**Exercise 11: Implementing Dependency Injection**

**Code:**

class DependencyInjectionExample {

// Repository interface

interface CustomerRepository {

String findCustomerById(int customerId);

}

// Concrete repository implementation

static class CustomerRepositoryImpl implements CustomerRepository {

@Override

public String findCustomerById(int customerId) {

// Simulate a database lookup

return "Customer{id=" + customerId + ", name='Sathwik'}";

}

}

// Service class that depends on CustomerRepository

static class CustomerService {

private CustomerRepository customerRepository;

// Constructor Injection

public CustomerService(CustomerRepository customerRepository) {

this.customerRepository = customerRepository;

}

public void displayCustomer(int customerId) {

String customer = customerRepository.findCustomerById(customerId);

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

}

}

// Main method to test dependency injection

public static void main(String[] args) {

// Create repository implementation

CustomerRepository repository = new CustomerRepositoryImpl();

CustomerService service = new CustomerService(repository);

service.displayCustomer(481);

}

}

**Output:**

