C++ Fundamentals – Exam Preparation

What does this document defines and describes?

1. Reverse words

Write a program that reads lines of space separated words from the standard input (until "end" word is met), reverse the order of all given words and outputs the result to the standard output (words should be spacedelimited).

Examples

Input	Output
Hello there How are you end	you are How there Hello
end	"" (empty)
I did not quite understand that end	that understand quite not did I

2. Numeral System

Write a program that reads the digits of a base-10 numeral system – exactly 10 unique non-space characters on a single line, representing the symbols used for the digits 0-9 (inclusively) – then reads two numbers represented in that numeral system, then prints their sum in that numeral system.

Examples

Input	Output	Explanation
abcdefghij cba ja	daa	a=0, b=1,, j=9 cba = 210 ja = 90 90 + 210 = 300 = daa
0123456789 42 512	554	Numeral system matches normal base-10 (0=0, 1=1,, 9=9)
qwertyuiop popiu tutiy	wtytyw	q=0, w=1,, p=9 popiu = 98976 tutiy = 46475 98976 + 46475 = 145451 = wtytyw

3. Ultimate Reverse words (it's over 9000)

Write a program that reads lines of space separated words from the standard input (until "end" word is met), reverse the order* of all given words (with the same size) and outputs the result to the standard output.

NOTE: the reverse of words follows a special procedure:

Only words with the same character count are swapped;











- The first word containing 1 letter should be swapped with the last(N) word containing 1 letter. The second word with 1 letter should be swapped with the one before the last (N - 1) word container 1 letter.
- The same goes for 2 letter words, 3 letters words ... **N** letter words;
- Punctuation should remain in the same place. (commas, dots, question marks, etc ...);
- After the reverse all sentences should again start with capital letters. All other letters should be lowercase;

Examples

Input	Output	Explanation
Dude, what is this nightmare of a task!	Task, this of what nightmare is a dude!	First 4 letter word "Dude" swapped with last one "task". Second 4 letter word "what" swapped with one before last "this" First 2 letter word "is" swapped with last one "of" "Task" transformed to "task"; "dude" transformed to "Dude"
Testing, testing, read all about it.	Testing, testing, read all about it.	Testing <-> testing
I can not believe - that a simple c++ program could have crashed so many times.	A c++ not crashed - many i simple can program times have believe so that could.	I <-> a can <-> c++ many <-> that times <-> could crashed <-> believe
Don't hate the player - hate the game!	Don't game the player - hate the hate!	hate <-> game the <-> the













