Data Structures : Lab Exam 2

Good and Bad strings

Time Limit : 2 seconds

Given an input string ***s*** of length ***n*** containing only of lowercase letters and also information about which letters are good and which are bad, find the number of *distinct* substrings that have at most ***k*** occurrences of bad letters. Note that multiple occurrences of the same bad letter in a string are counted multiple times.
Substring of a string is defined as a contiguous subsegment of a string. More formally, a substring defined as $s[l..r]$ where $1 \leq l \leq r \leq n$ of string $s = s_1 s_2 ... s_n$ is string $s_l s_{l+1} .. s_r$.

Input

The first line contains the string ***s***.
Next line contains a string of 0s and 1s of length exactly 26. If the ***i'th*** character of the boolean string is **0**, then the ***i'th*** English letter is *bad* otherwise the ***i'th*** English letter is *good*.
The next line contains the maximum number of bad characters acceptable in a substring.

Output

Print a single integer: the number of distinct good substrings of string ***s***.

Constraints

- $1 \leq n \leq 1500$
- $0 \leq k \leq n$

Sample Cases

Input :
ababab
010000000000000000000000000
1

Output :
5

Input :
acbacbacaa
000000000000000000000000000
2

Output :
8
