

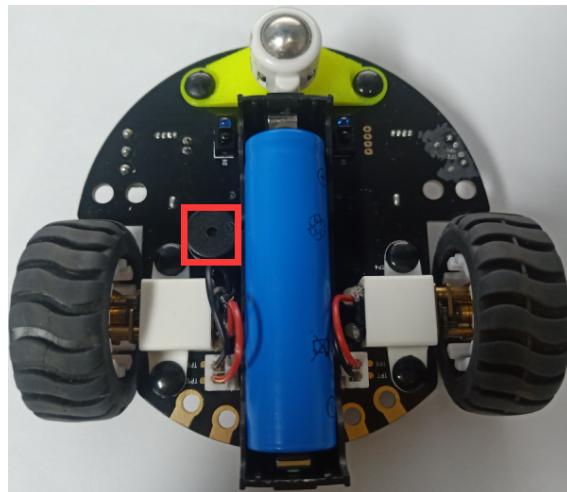
4.Whistle

Learning goal:

This lesson we will learn how to control buzzer of Tiny-bit to whistle.

Preparation:

- 1.The position of the buzzer on the robot car



- 2.The micro:bit pins connected to the buzzer.

From the hardware interface manual, we can know that the buzzer is directly driven by the micro:bit P0 pin.

| Category | Function | Number | Drive | The number of Drive pin | The number of connected to the controller | micro:bit |
|---------------------|-------------------------|---------|--------------------------|-------------------------|---|-----------|
| Buzzer | Buzzer | FM | | | | P0 |
| Voice sensor | Voice sensor | MIC | | | | |
| LED light | Water light | LED-RGB | | | | |
| Tracking sensor | Left tracking | L-DET | | | | |
| | Right tracking | R-DET | | | | |
| Ultrasonic module | Echo pin | ECHO | Micro:bit drive directly | | | |
| Infrared receiver | Trigger pin | TRIG | | | | |
| I2C interface | Infrared remote control | RX | | | | |
| | I2C interface | SCL | | | | |
| | | SDA | | | | |
| Motor | Left motor Forward | L-INA | STM8S | PC6/TIM1_CH1 | | |
| | Left motor Reverse | L-INB | | PC7/TIM1_CH2 | | |
| | Right motor Forward | R-INA | | PC3/TIM1_CH3 | | |
| | Right motor Reverse | R-INB | | PC4/TIM1_CH4 | | |
| RGB Searching light | Red | LED-R | | PC5/TIM2_CH1 | | |
| | Green | LED-G | | PD3/TIM2_CH2 | | |
| | Blue | LED-B | | PD2/TIM2_CH3 | | |
| | | | | SCL, SDA | | |
| | | | | | | P19, P20 |

Code:

```
from microbit import *
import music

while True:
    for freq in range(880, 1760, 16):
        music.pitch(freq, 6)
    for freq in range(1760, 880, -16):
        music.pitch(freq, 6)
```

Programming and downloading:

1. You should open the Mu software, and enter the code in the edit window, , as shown in Figure 4-1.

Note! All English and symbols should be entered in English, and the last line must be a space.

```

汽车鸣笛.py
1 from microbit import *
2 import music
3
4 while True:
5     for freq in range(880, 1760, 16):
6         music.pitch(freq, 6)
7     for freq in range(1760, 880, -16):
8         music.pitch(freq, 6)
9

```

Figure 4-1

2. As shown in Figure 4-2, you need to click the Check button to check if our code has an error. If a line appears with a cursor or an underscore, the program indicating this line is wrong.

```

汽车鸣笛.py
1 from microbit import *
2 import music
3
4 while True:
5     for freq in range(880, 1760, 16):
6         music.pitch(freq, 6)
7     for freq in range(1760, 880, -16):
8         music.pitch(freq, 6)
9

```

Figure 4-2

3. You need to connect the micro data cable to micro:bit and the computer, then click the Flash button to download the program to micro:bit as shown in Figure 4-3.



Figure 4-3

4. After downloading the program, we can hear the Tiny-bit car start to whistle.