Problem H. Make a Palindrome

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

You have a string s consisting of lowercase English letters. You want to transform it into a palindrome by performing zero or more operations. In one operation, you can swap any two characters in the string which are at distance exactly 2 from each other (in other words, there is exactly one character between them).

Determine if it is possible to transform the string s into a palindrome.

A palindrome is a string that coincides with its reversed copy.

Input

The first line contains an integer t ($1 \le t \le 10^5$), the number of test cases. The test cases follow.

The first line of each test case contains an integer n ($1 \le n \le 10^5$). The second line contains the string s of length n consisting of lowercase English letters.

The sum of n over all test cases does not exceed 10^5.

Output

For each test case, print a line containing "YES" if it is possible to transform the given string into a palindrome by the given rules, or "NO" otherwise.

Example

standard input	*standard output*
8 6 acbbca 6 acbbac 6 aaaaaa 7 abcacba 9 abcbcecea 1 b 2 ca 2 cc	YES NO YES YES YES YES NO YES