**Exercise 2: Implementing Dependency Injection**

## 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>LibraryDI</artifactId>

<version>1.0-SNAPSHOT</version>

<dependencies>

<!-- Spring Core & Context -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>6.1.4</version>

</dependency>

<!-- Logging -->

<dependency>

<groupId>org.slf4j</groupId>

<artifactId>slf4j-simple</artifactId>

<version>2.0.13</version>

</dependency>

</dependencies>

</project>

**BookRepository.java (src/main/java/com/library/repository)**

package com.library.repository;

import java.util.Arrays;

import java.util.List;

public class BookRepository {

public List<String> findAll() {

return Arrays.asList("Atomic Habits", "Zero to One", "Deep Work");

}

}

## BookService.java (src/main/java/com/library/service)

package com.library.service;

import com.library.repository.BookRepository;

import java.util.List;

public class BookService {

private BookRepository bookRepository;

// Setter method for Dependency Injection

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public List<String> getBooks() {

return bookRepository.findAll();

}

}

## MainApp.java (src/main/java/com/library)

package com.library;

import com.library.service.BookService;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class LibraryApp {

public static void main(String[] args) {

ApplicationContext context =

new ClassPathXmlApplicationContext("applicationContext.xml");

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

service.getBooks().forEach(System.out::println);

}

}

## Output (from MainApp.java)

