

## Problem D - Zipf's Law

Harvard linguistics professor George Kingsley Zipf (1902-1950) observed that the frequency of the  $k$ th most common word in a text is roughly proportional to  $1/k$ . He justified his observations in a book titled *Human behavior and the principle of least effort* published in 1949. While Zipf's rationale has largely been discredited, the principle still holds, and others have afforded it a more sound mathematical basis.

You are to find all the words occurring  $n$  times in an English text. A word is a sequence of letters. Words are separated by non-letters. Capitalization should be ignored. A word can be of any length that an English word can be.

### Input

Input consists of several test cases. The first line of each case contains a single positive integer  $n$ . Several lines of text follow which will contain no more than 10000 words. The text for each case is terminated by a single line containing EndOfText. EndOfText does not appear elsewhere in the input and is not considered a word.

### Output

For each test case, output the words which occur  $n$  times in the input text, one word per line, lower case, in alphabetical order. If there are no such words in input, output the following line:

There is no such word.

Leave a blank line between cases.

### Sample Input

2

In practice, the difference between theory and practice is always  
greater than the difference between theory and practice in theory.  
- Anonymous

Man will occasionally stumble over the truth, but most of the  
time he will pick himself up and continue on.  
- W. S. L. Churchill

EndOfText

### Output for Sample Input

between  
difference  
in  
will