Thinking Minds Technical Training Institute

1. Class and Object

Q1: Create a `Laptop` class with fields: `brand`, `model`, `price`.

- Add a method `showDetails()` that prints all values.

- Create 2 objects and display their details.

2. Inheritance

Q2: Create a `Vehicle` class with `speed`, `color`, and a method `move()`.

- Create a subclass `Car` with additional field `numberOfDoors`.

- Override `move()` method to show different behavior.

3. Method Overriding

Q3: Create class `Animal` with method `makeSound()`.

- Create subclasses `Dog` and `Cat`, override `makeSound()` to print different messages.

- Demonstrate runtime polymorphism using base class reference.

4. Method Overloading

Q4: Create a `Calculator` class with overloaded methods `add()`.

- One version adds 2 integers.

- One adds 3 integers.

- One adds 2 doubles.

- Show method calls with different parameters.

5. Super and Constructor Chaining

Q5: Create a class `Person` with a constructor accepting `name` and `age`.

- Create a subclass `Employee` with constructor chaining using `super(name, age)` and additional `salary` field.

- Print values from subclass constructor.

6. Abstraction using Access Modifiers (Only Private)

Q6: Create a `BankAccount` class with private fields `accountNumber`, `balance`.

- Add public methods `deposit()`, `withdraw()`, and `getBalance()`.

- Show that direct access to `balance` is not possible outside the class.

7. Encapsulation

Q7: Create class `Student` with private fields `rollNo`, `name`, `marks`.

- Use setters and getters to access them.

- Ensure marks can't be set above 100.