You are to find all the two-word compound words in a dictionary. A two-word compound word is a word in the dictionary that is the concatenation of exactly two other words in the dictionary.

The Input:
Standard input consists of a number of lowercase words, one per line, in alphabetical order. There will be no more than 120,000 words.

The Output:
Your output should contain all the compound words, one per line, in alphabetical order.

Sample Input:

a
alien
born
less
lien
never
nevertheless
new
newborn
the
zebra

Sample Output:

alien
newborn