

B. Unlucky Ticket

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Each of you probably has your personal experience of riding public transportation and buying tickets. After a person buys a ticket (which traditionally has an **even** number of digits), he usually checks whether the ticket is lucky. Let us remind you that a ticket is lucky if the sum of digits in its first half matches the sum of digits in its second half.

But of course, not every ticket can be lucky. Far from it! Moreover, sometimes one look at a ticket can be enough to say right away that the ticket is not lucky. So, let's consider the following *unluckiness criterion* that can definitely determine an unlucky ticket. We'll say that a ticket is definitely unlucky if each digit from the first half corresponds to some digit from the second half so that each digit from the first half is **strictly less** than the corresponding digit from the second one or each digit from the first half is **strictly more** than the corresponding digit from the second one. Each digit should be used exactly once in the comparisons. In other words, there is such *bijective correspondence* between the digits of the first and the second half of the ticket, that either each digit of the first half turns out **strictly less** than the corresponding digit of the second half or each digit of the first half turns out **strictly more** than the corresponding digit from the second half.

For example, ticket **2421** meets the following unluckiness criterion and will not be considered lucky (the sought correspondence is $2 > 1$ and $4 > 2$), ticket **0135** also meets the criterion (the sought correspondence is $0 < 3$ and $1 < 5$), and ticket **3754** does not meet the criterion.

You have a ticket in your hands, it contains $2n$ digits. Your task is to check whether it meets the unluckiness criterion.

Input

The first line contains an integer n ($1 \leq n \leq 100$). The second line contains a string that consists of $2n$ digits and defines your ticket.

Output

In the first line print "YES" if the ticket meets the unluckiness criterion. Otherwise, print "NO" (without the quotes).

Examples

input
2 2421
output
YES
input
2 0135
output
YES
input
2 3754
output
NO

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Round #111 (Div. 2)

Finished

→ 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 ACM-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

→ Problem tags

greedy sortings

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 