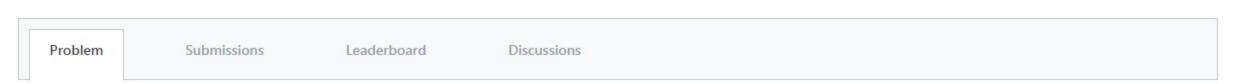


○ Contests **♀** Rank

Richie Rich





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andreidiego 🗸

Submissions: 1719

Max Score: 25

Difficulty: Easy

More

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.

Leaderboard

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 kdigits. 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

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

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.

