
 Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Sem : 4	Name : VEDANT BHARAD	
Day : 71	Date : 27/12/2022	Enrollment No: 92100133023

CP Club 365Days Challenge

Programming language – C++

Problem Statement

<https://www.interviewbit.com/problems/find-duplicate-in-array/>

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Your Code:


```
// 0x71Day of 0x365Days challenge
// VEDANT BHARAD
// 27-12-2022
#include <iostream>
#include <vector>
using namespace std;
int repeatedNumber(vector<int> &A) {
    // slower method

    // for (int i = 0; i < A.size(); i++) {
    //     for (int j = i+1; j < A.size(); j++) {
    //         if (A[i] == A[j])
    //             return A[i];
    //     }
    // }
    // return -1;

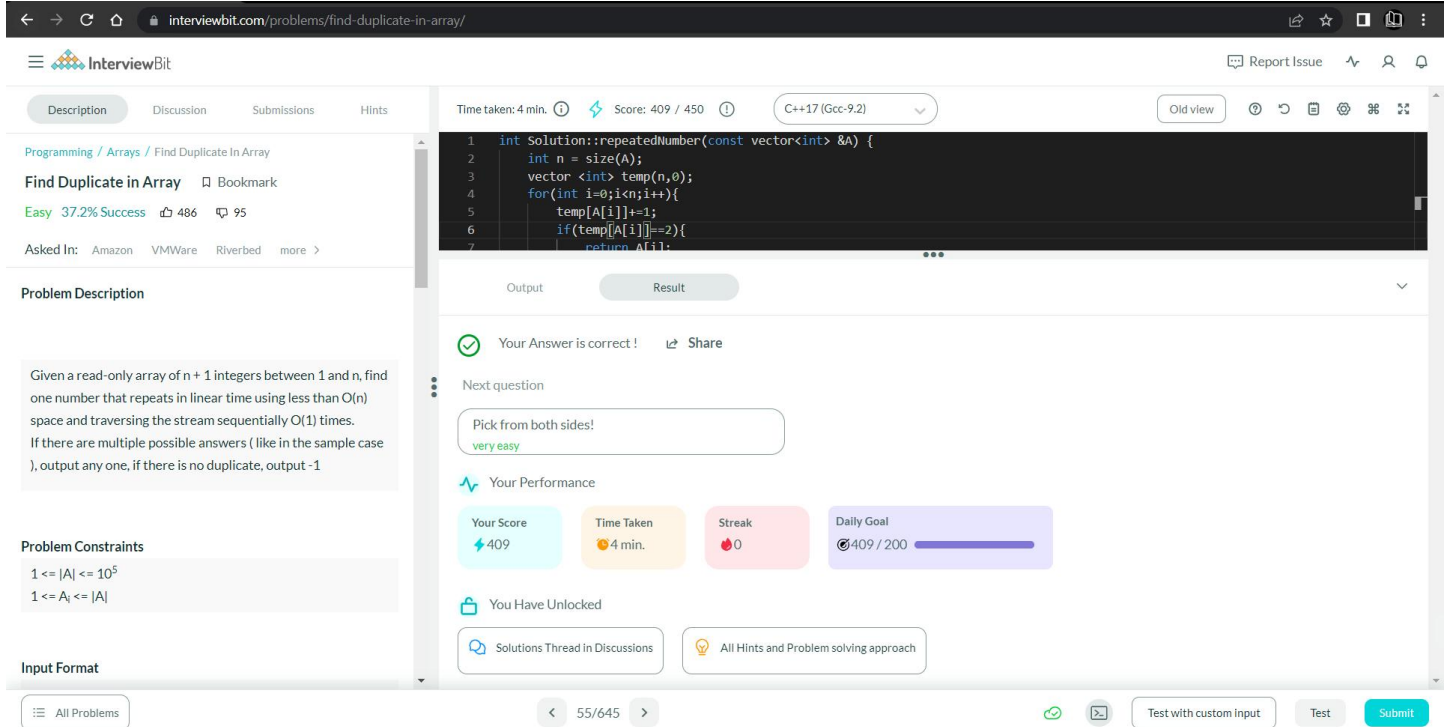
    // faster one

    int n = A.size();
    vector<int> freq(n,0);
    for(int i=0;i<n;i++){
        freq[A[i]]+=1;
        if(freq[A[i]]==2){
            return A[i];
        }
    }
    return -1;
}

int main() {
    int n;
    cin >> n;
    int arr[n];
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }
    vector<int> vect(arr, arr + n);
    cout << repeatedNumber(vect) << endl;
    return 0;
}
```

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Output (Screen Shot):



The screenshot shows the InterviewBit website interface. The top navigation bar includes the InterviewBit logo and links for Report Issue, User Profile, and Notifications. The main content area is divided into a left sidebar and a right main panel.

Left Sidebar:

- Description:** Contains the problem title "Find Duplicate in Array", a bookmark icon, and a success rate of 37.2% with 486 upvotes and 95 comments.
- Problem Description:** States: "Given a read-only array of $n + 1$ integers between 1 and n , find one number that repeats in linear time using less than $O(n)$ space and traversing the stream sequentially $O(1)$ times. If there are multiple possible answers (like in the sample case), output any one, if there is no duplicate, output -1".
- Problem Constraints:**
 - $1 \leq |A| \leq 10^5$
 - $1 \leq A_i \leq |A|$
- Input Format:** (Empty section)

Right Main Panel:

- Code Editor:** Shows a C++ solution for the problem. The code uses a vector to track the frequency of each element in the array. If an element is found more than once, it is returned. If no duplicate is found, -1 is returned.
- Output:** Displays "Your Answer is correct!" with a green checkmark and a "Share" button.
- Next question:** A button labeled "Pick from both sides!" with a "very easy" difficulty tag.
- Your Performance:** A section showing performance metrics:
 - Your Score:** 409
 - Time Taken:** 4 min.
 - Streak:** 0
 - Daily Goal:** 409 / 200 (with a progress bar)
- You Have Unlocked:** Two buttons: "Solutions Thread in Discussions" and "All Hints and Problem solving approach".

The bottom of the page shows a navigation bar with "All Problems", a progress indicator "55/645", and buttons for "Test with custom input", "Test", and "Submit".

Understanding about problem:

- In this task I need to return number which is Duplicate in Array if there is no Duplicate number then return -1.

Note: If you can't understand the problem, feel free to contact us and we'll help you. Please don't copy and paste from anywhere.

ALL THE BEST
Team CP Club