Java Sample Paper

Answer All Questions

01.

Implement a class called **BankAccount**. The '**BankAccount**' class has an **account number** (integer), **account holders name** (string), **branch** (string), and **current balance** (float). Write a default constructor, a constructor with parameters (parameterized constructor), methods **withdraw(float amount), deposit(float amount)** , and **displayDetails( )** to display details of Bank Account class.

(a) Complete the code for the class **BankAccount**. (16 marks)

```
public class BankAccount
{
        //.............
}
```

(b) Create a test class BankObj (Separate class with main method) to test the BankAccount class in part (b) as follows.

i) Create an object of the BankAccount class known as 'b1'.

(2 marks)

ii) Invoke the **no parameter and parameterized constructor** with the given values.

(6 marks)

iii) Invoke the **withdraw(float amount) and deposit(float amount)** methods in the BankAccount class. (6 marks)

```
public class BankObj
{
        public static void main (String [ ] args)
        {
                //……
        }
}
```

02.

I. A class 'SavingsAccount' inherit from the class 'BankAccount' in the question 1. The class 'SavingsAccount' contains an additional variable 'rate of interest' (float). Include the relevant 'SavingsAccount' parameterized constructor.
Write suitable java code to represent the above scenario.

II. An abstract class **Loan** contains an abstract method **displayInterest()**. A child class, 'HousingLoan' inherit from the 'Loan' class and override the method of **displayInterest().** It displays the interest rate of 8%.
Write Java Code for the statement.

III. Explain the differences between **package (default), private**, **public** and **protected** access modifiers.

IV. Write a suitable java program to demonstrate the difference between 'private' vs. 'public'.

V. 'Declare an interface **SpecialLoan** with a method **calcPremium()**. The **StaffLoan** class extend from the Loan class uses the interface **SpecialLoan**. Write Java Code for the given statements.

(6 x 5 = 30 marks)

03.

I. By using sample programs explain the differences between **"Method Overloading"** vs. **"Method Overriding"**.

(5 marks)

II. Write a single java program to handle the **'ArithmeticException'** (Number divided by zero) and '**ArrayIndexOutOfBoundsException'.** In the same program, show the way to use 'finally'.

(10 marks)

04.

Below questions are based on your knowledge on JDBC, SWING, FILE HANDLING and THREADS.

a.

Explain the tasks of following code segments (indicated as comments)

i.

```
//a.
Class.forName("com.mysql.jdbc.Driver");
//b.
Connection conn =
DriverManager.getConnection("jdbc:mysql://localhost:3306/hotelmgt","root","
");
//c.
Statement stmt=conn.createStatement();
```

(5 marks)

ii.

```
//a.
String s="INSERT INTO Customer VALUES (111,'Anne','Colombo')";
        stmt.executeUpdate(s);

//b.
ResultSet res=stmt.executeQuery("Select * from Customer");
while(res.next())
{
    System.out.println(res.getInt(1)+" ");
    System.out.println(res.getString(2)+" ");
    System.out.println(res.getString(3)+" ");
}
```

(5 marks)

b. Design and develop a suitable Graphical User Interface (GUI) to allow the user to input two numbers and display the highest number.

I. Draw a suitable User Interface (UI)
II. Write a suitable event handling code for the above. You may write the code inside the following method.

```
public void actionPerformed (ActionEvent e)
{
        //……….
}//actionPerformed
```

(5 marks)

c. Write a code to create a text file named 'Test.txt' and write the content "Hello World!" on the text file. Read the file and display the information on the console.

(5 marks)

d. Write a program to exhibit the behavior of the multithreaded program. Your program must use the following thread methods.
start() , run() , sleep()

(5 marks)

……END OF PAPER……..