Problem 5: All Permutations

Time Limit: 2 sec

Memory Limit: 32 MB

You are give a string **S**. You need to print all permutations of the string. Uppercase letters and Lowercase letters are considered different. You need to print them in Alphebetically ascending order. You may assume that Uppercase letters comes before Lowercase letters.

Input Description

Input file contains a string in a line. The string may containg letters from 'a' to 'z' and 'A' to 'Z'. One letter may occur multiple times. **|S| <= 100**

Output Description

Print all permutations of the sting. Your program should not print same permutation multiple times. See sample output to be more precise.

Sample

Input	Output
acba	aabc aacb abac abca acab acba baac baca bcaa caab caba cbaa