

# Sequence Equation

Given a sequence of  $n$  integers,  $p(1), p(2), \dots, p(n)$  where each element 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.

For example, assume the sequence  $p = [5, 2, 1, 3, 4]$ . Each value of  $x$  between 1 and 5, the length of the sequence, is analyzed as follows:

1.  $x = 1 \equiv p[3], p[4] = 3$ , so  $p[p[4]] = 1$
2.  $x = 2 \equiv p[2], p[2] = 2$ , so  $p[p[2]] = 2$
3.  $x = 3 \equiv p[4], p[5] = 4$ , so  $p[p[5]] = 3$
4.  $x = 4 \equiv p[5], p[1] = 5$ , so  $p[p[1]] = 4$
5.  $x = 5 \equiv p[1], p[3] = 1$ , so  $p[p[3]] = 5$

The values for  $y$  are  $[4, 2, 5, 1, 3]$ .

## Function Description

Complete the `permutationEquation` function in the editor below. It should return an array of integers that represent the values of  $y$ .

`permutationEquation` has the following parameter(s):

- $p$ : an array of integers

## Input Format

The first line contains an integer  $n$ , the number of elements in the sequence.

The second line contains  $n$  space-separated integers  $p[i]$  where  $1 \leq i \leq n$ .

## Constraints

- $1 \leq n \leq 50$
- $1 \leq p[i] \leq 50$ , where  $1 \leq i \leq n$ .
- 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.

#### Sample Input 1

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

#### Sample Output 1

```
1
3
5
4
2
```