

# TLE '16 Contest 7 P6 - Everyone Hates Reading

Your neighbourhood fox has another English project. There's only one problem ... it involves reading. ~~Foxen~~ Everyone hates reading and will do anything to avoid it.

Your neighbourhood fox is given a long article of text, containing  $N$  words. He is then given  $M$  root words which he must research, and a range  $[l, r]$  in the text to use. **Of the words from  $l$  to  $r$ , please help him count the number of words that *either* has the root word as a prefix or is a prefix of the root word.**



*Your brain after reading certain books.*

## Constraints

$$N \leq 100\,000$$

$$M \leq 100\,000$$

The total length of all words in the article of text and the root words will each be no greater than 100 000.

## Input Specification

2 integers,  $N$  and  $M$ .

$N$  lines, each with a string of lowercase English letters.

$M$  lines, each with a string of lowercase English letters and 2 integers  $l$  and  $r$ .

## Output Specification

$N$  lines, each with an integer: the answer to each of the queries.

## Sample Input

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```
3 3
a
ab
abc
a 1 3
abcerhfgdryrtjfhdgshdj 2 3
aaaaaaaaa 1 3
```

## Sample Output

---

```
3
2
1
```