D. Remove Two Letters

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

Dmitry has a string s, consisting of lowercase Latin letters.

Dmitry decided to remove two **consecutive** characters from the string s and you are wondering how many different strings can be obtained after such an operation.

For example, Dmitry has a string "aaabcc". You can get the following different strings: "abcc"(by deleting the first two or second and third characters), "aacc"(by deleting the third and fourth characters),"aaac"(by deleting the fourth and the fifth character) and "aaab" (by deleting the last two).

Input

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

The descriptions of the test cases follow.

The first line of the description of each test case contains an integer n ($3 \le n \le 2 \cdot 10^5$).

The second line of the description of each test case contains a string s of length n consisting of lowercase Latin letters.

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

Output

For each test case print one integer — the number of distinct strings that can be obtained by removing two consecutive letters.

Example

input Copy

```
7
6
aaabcc
10
aaaaaaaaaa
6
abcdef
7
abacaba
6
cccfff
4
abba
5
ababa
```

output Copy

```
4
1
5
3
3
3
1
```

Note

The first example is explained in the statement.

In the third example, the following strings are obtained: "cdef", "adef", "abef", "abcf", "abcd".

In the seventh example, any deletion will result in the string "aba".

Codeforces Round 855 (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
281034586	Sep/13/2024 22:28	Accepted
280565943	Sep/10/2024 14:44	Accepted
280565558	Sep/10/2024 14:41	Accepted

→ **Problem tags**

data structures greedy hashing strings *1200

No tag edit access

→ **Contest materials**

- Announcement
- Tutorial