**Exercise 2: Implementing Dependency 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">

<!-- Repository Bean -->

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

<!-- Service Bean with Dependency Injection -->

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

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

</bean>

</beans>

**BookService.java:**

package com.library;

public class BookService {

private BookRepository bookRepository;

// Setter for DI

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public void saveBook(String name) {

bookRepository.save(name);

}

}

**MainApp.java:**

package com.library;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class MainApp {

public static void main(String[] args) {

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

BookService bookService = context.getBean("bookService", BookService.class);

bookService.saveBook("The Alchemist");

}

}

**BookRepository.java**

package com.library;

public class BookRepository {

public void save(String name) {

System.out.println("Book saved: " + name);

}

}

**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

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

<modelVersion>4.0.0</modelVersion>

<groupId>com.library</groupId>

<artifactId>LibraryManagement</artifactId>

<version>1.0-SNAPSHOT</version>

<dependencies>

<!-- Spring Core Dependency -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>5.3.22</version>

</dependency>

</dependencies>

<build>

<plugins>

<!-- Plugin to run the Java Main class -->

<plugin>

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

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

<version>3.1.0</version>

<configuration>

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

</configuration>

</plugin>

</plugins>

</build>

</project>

**Output:**

A screenshot of a computer program

AI-generated content may be incorrect.