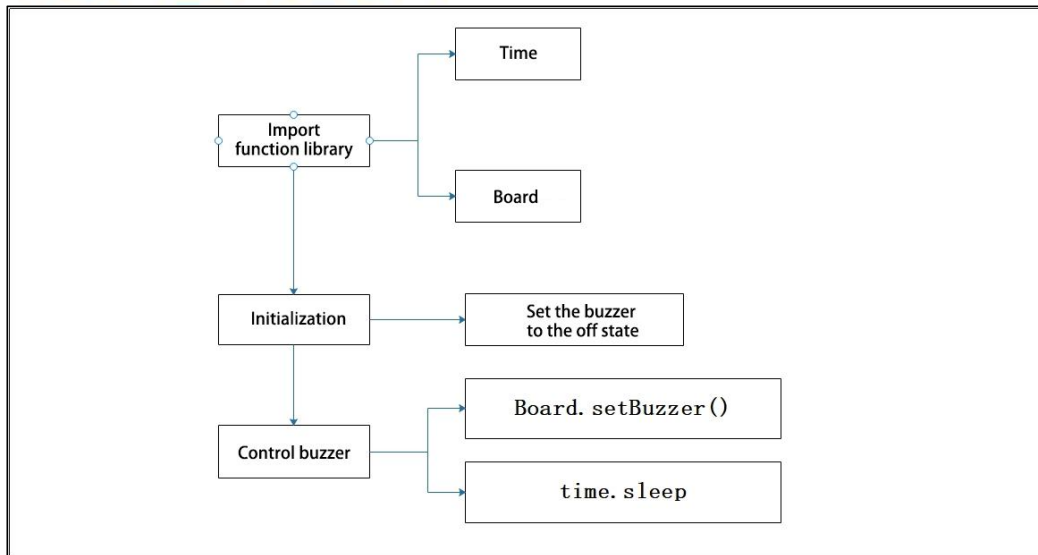
3.1 Program Logic



As shown in the above diagram, the program will first perform the initialization operation, which is to set the buzzer to the off state. Then, it will make the buzzer emit a short beep for 0.1 seconds and then turn it off. After waiting for one second, it will sound again for 0.5 seconds.

When pushing "Ctrl+C", the program will stop and the buzzer will stop emitting sound.

3.2 Program Analysis



From the above flow diagram, the program primarily divides into four parts, namely importing the function library, initializing parameters, controlling RGB lights and closing the game. The following content will provide an explanation based on the logic of the program as depicted in the diagram.

● Import Function Library

Firstly, import Time and Board functions. The below table will explain the library files.

```

1 import time
2 import Board
  
```

Library File	Function
Time	The expression for handling time within a program refers to the method of obtaining the system time and formatting its output
Board	control sensors for executing control operations.

● Initialization

When executing a program, it is generally necessary to perform initialization within the program to facilitate the realization of the sequence functionalities. In this case, initialization involves setting the initial state of buzzer to the “off” state.

```
17 Board.setBuzzer(0) # 关闭
```

● Control Buzzer

After the initialization is completed, proceed with controlling buzzer. The Board.setBuzzer() and time.sleep() functions are used in here.

Board.setBuzzer() function: The function takes a parameter, which can be filled with either the number 0 or 1. For example, Board.setBuzzer(0) means setting the buzzer's state to off, while Board.setBuzzer(1) means setting the buzzer's state to on.

The time.sleep() function is used to control the duration of the buzzer's activation or deactivation.

```
17 Board.setBuzzer(0) # 关闭
18
19 Board.setBuzzer(1) # 打开
20 time.sleep(0.1) # 延时
21 Board.setBuzzer(0) # 关闭
22
23 time.sleep(1) # 延时
24
25 Board.setBuzzer(1)
26 time.sleep(0.5)
27 Board.setBuzzer(0)
```