

Permute the String

Given a string as input, print all its permutations in sorted order.

Input Format

The only line in input contains a string S

Output Format

Print all the permutations of the string, one in each line, in recursive replacement order.

Sample Input

abc

Sample Output

abc

acb

bac

bca

cab

cbc

Explanation

The given output contains all the 6 permutations of the string in recursive replacement.