

# Security Involution

Consider a function  $f : X \rightarrow X$  where  $X$  is any set, and  $f$  is a bijection.

Now, if  $f = f^{-1}$  then  $f$  is called an *involution*. In other words, a function  $f$  is called an involution if  $f(f(x)) = x$

In this task you're given a permutation  $f : \{1, 2, 3, \dots, n\} \rightarrow \{1, 2, 3, \dots, n\}$ .

Determine whether  $f$  is an involution or not.

## Constraints

$$1 \leq n \leq 20$$

## Input Format

There are **2** lines in the input.

The first line contains a single positive integer  $n$ .

The second line contains  $n$  space separated integers, the values of  $f(1), f(2), f(3), \dots, f(n)$ , respectively.

## Output Format

Output "YES" if  $f$  is an involution. Otherwise, output "NO".

## Sample Input

```
2
2 1
```

## Sample Output

```
YES
```

## Explanation

Since,  $f(1) = 2$  and  $f(2) = 1$ ,  $f^{-1}(1) = 2$  and  $f^{-1}(2) = 1$ .

Hence,  $f$  is an involution.