

AB Subs

time limit per test: 2 seconds
memory limit per test: 488.3 megabytes
input: standard input
output: standard output
points: 100 · problem code: absubs · author: jszqlw

Problem Statement

You are given an initial string s of length n consisting of only the letters `a` and `b`.

You are also given q queries, in order, each containing two integers l and r .

For each query, determine the number of `ab` subsequences in the substring of s from l to r .

Input Format

Your first line will contain n and q . Your next line will contain s . Your next q lines will contain two integers each, representing l and r for that query.

Output Format

For each query, you should output one line containing a single integer representing the number of `ab` subsequences from that query's substring.

Constraints

Subtask 1

- $1 \leq n, q \leq 10^3$
- $0 \leq l \leq r \leq n - 1$

Subtask 2

- $1 \leq n, q \leq 10^5$
- $0 \leq l \leq r \leq n - 1$

Sample Cases

Input 1

```
10 3
abbabbbbaab
1 2
1 5
0 7
```

Output 1

```
0
2
8
```

Input 2

```
10 3
bbababbaba
0 4
5 9
0 9
```

Output 2

```
1  
1  
8
```

Input 2

```
10 1  
aaaaabbbbb  
0 9
```

Output 2

```
25
```