CPP 程式設計題

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題目名稱(中文/英文)：FormWord

主要測試觀念： File IO

Basics		Functions	
■	C++ BASICS 1	☐	SEPARATE COMPILATION AND NAMESPACES
☐	FLOW OF CONTROL	☐	STREAMS AND FILE I/O
■	FUNCTION BASICS	☐	RECURSION
☐	PARAMETERS AND OVERLOADING	☐	INHERITANCE
☐	ARRAYS	☐	POLYMORPHISM AND VIRTUAL FUNCTIONS
■	STRUCTURES AND CLASSES	☐	TEMPLATES
☐	CONSTRUCTORS AND OTHER TOOLS	☐	LINKED DATA STRUCTURES
☐	OPERATOR OVERLOADING, FRIENDS,AND REFERENCES	☐	EXCEPTION HANDLING
☐	STRINGS	☐	STANDARD TEMPLATE LIBRARY
☐	POINTERS AND DYNAMIC ARRAYS	☐	PATTERNS AND UML

題目說明：Some word games require the player to find words that can be formed using the letters of another word. For example, given the word SWIMMING then other words WING, SING, MIMING, etc. Write a program that lets the user set a word and then output all the words contained in the file words.txt that can be formed from the letters of the set word, One algorithm to do this is to compare the letter histograms for each word. Create an array that counts up the number of each letter in the set word (e.g., one S, one W. two I, two M, etc.) and then creates similar array for the current word read from the file. The two arrays can be compared to see if the word from the file could be created out of the letters from the set word.

以下提供此題部分 class member function，請同學根據部分的 class 完成此題，請同學按照 Input-main1.cpp 實作，output1.txt 可以驗證答案，評分時將會用 Input-main2.cpp 做檢查。

```cpp
Class Form
{
private:
    string input;//輸入的字
    string fileName;//檔案名稱
public:
    void SetInputWord(string inputWord);//設定Input
    void ProcessInputWord();//處理 Input 的資訊
    void SetFileName(string fileName);//設定檔案名稱
    void Load_CompaerWord();//讀檔並且比較
    void PrintFoundWords();//印出符合的字
};
```

輸入說明：word.txt

輸出說明：請看 output1.txt

IO 範例 ：

	Sample Input	Sample Output
第一組測資與輸出	Input-main1.cpp	output1.txt
第二組	Input-main2.cpp	output2.txt

附屬資料：

☑解答程式：FormWord.cpp(檔名)

☑測試資料：input-main1.cpp, output1.txt, input-main2.cpp,output2.txt

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☐　易，僅需用到基礎程式設計語法與結構

■　中，需用到多項程式設計語法與結構

☐　難，需用到多項程式結構或較為複雜之資料型態或結構

解題時間：30 分鐘。

其他註記：

1. 比較的時候不分大小寫，但是輸出請保留原本檔案的大小寫。

2. Input-main1.cpp 只是驗證是否與 output1.txt 相同，真正在評分的是
   main2，只要評分時與 output2.txt 不相同，零分計算。