1A2B 作者:洪子翔 資工一 413410046
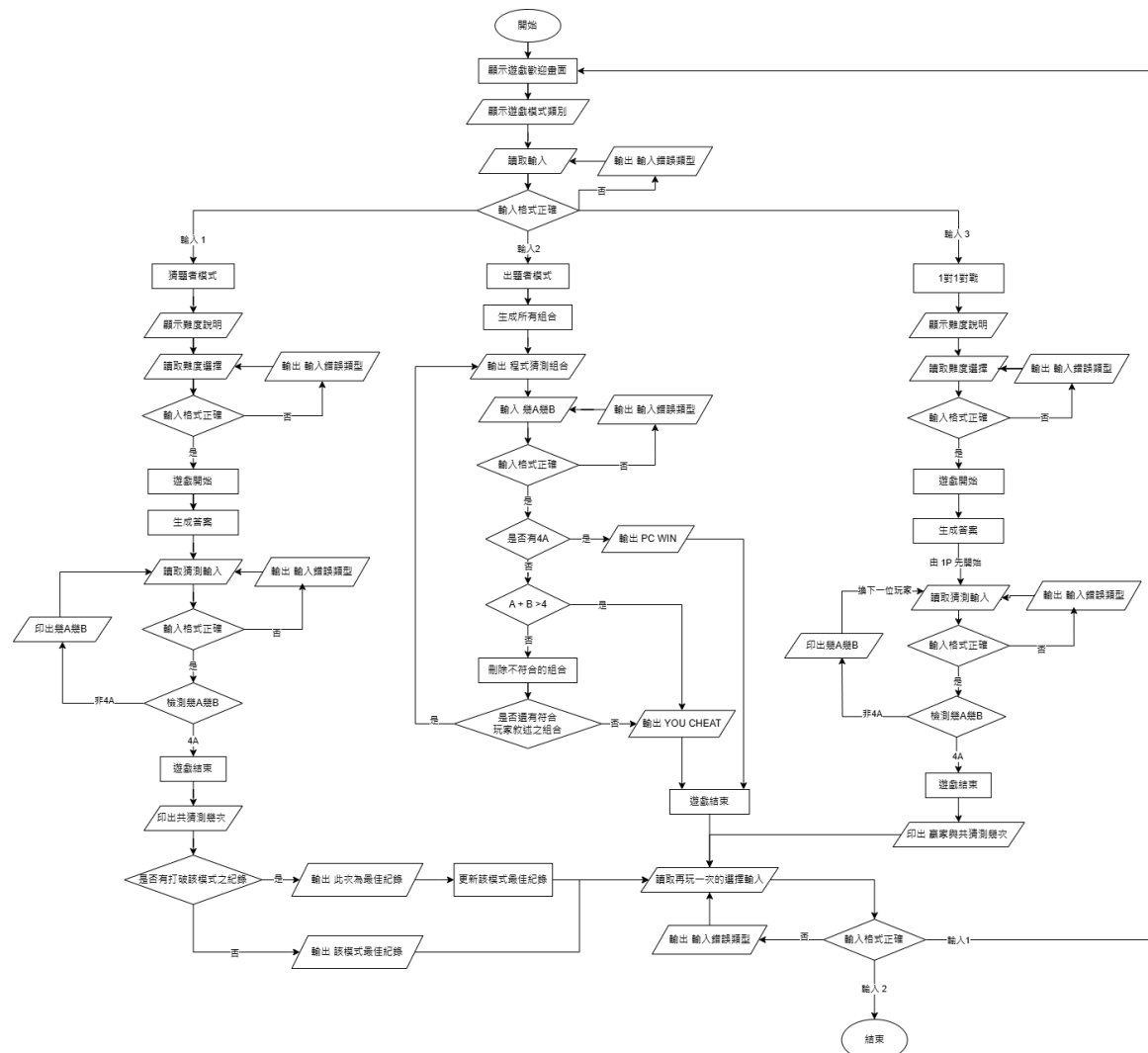
程式流程圖

使用說明
1. 程式開始後，先輸入遊玩模式 答題者輸入 1、出題者輸入 2、一對一輸入 3
2. 若選擇答題或一對一，有 4 種難度可提供選擇
   Easy:8 種數字且無重複 (輸入 1)
   Normal: 10 種數字且無重複 (輸入 2)
   Hard: 6 種數字且其中一個數字可重複出現 2 次 (輸入 3)
   Ultimate: 8 種數字且其中一個數字可重複出現 2 次 (輸入 4)
3. 輸入猜測數字組合不要有空白 ex:0123
4. 出題模式請先想出 0~9 的 4 位數組合無數字重複，隨後回答電腦猜測，請先
   輸入幾個 A 後再輸入幾個 B
5. 若出題模式中，玩家輸入 A+B>4 或玩家輸入的結果相互矛盾 將視為作弊並
   結束遊戲

6. 一對一模式在猜測完數字後換下一位玩家做猜測，依此輪流至其中一方先猜對電腦產生的答案
7. 遊戲結束後 輸入 1 可繼續遊玩 輸入 2 為退出遊戲
8. 此程式有輸入防呆機制，若有輸入錯誤，再重新輸入一次即可

新功能:
1. 可改變數字的範圍使新增難度變化: easy mode 為 8 個數字組合 normal mode 為 10 個數字組合
2. 新增其中一個數字可重複 2 次使新增難度: hard mode 為 6 個數字組合 其中一個數字可重複 2 次 ultimate mode 為 8 個數字組合 其中一個數字可重複 2 次
3. 每個難易度皆有紀錄最佳猜測次數
4. 新增一對一功能

運行畫面

```
welcome 1A2B! Please select the mode
guesser press 1, questioner press 2, 2P versus press 3 : 1
----------------------------------------------------------
Easy mode: 8 number and no duplicate
Normal mode: 10 number and no duplicate
Hard mode: 6 number and one number can appear twice
Ultimate mode: 8 number and one number can appear twice
----------------------------------------------------------
Easy press 1, Normal press 2, Hard press 3, Ultimate press 4 : 1
----------------------------------------------------------
your guess must be 4 digits between 0 and 7(ex:0123)
----------------------------------------------------------
Game starts!
Enter your guess : 0123
0A2B
Enter your guess : 4501
0A1B
Enter your guess : 4612
0A1B
Enter your guess : 3157
0A3B
Enter your guess : 2375
1A3B
Enter your guess : 7235
4A0B
YOU WIN! You guessed the number in 6 attempts.
Congratulations on breaking the record! Your best record in Easy mode has been updated to 6
---------
Game Over
---------
play again press 1, quit press 2 : 1
```

```
play again press 1, quit press 2 : 1
welcome 1A2B! Please select the mode
guesser press 1, questioner press 2, 2P versus press 3 : 2
--------------------------------------------------------------------------------
Please think of a 4-digit number (digits are 0~9, no duplicates)
I will guess the answer. Please first enter how many A, then enter how many B.
--------------------------------------------------------------------------------
My guess: 0123
A: 0
B: 3
My guess: 1034
A: 0
B: 2
My guess: 2305
A: 2
B: 0
My guess: 2316
A: 1
B: 2
My guess: 2601
A: 4
PC WIN!
---------
Game Over
---------
play again press 1, quit press 2 : 1
```

```
play again press 1, quit press 2 : 1
welcome 1A2B! Please select the mode
guesser press 1, questioner press 2, 2P versus press 3 : 3
-----------------------------------------------------------
Easy mode: 8 number and no duplicate
Normal mode: 10 number and no duplicate
Hard mode: 6 number and one number can appear twice
Ultimate mode: 8 number and one number can appear twice
-----------------------------------------------------------
Easy press 1, Normal press 2, Hard press 3, Ultimate press 4 : 3
-----------------------------------------------------------
1P guesses first, followed by 2P.
The first player to guess correctly wins.
your guess must be 4 digits between 0 and 5(ex:0123)
-----------------------------------------------------------
Game starts!
Enter 1P guess : 0123
1A2B
Enter 2P guess : 3455
1A0B
Enter 1P guess : 3015
1A1B
Enter 2P guess : 3200
1A1B
Enter 1P guess : 3211
1A2B
Enter 2P guess : 2411
0A2B
Enter 1P guess : 3312
2A2B
Enter 2P guess : 3132
4A0B
2P WIN! You guessed the number in 8 attempts.
---------
Game Over
---------
```

```
---------
Game Over
---------
play again press 1, quit press 2 : 2
Thanks for playing!
```

```
welcome 1A2B! Please select the mode
guesser press 1, questioner press 2, 2P versus press 3 : 4
Invalid input! Please enter a number between 1 and 3.
guesser press 1, questioner press 2, 2P versus press 3 : -9
Invalid input! Please enter a number between 1 and 3.
guesser press 1, questioner press 2, 2P versus press 3 : fgchjvkiouyfh
Invalid input! Please enter a valid number.
guesser press 1, questioner press 2, 2P versus press 3 :
Invalid input! Please enter again.
```

```
 guesser press 1, questioner press 2, 2P versus press 3 : 1
 -----------------------------------------------------------
 Easy mode: 8 number and no duplicate
 Normal mode: 10 number and no duplicate
 Hard mode: 6 number and one number can appear twice
 Ultimate mode: 8 number and one number can appear twice
 -----------------------------------------------------------
 Easy press 1, Normal press 2, Hard press 3, Ultimate press 4 : 1
 -----------------------------------------------------------
 your guess must be 4 digits between 0 and 7(ex:0123)
 -----------------------------------------------------------
 Game starts!
 Enter your guess : 0128
 Invalid input! Please enter a number between 0 and 7.
 Enter your guess : 0012
 Invalid input! Please enter 4 numbers without duplicates.
 Enter your guess : 00123
 Invalid input! Please enter exactly 4 numbers.
 Enter your guess : 012
 Invalid input! Please enter exactly 4 numbers.
 Enter your guess :
 Invalid input! Please enter exactly 4 numbers.
```

```
guesser press 1, questioner press 2, 2P versus press 3 : 1
-----------------------------------------------------------
Easy mode: 8 number and no duplicate
Normal mode: 10 number and no duplicate
Hard mode: 6 number and one number can appear twice
Ultimate mode: 8 number and one number can appear twice
-----------------------------------------------------------
Easy press 1, Normal press 2, Hard press 3, Ultimate press 4 : 3
-----------------------------------------------------------
your guess must be 4 digits between 0 and 5(ex:0123)
-----------------------------------------------------------
Game starts!
Enter your guess : 1122
Invalid input! Only one number can appear twice.
Enter your guess : 0333
Invalid input! Only one number can appear twice.
```

```
guesser press 1, questioner press 2, 2P versus press 3 : 2
---------------------------------------------------------------------
Please think of a 4-digit number (digits are 0~9, no duplicates)
I will guess the answer. Please first enter how many A, then enter how many B.
---------------------------------------------------------------------
My guess: 0123
A: -1
Invalid input! Please enter a number between 0 and 4.
A: 5
Invalid input! Please enter a number between 0 and 4.
A: dfghj
Invalid input! Please enter a valid number.
A:
Invalid input! Please enter again.
A: 0012
Invalid input! Please enter a number between 0 and 4.
A: 3
B: 4
YOU CHEAT!
---------
Game Over
---------
```

```
guesser press 1, questioner press 2, 2P versus press 3 : 2
---------------------------------------------------------------------
Please think of a 4-digit number (digits are 0~9, no duplicates)
I will guess the answer. Please first enter how many A, then enter how many B.
---------------------------------------------------------------------
My guess: 0123
A: 0
B: 0
My guess: 4567
A: 0
B: 0
YOU CHEAT!
---------
Game Over
---------
```

```
guesser press 1, questioner press 2, 2P versus press 3 : 2
---------------------------------------------------------------------
Please think of a 4-digit number (digits are 0~9, no duplicates)
I will guess the answer. Please first enter how many A, then enter how many B.
---------------------------------------------------------------------
My guess: 0123
A: 0
B: 3
My guess: 1034
A: 0
B: 1
YOU CHEAT!
---------
Game Over
---------
```

若 0123 為 3B 則輸入 1034 至少有 2B 前後矛盾