

## CPP 程式設計題

命題者：SCY

題目名稱(中文/英文)：Reversal

主要測試觀念：File I/O

Basics

Functions

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> C++ BASICS 1                       | <input type="checkbox"/> SEPARATE COMPILATION AND NAMESPACES |
| <input type="checkbox"/> FLOW OF CONTROL                               | <input checked="" type="checkbox"/> STREAMS AND FILE I/O     |
| <input checked="" type="checkbox"/> FUNCTION BASICS                    | <input type="checkbox"/> RECURSION                           |
| <input type="checkbox"/> PARAMETERS AND OVERLOADING                    | <input type="checkbox"/> INHERITANCE                         |
| <input checked="" type="checkbox"/> ARRAYS                             | <input type="checkbox"/> POLYMORPHISM AND VIRTUAL FUNCTIONS  |
| <input type="checkbox"/> STRUCTURES AND CLASSES                        | <input type="checkbox"/> TEMPLATES                           |
| <input type="checkbox"/> CONSTRUCTORS AND OTHER TOOLS                  | <input type="checkbox"/> LINKED DATA STRUCTURES              |
| <input type="checkbox"/> OPERATOR OVERLOADING, FRIENDS, AND REFERENCES | <input type="checkbox"/> EXCEPTION HANDLING                  |
| <input checked="" type="checkbox"/> STRINGS                            | <input type="checkbox"/> STANDARD TEMPLATE LIBRARY           |
| <input type="checkbox"/> POINTERS AND DYNAMIC ARRAYS                   | <input type="checkbox"/> PATTERNS AND UML                    |

**題目說明：**The text file words.txt, which is included, contains an alphabetically sorted list of English words. Note that the words are in mixed upper and lowercase.

Write a program that reads this file and finds the longest word that reverses to a different word. For example, "stun" reverses to make the word "nuts" but is only four letters long. Find the longest such word.

Depending upon the speed of your computer and your implementation, execution of this program may take from minutes to hours.

**輸入說明：**words.txt

**輸出說明：**The longest reverses word.

**I/O 範例：**

	Sample Input	Sample Output
第一組測資與輸出	words.txt	desserts
	改變 word.txt 的內容以測試的正確性。	

**附屬資料：**

- ☒ 解答程式：Reversal.cpp(檔名)
- ☒ 測試資料：input.txt, output.txt

- ☐ 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：**20 分鐘。

**其他註記：**

Read the list of words into an array or vector and then search the array or vector for the reversed word.