College Management System

- 🎬 Add functionality to **drop a course** for a student.
- 🎬 Validate that the same course is not enrolled or assigned twice.
- 🎬 Handle edge cases (e.g., exceeding the maximum number of courses).

1. Bank Management System

Interest Calculation:

- Add a SavingsAccount class extending Account that calculates interest monthly and adds it to the balance.
- Include fields for interestRate and methods for interest calculation.

Overdraft Protection:

- Add a CurrentAccount class extending Account with an overdraft limit. Ensure withdrawal methods check this limit.

Transaction History:

- Implement a class Transaction with fields like transactionID, type, amount, and date.
- Store a list of Transaction objects in the Account class instead of simple Strings for the transaction log.

Account Type Hierarchy:

- Use polymorphism to handle different account types (e.g., SavingsAccount, FixedDepositAccount).

2. Library Management System

Book Reservations:

- Allow members to reserve books if they're currently borrowed by others.
- Implement a queue for reservations in the Book class.

Due Dates and Fines:

- Track due dates for borrowed books.
- Add a calculateFine() method in the Member class to compute fines for overdue books.

Book Recommendations:

- Add a Category field to the Book class.
- Suggest books from the same category when members return a book.

Digital Library System:

- Add an EBook class extending Book to store download links and access details.

3. Art Gallery Management System

Auction System:

- Add an Auction class to manage bids for unsold artworks.
- Include fields like currentBid, highestBidder, and methods to update bids.

Art Categories and Themes:

- Add categories (e.g., Sculpture, Painting) and themes (e.g., Abstract, Realism) for artworks.
- Implement methods to filter and display artworks by category or theme.

Customer Management:

- Add a Customer class with fields like name and purchasedArtworks.
- Track and display customers who buy specific artworks.

Exhibition Scheduling:

- Allow exhibitions to have start and end dates.
- Ensure that no artwork is assigned to multiple exhibitions with overlapping dates.

4. Hospital Management System

Emergency Management:

- Add an EmergencyPatient class extending Patient with fields like severityLevel and priority.
- Implement priority-based scheduling for emergency appointments.

Prescriptions and Medications:

- Add a Prescription class containing fields like medicineName, dosage, and duration.
- Link prescriptions to appointments.

Doctor Availability:

- Implement a schedule for doctors to track their working hours and appointments.
- Disallow appointment booking outside their availability.

Multi-Specialization Support:

- Allow doctors to specialize in multiple fields (e.g., Cardiology, Neurology).
- Enable filtering and booking based on specialization.