1. You are developing a payment system in an online marketplace. Depending on the user's choice, the application must support multiple payment types:

- Some payments are done through **Credit Card**
- Some through **PayPal**
- Some through **Bank Transfer**

The main application must not instantiate payment types directly. Instead, a **PaymentFactory** will be responsible for creating the correct payment object.

Required Components:
- Payment (interface)
- CreditCardPayment, PayPalPayment, BankTransferPayment (concrete classes)
- PaymentFactory (factory class)
- MarketplaceClient (client class)

Construct a proper JAVA code demonstrating this implementation so that the client can use payments without knowing the exact payment class.

2. In an online university learning platform, a **SystemLogger** is responsible for recording all system events such as login attempts, file uploads, errors, and administrative actions.

For auditing and debugging purposes, **only one SystemLogger instance must exist in the entire application** so that all logs are written to a single centralized log file. Two modules in the system **Course Management Module** and **Online Exam Module**—must use the same SystemLogger instance. **Tasks:**

1. Create a **SystemLogger** class that ensures that only one SystemLogger object is created in the application.
2. Show how the **Course Management Module** and **Online Exam Module** access the same SystemLogger instance.

3. An online game allows players to create different types of characters such as **Warrior**, **Archer**, and **Mage**. Each character has attributes like health, attack power, defense, and special abilities. Players should be able to **duplicate an existing character** and then modify the clone (e.g., change weapon, increase skill level) without affecting the original.

Design a solution that allows character objects to be cloned and customized independently.
You must use:
- GameCharacter (interface or abstract class)
- Concrete classes: Warrior, Archer, Mage
- A GameClient that clones and modifies characters

Build the necessary **Java code** to develop this system.