

String permutation

Your task is to write a program to display all possible permutations of a given input string S -- if the string contains duplicate characters, you may have multiple repeated results.

Input

The first line of input contains a string S (max length = 10).

Output

Output should be a word per line.

Sample input

Sample output

cat	cat cta act atc tac tca
test	test tets tset tste ttse ttes etst etts estt estt etst etts sett sett stet stte stte stet test tets tset tste ttse ttes