

# Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - CSE (CS)

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 10\_Q3

Attempt : 1

Total Mark : 10

Marks Obtained : 10

#### **Section 1 : COD**

##### **1. Problem Statement**

Priya is analyzing encrypted messages in a research project. She wants to analyze the frequency of each character in a given paragraph. The characters should be stored in a TreeMap so that the output is sorted in ascending order of characters automatically.

You are required to build a Java program that:

Uses a TreeMap<Character, Integer> to count how many times each character appears in the message. Ignores spaces and considers only alphabets (case-sensitive). Outputs the frequencies of characters in sorted order.

You must use a TreeMap in the class named MessageAnalyzer.

#### ***Input Format***

The first line of input contains an integer n, the number of lines in the message.

The next n lines each contain a string (the encrypted message line).

### ***Output Format***

The first line of output prints: "Character Frequency:"

Then print each character and its frequency in the format: "<character>: <count>"

Refer to the sample output for formatting specifications.

### ***Sample Test Case***

Input: 2

Hello World

Java

Output: Character Frequency:

H: 1

J: 1

W: 1

a: 2

d: 1

e: 1

l: 3

o: 2

r: 1

v: 1

### ***Answer***

```
// You are using Java
import java.util.*;

class main{
    public static void main(String [] args){
        Scanner scan=new Scanner(System.in);
        int size=scan.nextInt();
        scan.nextLine();
        TreeMap<Character,Integer> map=new TreeMap<>();
        for(int i=0;i<size;i++){
            String word=scan.nextLine();
```

```
for(char c:word.toCharArray()){
    if(map.containsKey(c)){
        map.put(c,map.get(c)+1);
    }
    else{
        map.put(c,1);
    }
}
map.remove(' ');
System.out.println("Character Frequency: ");
for(char c:map.keySet())
{
    System.out.println(c+": "+map.get(c));
}
```

**Status :** Correct

**Marks :** 10/10