- **EASY**
- **Max Score: 30 Points**

Majority Element

Given an array, `arr` of size `n`. Your task is to find the majority element. The majority element is the element that appears more than `ceil(n/2)` times.

Note: You may assume that the array is non-empty and the majority element always exists in the array.

Input Format

The first line contains an integer `n`, the size of the array.

The second line contains `n` space-separated integers, the elements of the array.

Output Format

The output will consist of only 1 integer which will be the majority element of the array.

Example 1

Input

```
5
1 2 2 2 3
```

Output

```
2
```

Explanation

1 and 3 are present for 1 time. ceil (5/2) = 3. So 1 and 3 cannot be the majority elements. 2 is present 3 times and 3 is greater than 2. So 2 will be our answer.

Example 2

Input

```
7
3 4 4 4 3 3 4
```

Output

```
4
```

Explanation

ceil (7/2) = 4. 4 is present for 4 times. 3 is present 3 times. As the frequency of 4 is equal to the ceil value (7/2) so 4 will be the answer.

Constraints

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

```
1 <= arr[i] <= 10^5
```

- **Greedy**
- **Arrays**

My code

// in java
import java.util.*;
import java.lang.*;

```java
import java.io.*;

public class Main
{
    static int mojorityement(int arr[],int n)
    {
            HashMap<Integer,Integer>hm=new HashMap<>();
        for(int i=0;i<n;i++)
            {
            hm.put(arr[i],hm.getOrDefault(arr[i],0)+1);
            }
        int max=0,ans=0;
        for(int i=0;i<n;i++)
            {
                int g=hm.get(arr[i]);
                if(g>max)
                {
                    max=g;
                    ans=arr[i];
                }
            }
        return ans;
    }
    public static void main (String[] args) throws java.lang.Exception
    {
        //your code here
        Scanner s=new Scanner(System.in);
        int n=s.nextInt();
        int arr[]=new int[n];
        for(int i=0;i<n;i++)
        arr[i]=s.nextInt();
        System.out.print(mojorityement(arr,n));
```

```
        }
    }
```