

Assignment 1: Student Encapsulation

Create a Student class:

- Private variables: id, name
- Public getters & setters
- Display details using getter methods.

Concepts: Data hiding, getter/setter

Assignment 2: Bank Account

Create BankAccount class:

- Private: accountNumber, balance
- Setter validates balance (no negative value)
- Getter returns balance.

Concepts: Validation logic

Assignment 3: Employee Salary

Create Employee class:

- Private: empld, salary
- Setter restricts salary > 0
- Method displaySalary()

Concepts: Controlled access

Assignment 4: Product Price

Create Product class:

- Private: price
- Setter allows price only between 100 – 100000

Concepts: Business rule encapsulation

Assignment 5: Login Credentials

Create User class:

- Private: email, password
- Password setter validates length ≥ 8

Concepts: Security with encapsulation

Assignment 6: Customer Profile

Create Customer class:

- Private: name, age
- Setter restricts age ≥ 18
- Getter returns formatted data

Concepts: Validation inside setters

Assignment 7: Mobile Phone

Create Mobile class:

- Private: brand, price
- Getter returns price with GST

Concepts: Logic in getter

Assignment 8: ATM System

Create ATMAccount class:

- Private: pin, balance
- setPin() validates 4 digits
- withdraw(amount) checks balance

Concepts: Secure operations

Assignment 9: College Admission

Create Admission class:

- Private: marks
- Setter assigns grade internally

Concepts: Internal processing

Assignment 10: Insurance Policy

Create Policy class:

- Private: policyId, premium
- Premium calculated internally based on age

Concepts: Business rule hiding