How Many Substrings? ■





Consider a string of n characters, s, of where each character is indexed from 0 to n-1.

You are given q queries in the form of two integer indices: left and right. For each query, count and print the number of different substrings of s in the inclusive range between left and right.

Note: Two substrings are different if their sequence of characters differs by at least one. For example, given the string s = aab, substrings $s_{[0,0]} = ab$ and $s_{[1,1]}=a$ are the same but substrings $s_{[0,1]}=a$ and $s_{[1,2]}=a$ are different.

Input Format

The first line contains two space-separated integers describing the respective values of n and q.

The second line contains a single string denoting \boldsymbol{s} .

Each of the q subsequent lines contains two space-separated integers describing the respective values of left and right for a query.

Constraints

- $0 \le left \le right \le n-1$
- String s consists of lowercase English alphabetic letters (i.e., a to z) only.

Subtasks

- For 30% of the test cases, $1 \le n, q \le 100$
- For 50% of the test cases, $1 \le n, q \le 3000$
- For 100% of the test cases, $1 \le n, q \le 10^5$

Output Format

For each query, print the number of different substrings in the inclusive range between index left and index right on a new line.

Sample Input 0

- 5 5
- aabaa 1 1
- 1 4
- 1 1
- 1 4
- 0 2

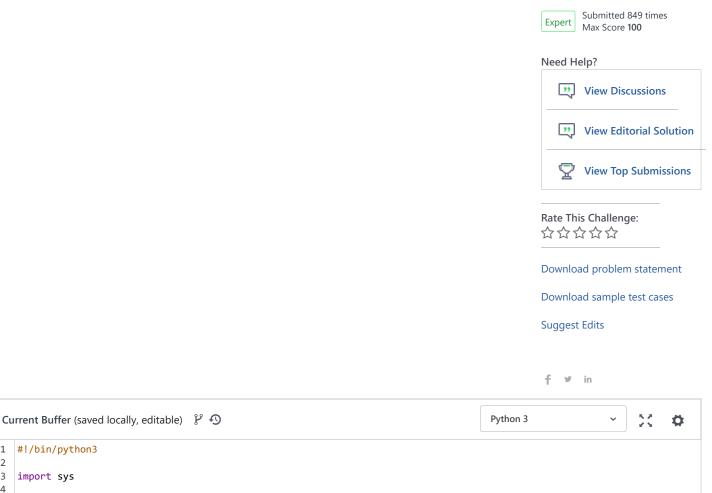
Sample Output 0

- 1
- 8
- 1
- 8 5

Explanation 0

Given s= aabaa, we perform the following q=5 queries:

- 1. 1 1: The only substring of a is itself, so we print 1 on a new line.
- 2. 1 4: The substrings of abaa are a, b, ab, ba, aa, aba, baa, and abaa, so we print 8 on a new line.
- 3. 1 1: The only substring of a is itself, so we print 1 on a new line.
- 4. 1 4: The substrings of abaa are a, b, ab, ba, aa, aba, baa, and abaa, so we print 8 on a new line.
- 5. 0 2: The substrings of aab are a, b, aa, ab, and aab, so we print 5 on a new line.



```
#!/bin/python3
2
3
    import sys
4
5
   n,q = input().strip().split(' ')
6
7
   n,q = [int(n),int(q)]
8
   s = input().strip()
9 v for a0 in range(q):
        left,right = input().strip().split(' ')
10
11
        left,right = [int(left),int(right)]
        # your code goes here
12
13
                                                                                                                 Line: 1 Col: 1
```

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