Rajalakshmi Engineering College

Name: bharath kumar
Email: 241801032@rajalakshmi.edu.in
Roll no:
Phone: 7305320010
Branch: REC
Department: AI & DS - Section 3
Batch: 2028
Degree: B.E - AI & DS

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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

```
import java.util.*;
class MessageAnalyzer{
   public static void main(String[]a){
      Scanner sc=new Scanner(System.in);
      int n=sc.nextInt();sc.nextLine();
      TreeMap<Character,Integer> m=new TreeMap<>();
      while(n-->0){
         String s=sc.nextLine();
         for(int i=0;i<s.length();i++){
            char c=s.charAt(i);
            if((c>='A'&&c<='Z')||(c>='a'&&c<='z'))
```

```
                m.put(c,m.containsKey(c)?m.get(c)+1:1);
            }
        }
        System.out.print("Character Frequency:\n");
        for(char c:m.keySet()){
            System.out.print(c+": "+m.get(c)+"\n");
        }
    }
}
```

Status : Correct ***Marks : 10/10***