

Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - CSE

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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 d{
```

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

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

```
        int n=s.nextInt();
```

```
        s.nextLine();
```

```
        TreeMap<Character,Integer> arr=new TreeMap<>();
```

```
        for(int i=0;i<n;i++){
```

```
            String ss=s.nextLine();
```

```
            //String[] hh=ss.split(" ");
```

```
for(int j=0;j<ss.length();j++){
    char ch=ss.charAt(j);
    if(Character.isLetter(ch)){
        if(arr.containsKey(ch)){
            arr.put(ch,arr.get(ch)+1);
        }
        else{
            arr.put(ch,1);
        }
    }
}

}
}
System.out.printf("Character Frequency:");
for(char c:arr.keySet()){
    System.out.println(c+":"+arr.get(c));
}
}
```

Status : Correct

Marks : 10/10