Problem D
Inversion of Suffix Array

Time Limit: 2 seconds

You are given positive integers N, K and a string S of length N consisting of lowercase English letters.

Let T be the string obtained by concatenating K copies of S.

Find the inversion number of the Suffix Array of T, modulo 998244353.

For a string s of length n, the suffix array of s is a permutation of integers from 1 to n that represents the starting positions of all non-empty suffixes of s, sorted in lexicographical order.

Input

The input is given in the following format:

N K
S

- $1 \leq N \leq 200\,000$
- $1 \leq K \leq 10^{12}$
- S is a string of length N consisting of lowercase English letters.
- N and K are integers.

Output

Output the answer in a single line.

Sample Input 1	Sample Output 1
4 2 icpc	18

Sample Input 2	Sample Output 2
13 92025 jagsummercamp	996562345