

A - Anagrams

Input: standard input

Output: standard output

Chloe O'Brien needs to crack a certain code. To do so, she needs to be able to print all the anagrams of a specific word. Since Chloe won't even brush her teeth without computer assistance, she is going to have a computer program do it for her.

Given a word, you are to print all permutations (orderings) of that word in alphabetical order. Each permutation should be printed only once.

Input

You will be given a set of input cases, each of which will be a word consisting of up to ten uppercase letters followed by <EOLN>. The last input case will be followed by an extra <EOLN>.

Output

The output cases should appear in the same order as the input cases. Each output case will be of the form **Case c** (where c is the number of the input case) followed by <EOLN> followed by the list of permutations. Each permutation is followed by <EOLN>. An extra <EOLN> follows each output case.

Sample Input

```
CAT<EOLN>
BOO<EOLN>
<EOLN>
<EOF>
```

Sample Output

```
Case 1<EOLN>
ACT<EOLN>
ATC<EOLN>
CAT<EOLN>
CTA<EOLN>
TAC<EOLN>
TCA<EOLN>
<EOLN>
Case 2<EOLN>
BOO<EOLN>
OBO<EOLN>
OOB<EOLN>
<EOLN>
<EOF>
```