Problem I: Inversing Palindrome

You are given two zero-indexed binary strings a and b, each string having length n. You can perform the following operation any number of times (possibly zero):

- Choose a palindromic substring of a with an even length, and flip all digits in the chosen substring (every digit `0` is turned into digit `1`, and vice-versa).

Determine whether it is possible to transform string a into string b.

Input

The first line contains a positive integer t ($1 \leq t \leq 10^4$) – the number of test cases. The description of each test case is as follows.

The first line contains a positive integer n ($2 \leq n \leq 100$) – the length of the two binary strings.

The second line contains a binary string a of length n.

The third line contains a binary string b of length n.

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

Output

For each test case, print "YES" (without quotes) if you can transform string a into string b. Otherwise, print "NO" (without quotes).

Sample Explanation

In the first test case, a possible way to transform string a into string b is described as follows:

$$\underline{10010} \xrightarrow{[0;3]} 01\underline{100} \xrightarrow{[3;4]} 01111$$

In the second test case, it is impossible to perform any operation on string a. Therefore, it is impossible to transform string a into a different string.

In the third test case, no operation is need to transform string a into string b.

Sample Input 1	Sample Output 1
3 5 10010 01111 3 101 110 4 0000 0000	YES NO YES