

<https://course.acciojob.com/idle?question=a29e0bee-aa21-4bcd-a68a-8dcb6591b0f2>

● EASY

● Max Score: 30 Points

Rank of the Array

Given an array 'A' with 'N' positive integers.

Your task is to rank all elements of the array starting from integer 1. The larger the element, the larger the rank. If two elements are equal, their rank must be the same. Rank should be as small as possible.

Input Format:

The first line contains the number of test cases.

For each test case: The first line contains an integer 'N' denoting the number of elements.

The second line contains N space separated integers denoting the elements of the array 'A'.

Output Format:

For each test case return an array, denoting the rank of the array.

Example 1:

Input:

```
1
5
1 10 3 10 2
```

Output:

1 4 3 4 2

Explanation:

The minimum element in the array which is 1 is given rank 1, followed by 2 which is given rank 2, and 3 which is given rank 3. Next we have two 10 so they are given same rank which is 4.

Example 2:

Input:

1
5
1 5 4 3 2

Output:

1 5 4 3 2

Explanation:

The elements of the array are given rank from 1 to 5 in ascending order.

Constraints:

$1 \leq T \leq 10$

$1 \leq N \leq 10000$

$1 \leq A[i] \leq 1000000000$

Topic Tags

- **Sorting**
- **Arrays**

My code

```
// in java
import java.util.*;
class Main{
    public static void main(String[] args){
        try (Scanner sc = new Scanner(System.in)) {
            int t=sc.nextInt();
            while(t>0){
                int n=sc.nextInt();
                int []A=new int[n];
                for(int i=0;i<n;i++){
                    A[i]=sc.nextInt();
                }
                Solution ob =new Solution();
                int[] ans = ob.arrayRankTransform(A,n);
                for(int i=0;i<n;i++){
                    System.out.print(ans[i]+" ");
                }
                System.out.println();
                t--;
            }
        }
    }
}

class Solution {
    public int[] arrayRankTransform(int[] arr,int n) {
        //Write code here
        int a[]=new int[n];
        for(int i=0;i<n;i++)
```

```

        {
            a[i]=arr[i];
        }
Arrays.sort(a);
HashMap<Integer,Integer>hm=new HashMap<>();
int p=1;
hm.put(a[0],1);
int prev=a[0];
for(int i=1;i<n;i++)
    {
        if(a[i]!=prev)
        {
            p++;
            hm.put(a[i],p);
            prev=a[i];
        }
    }
for(int i=0;i<n;i++)
    a[i]=hm.get(arr[i]);
return a;
    //System.out.print(hm.get(arr[i])+" ");
    // System.out.print("\n");
}
}

```