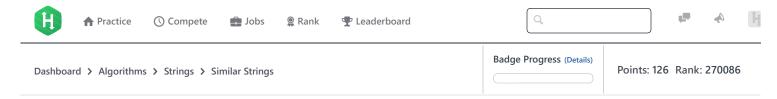
15/11/2017 HackerRank



Similar Strings



Problem

Jimmy loves playing with strings. He thinks string A is similar to string B if the following conditions are satisfied:

- Both strings have the same length (i.e., $A=a_0a_1\ldots a_{n-1}$ and $B=b_0b_1\ldots b_{n-1}$).
- ullet For each valid pair of indices, (i,j), in the strings, $[a_i=a_j$ and $b_i=b_j]$ or $[a_i
 eq a_j$ and $b_i
 eq b_j]$.

For example, string a = "adba" and b = "bcgb" are similar as for i = 0, j = 3, a[0] == a[3] and b[0] == b[3] and for all other i, j pairs $a[i] \neq a[j]$ as well as $b[i] \neq b[j]$.

He has a string, S, of size n and gives you q queries to answer where each query is in the form of a pair of integers (l_i, r_i) . For each substring $S[l_i, r_i]$, find the number of substrings S[x, y] where substring $S[l_i, r_i]$ is similar to substring S[x, y] and print this number on a new line.

Note: Substring S[x,y] is the contiguous sequence of characters from index x to index y. For example, if S= abcdefgh, then S[3,6]= cdef.

Input Format

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

The second line contains string S.

Each line i of the q subsequent lines contains two space-separated integers describing the respective values of l_i and r_i for query i.

Constraints

- $1 \le n, q \le 5 \times 10^4$
- $1 \le L_i \le R_i \le n$
- $s_i \in \{a, b, c, d, e, f, g, h, i, j\}$

Output Format

For each query, print the number of similar substrings on a new line.

Sample Input

Sample Output

Explanation

15/11/2017 HackerRank

We perform the following sequence of queries:

- 1. Strings with length ${\bf 1}$ are all similar, so our answer is ${\bf 8}$.
- 2. gi, ig, ga, ab, ba, and aj are similar, so our answer is 6.
- 3. gig and aba are similar, so our answer is 2.
- 4. igg has no similar string, so our answer is 1.

f in Submissions:922
Max Score:85
Difficulty: Advanced
Rate This Challenge:
☆☆☆☆☆



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