

Parentheses Completion

Problem description

You have a long string over the alphabet $\{[,], ?\}$. The question is, whether the question marks can be replaced by bracket symbols such that the remaining string is a balanced parenthesis expression like $[] [[] []]$. Formally, the word has to be a member of the CFL $L(G)$, where $G = S \rightarrow SS \mid [S] \mid \epsilon$.

Input

A number n ($n \leq 10^7$) followed by a string w over $\{[,], ?\}$ of length n .

Output

The string w with every occurrence of $?$ replaced by $[$ or $]$. The brackets have to be balanced. If the latter is not possible output the string **IMPOSSIBLE** instead.

Sample input/output

Input	Output
6 []???	[] []

Input	Output
9 [[[[?????	IMPOSSIBLE