Back To School '18: Letter Frequency

Time limit: 1.0s
Python: 1.4s

Memory limit: 128M
Java: 256M
Python: 512M

Yunyi is given a sentence consisting of lowercase Latin letters and spaces, S, and he has to determine which language the sentence is written in. One way that he knows of determining the language is by counting letter frequencies in certain sections of the sentence.

Yunyi will give you Q queries of the form `i j c`, which asks for the frequency of letter c between indices i and j (inclusive) $(1 \leq i \leq j \leq |S|)$. Note that spaces ( ) are not considered letters, and therefore will not be queried.

Input Specification

The first line will contain the sentence S $(1 \leq |S| \leq 10^6)$.

The second line will contain the integer Q $(1 \leq Q \leq 10^5)$.

The next Q lines will each contain a valid query as defined above.

The sentence will only consist of lowercase Latin characters and spaces. There will only be one space between any 2 words, and there will be no leading/trailing spaces.

Output Specification

For each query, print the frequency of the letter c between indices i and j (inclusive).

Constraints

Subtask 1 [10%]

$|S|, Q \leq 1\,000$

Subtask 2 [90%]

No additional constraints.

Sample Input

```
this is a very interesting sentence and you will agree
4
1 4 h
6 6 p
15 26 t
1 54 e
```

Sample Output

```
1
0
2
8
```