

# 中正國小參加二林高中自造中心國小體驗營

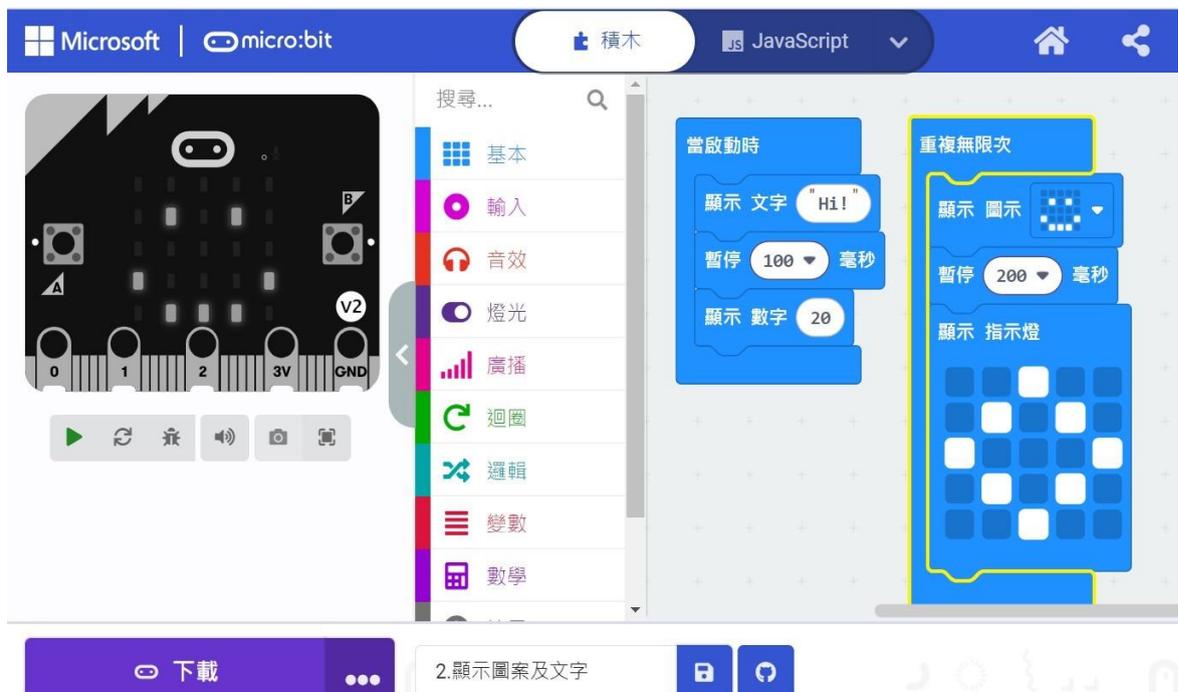
連結到 micro:bit 官方網站

<https://makecode.microbit.org/>

## 1. 測試



## 2. 顯示圖案及文字



### 3. 按一按

The image displays the Microsoft MakeCode editor interface for a micro:bit. The top section shows the workspace with a micro:bit image on the left and a code editor on the right. The code editor contains three blocks: "當按鈕 A 被按下" with "顯示文字 'A'", "當按鈕 B 被按下" with "顯示文字 'B'", and "當按鈕 A+B 被按下" with "顯示 指示燈".

The bottom section shows a zoomed-in view of six "當姿勢" (When Orientation) blocks, each with a "發生" (Occurs) dropdown and a "顯示文字" (Show Text) block. The blocks are:

- 當姿勢 標誌朝下 ▼ 發生 顯示文字 "U"
- 當姿勢 正面朝上 ▼ 發生 顯示文字 "R"
- 當姿勢 左側偏低 ▼ 發生 顯示文字 "D"
- 當姿勢 背面朝上 ▼ 發生 顯示文字 "T"
- 當姿勢 左側偏低 ▼ 發生 顯示文字 "L"
- 當姿勢 背面朝上 ▼ 發生 顯示文字 "B"

## 5. 來點音樂吧！

The image shows two Scratch code blocks. The first block is a purple 'When button A is clicked' block containing five red 'play tone' blocks. Each 'play tone' block is set to play a middle C note (中音 C) for 1 beat, then D (中音 D), E (中音 E), F (中音 F), and G (中音 G) in sequence. The second block is a purple 'When button B is clicked' block containing three red blocks: a 'play melody' block with a 7-note scale (C, D, E, F, G, A, B) at 120 bpm, a 'rest for 1 beat' block, and a 'play 春天' block.

## 6. 給愛麗絲 (3 2# 3 7 2 1 6)

The image shows a purple 'When button A is clicked' block containing seven red 'play tone' blocks and one red 'rest for 1/2 beat' block. The notes are: high E (高音 E) for 1/2 beat, high D# (高音 D#) for 1/2 beat, high E (高音 E) for 1/2 beat, middle B (中音 B) for 1/2 beat, high D (高音 D) for 1/2 beat, high C (高音 C) for 1/2 beat, middle A (中音 A) for 1 beat, and a rest for 1/2 beat.

## 小星星

1 1 5 5 6 6 5 - 4 4 3 3 2 2 1 -  
一閃一閃亮晶晶 滿天都是小星星

5 5 4 4 3 3 2 - 5 5 4 4 3 3 2 -  
掛在天上放光明 好像許多小眼睛

1 1 5 5 6 6 5 - 4 4 3 3 2 2 1 -  
一閃一閃亮晶晶 滿天都是小星星

## 生日快樂歌

5 5 6 5 1 7 - 5 5 6 5 2 1 - 5 5  
祝你生日快樂 祝你生日快樂 祝你生日快樂

5 3 1 7 6 4 4 3 1 2 1 -  
生日快樂 祝你生日快樂

### 7. 亮不亮有關係

- 通常負極（GND）的連接線是黑色，接在短腳
- P0 或 P1 或 P2 接紅色線，接在長腳

當按鈕 A 被按下  
數位信號寫入 引腳 P0 數字 1

當按鈕 B 被按下  
數位信號寫入 引腳 P0 數字 0

## 8.紅綠燈

The image displays a Scratch script for a traffic light simulation. The script is organized into two main sections. The top section is a loop that repeats indefinitely, containing five blocks: two 'Digital Signal Write' blocks for pins P0 and P1, a 'Pause' block for 200 milliseconds, and two more 'Digital Signal Write' blocks for pins P0 and P1. The bottom section consists of three event-driven blocks, each triggered by a button press on a different pin (P0, P1, and P2). Each event block contains a 'Show Indicator Light' block with a 5x5 grid of indicator lights.

重復無限次

數位信號寫入 引腳 P0 數字 1

數位信號寫入 引腳 P1 數字 0

暫停 200 毫秒

數位信號寫入 引腳 P0 數字 0

數位信號寫入 引腳 P1 數字 1

當引腳 P0 被按下

顯示 指示燈

當引腳 P1 被按下

顯示 指示燈

當引腳 P2 被按下

顯示 指示燈

## 10. 電子選號器

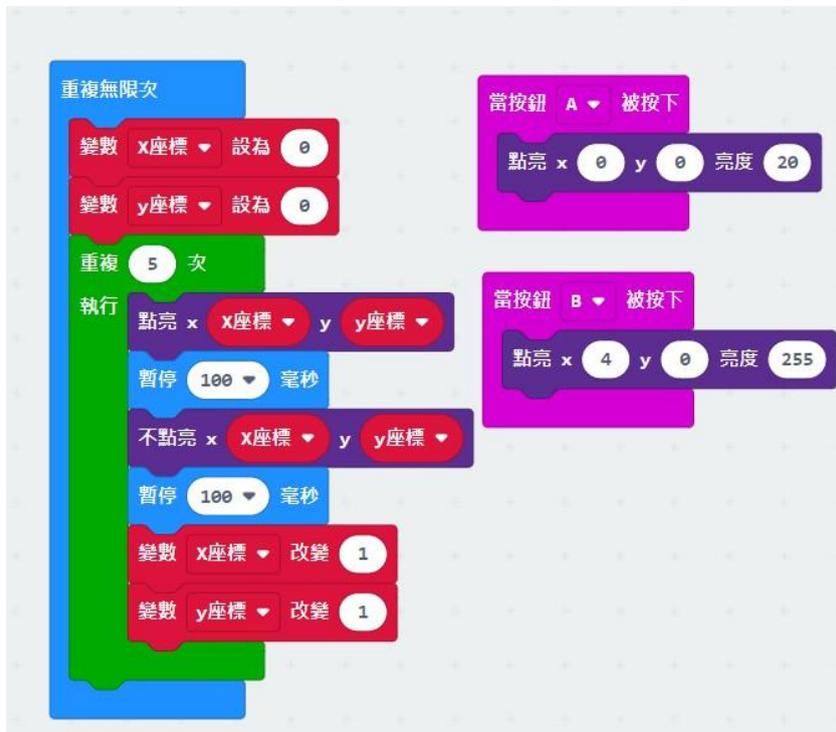
The image shows two Scratch code blocks for a digital number selector. The top block is a purple 'When button A is pressed' block containing a blue 'Clear screen' block and a blue 'Show number' block with a 'Random number from 1 to 25' block. The bottom block is a purple 'When button A is pressed' block containing a red 'Set score to 0' block, a red 'Set score to Random number from 1 to 6' block, a blue 'Show number' block with 'Score' selected, a green 'If score = 1 then' block, and a blue 'Show indicator' block with a 4x4 grid of blue squares and one white square in the center.



## 12. 一閃一閃亮晶晶



## 13. 一閃一閃亮晶晶 (進階版)



#### 14. 剪刀、石頭、布

- 建立變數「猜拳」
- A 按鈕按下時，產生隨機數字 1~3
- 如果「猜拳」=1，顯示「猜拳」，顯示剪刀
- 否則如果「猜拳」=2，顯示「猜拳」，顯示石頭
- 否則，顯示「猜拳」，顯示布

#### 15. 猜數字

- 使用板子上的 A、B 兩顆按鈕，做出自動產生一個 1~9 的數字並讓使用者猜猜看，最後再將結果顯示於 LED
- 建立變數「輸入數字」、「隨機數字」
- A 按鈕按下時，清空畫面，產生隨機數字 1~9
- B 按鈕按下時，輸入數字設為輸入數字+1
- A + B 按下時，清空畫面，顯示隨機數字，如果「輸入數字」=「隨機取數」，則顯示笑臉，
- 否則如果「輸入數字」>「隨機取數」，則顯示大，否則顯示小