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Almost Sorted

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Problem

Submissions

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Given an array with n elements, can you sort this array in *ascending order* using only one of the following operations?

1. Swap two elements.
2. Reverse one sub-segment.

Input Format

The first line contains a single integer, n , which indicates the size of the array.

The next line contains n integers separated by spaces.

n
 $d_1 d_2 \dots d_n$

Constraints

$$2 \leq n \leq 100000$$

$$0 \leq d_i \leq 1000000$$

All d_i are distinct.

Output Format

1. If the array is already sorted, output *yes* on the first line. You do not need to output anything else.

1. If you can sort this array using one single operation (from the two permitted operations) then output *yes* on the first line and then:

a. If you can sort the array by swapping d_l and d_r , output *swap l r* in the second line. l and r are the indices of the elements to be swapped, assuming that the array is indexed from 1 to n .

b. Else if it is possible to sort the array by reversing the segment $d[l \dots r]$, output *reverse l r* in the second line. l and r are the indices of the first and last elements of the subsequence to be reversed, assuming that the array is indexed from 1 to n .

$d[l \dots r]$ represents the sub-sequence of the array, beginning at index l and ending at index r , both inclusive.

If an array can be sorted by either swapping or reversing, stick to the swap-based method.

2. If you cannot sort the array in either of the above ways, output *no* in the first line.

Sample Input #1

2
 4 2

Sample Output #1

yes
 swap 1 2

Sample Input #2

```
3
3 1 2
```

Sample Output #2

```
no
```

Sample Input #3

```
6
1 5 4 3 2 6
```

Sample Output #3

```
yes
reverse 2 5
```

Explanation

For #1, you can both *swap*(1, 2) and *reverse*(1, 2), but if you can sort the array using swap, output swap only.



For #2, it is impossible to sort by one single operation (among those permitted).



For #3, you can reverse the sub-array $d[2...5] = "5\ 4\ 3\ 2"$, then the array becomes sorted.

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