HHPC1 P1 - Yielding the Longest Substring

Time limit: 1.0s **Memory limit:** 256M

You are given a string S of length N of lowercase letters. You are allowed to choose an index i $(0 \leq i < N)$ and replace $S[i]$ with a different lowercase letter at most once. Determine the longest substring of identical characters in the string S after replacing a character at most once.

Constraints

$1 \leq T \leq 10^6$

$1 \leq N \leq 10^6$

The sum of N over all test cases does not exceed 10^6.

Input Specification

The first line contains a single integer T, representing the number of test cases.

For each test case, there are two lines:

The first line contains a single integer N.

The second line contains a string S of length N.

Output Specification

For each test case, output a single integer: the length of the longest substring of identical characters in S after replacing a character at most once.

Sample Input

```
3
3
abc
4
aaab
4
baaa
```

Sample Output

```
2
4
4
```

Sample Explanation

For the first test case, changing any character to match one of its neighbors yields a substring of length 2 with identical characters.

In the second test case, changing the last character to `a` yields `aaaa` as a substring with identical characters.

In the third test case, changing the first character to `a` also yields `aaaa` as a substring.