

## Problem Statement:

Design a Java application that allows users to input and manage student information. The application should provide a graphical user interface (GUI) built using the AWT (Abstract Window Toolkit) library. Additionally, the application should support the generation of PDF documents containing the entered student information.

### \*Features to Implement:\*

#### 1. \*Input Interface:\*

- The application should display a window with labeled text fields for entering student information, including the student's name, roll number, and course.
- Users should be able to enter student details into the respective text fields.

#### 2. \*Save Student Information:\*

- Implement a "Save" button that, when clicked, saves the entered student information (name, roll number, course) to a text file named "student\_info.txt".
- The student information should be appended to the file, with each entry separated by a blank line for readability.

#### 3. \*Generate PDF:\*

- Integrate a "Generate PDF" button that, upon clicking, generates a PDF document containing the student information entered. The PDF file should be named "student\_info.pdf".
- Read the student information from the text file and add it to the PDF document.
- The PDF document should display the student's name, roll number, and course.
- Use the 'itextpdf' library to create the PDF document.

#### 4. \*User Interface:\*

- Design a user-friendly GUI using AWT components for easy interaction with the application.
- Ensure appropriate labeling and organization of input fields and buttons.
- Implement proper error handling to provide informative messages to users if input is missing or invalid.

#### 5. \*Additional Considerations:\*

- Implement a "Clear" button to reset the input fields after saving or generating a PDF.
- Include an option to close the application window gracefully.

### \*Deliverables:\*

- Java source code implementing the Student Information Management System with AWT-based GUI and PDF generation capabilities.
- A "student\_info.txt" file containing the saved student information in text format.
- A "student\_info.pdf" file containing the generated PDF document with student information.