

















All Competitions > c2c2017-3 > Almost Sorted

# **Almost Sorted**





Problem

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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 d1 d2 ... dn

#### Constraints

 $2 \le n \le 100000 \\ 0 \le d_i \le 1000000$ 

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 / 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 r.
  - **b.** Else if it is possible to sort the array by reversing the segment d[l...r], output *reverse I 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 42

#### Sample Output #1

yes swap 1 2

## Sample Input #2

3 312

## Sample Output #2

no

## Sample Input #3

6 154326

## Sample Output #3

yes reverse 2 5

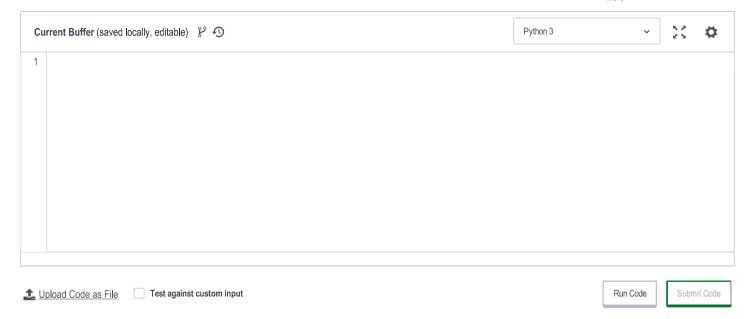
## Explanation

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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