
Pseudo-anagrams

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An *anagram* of a word or phrase is another word or phrase that contains exactly the same letters. For instance "evil" is an anagram of "vile", "cheater" is an anagram of "teacher", and "New York times" is an anagram of "Monkeys write".

A *pseudo-anagram* of a word or phrase is another word or phrase that contains the same letters regardless of the number of times each letter appears. For instance, "teacher" is a pseudo-anagram of "reattach", "go" is a pseudo-anagram of "goo", and "drapes" is a pseudo-anagram of "desappeared". Obviously, any anagram is also a pseudo-anagram.

Write a program that reads a text and lists all the pairs of pseudo-anagrams it contains. Each pair must list the alphabetically smaller word first. The list of pairs must be sorted alphabetically by the first word of the pair.

Input

The input is a text consisting only of words in lowercase and whitespaces.

Output

The output is the list of pseudo-anagram pairs, alphabetically sorted. The pairs must be written with the alphabetically smaller word first.

Sample input 1

```
an anagram of a word or phrase is another
word or phrase that contains exactly the
same letters for instance evil is an anagram
of vile and cheater is an anagram of teacher
```

Sample output 1

```
cheater teacher
evil vile
```

Sample input 2

```
some mooses point to a sphaera of phrases
in grooming the hethett morning despite
those semoses teppidest shoes and hoses
```

Sample output 2

```
despite teppidest
grooming morning
hethett the
hoses shoes
mooses semoses
mooses some
phrases sphaera
semoses some
```

Problem information

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