Java Lab Practical Exercise

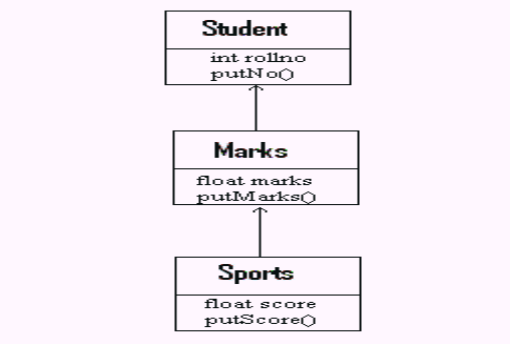
Q 1) Write a program using constructors that would print the information (name, year of joining, salary, address) of employees by creating a class named 'Employee'. The output should be as follows:

Name	Year of joining	Address
Sachin	1994	Mumbai
Sam	2000	Chennai
John	1999	Cochin

Q 2) Write a program to print the area of a rectangle by creating a class named 'Area' taking the values of its length and breadth as parameters of its constructor and having a method named 'returnArea' which returns the area of the rectangle. Length and breadth of rectangle are entered through keyboard.

Q 3) Write a program using inheritance to create class called Account as a base class, write two derived classes called SavingsAccount and CurrentAccount. A SavingsAccount object, in addition to the attributes of an Account object, should have an interest variable and a Interest method which adds interest to the account. A CurrentAccount should also have an overridden Interest method to calculate interest in current account.

Q 4) Write a java program to implement multilevel inheritance for following example



Q 5) Create a class named 'Rectangle' with two data members- length and breadth and a function to calculate the area which is 'length*breadth'. The class has three constructors which are :

1 - having no parameter - values of both length and breadth are assigned zero.

2 - having two numbers as parameters - the two numbers are assigned as length and breadth respectively.

3 - having one number as parameter - both length and breadth are assigned that number.

Now, create objects of the 'Rectangle' class having none, one and two parameters and print their areas.

Q 6) Create a class to print the area of a square and a rectangle. The class has two methods with the same name but different number of parameters. The method for printing area of rectangle has two parameters which are length and breadth respetively while the other method for printing area of square has one parameter which is side of square.

Q 7) Create a class named 'Member' having the following members:

Data members

1 - Name

2 - Age

3 - Phone number

4 - Address

5 - Salary

It also has a method named 'printSalary' which prints the salary of the members.

Two classes 'Employee' and 'Manager' inherits the 'Member' class. The 'Employee' and 'Manager' classes have data members 'specialization' and 'department' respectively. Now, assign name, age, phone number, address and salary to an employee and a manager by making an object of both of these classes and print the same.

Q 8) Write a menu driven Java program to accept the two 3 X 3 Matrix as an input and print the manipulation between two matrices as per following menus

1→Addition 2→Subtraction 3 →Multiplication 4→ Exit

Q 9) Write a program that takes your full name as input and displays the abbreviations of the first and middle names except the last name which is displayed as it is. For example, if your name is Sachin Ramesh Tendulkar, then the output should be S.R.Tendulkar.

Q 10) Write a Java program to perform employee payroll processing using packages. In the java file, Emp.java creates a package employee and creates a class Emp. Declare the variables name,empid, category, bpay, hra, da, npay, pf, grosspay, incometax, and allowance. Calculate the values in methods. Create another java file Emppay.java. Create an object e to call the methods to perform and print values.

Q 11) Create a Shape interface having methods area () and perimeter (). Create 2 subclasses, Circle and Rectangle that implement the Shape interface. Create a class Sample with main method and demonstrate the area and perimeters of both the shape classes. You need to handle the values of length, breath, and radius in respective classes to calculate their area and perimeter.

Q 12) Write a Java Program to handle following exceptions using try, catch, finally and throws blocks

a) Divide by Zero

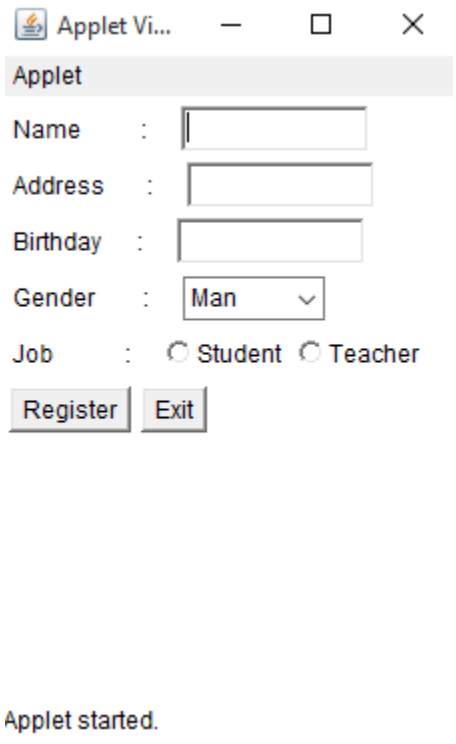
b) Array Index Out of Bound

c) Number Format Exception

d) IO Exception

13) Write a Java program to demonstrate creation of user defined multiple threads by using runnable interface for implementation of threads. Use get name method to print the name of thread, get priority to print priority and sleep to add interval between two threads.

14) Write a Java AWT program to implement the following registration form



15) Write a Java AWT Program to design following student registration form