Security Involution

Consider a function $f : X \to X$ 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 $f : \{1, 2, 3, \ldots, n\} \to \{1, 2, 3, \ldots, n\}$.

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 $f(1),\ f(2),\ f(3),\ \ldots,\ f(n)$, 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.