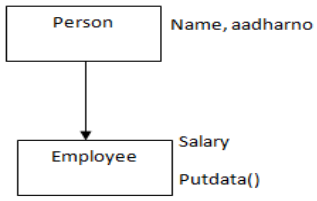
Java Programming Lab

1. Implement java program to perform 2*2 matrix addition and multiplication.

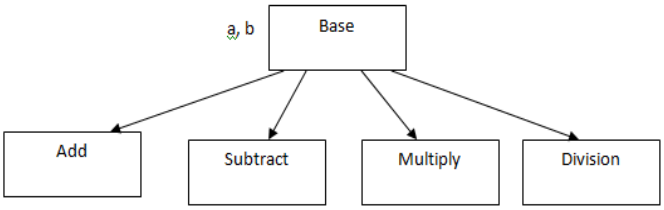
2. Create a class called Employee that includes three pieces of information as instance variables- first name, a last name and a monthly salary. Your class should have a constructor that initializes the three instance variables. Provide a set and a get method for each instance variable. If the monthly salary is not positive, set it to 0.0. Write a test application named EmployeeTest that demonstrates class Employee's capabilities. Create two Employee objects and display each object's yearly salary. Then give each Employee a 10% raise and display each Employee's yearly salary again.

3. A. Write a Java Program to demonstrate the use of static variable, static block and static method.

   B. Write a Java program for single inheritance



4. Write a java program for Hierarchical inheritance



5. Implement Following:

Create abstract class shape with dim1, dim2 variables and abstract area() method. Class rectangle and triangle inherits shape class. Calculate area of rectangle and triangle.

6. Create the interface stack which has variable size, abstract methods push (), pop (), display (), overflow () and underflow (). Implement subclass IntegerStack by implementing interface. Create one test class and check for the working of all the methods of IntergerStack class.

7. Implement Following:

Class student with variable rollno, getrollno(), setrollno() methods.

Class test inherits student class and have variables sub1, sub2 and getmarks(), setmarks() methods. Interface sports with variable smarks and set() method.

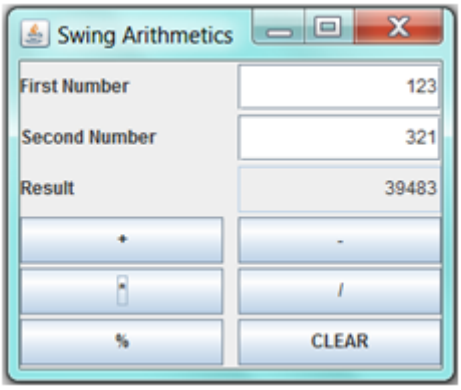
Class result inherits test class and an implements sport interface and displays that marks.

Demonstrate these classes with application.

8. Develop a mathematical package for Statistical operations like factorial, cube. Create a sub package in the math package -convert. In "convert" package provide classes to convert decimal to octal, binary, hex and vice-versa. Develop application program to use this package.

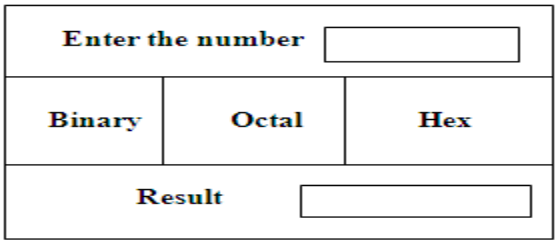
9. Develop a BankAccount class which should contain all methods of Bank i.e. balanceEnquiry(), withdraw() and deposit(). Generate user defined exception LowBalanceException and NegativeNumberException whenever required. Develop application program to use this user defined exception.

10. Write Java GUI Program using Swing to perform following operations.



11. Write Java GUI Program using Swing to change background on selecting color.

12. Implement following Example of Border Layout



13. Implement following GUI program to demonstrate of GridLayout

1	2	3
4	5	6

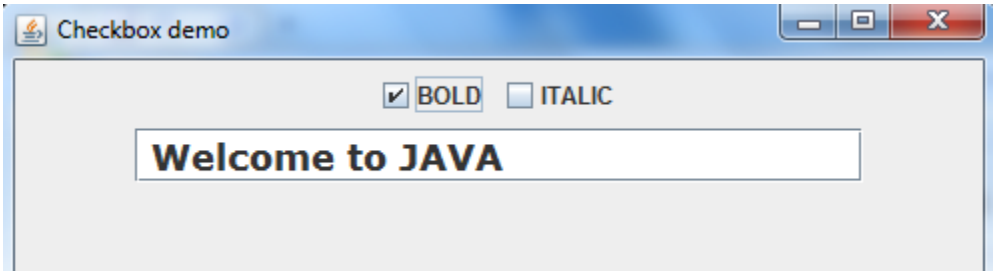
Before Clicking

1 2

3 4

5 6

14. Implement following GUI program to demonstrate Itemevent.



15. Write a Java program to

A. Find the second largest element in an array.

B. Find factorial of given number.

Take number using command line arguments.

16. Write Java GUI Program using Swing to check given number is prime or not.

17. Write Java Program to perform Binary search.

18. Write a program to perform multilevel inheritance.

19. Implement queue using interface.

20. Write a GUI program to

A. find reverse of given number.

B. Demonstrate radiobutton.

21. Write a program to

A. Demonstrate use of super keyword.

B. Find area of circle, triangle using constructor overloading.

22. Write a program to demonstrate

A. Function Overloading

B. Function Overriding

23. Write a GUI application to get students information and display it.

24. Write a java program to create threads using

A. Extending the Thread Class

B. Implementing the Runnable Interface