NATIONAL SCHOOL OF BUSINESS MANAGEMENT
Special Repeat Examination
19th of July 2021
SE 101. 3: Object Oriented Programming with Java
Time: 1.30 PM – 4.30 PM

Instructions to Candidates

1) Answer any …………
2) Total Number of Pages ……………
3) Time allocated for the examination is three (03) hours and 30 minutes (Including downloading and uploading time)
4) Weightage of Examination: 60% out of final grade
5) Download the paper, provide answers to the selected questions in a word document.
6) Please upload the document with answers (Answer Script) to the submission link before the submission link expires
7) Answer script should be uploaded in PDF Format
8) Under any circumstances E-mail submissions would not be taken into consideration for marking. Incomplete attempt would be counted as a MISSED ATTEMPT.
9) The Naming convention of the answer script – Module Code_Subject name_Index No
10) You must adhere to the online examination guidelines when submitting the answer script to N-Learn.
11) Your answers will be subjected to Turnitin similarity check, hence, direct copying and pasting from internet sources, friend's answers etc. will be penalized.

01.

Implement a class called **Employee**. 'Employee' class has an **employee number** (integer)**, department** (String), and **basic salary** (float). Write a default constructor, a constructor with parameters (parameterized constructor), a method **increaseSalary(float amount)** to amend the salary (to increase the salary with the given amount) , and **displayDetails( )** to display details of Employee class.

(a) Complete the code for the class Employee.   (16 marks)

```
public class Employee
{
        //……………
}
```

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

i) Create an object of the Employee class known as 'e1'.

(2 marks)

ii) Invoke the **parameterized constructor** with the given values.

(6 marks)

iii) Invoke the **increaseSalary(float amt)** method in the Employee class to amend the salary with the given salary.   (6 marks)

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

02.

    I.   Why we use '**Inheritance**' in Java?

        Write a code segment to show how 'Single Inheritance' works.

    II.   'abstract class **Employee** contains an abstract method **display ()**'.

        Write Java Code for the statement.

    III.   Explain the differences between **private**, **public** and **protected** access modifiers.

    IV.   What is a **package** in Java? Write three examples of 'Built-in Packages'

    V.   'Declare an interface **CalcSalary** with a method **calcPay()**. The **Employee** class uses the interface **Paybonus**.' Write Java Code for the statement.

<div align="right">(6 x 5 = 30 marks)</div>

03.

    I.   Briefly explain the differences between **"Method Overloading"** vs. **"Method Overriding"**. Use code snippet to explain your answer.

<div align="right">(5 marks)</div>

    II.   What is an **'exception'** in Java and how we can handle exceptions?

<div align="right">(5 marks)</div>

    III.   You cannot store/access a value outside the boundary of an array and if you try to do it so it will generate an '**ArrayIndexOutOfBoundsException'.**

        Write Java Code for the statement.

<div align="right">(5 marks)</div>

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();
```
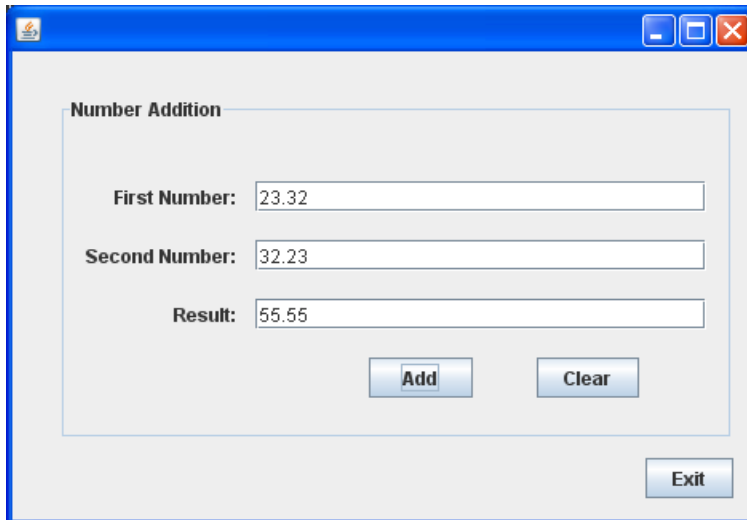
<div align="right">(5 marks)</div>

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. Write code snippet for the 'Add' button of the following interface.


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

(5 marks)

c. Write a code to create a text file named 'Sample' and write the content "Java World" on the text file. Read the file and display the information on the console.

(5 marks)

d. What is multithreading? What are the two possible ways of creating a Thread in Java?

(2 marks)

e. Briefly explain the purpose of following thread methods
        I.   start();   II. sleep();   III. setPriority();

(3 marks)

……………………END OF PAPER……………………….

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