



1 287. | Medium | Find the Duplicate Number | Array

2

3 Given an array of integers `nums` containing `n + 1` integers

4 where each integer is in the range `[1, n]` inclusive.

5 There is only one repeated number in `nums`,

6 `return this` repeated number.

7

8 You must solve the problem without modifying the array `nums` and uses

9 only constant extra space.

10

11 Constraints:

12 `1 <= n <= 10^5`

13 `nums.length == n + 1`

14 `1 <= nums[i] <= n`

Example 1:

Input: `nums = [1,3,4,2,2]`

Output: `2`

Example 2:

Input: `nums = [3,1,3,4,2]`

Output: `3`



```
1  int findDuplicate(vector<int>& nums) {  
2      int N = nums.size(), l = 1, h = N-1, mid;  
3  
4      while(l<h) {  
5          mid = (l+h)/2;  
6          int count = 0;  
7  
8          for(int n:nums) {  
9              if(n<=mid) count++;  
10         }  
11  
12         if(count <= mid) {  
13             l = mid+1;  
14         } else {  
15             h = mid;  
16         }  
17     }  
18     return l;  
19 }
```

#100daysofDSA



/rvislive

Rakesh Vishwakarma