

CS23331-DAA-2024-CSE / 2-Finding Duplicates-O(n) Time Complexity,O(1) Space Complexity



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

Started on Sunday, 12 October 2025, 7:08 PM

State Finished

Completed on Sunday, 12 October 2025, 7:09 PM

Time taken 36 secs

Marks 1.00/1.00

Grade 4.00 out of 4.00 (100%)

Question 1 | Correct Mark 1.00 out of 1.00 [Flag question](#)

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	1	2	3	4	
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Answer: (penalty regime: 0 %)

```
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 slow = arr[0];
13    int fast = arr[0];
14
15    do {
16        slow = arr[slow];
17        fast = arr[arr[fast]];
18    } while (slow != fast);
19
20    slow = arr[0];
21    while (slow != fast) {
22        slow = arr[slow];
23        fast = arr[fast];
24    }
25
26    printf("%d\n", slow);
27    return 0;
28 }
29
```

	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.

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