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Started on	Tuesday, 27 August 2024, 2:56 PM
State	Finished
Completed on	Tuesday, 8 October 2024, 2:26 PM
Time taken	41 days 23 hours
Marks	1.00/1.00
Grade	**4.00** out of 4.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Find Duplicate in Array.

Given a read only array of n integers between 1 and n, find one number that repeats.

Input Format:

First Line - Number of elements

n Lines - n Elements

Output Format:

Element x - That is repeated

For example:

Input	Result
5 1 1 2 3 4	1

Answer: (penalty regime: 0 %)

```c
1  #include <stdio.h>
2
3  int main() {
4      int n;
5      scanf("%d", &n);
6
7      int arr[n];
8      for (int i = 0; i < n; i++) {
9          scanf("%d", &arr[i]);
10     }
11
12     int tortoise = arr[0];
13     int hare = arr[0];
14
15     do {
16         tortoise = arr[tortoise];
17         hare = arr[arr[hare]];
18     } while (tortoise != hare);
19
20     tortoise = arr[0];
21     while (tortoise != hare) {
22         tortoise = arr[tortoise];
23         hare = arr[hare];
24     }
25
26     printf("%d\n", hare);
27
28     return 0;
29 }
30
```

	Input	Expected	Got	
✔	11 10 9 7 6 5 1 2 3 8 4 7	7	7	✔
✔	5 1 2 3 4 4	4	4	✔
✔	5 1 1 2 3 4	1	1	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

◄ 1-Finding Duplicates-O(n^2) Time Complexity,O(1) Space Complexity

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3-Print Intersection of 2 sorted arrays-O(m*n)Time Complexity,O(1) Space Complexity ►

◄ 1-Finding Duplicates-O(n^2) Time Complexity,O(1) Space Complexity

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