Rajalakshmi Engineering College

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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.*;

public class Main{
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        TreeMap<Character, Integer> counter = new TreeMap<>();

        int n = sc.nextInt();
        sc.nextLine();

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

```java
        String sen = sc.nextLine();
        for(char ch: sen.toCharArray()){
            if(ch != ' ')
            counter.put(ch, counter.getOrDefault(ch, 0) + 1);
        }
    }
    System.out.println("Character Frequency: ");
    for(Map.Entry<Character, Integer> set: counter.entrySet()){
        System.out.println(set.getKey() + ": " + set.getValue());
    }
    // System.out.println(counter);
    }
}
```

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