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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 sc =new Scanner(System.in);
        TreeMap<Character,Integer> map = new TreeMap<>();
        int n =sc.nextInt();
        sc.nextLine();
        int count=0;
        System.out.println("Character Frequency:");
        String a="";
        for(int i=0;i<n;i++){
            String b=sc.nextLine().trim();
            a+=b;

        }
            char []letters=a.toCharArray();

            for(int j=0;j<letters.length;j++){
                count=0;

                for(int k=0;k<letters.length;k++){
                    if(letters[j]==letters[k]){
                        count+=1;
                    }
                    map.put(letters[j],count);
                }
                //if(letters[j]!=' '){
                //    System.out.println(a.get()+" :"+a.getValue());
                //}
            }

        for(var c:map.entrySet()){
            if(c.getKey()!=' ')
            System.out.println(c.getKey()+" :"+c.getValue());
        }

    }
}
```

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