String Duplication

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

Little H initially has a string s composed of lowercase letters.

The charm value of a string is defined as the number of essentially different substrings.

For example, `aaa` has only 3 essentially different substrings: `a`, `aa`, `aaa`, while `aabb` has 8 essentially different substrings: `a`, `aa`, `b`, `bb`, `ab`, `aab`, `abb`, `aabb`.

He thinks the charm value of the initial string s is too low, so he duplicates s m times and concatenates them together, trying to obtain a string with a higher charm value.

However, after he finished duplicating, he found that he could not accurately calculate its charm value. Please help him calculate the charm value of the duplicated string. Since the answer may be large, you need to output the charm value modulo 998244353.

Input

The first line contains two integers n, m ($1 \leq n \leq 3 \times 10^5, 1 \leq m \leq 10^9$), representing the length of the string s and the number of duplications.

The second line contains a string s composed of lowercase letters.

Output

Output a single integer, representing the result of the charm value modulo 998244353.

Examples

standard input	standard output
6 2 mantle	57
12 1919810 ifamjlifamjl	138226305
13 935330878 aabbbbababbaa	348310505