**Spring core and Maven**

**Exercise 7: Implementing Constructor and Setter Injection**

**Scenario:**

The library management application requires both constructor and setter injection for better control over bean initialization.

**Steps:**

1. **Configure Constructor Injection:**
   * Update applicationContext.**xml** to configure constructor injection for **BookService**.
2. **Configure Setter Injection:**
   * Ensure that the **BookService** class has a setter method for **BookRepository** and configure it in **applicationContext.xml**.
3. **Test the Injection:**
   * Run the **LibraryManagementApplication** main class to verify both constructor and setter injection.

**applicationContext.xml:**

<?xml version="1.0" encoding="UTF-8"?>

<beans xmlns="http://www.springframework.org/schema/beans"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://www.springframework.org/schema/beans

http://www.springframework.org/schema/beans/spring-beans.xsd">

<bean id="bookRepo" class="com.library.BookRepository" />

<bean id="bookService" class="com.library.BookService">

<!-- Constructor injection -->

<constructor-arg value="Central Library" />

<!-- Setter injection -->

<property name="bookRepository" ref="bookRepo" />

</bean>

</beans>

**BookRepository.java**

package com.library;

public class BookRepository {

public void show() {

System.out.println("BookRepository: Showing book details.");

}

}

**BookService.java**

package com.library;

public class BookService {

private String libraryName;

private BookRepository bookRepository;

public BookService(String libraryName) {

this.libraryName = libraryName;

}

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public void display() {

System.out.println("Library: " + libraryName);

System.out.println("BookService: Displaying...");

bookRepository.show();

}

}

**Main.java**

package com.library;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class Main {

public static void main(String[] args) {

ApplicationContext context = new ClassPathXmlApplicationContext("applicationContext.xml");

BookService service = (BookService) context.getBean("bookService");

service.display();

}

}

**Output:**

Library: Central Library

BookService: Displaying...

BookRepository: Showing book details.