Richie Rich

Sandy likes palindromes. A palindrome is a word, phrase, number, or other sequence of characters which reads the same backward as it does forward. For example, *madam* is a palindrome.

On her 7^{th} birthday, Sandy's uncle, Richie Rich, offered her an n-digit check which she refused because the number was not a palindrome. Richie then challenged Sandy to make the number palindromic by changing no more than k digits. Sandy can only change 1 digit at a time, and cannot add digits to (or remove digits from) the number.

Given k and an n-digit number, help Sandy determine the largest possible number she can make by changing $\leq k$ digits.

Note: Treat the integers as numeric strings. Leading zeros are permitted and can't be ignored (So 0011 is not a palindrome, 0110 is a valid palindrome). A digit *can* be modified more than once.

Input Format

The first line contains two space-separated integers, n (the number of digits in the number) and k (the maximum number of digits that can be altered), respectively.
The second line contains an n-digit string of numbers that Sandy must attempt to make palindromic.

Constraints

- $0 < n \leq 10^5$
- $0 \leq k \leq 10^5$
- Each character i in the number is an integer where $0 \leq i \leq 9$.

Output Format

Print a single line with the largest number that can be made by changing no more than k digits; if this is not possible, print `-1`.

Sample Input 0

```
4 1
3943
```

Sample Output 0

```
3993
```

Sample Input 1

```
6 3
092282
```

Sample Output 1

```
992299
```

Sample Input 2

```
4 1
0011
```

Sample Output 2

```
-1
```

Explanation

Sample 0

There are two ways to make 3993 a palindrome by changing exactly $k = 1$ digits:

1. $3943 \rightarrow 3443$
2. $3943 \rightarrow 3993$

$3993 > 3443$, so we print 3993.