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## **SORTING THE ELEMENT BASED ON FREQUENCY :**

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### **STATEMENT:**

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Need to write a program to sort the given array based on frequency of elements.

### **Input Format**

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12

3 2 3 2 4 2 3 5 3 7 5 1

### **Output Format**

-----

3 3 3 3 2 2 2 5 5 4 7 1

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### **Sample Input 0**

-----

7

3 4 7 6 3 4 4

### **Sample Output 0**

-----

4 4 4 3 3 7 6

### **Explanation 0**

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Highest frequency element will come first and next frequency element will come next and so on. Other elements will come in the same order which presents in the given array.

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### **Sample Input 1**

-----

7

2 5 3 2 5 5 1

### **Sample Output 1**

-----

5 5 5 2 2 3 1

-----  
**PROGRAM:**

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```
package HacerRankProblems;
```

```
import java.util.Map.Entry;
```

```
import java.util.*;
```

```
public class FrequencyBasedPrinting {
```

```
    public static void main(String[] args) {
```

```
        Scanner scan=new Scanner(System.in);
```

```
        ArrayList<Integer>al=new ArrayList<Integer>();
```

```
        System.out.println("Enter the size of array : ");
```

```
        int size=scan.nextInt();
```

```
        System.out.println("Enter the element one by one ; ");
```

```
        for(int i=0;i<size;i++)
```

```
        {
```

```
            al.add(scan.nextInt());
```

```
        }
```

```
        LinkedHashMap<Integer,Integer>tm=new LinkedHashMap<Integer,Integer>();
```

```
        for(int x : al)
```

```
        {
```

```
            if(tm.containsKey(x))
```

```
            {
```

```
                tm.put(x, tm.get(x)+1);
```

```
            }
```

```
            else
```

```
            {
```

```
                tm.put(x, 1);
```

```
            }
```

```
        }
```

```
        System.out.println("Elements frequencies are : " );
```

```
        for(Entry<Integer, Integer> entry : tm.entrySet())
```

```

{
    System.out.println(entry.getKey() + " - " + entry.getValue());
}
ArrayList<Integer>se=new ArrayList<Integer>();

System.out.println("Sorted format are : ");
tm.entrySet()
    .stream()
    .sorted(Collections.reverseOrder(Map.Entry.comparingByValue()))
    .forEach(entry ->{
        for(int i=0;i<entry.getValue();i++)
        {
            se.add(entry.getKey());
        }
    });

System.out.println("FrequencyBasedPrinting : " +se);
}

}

```

---

## OUTPUT:

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Enter the size of array :

7

Enter the element one by one ;

1 3 2 4 2 3 3

Elements frequencies are :

1 - 1

3 - 3

2 - 2

4 - 1

Sorted format are :

FrequencyBasedPrinting : [3, 3, 3, 2, 2, 1, 4]

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