<u>**Data Export from Tables:**</u>

Objective:

Develop a Spring Boot MVC application to display records from a database table. The application should include functionality to export the data to PDF, Excel, CSV, and provide a print view.

Tasks:

1. **Spring Boot Project Setup**

   o Create a new Spring Boot project with the following dependencies:

     ▪ Spring Web

     ▪ Spring Data JPA

     ▪ JSP support

   o Ensure the project is configured to use JSP as the view technology.

2. **Entity and Repository Creation**

   o Define an entity class named Record to represent the table in your database.

     ▪ Include fields such as id (primary key), name, and value.

     ▪ Annotate the entity class for JPA.

   o Create a repository interface named RecordRepository to handle data access.

     ▪ Extend JpaRepository<Record, Long>.

     ▪ Include necessary CRUD methods.

3. **Service Layer Implementation**

   o Implement a service class named RecordService to interact with the repository and handle business logic.

     ▪ Include methods to retrieve all records.

     ▪ Optionally, include methods for adding, updating, and deleting records.

4. **Controller Creation**

   o Create a controller class named RecordController to handle HTTP requests.

     ▪ Map URLs to controller methods (e.g., /records to display records).

     ▪ Fetch data from the service layer.

- Pass data to the JSP view.

5. **JSP View Development**

   o Develop a JSP view named records.jsp to display the data in a table format.

   - Use JSTL tags to iterate over a list of records.

   - Create buttons for "Export to PDF", "Export to Excel", "Export to CSV", and "Print".

   - Ensure the buttons trigger the appropriate export and print functionalities.

6. **Export Functionality Implementation**

   o Implement the logic to export data to PDF.

   - Use a library such as iText or Apache PDFBox.

   - Create a method in the controller to handle PDF export requests.

   o Implement the logic to export data to Excel.

   - Use a library such as Apache POI.

   - Create a method in the controller to handle Excel export requests.

   o Implement the logic to export data to CSV.

   - Use a library such as OpenCSV or simple string manipulation.

   - Create a method in the controller to handle CSV export requests.

7. **Print View Implementation**

   o Develop a print-friendly JSP view.

   - Create a new JSP view named printRecords.jsp or include print styles in the existing records.jsp.

   - Ensure the view is optimized for printing.

   - Implement JavaScript or a print button to trigger the browser's print functionality.