G1. Division + LCP (easy version)

time limit per test: 2 seconds
memory limit per test: 256 megabytes

This is the easy version of the problem. In this version $l = r$.

You are given a string s. For a fixed k, consider a division of s into exactly k continuous substrings $w_1, \ldots, w_k$. Let f_k be the maximal possible $LCP(w_1, \ldots, w_k)$ among all divisions.

$LCP(w_1, \ldots, w_m)$ is the length of the Longest Common Prefix of the strings $w_1, \ldots, w_m$.

For example, if $s = abababcab$ and $k = 4$, a possible division is $ab|ab|abc|ab$. The $LCP(ab, ab, abc, ab)$ is 2, since ab is the Longest Common Prefix of those four strings. Note that each substring consists of a continuous segment of characters and each character belongs to **exactly** one substring.

Your task is to find $f_l, f_{l+1}, \ldots, f_r$. **In this version $l = r$.**

Input

The first line contains a single integer t ($1 \le t \le 10^4$) — the number of test cases.

The first line of each test case contains two integers n, l, r ($1 \le l = r \le n \le 2 \cdot 10^5$) — the length of the string and the given range.

The second line of each test case contains string s of length n, all characters are lowercase English letters.

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output $r - l + 1$ values: $f_l, \ldots, f_r$.

Example

input Copy

```
7
3 3 3
aba
3 3 3
aaa
7 2 2
abacaba
9 4 4
abababcab
10 1 1
codeforces
9 3 3
abafababa
5 3 3
zpozp
```

output Copy

```
0
1
3
2
10
2
0
```

Note

In the first sample $n = k$, so the only division of aba is $a|b|a$. The answer is zero, because those strings do not have a common prefix.

In the second sample, the only division is $a|a|a$. Their longest common prefix is one.

Codeforces Round 943 (Div. 3)
Finished
Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
283295949	Sep/28/2024 05:01	Accepted
283291418	Sep/28/2024 03:09	Accepted
283291330	Sep/28/2024 03:06	Compilation error
283287956	Sep/28/2024 01:28	Accepted
283287822	Sep/28/2024 01:25	Compilation error
283287757	Sep/28/2024 01:23	Time limit exceeded on test 1
283284736	Sep/28/2024 00:20	Accepted
283284467	Sep/28/2024 00:15	Accepted
283283045	Sep/27/2024 23:51	Wrong answer on test 2
283283007	Sep/27/2024 23:50	Wrong answer on test 2

→ Problem tags

binary search | data structures | dp | hashing | string suffix structures | strings | *1900

No tag edit access

→ Contest materials

- Announcement (en)