Jumbled Up

You work for the Bitburg Post-Dispatch newspaper as a puzzle developer. Your readers have demanded to have a "Jumble" type puzzle in the paper, wherein readers must un-scramble a series of scrambled words. For instance if the scrambled word is "TWHISC", the savvy reader will realize the only word which can be made from these letters is "SWITCH".

Not every word can be used in creating a Jumble puzzle. For instance the scramble "GANEL" cannot be used since there are three possible solutions: "ANGEL", "ANGLE", and "GLEAN". A valid Jumble puzzle only has one possible solution, so the answer cannot have any anagrams which are also valid words.

In order to facilitate making Jumble puzzles, you need to write a program which will read in a set of words and find the ones which are "jumble-able" – that is the words for which there is no other word in the set of words containing the same set of letters.

Input

The first line of input consists of a number N giving the number of words. Following that is a line containing those N words, separated with spaces.

Output

Output consists of a list of the words from the test case that are jumble-able, printed in alphabetical order, one on each line.

Example Input

TASTE GLEAN ALERT ANGLE MOUNT ANGEL LATER

Example Output

MOUNT TASTE