You are given string s and number k.

Consider a substring p of string s. For each position of string s mark it if there is an occurence of the substring that covers the position. More formally, position i will be marked if there exists such index j that: $j \leq i \leq j + |p| - 1$ and $s_j s_{j+1} \ldots s_{j+|p|-1} = p$. We will tell p produce x islands if all the marked positions form x groups of contiguous positions.

For example, if we have a string `abababewabaq` the substring `aba` marks the positions 1, 2, 3, 4, 5, 8, 9, 10; that is `XXXXXewXXXq` (`X` denotes marked position). We can see 2 groups of contiguous positions, that is 2 islands. Finally, substring `aba` produces 2 islands in the string `abababewabaq`.

Calculate and print the number of different substrings of string s that produce exactly k islands.

Input Format

The first line contains string s $(1 \leq |s| \leq 10^5)$. The string consists of lowercase letters only. The second line contains an integer k $(1 \leq k \leq |s|)$.

Output Format

Output a single integer — the answer to the problem.

Sample Input

```
abaab
2
```

Sample Output

```
3
```

Explanation

All the suitable substrings are: `a`, `ab`, `b`.