Assignment 3

1. Bank Account

- accountHolderName: string
- accountNumber: int
- currentBalance: double
- accountType: string
- contactNumber: int
- panCardNumber: int
- aadharNumber: int
- deposit();
- withdraw();
- checkBalance();
- transferMoney();

→ Specialized Classes:

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a. Loan Account (is-a Bank Account)

- loanAmount: double
- paidAmount: double
- remainingAmount: double

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b. Current Account (is-a Bank Account)

- overdraftLimit: double
- businessName: string
- overdraftBalance: double

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c. Saving Account (is-a Bank Account)

- minBalanceLimit: double
- fdInterest: double
- withdrawalLimit: double

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2. Vehicle

- brand: string
- model: string
- speed: double

- fuelCapacity: double
- startEngine();
- stopEngine();

→ Specialized Classes:

a. Car (is-a Vehicle)

- numberOfDoors: int
- trunkCapacity: double

b. Bike (is-a Vehicle)

- hasKickStart: bool
- helmetIncluded: bool

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3. Employee

- employeeID: int
- name: string
- department: string
- salary: double
- login();
- logout();

→ Specialized Classes:

a. Manager (is-a Employee)

- teamSize: int
- approveLeave();

b. Developer (is-a Employee)

- programmingLanguage: string
- writeCode();

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4. Animal

- species: string
- age: int
- eat();
- sleep();

→ Specialized Classes:

a. Dog (is-a Animal)

- breed: string
- bark();

b. Cat (is-a Animal)

- color: string
- meow();

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5. Shape

- color: string
- draw();

→ Specialized Classes:

a. Circle (is-a Shape)

- radius: double
- calculateArea();

b. Rectangle (is-a Shape)

- length: double
- width: double
- calculateArea();

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6. Person

- name: string
- age: int
- gender: string

→ Specialized Classes:

a. Student (is-a Person)

- rollNumber: int
- marks: double

b. Teacher (is-a Person)

- employeeID: int
- subject: string

7. Appliance

- brand: string
- powerRating: double
- turnOn();
- turnOff();

→ Specialized Classes:

a. Fan (is-a Appliance)

- numberOfBlades: int
- speedControl();

b. AirConditioner (is-a Appliance)

- tonCapacity: double
- setTemperature();

8. Document

- title: string
- author: string
- publishDate: string

→ Specialized Classes:

a. Book (is-a Document)

- isbn: string
- numberOfPages: int

b. Magazine (is-a Document)

- issueNumber: int
- category: string

9. Account (Generic)

- username: string
- password: string
- login();
- logout();

→ **Specialized Classes:**

a. AdminAccount (is-a Account)

- manageUsers();

b. UserAccount (is-a Account)

- viewProfile();
- updateDetails();

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10. Ticket

Ticket

- ticketID: int
- date: string
- price: double
- passengerOrCustomerName: string
- sourceLocation: string
- destinationOrEventLocation: string
- bookingPlatform: string
- generateTicket()

BusTicket

- seatNumber: int
- busNumber: string
- busType: string (e.g., AC/Non-AC)
- boardingTime: string
- departurePoint: string
- arrivalPoint: string
- travelDuration: string
- printBoardingPass()

MovieTicket

- screenNumber: int
- showTime: string
- movieName: string
- seatType: string (e.g., Premium/Normal)
- theaterName: string
- snackComboIncluded: bool
- language: string
- scanQRCodeForEntry()