

The 2018 Ethiopian Collegiate Programming Contest



Problem C Lucid Strings Time Limit: 0.5 Seconds

Consider a string on English alphabet of 26 lowercase letters. If the length of this string can be represented as the product of two positive integers, k (≥ 2) and c , the string can be decomposed into k substrings of the same length c . If the substrings are pairwise distinct, the string is called a “ k -Lucid-String” (shortly “ k -LS”). Here a substring is a contiguous sequence of characters within a string.

For example, for string `ababca` of length 6, there are three cases for k to consider: $k = 2, 3, 6$. For $k = 2$, the string is decomposed into two substrings, `aba` and `bca`, of length 3. Since the two substrings are pairwise distinct, the string is a 2-LS. For $k = 3$, the string is decomposed into three substrings of length 2. But `ab` appears as substring more than once, and thus the string is not a 3-LS. For $k = 6$, the string is decomposed into six substrings of length 1. But `a` and `b` appear as substring more than once, and thus the string is not a 6-LS.

Consider the problem of computing all substrings of a given input string which are k -LS's. For example, consider input string `ababca` for $k = 2$. Since each of substrings `ab`, `ba`, `ab`, `bc`, and `ca` of `ababca` can be decomposed into two pairwise distinct substrings of length 1, it is a 2-LS. Substrings `babc` and `abca` are 2-LS's because each of them can be decomposed into two pairwise distinct substrings of length 2. Since input string itself is a 2-LS, `ababca` has 8 substrings which are 2-LS's. Note that two substrings of input string are considered independently for k -LS candidates if they differ in position in input string.

Given a string S of length n and an integer k , write a program to compute the number of the substrings of S which are k -LS's.

Input

Your program is to read from standard input. The input starts with a line containing two integers, n ($3 \leq n \leq 40,000$) and k ($2 \leq k \leq 40,000$), where n is the length of input string and k is the number of substrings of the same length for each k -LS. You can assume that $k \leq n$. In the following line, a string of length n is given.

Output

Your program is to write to standard output. Print exactly one line which contains the number of the substrings of input string which are k -LS's.

The following shows sample input and output for two test cases.

| Sample Input 1 | Output for the Sample Input 1 |
|----------------|-------------------------------|
| 6 2 ababca | 8 |

Sample Input 2

6 3
ababca

Output for the Sample Input 2

2