18 Anagrams
11 points

Introduction

An anagram is a word formed by rearranging the letters of a different word, using all the original letters exactly once. For instance, the word *listen* can be rearranged into *silent*.

Checking for anagrams might be a tedious task, especially in the case of long words. Because of that, we ask you to help us in coding a simple program that, given an original word and a list of words, finds which of them are anagrams of the original text in the list.

Input

The input consists of two lines:

- A first one with the original word.

- A second one with the list of words to check for anagrams.

All inputs are always given in lower case.

Output

The output will be all the anagrams in the list, sorted by order of appearance.

Example 1

Input

abcd

abdc cdab bace dacb abce

Output

abdc cdab dacb

Example 2

Input

codewars

anagram warscode varscode warcodes rawcodes readcaos sweardoc

Output

warscode warcodes rawcodes sweardoc