Security - Involution

Problem Statement

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. Or, to put it in simple terms, a function f is called involution if $f(f(x)) = x$

In this task you'll be given a permutation $f : \{1, 2, 3, \ldots, n\} \to \{1, 2, 3, \ldots, n\}$ and you have to output if 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, "NO" otherwise.

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 indeed an involution.