

## C. Swap Adjacent Elements

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

You have an array  $a$  consisting of  $n$  integers. Each integer from 1 to  $n$  appears exactly once in this array.

For some indices  $i$  ( $1 \leq i \leq n - 1$ ) it is possible to swap  $i$ -th element with  $(i + 1)$ -th, for other indices it is not possible. You may perform any number of swapping operations any order. There is no limit on the number of times you swap  $i$ -th element with  $(i + 1)$ -th (if the position is not forbidden).

Can you make this array sorted in ascending order performing some sequence of swapping operations?

### Input

The first line contains one integer  $n$  ( $2 \leq n \leq 200000$ ) — the number of elements in the array.

The second line contains  $n$  integers  $a_1, a_2, \dots, a_n$  ( $1 \leq a_i \leq 200000$ ) — the elements of the array. Each integer from 1 to  $n$  appears exactly once.

The third line contains a string of  $n - 1$  characters, each character is either 0 or 1. If  $i$ -th character is 1, then you can swap  $i$ -th element with  $(i + 1)$ -th any number of times, otherwise it is forbidden to swap  $i$ -th element with  $(i + 1)$ -th.

### Output

If it is possible to sort the array in ascending order using any sequence of swaps you are allowed to make, print YES. Otherwise, print NO.

### Examples

input
6 1 2 5 3 4 6 01110
output
YES

input
6 1 2 5 3 4 6 01010
output
NO

### Note

In the first example you may swap  $a_3$  and  $a_4$ , and then swap  $a_4$  and  $a_5$ .