

Day 15: Advanced OOP in Python - Daily Assignment & Test

📌 Daily Assignment Questions (2 Questions)

1. Develop a Library Management System using Inheritance

Create a **Library Management System** where:

- LibraryItem (Base class) contains attributes like title, author, and item_id.
- Book and Magazine classes inherit from LibraryItem.
- Book should have an additional genre, and Magazine should have issue_number.
- Implement a method display_info() that is **overridden** in child classes to display respective details.

👉 Test Cases:

- Create at least **two books** and **one magazine** and call display_info() on each object.
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2. Build a Secure Banking System using Encapsulation

Design a **BankAccount** class that:

- Has a **private variable** __balance.
- Provides methods deposit(amount), withdraw(amount), and get_balance().
- Ensures **balance cannot be accessed directly** from outside the class.
- Create a SavingsAccount class that inherits from BankAccount and adds interest_rate functionality.

👉 Test Cases:

- Create an account, deposit money, withdraw money, and check the balance.
 - Try accessing __balance directly and note the error.
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