LPN

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Mazen challenged *Mahmoud* with a problem. Here's the problem:

You are given a number a consisting of n digits from 0 to 9. You can perform the following operation at most k times:

For each operation, you can change any digit in a to any other digit.

Your task is to find the largest palindromic number possible.

For example, if $a = 0455$ and $k = 2$, after 2 operations, a could be 0550, 5445, 0440, 5555. The largest palindromic number would be $a = 5555$.

Can you assist *Mahmoud* in solving this problem?

Note: a can have leading zeros.

Input

The first line contains two integers n and k $(1 \leq n \leq 2 \times 10^5)$,$(0 \leq k \leq 2 \times 10^5)$— the number of digits in a and the number of operations.

The second line contains a string of n characters, denoting the number a. Each character is a decimal digit from 0 to 9.

Output

Output the largest palindromic number achievable in at most k operations. If no palindromic number is achievable, output -1.

Examples

standard input	standard output
6 3 092282	992299
4 1 0011	-1
4 1 3943	3993