[LeetCode](https://leetcode.com/problems/find-the-duplicate-number/description/?envType=daily-question&envId=2024-03-24)

<https://github.com/AdityaKonda6/-50DaysOfCoding>

<https://leetcode.com/problems/find-the-duplicate-number/description/?envType=daily-question&envId=2024-03-24>

<https://www.linkedin.com/in/aditya-adi-konda/>

Day 34 of [#50dayscodingchallenge](https://www.linkedin.com/feed/hashtag/?keywords=50dayscodingchallenge&highlightedUpdateUrns=urn:li:activity:7166316239483461633):  
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Ventured further into my coding journey today, tackling the engaging LeetCode Problem "Successfully solved LeetCode Problem 🎈💻“287. Find the Duplicate Number.”  
   
✨ Task: Given an array of integers nums containing n + 1 integers where each integer is in the range [1, n] inclusive.

There is only one repeated number in nums, return this repeated number.

You must solve the problem without modifying the array nums and uses only constant extra space.

Examples:

Example 1:

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

Output: 2

Example 2:

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

Output: 3

Example 3:

Input: nums = [3,3,3,3,3]

Output: 3

Let's Connect:

If you find this problem intriguing or have insights to share, let's connect! I'm passionate about problem-solving, algorithmic thinking, and collaborative learning. Feel free to comment or reach out for engaging discussions and knowledge exchange.Unravel the mystery using your coding skills!

[#CodingChallenge](https://www.linkedin.com/feed/hashtag/?keywords=codingchallenge&highlightedUpdateUrns=urn:li:activity:7166316239483461633) [#Algorithm](https://www.linkedin.com/feed/hashtag/?keywords=algorithm&highlightedUpdateUrns=urn:li:activity:7166316239483461633) [#LinkedInPost](https://www.linkedin.com/feed/hashtag/?keywords=linkedinpost&highlightedUpdateUrns=urn:li:activity:7166316239483461633) #Algorithm #Optimization #DataStructures #CodingChallenge  
  
Excited about the progress and challenges ahead!  
   
Make Sure You Follow My GitHub For Solutions: <https://github.com/AdityaKonda6/-50DaysOfCoding>  
  
  
Happy coding!

**Solution:-**

class Solution {

  public int findDuplicate(int[] nums) {

    int slow = nums[nums[0]];

    int fast = nums[nums[nums[0]]];

    while (slow != fast) {

      slow = nums[slow];

      fast = nums[nums[fast]];

    }

    slow = nums[0];

    while (slow != fast) {

      slow = nums[slow];

      fast = nums[fast];

    }

    return slow;

  }

}

