

# Shuffled

Problem ID: shuffled

Something has been coming into your room each night, and shuffling around your array,  $A$ , of unique, positive integers valued between 1 and  $n$  which you keep on your shelf.



As a ghost expert, you know it is a ghost if and only if it has shuffled your array with exactly three 'swap' operations. One of these swap operations consists swapping the integers located at positions  $i$  and  $j$  ( $i \neq j$ ).

Determine whether it is possible that a ghost has shuffled your array or not!

## Input

- The first line contains a single integer,  $n$ , where  $n$  represents the number of elements in the array  $A$  ( $0 \leq n \leq 10^5$ ).
- The next line contains  $n$  space separated integers, representing the initial state of the array  $A$  ( $0 \leq A[i] \leq 10^5$ ).
- The next line also contains  $n$  space separated integers, representing the state of the array  $A$  after it has been shuffled.

## Output

- Print "YES" if the array could have been shuffled by the ghost.
- Otherwise, print "NO".

### Sample Input 1

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

### Sample Output 1

```
YES
```

### Sample Input 2

```
4
4 1 3 2
1 4 3 2
```

### Sample Output 2

```
YES
```

### Sample Input 3

```
3
1 2 3
1 2 3
```

### Sample Output 3

```
NO
```

**Sample Input 4**

```
12
1 2 3 4 5 6 7 8 9 10 11 12
12 11 10 9 8 7 6 5 4 3 2 1
```

**Sample Output 4**

```
NO
```