**Exercise 11: Implementing Dependency Injection**

public class DependencyInjectionExample {

// Step 2: Repository Interface

interface CustomerRepository {

String findCustomerById(int id);

}

// Step 3: Concrete Repository Implementation

static class CustomerRepositoryImpl implements CustomerRepository {

public String findCustomerById(int id) {

if (id == 101) return "Kalai Arasan";

if (id == 102) return "Devi Priya";

return "Customer not found";

}

}

// Step 4: Service Class (Depends on CustomerRepository)

static class CustomerService {

private CustomerRepository repository;

// Step 5: Constructor Injection

public CustomerService(CustomerRepository repository) {

this.repository = repository;

}

public void showCustomer(int id) {

String customer = repository.findCustomerById(id);

System.out.println("Customer: " + customer);

}

}

// Step 6: Test in Main

public static void main(String[] args) {

CustomerRepository repo = new CustomerRepositoryImpl();

CustomerService service = new CustomerService(repo);

System.out.println("Looking up customer with ID 101:");

service.showCustomer(101);

System.out.println("\nLooking up customer with ID 999:");

service.showCustomer(999);

}

}

OUTPUT:

A screenshot of a computer program

AI-generated content may be incorrect.