**🧾 Assignment Title: Online Payment System using Inheritance**

**🧠 Objective:**

Design and implement an object-oriented Java program to simulate an online payment gateway that supports different types of payments such as credit card, debit card, and UPI. Use **inheritance** and **method overriding** to handle type-specific payment logic.

**📘 Scenario:**

An online payment system supports multiple payment methods. While each payment shares common fields like paymentId and amount, each method has its own additional data and processing behavior.

**✅ Requirements:**

**1. Create a Base Class – Payment (pascal naming)**

* Fields:
  + payment**I**d (int) (first word lower case and 2nd word onward each word first letter upper case)
  + amount (double)
* Method:
  + processPayment() – a placeholder method that can be overridden by subclasses.

**2. Create Derived Class – CreditCardPayment**

* Additional Fields:
  + cardNumber (String)
  + cvv (int)
* Constructor:
  + Use constructor chaining (super()) to initialize base fields and assign additional fields.
* Override processPayment() to display the following:
  + "Processing Credit Card Payment..."
  + Print paymentId, amount, masked card number (e.g., only last 4 digits), and a success message.

**3. Create Derived Class – DebitCardPayment**

* Additional Fields:
  + cardNumber (String)
  + pin (int)
* Constructor:
  + Call the parent constructor using super() and initialize new fields.
* Override processPayment() to display the following:
  + "Processing Debit Card Payment..."
  + Print paymentId, amount, masked card number, and a success message.

**4. Create Derived Class – UPIPayment**

* Additional Field:
  + upiId (String)
* Constructor:
  + Initialize using constructor chaining and assign upiId.
* Override processPayment() to display the following:
  + "Processing UPI Payment..."
  + Print paymentId, amount, upiId, and a success message.

**5. Create a Test Class – PaymentTest**

* In the main() method:
  + Create one object for each type of payment.
  + Call the processPayment() method on each object.
  + Demonstrate **method overriding** in action by calling the same method name for different payment types.