

Day 2 – Assignment
OOPS Concepts

1. Create a product class having proid, pronaame and price as data members and display as a member function. Display 5 products with its details.
2. Create an account class with accno, name, balance as data members and deposit, withdraw and check account balances as their methods. Based on the customers request, it needs to perform deposit, withdraw and balance checking and displays the accno, name, balance as the output.
3. Create a person class with attributes name,gender and age. Consider name as private and other two are having public access specifier. In what way, you access private variable. Finally, display the person details.
4. You are building a system to manage vehicles in a parking lot. Create a base class called Vehicle with attributes registrationNumber and brand. Derive two classes, Car and Motorcycle, from the Vehicle class. Each derived class should have additional attributes specific to the type of vehicle, such as numDoors for cars and engineType for motorcycles. Implement methods in each class to calculate the parking fee for the vehicle based on its type. Create instances of these classes and calculate the parking fees.
5. You are tasked with creating a class called AreaCalculator that can calculate the areas of various geometric shapes. The class provides multiple overloaded calculateArea methods for different shapes: square, rectangle, and circle.
 - a) Implement the AreaCalculator class with overloaded calculateArea methods for squares, rectangles, and circles.
 - b) In the main method, demonstrate the use of these methods to calculate the areas of a square with a side length of 5.0, a rectangle with dimensions 4.0 by 6.0, and a circle with a radius of 3.0. Print the results.
6. Implement Multilevel inheritance with an example.
7. Implement Hierarchical inheritance with an example.