

Problem D. Médio

Time limit 1000 ms

Mem limit 524288 kB

Given a string, your task is to reorder its letters in such a way that it becomes a palindrome (i.e., it reads the same forwards and backwards).

Input

The only input line has a string of length n consisting of characters A–Z.

Output

Print a palindrome consisting of the characters of the original string. You may print any valid solution. If there are no solutions, print "NO SOLUTION".

Constraints

- $1 \leq n \leq 10^6$

Sample

Input	Output
AAAACACBA	AACABACAA