



M2

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 %)

```

1 | #include <stdio.h>
2 |
3 | int find_duplicate(int arr[], int n) {
4 |     int slow = arr[0];
5 |     int fast = arr[0];
6 |
7 |     do {
8 |         slow = arr[slow];
9 |         fast = arr[arr[fast]];
10 |    } while (slow != fast);
11 |
12 |    slow = arr[0];
13 |    while (slow != fast) {
14 |        slow = arr[slow];
15 |        fast = arr[fast];
16 |    }
17 |    return slow;
18 | }
19 |
20 | int main() {
21 |     int n;
22 |     scanf("%d", &n);
23 |
24 |     int arr[n];
25 |     for (int i = 0; i < n; i++) {
26 |         scanf("%d", &arr[i]);
27 |     }
28 |
29 |     int duplicate = find_duplicate(arr, n);
30 |     printf("%d\n", duplicate);
31 |
32 |     return 0;
33 | }
```

	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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