

畫正多邊形程式碼

The image displays a Scratch script for drawing a regular polygon. The script is organized into three main sections: initialization, input validation, and drawing.

Initialization Section:

- 移動 10 點 (Move 10 points)
- 右轉 15 度 (Turn right 15 degrees)
- 左轉 15 度 (Turn left 15 degrees)
- 定位到 隨機 位置 (Go to random position)
- 定位到 x: -180 y: -40 (Go to x: -180 y: -40)
- 滑到 1 秒到 隨機 位置 (Slide to random position in 1 second)
- 滑到 1 秒到 x: -180 y: -40 (Slide to x: -180 y: -40 in 1 second)
- 面向 90 度 (Face 90 degrees)
- 面向 鼠標 向 (Face mouse cursor)
- x 改變 10 (Change x by 10)
- x 認為 -180 (Set x to -180)
- y 改變 10 (Change y by 10)
- y 認為 -40 (Set y to -40)
- 碰到邊緣就反彈 (Bounce when hitting the edge)
- 迴轉方式認為 左-右 (Set rotation style to left-right)
- ☐ x 座標 (x coordinate checkbox)
- ☐ y 座標 (y coordinate checkbox)

Input Validation Section:

- 當 綠旗 被點擊 (When green flag is clicked)
- 筆跡全部清除 (Erase all drawing)
- 定位到 x: -180 y: -40 (Go to x: -180 y: -40)
- 面向 90 度 (Face 90 degrees)
- 說出 我是魔法鉛筆，我會畫正多邊形囉！ 持續 2 秒 (Say "I am a magic pencil, I will draw a regular polygon!" for 2 seconds)
- 詢問 請輸入正多邊形的邊數(必須為整數且邊數至少為3) 並等待 (Ask "Enter the number of sides of the regular polygon (must be an integer and at least 3)" and wait)
- 重複直到 詢問的答案 > 2 且 詢問的答案 除以 1 的餘數 = 0 (Repeat until the answer is greater than 2 and the remainder of the answer divided by 1 is 0)
- 說出 沒有這種正多邊形，請重新輸入！ 持續 2 秒 (Say "There is no such regular polygon, please re-enter!" for 2 seconds)
- 詢問 請輸入正多邊形的邊數(必須為整數且邊數至少為3) 並等待 (Ask "Enter the number of sides of the regular polygon (must be an integer and at least 3)" and wait)
- 變數 邊數 設為 詢問的答案 (Set variable "number of sides" to the answer)
- 詢問 想要畫幾條呢?(最多6條) 並等待 (Ask "How many sides do you want to draw? (at most 6)" and wait)
- 重複直到 詢問的答案 < 7 (Repeat until the answer is less than 7)
- 說出 太多了,我不會畫,請重新輸入！ 持續 2 秒 (Say "Too many, I can't draw, please re-enter!" for 2 seconds)
- 詢問 想要畫幾條呢?(最多6條) 並等待 (Ask "How many sides do you want to draw? (at most 6)" and wait)
- 變數 邊數 設為 詢問的答案 (Set variable "number of sides" to the answer)
- 重複 邊數 次 (Repeat the following loop "number of sides" times)
- 畫正多邊形進階 邊數 (Draw regular polygon advanced "number of sides")
- 移動 70 點 (Move 70 points)

Drawing Section:

- 定義 畫正多邊形進階 函數 (Define "draw regular polygon advanced" function)
- 下筆 (Pen down)
- 筆跡寬度設為 3 (Set pen thickness to 3)
- 筆跡顏色設為 紅色 (Set pen color to red)
- 重複 邊數 次 (Repeat the following loop "number of sides" times)
- 移動 70 點 (Move 70 points)
- 等待 0.5 秒 (Wait 0.5 seconds)
- 左轉 360 / 邊數 度 (Turn left 360 / "number of sides" degrees)
- 停筆 (Pen up)