**Exercise 2: Implementing Dependency Injection**

**BookService.java**

**package** com.library.service;

**import** com.library.repository.BookRepository;

**import** java.util.List;

**public** **class** BookService {

**private** BookRepository repository;

**public** **void** setRepository(BookRepository repository) {

**this**.repository = repository;

}

**public** List<String> listTitles() {

**return** repository.findAll();

}

}

**BookRepository.java**

package com.library.repository;

import java.util.ArrayList;

import java.util.List;

public class BookRepository {

public List<String> findAll() {

List<String> titles = new ArrayList<>();

titles.add("The Hobbit");

titles.add("To Kill a Mockingbird");

return titles;

}

}

**MainApp.java**

**package** com.library;

**import** com.library.service.BookService;

**import** org.springframework.context.ApplicationContext;

**import** org.springframework.context.support.ClassPathXmlApplicationContext;

**public** **class** MainApp {

**public** **static** **void** main(String[] args) {

ApplicationContext ctx = **new** ClassPathXmlApplicationContext("applicationContext.xml");

BookService svc = ctx.getBean("bookService", BookService.**class**);

System.***out***.println("Library titles:");

svc.listTitles().forEach(System.***out***::println);

((ClassPathXmlApplicationContext) ctx).close();

}

}

**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*

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

<bean id=*"bookRepository"* class=*"com.library.repository.BookRepository"*/>

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

<property name=*"repository"* ref=*"bookRepository"*/>

</bean>

</beans>

**Pom.xml**

<project xmlns="http://maven.apache.org/POM/4.0.0"

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

xsi:schemaLocation="http://maven.apache.org/POM/4.0.0

https://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.library</groupId>

<artifactId>LibraryManagement</artifactId>

<version>1.0.0</version>

<properties>

<maven.compiler.source>17</maven.compiler.source>

<maven.compiler.target>17</maven.compiler.target>

<spring.version>5.3.37</spring.version>

</properties>

<dependencies>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>${spring.version}</version>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.codehaus.mojo</groupId>

<artifactId>exec-maven-plugin</artifactId>

<version>3.2.0</version>

<configuration>

<mainClass>com.library.MainApp</mainClass>

</configuration>

</plugin>

</plugins>

</build>

</project>

**Output:**

A computer screen shot of a computer screen

AI-generated content may be incorrect.