Contains Duplicate

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Easy

Given an integer array `nums`, return `true` if any value appears **more than once** in the array, otherwise return `false`.

Example 1:

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

Output: true
```

Example 2:

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

Output: false
```

HashSet in Java

HashSet is a class in Java that implements the Set interface and uses a hash table for storing elements. It is part of the java.util package.

Key Features of HashSet

No Duplicates – It does not allow duplicate elements.

Unordered Collection – It does not maintain insertion order because it uses hashing.

Allows null Value – Can store a single null value.

Fast Performance – Provides O(1) time complexity for basic operations (add(), remove(), contains()) in the average case.

Uses HashMap Internally – It is backed by a HashMap where elements are stored as keys.

First Solution

```java
class Solution {
    public static boolean containsDuplicate(int[] nums) {
        HashSet<Integer> seen = new HashSet<>();
        for(int num: nums){
         if(seen.contains(num)){
            return true;
         }
         else{
            seen.add(num);
         }
        }
        return false;
    }
}
```

2nd Solution

```java
class Solution {
    public static boolean containsDuplicate(int[] nums) {
        HashSet<Integer> seen = new HashSet<>();
        for(int num: nums){
         if(!seen.add(num)){
                return true;
            }
        }
        return false;
    }
}
```

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