



SIVA S 2024-CSE

S2

Started on Wednesday, 8 October 2025, 4:04 PM**State** Finished**Completed on** Wednesday, 8 October 2025, 4:05 PM**Time taken** 33 secs**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 1 2 3 4	

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2
3 int findDuplicate(int arr[], int n) {
4     int slow = arr[0];
5     int fast = arr[0];
6
7     // Phase 1: Detect cycle
8     do {
9         slow = arr[slow];
10        fast = arr[arr[fast]];
11    } while (slow != fast);
12
13    // Phase 2: Find entry point of cycle (duplicate)
14    slow = arr[0];
15    while (slow != fast) {
16        slow = arr[slow];
17        fast = arr[fast];
18    }
19
20    return slow;
21}
22
23 int main() {
24     int n;
25     scanf("%d", &n);
26     int arr[n];
27
28     for (int i = 0; i < n; i++)
29         scanf("%d", &arr[i]);
30
31     int duplicate = findDuplicate(arr, n);
32     printf("%d\n", duplicate);
33
34     return 0;
35}
36
```

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

	Input	Expected	Got	
✓	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.

[Back to Course](#)