期末模擬考 (Exercise)

- 不計分(期末考題庫)
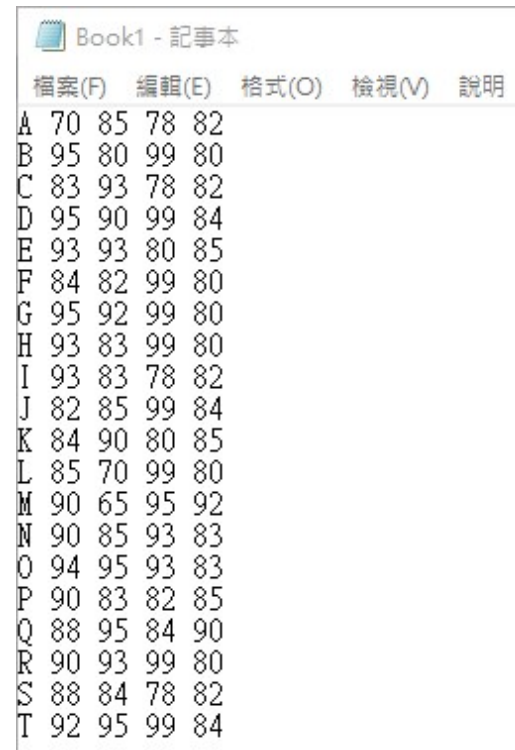- 13:00~15:00: 做完的同學，可舉手模擬驗收繳交
- 15:00~16:00: 問題討論（for 模擬考 only）

Exercise 1

▸ Please read Book1.txt

(1) Fetch everyone's grade and calculate his/her total score and average.

(2) Calculate class average and its mean-square deviation (i.e., standard deviation)

(3) Get class rank and sort by student ranking.

(4) Print on grade.txt

PS: Need to create a Book1.txt. =========>

Book1 - 記事本

檔案(F)　編輯(E)　格式(O)　檢視(V)　說明

```
A 70 85 78 82
B 95 80 99 80
C 83 93 78 82
D 95 90 99 84
E 93 93 80 85
F 84 82 99 80
G 95 92 99 80
H 93 83 99 80
I 93 83 78 82
J 82 85 99 84
K 84 90 80 85
L 85 70 99 80
M 90 65 95 92
N 90 85 93 83
O 94 95 93 83
P 90 83 82 85
Q 88 95 84 90
R 90 93 99 80
S 88 84 78 82
T 92 95 99 84
```

Result:

Exercise 2

‣ Design a program to make a calendar table , and print on Test.txt

Use the format:

```
void calendar(FILE* readPtr, int Day, int FirstDate)
{

        for (size_t count = 0; count <= FirstDate - 1; count++)
        {
                ...
        }
        for (size_t count = 1; count <= Day; count++)
        {
                ...
        }
}
```

Result:

Exercise 3

▸ Use the following framework, Design a function to exchange two "student" data.

```
struct student
{
        long id;
        char Name[10];
        int subject1;
        int subject2;
        int subject3;
};

void swap(struct student *s1, struct student *s2);
void printscore(struct student *sn);

int main()
{
        struct student st1 = { 104310030,"學生1",60,70,80 };
        struct student st2 = { 104310047,"學生2",90,80,70 };
        ...
        return 0;
}
```

```
 C:\Users\user\source\repos\week15\Debug\week15.exe
交換前
104310030 學生1
 科目1成績:60
 科目2成績:70
 科目3成績:80
104310047 學生2
 科目1成績:90
 科目2成績:80
 科目3成績:70
交換後
104310047 學生2
 科目1成績:90
 科目2成績:80
 科目3成績:70
104310030 學生1
 科目1成績:60
 科目2成績:70
 科目3成績:80
請按任意鍵繼續 . . .
```

Exercise 4

▸ Please calculate how many letters, spaces and newlines in the result of Exercise 1(Book1.txt).

▸ Please save those **3** answers as a txt file (Result.txt).

Use the format: Result:

```
struct Data {
        int Character = 0;
        int Newline = 0;
        int Space = 0;
}Data;

void textFile(FILE* readPtr);
```

3 Numbers

Exercise 5

- Odd parity-check: If the count of bits with value "1" is even, the parity bit value is set to 1 → i.e., the added tail bit makes the total count of 1's to "odd" .

- Please enter a number from 0~127 and show the result down below.

  (struct Check must be used)

```
struct Check {
        int odd;
        struct Check *next;
};
typedef struct Check *check;

int DisplayBits(check *sPtr, unsigned int value);
int isEmpty(check sPtr);
void insert(check *sPtr, int Value);
void printList(check currentPtr, int Value);
```

Result:

```
Plz enter a number (0~127) : 64

0 --> 1 --> 0 --> 0 --> 0 --> 0 --> 0 --> 0 --> NULL

0 --> 1 --> 0 --> 0 --> 0 --> 0 --> 0 --> 0 -[-> 0 ]-> NULL


C:\Users\Username\Desktop\2\Debug\2.exe (處理序 17788) 已結束，代碼為 0。
若要在偵錯停止時自動關閉主控台，請啟用 [工具] -> [選項] -> [偵錯] -> [在偵錯停止時自動關閉主控台]。
按任意鍵關閉此視窗 . . .
```

```
Plz enter a number (0~127) : 65

0 --> 1 --> 0 --> 0 --> 0 --> 0 --> 0 --> 1 --> NULL

0 --> 1 --> 0 --> 0 --> 0 --> 0 --> 0 --> 1 --[> 1 ]-> NULL


C:\Users\Username\Desktop\2\Debug\2.exe (處理序 15432) 已結束，代碼為 0。
若要在偵錯停止時自動關閉主控台，請啟用 [工具] -> [選項] -> [偵錯] -> [在偵錯停止時自動關閉主控台]。
按任意鍵關閉此視窗 . . .
```

test1.txt	test2.txt	test3.txt	test4.txt	test5.txt