**1. Constructors & this Keyword**

Create a **Car** class with the following:

* Instance variables: brand, model, price.
* Default constructor and parameterized constructor (use this to initialize variables).
* A method displayCarInfo() to print car details.
* Create an object of Car in main() and display details.

**2. super Keyword & Inheritance**

Create a **Person** class:

* Fields: name, age.
* Constructor to initialize these values.
* A displayInfo() method to print details.

Create a **Employee** class that extends Person:

* Fields: employeeId, salary.
* Constructor that initializes all values using super().
* Override displayInfo() to show employee details.

In main(), create an Employee object and call displayInfo().

**3. final Keyword**

* Create a final class **ImmutableConfig** with a final variable MAX\_USERS = 100.
* Try creating a subclass of ImmutableConfig and observe what happens.
* Create a final method inside a class **BankAccount** and try to override it in a subclass. What happens?

Write your observations in comments.

**4. Abstract Class & Methods**

Create an abstract class **Shape** with:

* Abstract method calculateArea().
* Non-abstract method display() to print "Calculating area...".

Create two subclasses **Circle** and **Rectangle** that implement calculateArea().

* Circle should have radius, and Rectangle should have length and breadth.
* Implement calculateArea() for both.

Create objects in main() and call calculateArea() for both shapes.

**5. static Keyword (Methods & Variables)**

Create a class **Student**:

* Instance variables: name, rollNumber.
* static variable schoolName.
* Constructor to initialize name and rollNumber.
* static method changeSchoolName() to modify schoolName.

Demonstrate how changing schoolName affects all student objects.

**6. Interfaces**

Define an interface **Animal** with:

* Method makeSound().

Create two classes **Dog** and **Cat** that implement Animal.

* Dog should print "Woof!" and Cat should print "Meow!".

Write a main() method to create Dog and Cat objects and call makeSound().