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

Started on	Wednesday, 15 October 2025, 8:30 AM
State	Finished
Completed on	Wednesday, 15 October 2025, 8:44 AM
Time taken	13 mins 11 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 2 3 4	1

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>

int findDuplicate(int nums[], int size) {
    int slow = nums[0];
    int fast = nums[0];

    do {
        slow = nums[slow];
        fast = nums[nums[fast]];
    } while (slow != fast);

    slow = nums[0];
    while (slow != fast) {
        slow = nums[slow];
        fast = nums[fast];
    }

    return slow;
}
int main(){
    int n;
    scanf("%d", &n);
    int a[n];
    for(int i=0;i<n;i++){
        scanf("%d", &a[i]);
    }
    int duplicate = findDuplicate(a, n);
    printf("%d\n", duplicate);

    return 0;
}
```

	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.

Finish review

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