Problem I. Not Another Constructive!

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	2048 megabytes

Sick of solving geometry problems, you decide to solve the following constructive problem: find a string of length n that contains exactly k not necessarily contiguous subsequences of `NAC`.

This problem seems too familiar though. Here's the twist - your friend has given you part of the string, so you must fill in the remaining characters!

Input

The first line of input contains two integers n ($1 \le n \le 40$) and k ($0 \le k \le 2\,500$), where n is the length of the string and k is the number of not necessarily contiguous subsequences of `NAC` that the output must contain.

The second line contains a string of length exactly n, consisting only of uppercase letters and/or question marks.

Output

Output a string of upper case letters, replacing each question mark in the input string with an uppercase letter so that the resulting string has exactly k subsequences of `NAC`. If this is not possible, output `-1`. Any uppercase letters in the input string must be kept in their position. There may be multiple possible solutions for any given test case; any correct solution will be accepted.

Examples

standard input	standard output
22 2 N??A??????C???????????	NOTANOTHERCONSTRUCTIVE
18 0 COUNTINGSATELLITES	COUNTINGSATELLITES
2 1 ??	-1