Dashboard > Algorithms > Implementation > Sequence Equation

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Sequence Equation 🔖

by zemen

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You are given a sequence of n integers, $p(1), p(2), \ldots, p(n)$. Each element in the sequence is distinct and satisfies $1 \leq p(x) \leq n$. For *each* x where $1 \leq x \leq n$, find any integer y such that $p(p(y)) \equiv x$ and print the value of y on a new line.

Input Format

The first line contains an integer, n, denoting the number of elements in the sequence.
The second line contains n space-separated integers denoting the respective values of $p(1), p(2), \ldots, p(n)$.

Constraints

- $1 \leq n \leq 50$

- $1 \leq p(x) \leq 50$, where $1 \leq x \leq n$.

- Each element in the sequence is distinct.

Output Format

For each x from 1 to n, print an integer denoting any valid y satisfying the equation $p(p(y)) \equiv x$ on a new line.

Sample Input 0

```
3
2 3 1
```

Sample Output 0

```
2
3
1
```

Explanation 0

Given the values of $p(1) = 2$, $p(2) = 3$, and $p(3) = 1$, we calculate and print the following values for each x from 1 to n:

1. $x = 1 \equiv p(3) = p(p(2)) = p(p(y))$, so we print the value of $y = 2$ on a new line.

2. $x = 2 \equiv p(1) = p(p(3)) = p(p(y))$, so we print the value of $y = 3$ on a new line.

3. $x = 3 \equiv p(2) = p(p(1)) = p(p(y))$, so we print the value of $y = 1$ on a new line.

Easy   Submitted 19542 times
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```cpp
1 ▾ #include <iostream>
2   #include <map>
3
4   int main()
5 ▾ {
6       int n; std::cin >> n;
7       std::map<int,int> Map;
8
9       for(int i = 1; i <= n; ++i)
10 ▾    {
11          int temp;
12          std::cin >> temp;
13 ▾        Map[temp] = i;
14       }
15       for(int i = 1; i <= n; ++i)
16 ▾        std::cout << Map[Map[i]] << "\n" ;
17       return 0;
18   }
19
```

Line: 19 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   [Run Code]   [Submit Code]

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✔ Test Case #3   ✔ Test Case #4   ✔ Test Case #5

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