

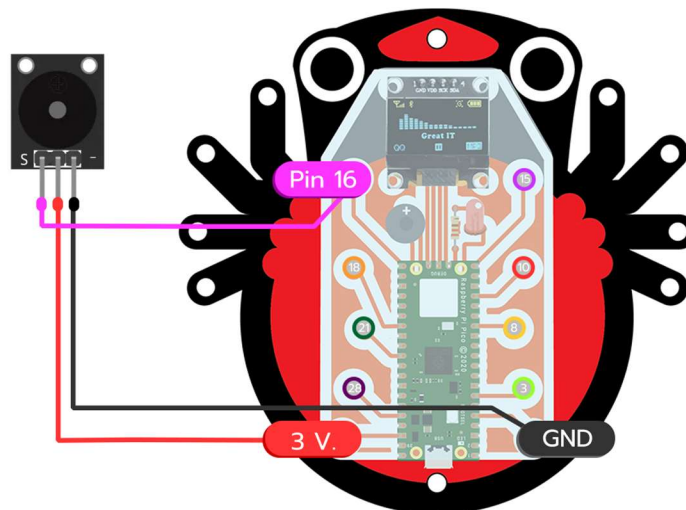
## 14. Passive Buzzer Beethoven

เตรียมอุปกรณ์

- Spidey
- buzzer passive

การเชื่อมต่อ

- เริ่มต้น ต่อสายขา GND หรือ ขากราวด์ ของ Buzzer กับสไปดี้ ที่ขา ลบ
- ต่อขา บวก ของ เซนเซอร์เข้ากับ สไปดี้ ที่ขา บวก
- ต่อขา S ที่ buzzer ที่ขา 16 ของสไปดี้



การโค้ด

```
from machine import Pin, PWM
from time import sleep

buzzerPIN=16
BuzzerObj = PWM(Pin(buzzerPIN))

def
buzzer(buzzerPinObject,frequency,sound_duration,silence_duration
):
```

```
# Set duty cycle to a positive value to emit sound from
buzzer
buzzerPinObject.duty_u16(int(65536*0.1))
# Set frequency
buzzerPinObject.freq(frequency)
# wait for sound duration
sleep(sound_duration)
# Set duty cycle to zero to stop sound
buzzerPinObject.duty_u16(int(65536*0))
# Wait for sound interruption, if needed
sleep(silence_duration)
```

```
#set translation table from note to frequency
```

```
do5=523
dod5=554
re5=587
red5=622
mi5=659
fa5=698
fad5=739
sol5=784
sold5=830
la5=880
lad5=932
si5=987
```

```
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,red5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,red5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,si5,0.1,0.1)
buzzer(BuzzerObj,re5,0.1,0.1)
buzzer(BuzzerObj,do5,0.1,0.1)
buzzer(BuzzerObj,la5,0.5,0.1)
```

```
buzzer(BuzzerObj,do5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,la5,0.1,0.1)
buzzer(BuzzerObj,si5,0.5,0.1)
```

```
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,sold5,0.1,0.1)
buzzer(BuzzerObj,si5,0.1,0.1)
buzzer(BuzzerObj,do5,0.5,0.1)
```

```
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,red5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,red5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,si5,0.1,0.1)
buzzer(BuzzerObj,re5,0.1,0.1)
buzzer(BuzzerObj,do5,0.1,0.1)
buzzer(BuzzerObj,la5,0.5,0.1)
```

```
buzzer(BuzzerObj,do5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,la5,0.1,0.1)
buzzer(BuzzerObj,si5,0.5,0.1)
```

```
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,do5,0.1,0.1)
buzzer(BuzzerObj,si5,0.1,0.1)
buzzer(BuzzerObj,la5,0.5,0.1)
```

```
buzzer(BuzzerObj,si5,0.1,0.1)
buzzer(BuzzerObj,do5,0.1,0.1)
buzzer(BuzzerObj,re5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.5,0.1)
```

```
buzzer(BuzzerObj,sol5,0.1,0.1)
buzzer(BuzzerObj,fa5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,re5,0.5,0.1)
```

```
buzzer(BuzzerObj,fa5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,re5,0.1,0.1)
buzzer(BuzzerObj,do5,0.5,0.1)
```

```
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,re5,0.1,0.1)
buzzer(BuzzerObj,do5,0.1,0.1)
buzzer(BuzzerObj,si5,0.5,0.1)
```

```
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,red5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,red5,0.1,0.1)
buzzer(BuzzerObj,mi5,0.1,0.1)
buzzer(BuzzerObj,si5,0.1,0.1)
```

```
buzzer(BuzzerObj, re5, 0.1, 0.1)
buzzer(BuzzerObj, do5, 0.1, 0.1)
buzzer(BuzzerObj, la5, 0.5, 0.1)
```

```
buzzer(BuzzerObj, do5, 0.1, 0.1)
buzzer(BuzzerObj, mi5, 0.1, 0.1)
buzzer(BuzzerObj, la5, 0.1, 0.1)
buzzer(BuzzerObj, si5, 0.5, 0.1)
```

```
buzzer(BuzzerObj, mi5, 0.1, 0.1)
buzzer(BuzzerObj, do5, 0.1, 0.1)
buzzer(BuzzerObj, si5, 0.1, 0.1)
buzzer(BuzzerObj, la5, 0.5, 0.1)
```

```
#Deactivates the buzzer
BuzzerObj.deinit()
```