

PES UNIVERSITY
Department of CSE
UE22CS352B – Object Oriented Analysis and Design
Jan – May 2025

Assignment 1: Vehicle Rental Management System

Problem Description: Design (Class Diagram with methods) and implement (using Java or C++) a simple vehicle rental management system that demonstrates the use of inheritance, abstract classes, and interfaces.

- The User can rent either a car or a motorcycle.
- These have Reg. Number, Fuel Type (Electric or Petrol or Diesel), Per Day Rent (in Rupees), and Date of Rental in common.
- The Car has additional attributes like Transmission Type (Manual or Automatic), Car Type (Hatchback, Sedan, SUV) and Number of Seats (2 or 4 or 6).
- The Motorcycle has additional attributes like Engine Displacement (cc), Weight (kg).

Functional Requirements:

- The system should keep track of vehicles rented by different users.
- The system should sort the vehicles rented by a user based on the rental date in ascending order before displaying all their details.
- The Vehicles should only expose the methods `getRegnNumber()` and `getRentalDate()` to other entities.