CPP 程式設計題

命題者：FGX

題目名稱(中文/英文)：Levenshtein Distance

主要測試觀念： Dynamic Programming

Basics		Functions	
☐	C++ BASICS	☐	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：

The Levenshtein distance measures the difference between two strings, which is the minimum number of single-character edits (insertions, deletions, substitutions) required to change one string into the other. For example, the Levenshtein distance between "resample" and "ensemble" is 4. One of the possible solutions is shown as following:

Initial: "resample"

Step 1: "esample" (deletion)

Step 2: "ensample" (insertion)

Step 3: "ensemple" (substitution)

Step 4: "ensemble" (substitution)

Note that uppercase and lowercase letters are treated as different characters.

輸入說明：

Two strings (words or sentences with at most 100 characters) as a pair separated by a new line. The program should accept successive pairs until an EOF is read.

輸出說明：

The Levenshtein distance for each pair of input strings.

IO 範例：

Sample Input	Sample Output
destiny density	3
wolf man werewolf	7
let it go... Let justice be done.	13

☐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：60 分鐘

其他註記：