Largest Subsequence

A string S is called *good* if and only if :

- The number of occurrences of "ab" as a substring of S = the number of occurrences of "ba" as a substring of S.

For example, aaba, a and babab are good strings, while ab is not.

You are given a string S consisting of characters a and b only. Find the length of the largest subsequence† of the string S which is *good*.

† T is said to be a subsequence of S, if we can obtain T by deleting some elements from S, and concatenating the remaining portion without changing their order. For example, ab, aa, a and aba are all subsequences of aba, but bb and baa are not.

Input Format

- The first line of input will contain a single integer T, denoting the number of test cases.
- Each test case consists of multiple lines of input.
  - The first line contains N - the size of the string
  - The second line contains S - the string

Output Format

For each test case, output on a new line the length of the largest subsequence of T which is *good*.

Constraints

- $1 \leq T \leq 10^4$
- $1 \leq N \leq 2 \cdot 10^5$
- $|S| = N$
- $S_i \in \{\mathrm{a}, \mathrm{b}\}$
- The sum of N over all test cases does not exceed $2 \cdot 10^5$

Sample 1:

Input	Output
4 4 abba 2 ab 1 b 5 aaabb	4 1 1 3

Explanation:

Test Case 1 : abba has 1 occurrence of ab and 1 occurrence of ba. Thus, it is already a *good* string. Hence, the answer is simply 4.

Test Case 2 : ab is not good as it has 1 occurrence of ab but none of ba. a is a good string, which has size 1.