NOI '18 P3 - Name

Time limit: 4.0s **Memory limit:** 1G

You are given a string S, and q queries.

For each query, you are given a string T and two integers l, r. You are asked to output the number of distinct substrings of T that is not a substring of $S[l..r]$

String $S[l..r]$ refers the substring of S from index l to r, i.e. $s_l s_{l+1} \ldots s_{r-1} s_r$.

Input Specification

The first line contains an string S.

The next line contains an integer q.

Each of the next q lines contains a string T and two integers l, r.

Output Specification

For each test case, output the answer.

Sample Input

```
scbamgepe
3
smape 2 7
sbape 3 8
sgepe 1 9
```

Sample Output

```
12
10
4
```

Data ranges

Case	$\mid S \mid \leq$	$Q \leq$	$\sum \mid T \mid \leq$	Properties
1	200	200	40000	$T \leq 200$
2	1000	200	40000	$T \leq 200$
3	1000	200	40000	$T \leq 200$
4	1000	200	5×10^5	None
5	1000	200	5×10^5	None
6	5×10^5	1	5×10^5	None
7	5×10^5	1	5×10^5	None
8	10^5	10^5	2×10^5	None
9	10^5	10^5	2×10^5	string is random
10	2×10^5	10^5	4×10^5	None
11	2×10^5	10^5	4×10^5	String is Random
12	3×10^5	10^5	6×10^5	None
13	3×10^5	10^5	6×10^5	string is random
14	4×10^5	10^5	8×10^5	None
15	4×10^5	10^5	8×10^5	string is random
16	5×10^5	10^5	10^6	None
17	5×10^5	10^5	10^6	String is random
18	2×10^5	10^5	10^6	None
19	3×10^5	10^5	10^6	none
20	4×10^5	10^5	10^6	none
21	5×10^5	10^5	10^6	none
22	5×10^5	10^5	10^6	none
23	5×10^5	10^5	10^6	none
24	5×10^5	10^5	10^6	none
25	5×10^5	10^5	10^6	none

For the first 17 test points all queries have $l = 1, r = |S|$.

For all data, it is guaranteed that $1 \leq l \leq r \leq |S|$,$1 \leq |T| \leq 5 \times 10^5$