

Assignment 1: Calculator Overloading

Create Calculator class:

- add(int a, int b)
- add(int a, int b, int c)
- add(double a, double b)

Concepts: Compile-time polymorphism

Assignment 2: Area Calculator

Create Area class:

- area(int side) → square
- area(int length, int breadth) → rectangle
- area(double radius) → circle

Concepts: Method signature change

Assignment 3: Print Data

Create Printer class:

- print(int)
- print(String)
- print(int, String)

Concepts: Overloaded methods

Assignment 4: Login System

Create Login class:

- login(String email)
- login(String email, String password)

Concepts: Overloading for flexibility

Assignment 5: Payment Calculation

Create Payment class:

- pay(int amount)
- pay(int amount, String mode)

Concepts: Same method, different params

Assignment 6: Shape Drawing

Create:

- Shape → draw()
- Circle, Rectangle override draw()
- Use Shape reference

Concepts: Runtime polymorphism

Assignment 7: Bank Interest

Create:

- Bank → getInterestRate()
- SBI, HDFC override method

Concepts: Dynamic method dispatch

Assignment 8: Notification System

Create:

- Notification → send()
- EmailNotification, SMSNotification override send()

Concepts: Real-time example