**DependencyInjectionExample**

**Customer.java**

package com.di;

public class Customer {

    private String id;

    private String name;

    private String email;

    public Customer(String id, String name, String email) {

        this.id = id;

        this.name = name;

        this.email = email;

    }

    public String getId() {

        return id;

    }

    public String getName() {

        return name;

    }

    public String getEmail() {

        return email;

    }

}

**CustomerRepository.java**

package com.di;

public interface CustomerRepository {

    Customer findCustomerById(String customerId);

}

**CustomerRepositoryImpl.java**

package com.di;

public class CustomerRepositoryImpl implements CustomerRepository {

    @Override

    public Customer findCustomerById(String customerId) {

        // In a real app, you'd fetch from DB. Here, just return mock data.

        return new Customer(customerId, "Alice", "alice@example.com");

    }

}

**CustomerService.java**

package com.di;

public class CustomerService {

    private CustomerRepository customerRepository;

    // Constructor injection

    public CustomerService(CustomerRepository customerRepository) {

        this.customerRepository = customerRepository;

    }

    public void showCustomerDetails(String customerId) {

        Customer customer = customerRepository.findCustomerById(customerId);

        if (customer != null) {

            System.out.println("Customer Found:");

            System.out.println("ID    : " + customer.getId());

            System.out.println("Name  : " + customer.getName());

            System.out.println("Email : " + customer.getEmail());

        } else {

            System.out.println("Customer not found.");

        }

    }

}

**Main.java**

package com.di;

public class Main {

    public static void main(String[] args) {

        // Injecting the repository into the service

        CustomerRepository repository = new CustomerRepositoryImpl();

        CustomerService service = new CustomerService(repository);

        // Use the service to retrieve customer details

        service.showCustomerDetails("C101");

    }

}

