Java Exam

1. Given two words separated by | delimiter, write a program to find whether the second word is the reverse of first word.
   Sample Input
   Excellent|tnellecxE
   Sample Output
   yes
   Sample Input
   Margorp|Program
   Sample Output
   no

2. Given a method with a string input.Write code to get the sum of all the digits present in the given

   String. Return the sum as output.

      If there is no digit in the given string return -1 as output.
      Example:
      Input=good23bad4
      output=2+3+4=9

3. Write a Java program to calculate the character frequency in a sentence. The input consist of a single sentence and the output display a graphical chart displaying the frequency of each character by number of asterisk (*). Display the character in the output in alphabetical order. Compute the frequencies of all letters except space.

Use TreeMap to store the characters and frequency since the tree map maintains the entries sorted based on their natural ordering.Create a main class "Main.java" Create a class LetterSequence and include below methods and attributes,Include a constructor to get the sentence as the input

Method/Attribute	Details
public TreeMap<Character,Integer> computeFrequency()	Compute the frequency of each character in the sentence and store it in the TreeMap. Return the TreeMap after the computation.
public void displayLetterFrequency(TreeMap<Character,Integer> frequencyMap)	Iterate the tree map and get all the entries and print the information in a graphical view as shown the sample output
private String sentence	Input sentence is stored in this attribute

Input and Output Format:
Refer sample input and output for formatting specifications.

[All text in bold corresponds to input and the rest corresponds to output]
Sample Input/Output :
Enter the input string
Refer sample input and output for formatting specifications

```
R : *
a : ****
c : **
d : *
e : ****
f : ****
g : *
i : *****
l : *
m : **
n : ****
o : ****
p : ****
r : ***
s : ***
t : ******
u : ***
```

4. Develop an application to read all the lines from the file 'citizens.txt'.

Parse each line on the basis of ';' as the delimeter and after performing

The following validations write the lines to the 'eligible_voters.txt',

1.Create a class by the name.'Citizen' under the package, 'com.izmo.model' with the following fields.

String panNo ,

String fullName,

String addresss,

String contactNo,

String gender,

Date dob

All the fields must be declared as private with a pair of getters and setters for each of the fields.

Define a parameterised constructor for each of the fields.

2. Create an interface,'CitizenBO' under the package, 'com.izmo.bo'.

  Decalare 3 methods.

 Public Citizen readFromFile();

 Public void validateVoter(Citizen citizen);

 Public void writeToFile();

The last method should add the 'Citizen' object to the ArrayList, sorted on dob,

after all its data are found to be valid.

3. Create a class, 'CitizenBOIMpl' that implements the interface,'CitizenBO'.

In the class create an object of 'ArrayList' to hold all the 'Citizen' objects

Eligible to vote.

Validations:

a)panNO should be of exactly 10 characters in length and should be combination of alphabets & digits. The starting character should be a letter. No special character is allowed. All the letters should be converted to upper case before writing to the file.

b) contactNo should be in the format '+919999999999',e.g, '+917044561492'

is a valid contactNo.

c) Age should not be less than 18 years.

d) Create user defined exceptions that should be thrown for each invalid data.

Citizens.txt

ammpm992m;Ankit Panigrahi;Cuttack;+918299900091;13/01/1966;Male

akwyy6543m;Mousumi Pradhan;Kolkata;+917044561492;24/09/1971;Female

apxcyy6543m;Sasmita Jena;Chennai;+917033561492;24/09/1994;Female

rpxcyy653m;Debashish Mohanty;Pune;+917033561492;24/09/1987;Male

tpxcyy6532m;Krushna Behera ;Goa;07033561492;24-09-2004;Male

xprcty693a;Vikaas Singh;+919933861652;14/02/2014;Male