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Friend or Girlfriend

| Problem Code: **STRCH**

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Shlok and Sachin are good friends. Shlok wanted to test Sachin, so he wrote down a string S with length N and one character X . He wants Sachin to find the number of different substrings of S which contain the character X at least once. Sachin is busy with his girlfriend, so he needs you to find the answer.

Two substrings of S are considered different if their positions in S are different.

Input

- The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first line of each test case contains a single integer N .
- The second line contains a string S with length N , followed by a space and a character X .

Output

For each test case, print a single line containing one integer — the number of substrings of S that contain X .

Constraints

- $1 \leq T \leq 1,000$
- $1 \leq N \leq 10^6$
- S contains only lowercase English letters
- X is a lowercase English letter
- the sum of N over all test cases does not exceed 10^6

Subtasks

Subtask #1 (30 points): the sum of N over all test cases does not exceed 10^3

Subtask #2 (70 points): original constraints

Example Input

```
2
3
abb b
6
abcabc c
```

Example Output

```
5
15
```

Explanation

Example case 1: The string "abb" has six substrings: "a", "b", "b", "ab", "bb", "abb". The substrings that contain 'b' are "b", "b", "ab", "bb", "abb".

All submissions for this problem are available.

Author:	5★ jnarutoj
Editorial:	https://discuss.codechef.com/problems/STRCH
Tags:	april19 , combinatorics , jnarutoj , simple
Date Added:	20-03-2019
Time Limit:	1 secs
Source Limit:	50000 Bytes
Languages:	CPP14, C, JAVA, PYTH 3.6, PYTH, CS2, ADA, PYPY, PYP3, TEXT, PAS fpc, RUBY, PHP, NODEJS, GO, TCL, HASK, PERL, SCALA, kotlin, BASH, JS, PAS gpc, BF, LISP sbcl, CLOJ, LUA, D, R, CAML, rust, ASM, FORT, FS, LISP clisp, swift, SCM guile, PERL6, CLPS, WSPC, ERL, ICK, NICE, PRLG, ICON, PIKE, COB, SCM chicken, SCM qobi, ST, NEM

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