Exercise 2: Implementing Dependency Injection

Scenario:

In the library management application, you need to manage the dependencies between the BookService and BookRepository classes using Spring's IoC and DI.

Steps:

1. **Modify the XML Configuration:**
    - Update **applicationContext.xml** to wire **BookRepository** into **BookService**.
2. **Update the BookService Class:**
    - Ensure that **BookService** class has a setter method for **BookRepository**.
3. **Test the Configuration:**
    - Run the **LibraryManagementApplication** main class to verify the 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">

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

   <bean id="bookService" class="com.library.service.BookService">
      <!-- Dependency Injection via setter -->
      <property name="bookRepository" ref="bookRepository" />
   </bean>

</beans>
```

com.library.service

- **BookService.java**

```
package com.library.service;

import com.library.repository.BookRepository;

public class BookService {

    private BookRepository bookRepository;

    public void setBookRepository(BookRepository bookRepository) {
        this.bookRepository = bookRepository;
    }

    public void addBook(String bookName) {
        bookRepository.saveBook(bookName);
    }
}
```

MainApp.java:

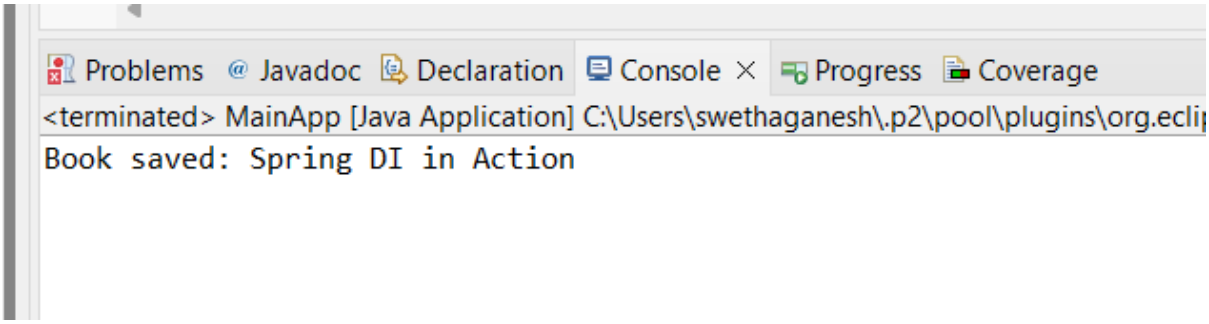
```
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;
import com.library.service.BookService;

public class MainApp {
    public static void main(String[] args) {
        ApplicationContext context = new
ClassPathXmlApplicationContext("applicationContext.xml");

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

        bookService.addBook("Spring DI in Action");
    }
}
```

OUTPUT:


Problems
Javadoc
Declaration
Console
Progress
Coverage
<terminated> MainApp [Java Application] C:\Users\swethaganesh\.p2\pool\plugins\org.ecli
Book saved: Spring DI in Action