Smt. Chandaben Mohanbhai Patel Institute of Computer Applications
CAU506: Enterprise Computing Using Java EE
Practical Assignment-1
Fundamentals of Object Oriented Concepts

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1. Write a program to accept Student information such as roll no, name, course and fees using suitable method and display the same.

2. Write a Java program can contain two classes: Computer and Laptop. Both classes have their own constructors and a method. In main method create object of two classes and call their methods.

3. Create class Student with instance variables Stud id, name, address, marks1, marks2, marks3. Write constructor to initialize the instance variables. Also, create method result which display percentage and average marks based on three subject marks.

4. Write a java code to demonstrate the use of "this" keyword with suitable example to remove the ambiguity between instance and local variable.

5. Demonstrate an application to show the uses of "super" keyword in java to access the member having same name of super and subclass.

6. Write a program to implement method overloading to find the area of circle, square, rectangle and triangle.

7. Demonstrate an application to show the uses of "super" keyword in java to call the constructor of super class from subclass.

8. Create person class with data members as person_id& name. Derive two classes Student & faculty from it. The fields of Student are course name & fees paid. The fields of faculty are subject name & number of years' experience. Use proper method to accept values & override display method. (Using parameterized constructor).

9. Write a program to find the area of Circle, Rectangle, Square using Runtime Polymorphism(DMD).

10. Declare an abstract class vehicle with an abstract method name numwheels(). Provide the two subclasses two-wheeler and four wheelers, each one of which implements this method. Create instance of these two subclasses and demonstrate the use of numwheels() method.

11. Write a program to Design a Shape as an interface and then Design class for Circle, Rectangle and Triangle which implements the interface and override method drawShape().

12. Write a Package TYBCA which has two classes Subject and Marks. Subject Class is for accepting Subjects and Marks class is to accept marks. Create a main class which will use package and calculate total marks and percentage.

13. Write a Java program to create a package for EBook details class Book having Book Name, Price and Author name and import the created package using import keyword where we can create the object of Book class and access the method of that class.

14. Write a program to access the public, protected, private and default member of a class in the same package and also in different package.

15. Write an application that will accept age from user and find whether it is greater than 18 or not. If it is less than 18 generate an user defined exception "Not Eligible for Voting".

16. Write a class Driver with attributes vehicle no, name & age. Initialize values through parameterized constructor. If age of driver is less than 18 then generate user-defined exception "AgeNotWithinTheRange" using Constructor.

17. Write program to accept rollno, marks of four subjects in an array from user and throw MarksOutOf BoundsException if marks are < 0 or marks > 100.Also check ArrayIndexOutofBoundsException.

18. Write a program to set the priority of two threads and check which thread executes first and uses more CPU time.

19. Write a java program to demonstrate the implementation of Synchronization in java.

20. Define an Employee class with suitable attributes having getSalary() method, which returns salary withdrawn by a particular employee. Write a class Manager which extends a class Employee, override the getSalary () method, which will return salary of manager by adding traveling allowance, house rent allowance etc.

21. Write a java program to sort the array in ascending order.

22. Write a Java program to demonstrate the behavior of ArrayList, Vector class of collections Framework.

23. Demonstrate the working of Iterator & ListIterator interface in java.

24. Demonstrate the working of MAP in collection Framework: HashMap, LinkedHashMap, TreeMap, and HashTable.