Problem J. Substring query

Input file:	stdin
Output file:	stdout
Time limit:	1 second
Memory limit:	512 megabytes

bobo has n strings $S_1, S_2, \ldots, S_n$. One day, his friend yiyi comes and asks him q questions: how many strings in $S_{l_i}, S_{l_i+1}, \ldots, S_{r_i}$ containing P_i as a substring?

Help bobo find out the answer.

Input

The first line contains 2 integers n, q ($1 \leq n, q \leq 200000$).

Each of the following n lines contains 1 string S_i ($|S_1| + |S_2| + \cdots + |S_n| \leq 200000$).

Each of the last q lines contains 2 integers l_i, r_i and 1 string P_i.

($1 \leq l_i \leq r_i \leq n, |P_1| + |P_2| + \cdots + |P_n| \leq 200000$)

All strings consist of "a" and "b".

Output

For each question, a single integer denotes the answer.

Sample input and output

stdin	stdout
4 2 a b ab bab 1 3 a 1 4 ab	2 2