### Deliverables:

### 1. Source Code:

- Include appropriate comments to enhance readability and maintainability.
- Follow Java coding standards and best practices.

### 2. README.md File:

- Document setup instructions.
- Explain how to run the application.
- o Provide examples of API usage.

#### 3. Unit Tests:

- Include unit tests to demonstrate the functionality and handle edge cases.
- Tests should cover both the segmentation logic and REST API functionality.

#### 4. API Documentation:

 Use Swagger/OpenAPI to document the API endpoints, request and response formats, and error messages.

## 1. PDF Segmentation Logic:

 Task: Develop a method to read and analyze PDF content using Apache PDFBox or iText. The method should identify large vertical whitespace to determine where cuts should be made.

## • Implementation:

- Parse text positions to calculate Y-axis gaps between text blocks.
- Sort the gaps and select the largest X gaps to determine cut positions.
- Split the PDF into segments at the calculated positions and save each segment as a new PDF.

## 2. REST API Development:

Set up a Spring Boot application to provide the following REST API endpoints for PDF segmentation:

## 1. POST /segment-pdf

- Description: Accepts a PDF file and the number of cuts to be made, processes the PDF, and returns the segmented sections.
- Request:
  - PDF file (multipart/form-data)
  - Number of cuts (X)
- o Response: Returns a zip file containing the segmented PDFs.

# 2. **GET /pdf-metadata/{id}**