**RAJALAKSHMI ENGINEERING COLLEGE**

🔔 7   **KARTHIK J 2024-IT** ⌄    **K2**

| | |
|---|---|
| **Started on** | Wednesday, 8 October 2025, 1:56 PM |
| **State** | Finished |
| **Completed on** | Wednesday, 8 October 2025, 2:00 PM |
| **Time taken** | 3 mins 57 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<br><br>1 1 2 3 4 | 1 |

**Answer:**  (penalty regime: 0 %)

```c
#include <stdio.h>

int findDuplicate(int arr[], int n) {
    int slow = arr[0];
    int fast = arr[0];
    do {
        slow = arr[slow];
        fast = arr[arr[fast]];
    } while (slow != fast);
    slow = arr[0];
    while (slow != fast) {
        slow = arr[slow];
        fast = arr[fast];
    }

    return slow;
}

int main() {
    int n;
    scanf("%d", &n);

    int arr[n];
    for (int i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    int duplicate = findDuplicate(arr, n);
    printf("%d\n", duplicate);

    return 0;
}
```

|   | Input | Expected | Got |   |
|---|-------|----------|-----|---|
| ✔ | 11<br><br>10 9 7 6 5 1 2 3 8 4 7 | 7 | 7 | ✔ |

|  | Input | Expected | Got |  |
|---|---|---|---|---|
| ✔ | 5<br><br>1 2 3 4 4 | 4 | 4 | ✔ |
| ✔ | 5<br><br>1 1 2 3 4 | 1 | 1 | ✔ |

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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