

Day15- Practice Exercises (3 Questions)

1. Polymorphism in Real Life

Write a program demonstrating **polymorphism** with a Vehicle class that has a fuel_type() method. Implement two child classes:

- PetrolCar → Returns "Petrol"
- ElectricCar → Returns "Electric"

Expected Output:

- Create an instance of each class and call fuel_type().
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2. Multiple Inheritance in a Smart Home System

Design a SmartHomeDevice system with:

- LightSystem class → method turn_on_lights()
- SecuritySystem class → method activate_alarm()
- SmartHome class that **inherits from both** and implements a method home_status()

Test Cases:

- Create a SmartHome object and call all methods.
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3. Employee Management System with Multilevel Inheritance

Create:

- Person class → Attributes: name, age
- Employee class (inherits Person) → Attributes: employee_id, department
- Manager class (inherits Employee) → Attributes: team_size

Test Cases:

- Instantiate a Manager and call a method that displays **all attributes**.