National University of Computer and Emerging Sciences, Lahore Campus

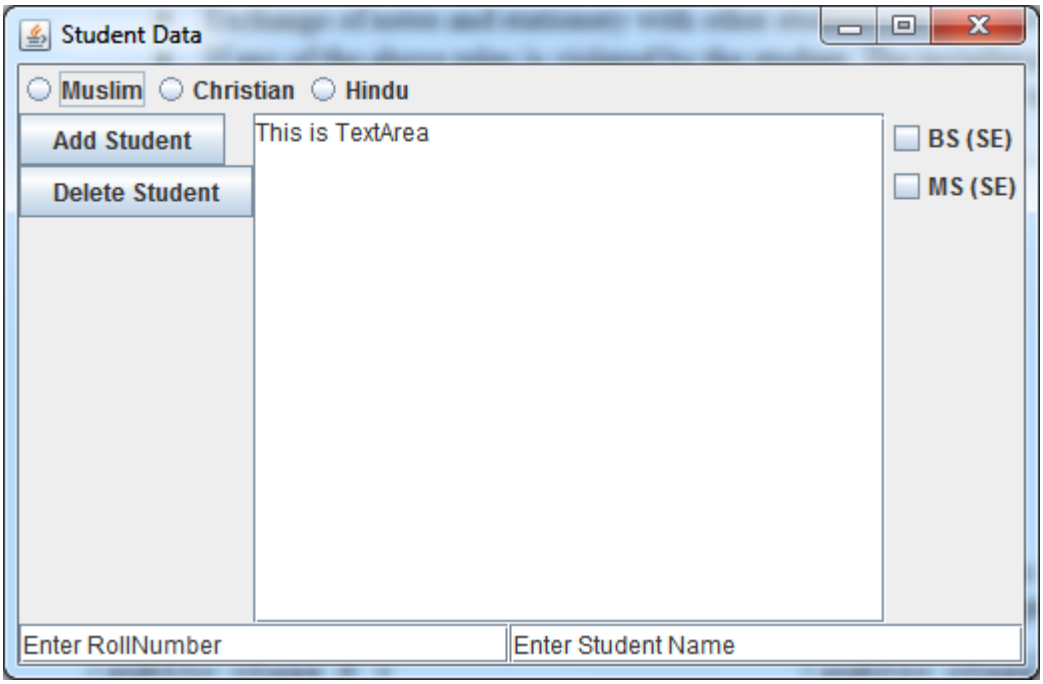
Course Name:	Software Construction & Development	Section:	ALL
Program:	BS (Software Engineering)	Semester:	Fall 2022
Duration:	1 Hour	Total Marks:	30
Evaluation Type:	Mid 2 Exam	Weight:	15 %
Course Code:	SE3001	Page(s)	8
Name:		Roll Number:	

Important Note:

- The quality of the code will affect the marks.
- Students will receive **ZERO** marks if the answers are plagiarized.
- Use of **mobile phones**, **internet**, and, **ANY type of smart devices** during the exam is strictly prohibited.
- Discussion with other students is not allowed.
- Exchange of notes and stationery with other students are not allowed.
- If any of the above rules is violated by the student. The invigilator has the right to file DC case against that student and the invigilator also has the right to take your exam away and ask you to leave the exam hall.

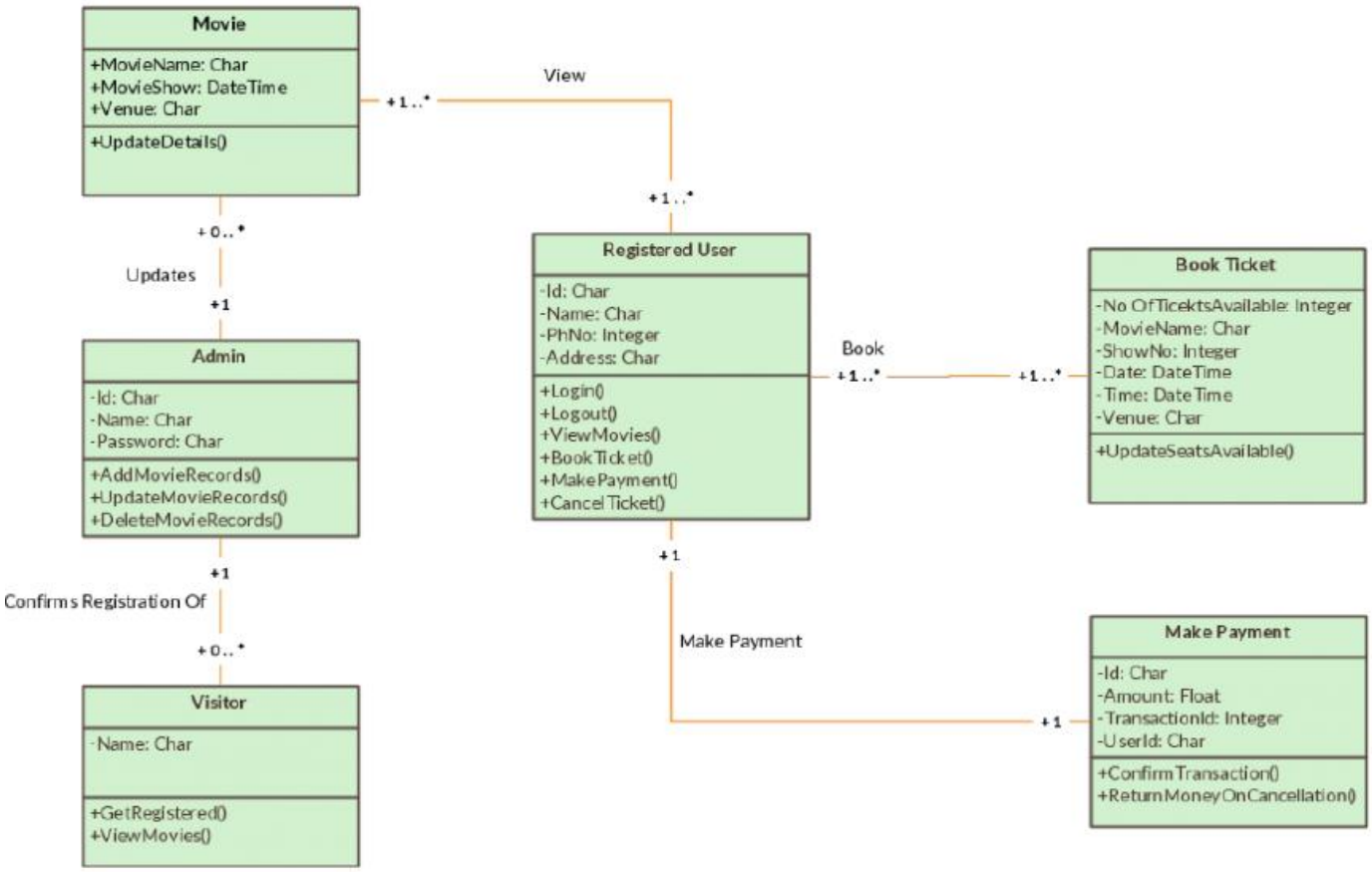
Question 1: Write the java code so that it produces the layout shown in the Figure below and implement the window closing event that generates an alert with message "Window is closing!" by using window adapter.

[Marks: 10, CLO 2]



Question 2: [Marks: 10, CLO 1]

The following UML class diagram represents the design of "**Movie Ticket booking system**". **Suggest/propose the GUI(S) and their interconnected flow only for the said system (*Note:* java code is not required).**

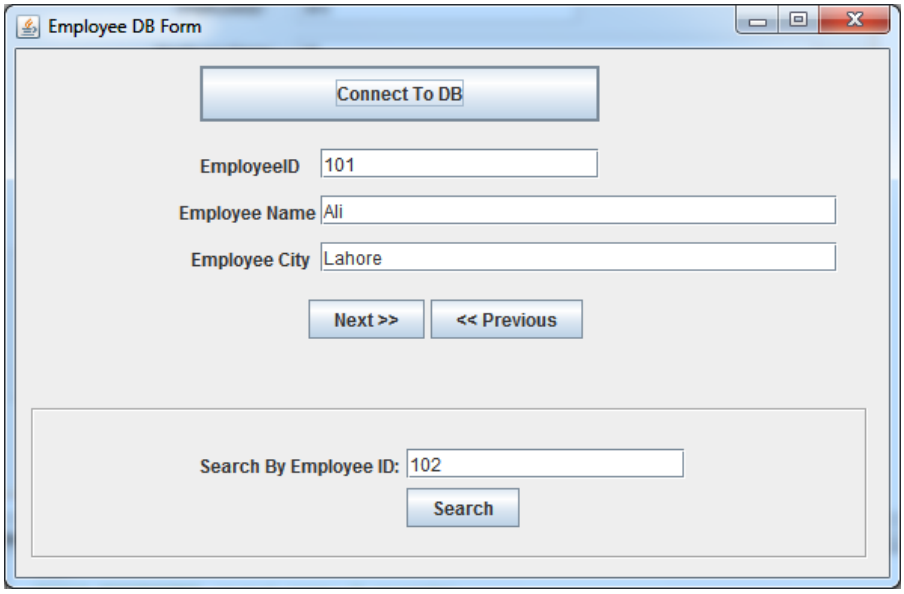


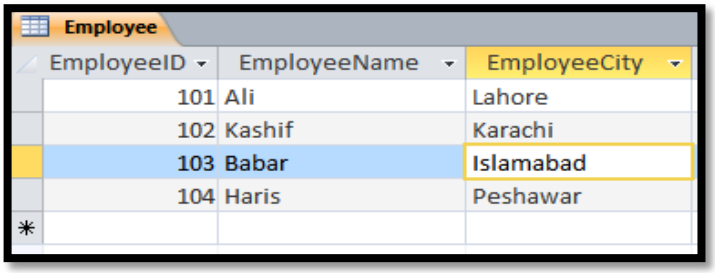
Question 3: [Marks: 10, CLO 2]

- **Assume there is only one table that is 'Employee' in the underlying Database (consider either SQL Server or MySQL) having four employee records.**
- **Assume that below GUI (Employee DB Form) is already developed and all instance variables of given 'Employee_DB_Form' class are available to you.**

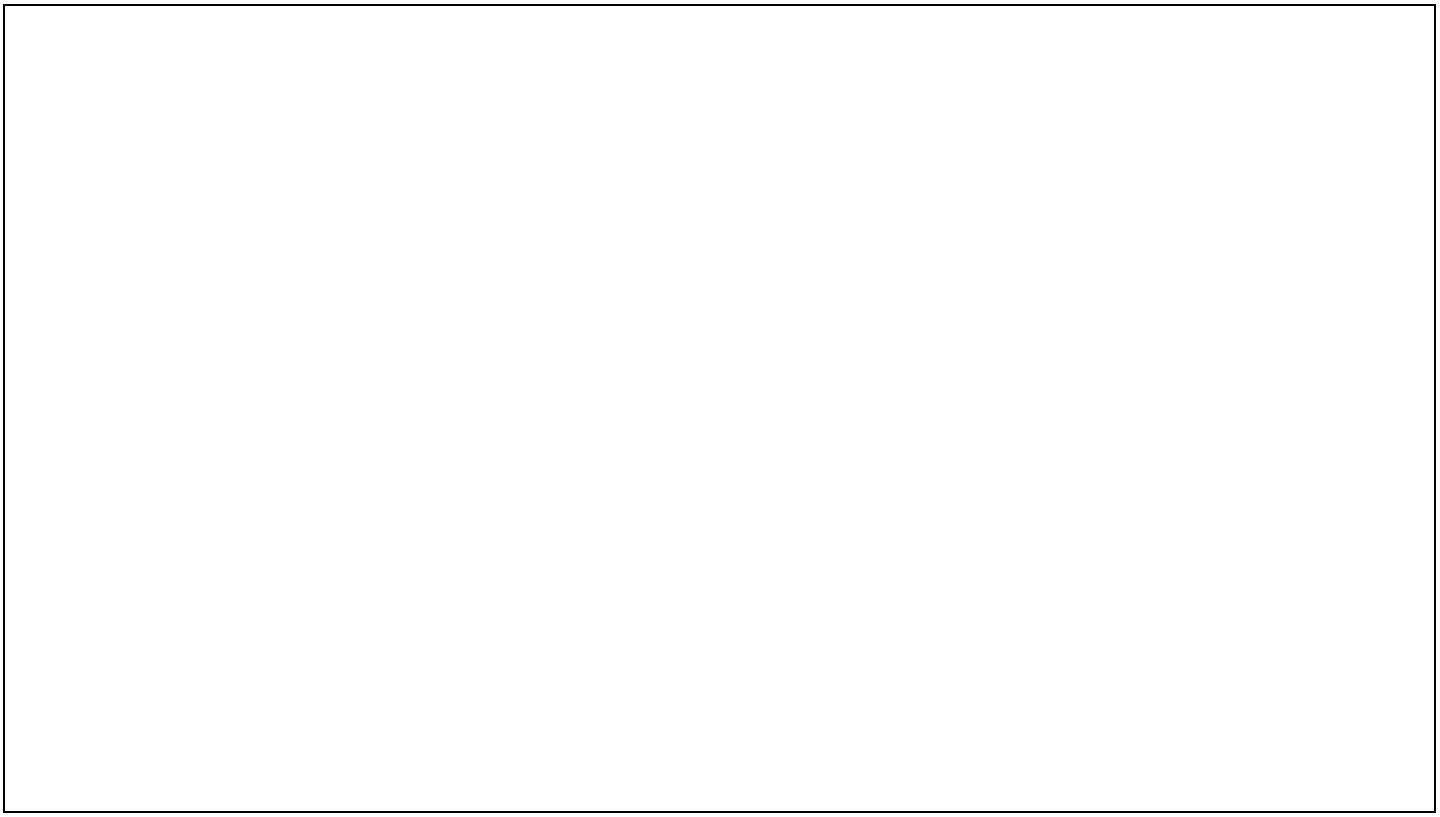
You need to write the java code for the following four operations only:

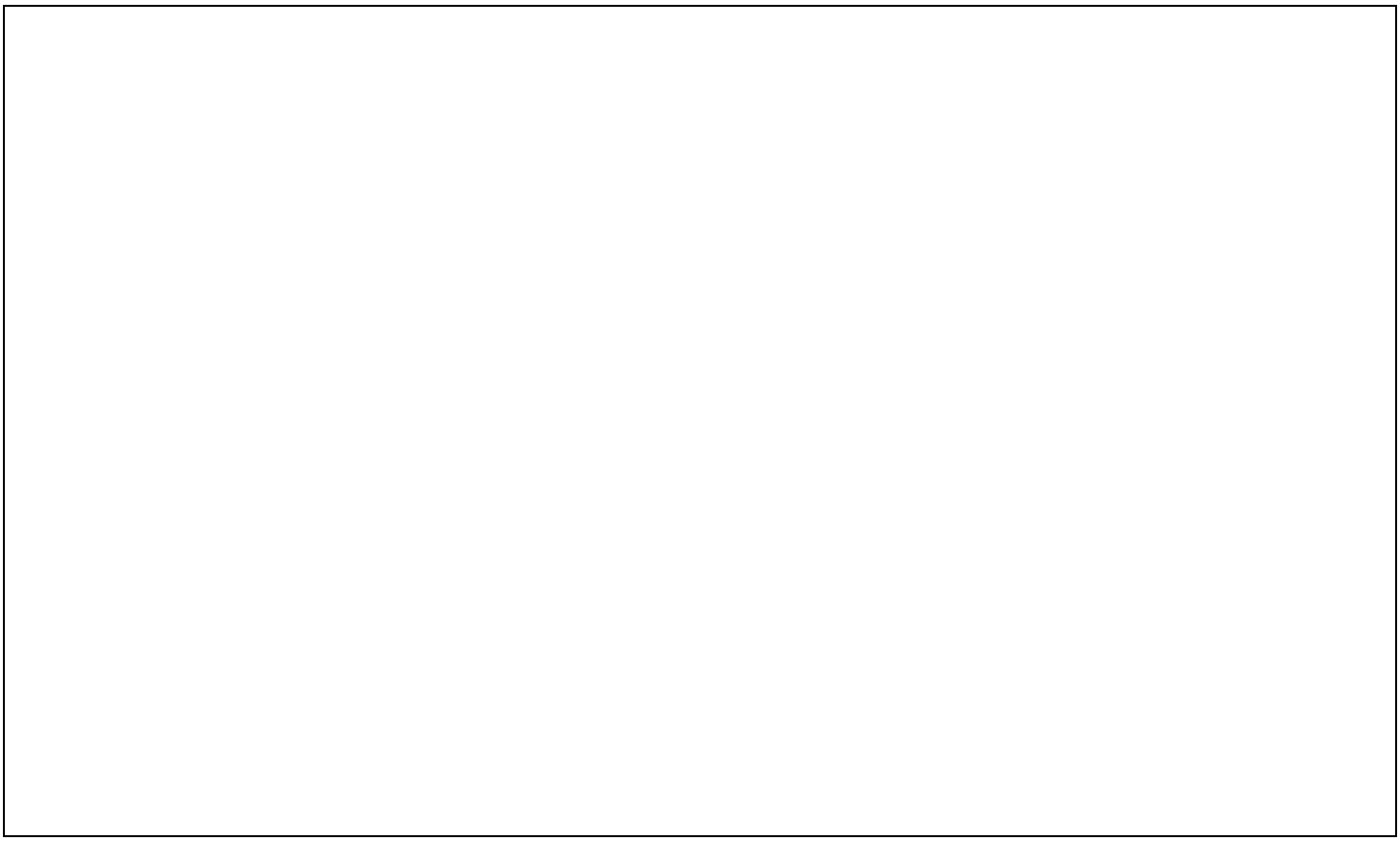
1) **By Clicking on the 'Connect To DB button', load all employee data from underlying DB and initially populate/fill the EmployeeID, EmployeeName, EmployeeCity Text fields with first row of the underlying 'Employee' Table.**
2) **By clicking on the "Next >>" button: DB cursor should scroll to the next row of the Employee table and populate/fill the current row data to the corresponding EmployeeID, EmployeeName, EmployeeCity Text fields.**
3) **Similarly, By clicking on the "<< Previous" button: DB cursor should scroll to the previous row and populate/fill the current row data to the corresponding EmployeeID, EmployeeName, EmployeeCity Text fields.**
4) **By Clicking on the 'Search' button, it should search the given EmployeeID from the underlying Employee table, if the employee record is not found: an alert should be generated with message of "Employee not found", otherwise (if found), jump the cursor to the corresponding given Employee ID row and populate/fill the already founded row data to their corresponding text fields.**





```
import java.sql.*;
import javex.swing.*;
import java.awt.event.*;

public class Employee_DB_Form extends JFrame{
ResultSet rs=null;
JTextField txt_empID=new JTextField();
JTextField txt_empName=new JTextField();
JTextField txt_empCity=new JTextField();

JTextField txt_search=new JTextField();



public Employee_DB_Form() {
      initComponents();
   }
…….
…….
private void btn_connectDB_ActionPerformed(java.awt.event.ActionEvent evt) {
      // Write operation 1 code here
```





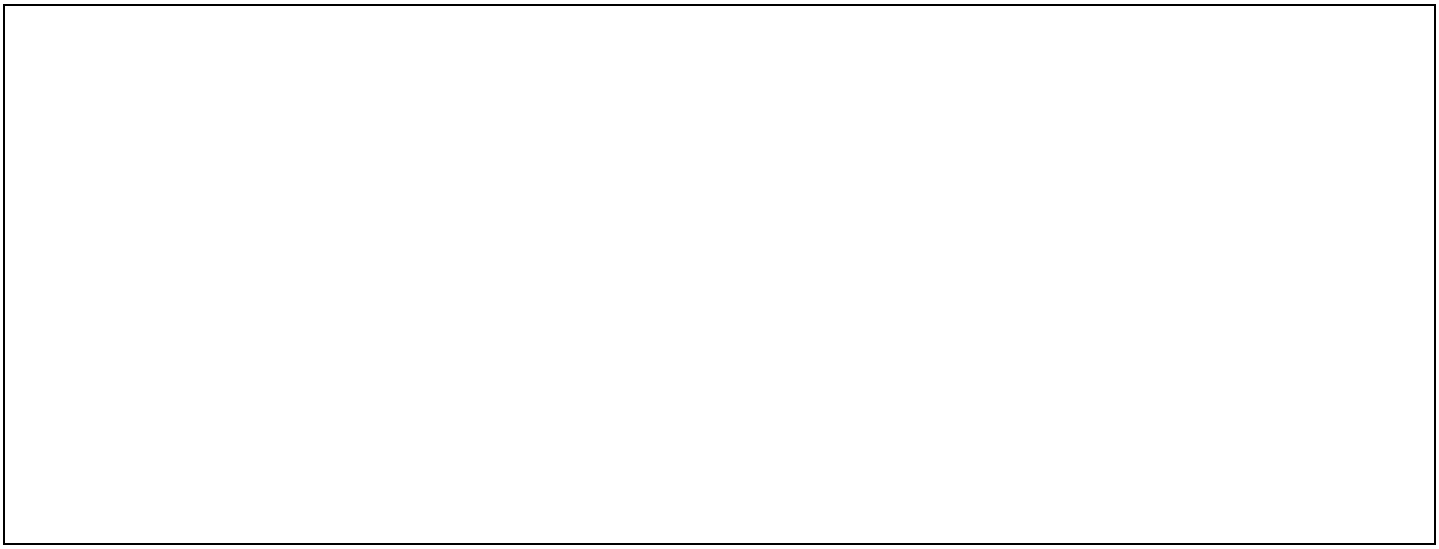
}

private void btn_next_ActionPerformed(java.awt.event.ActionEvent evt) {

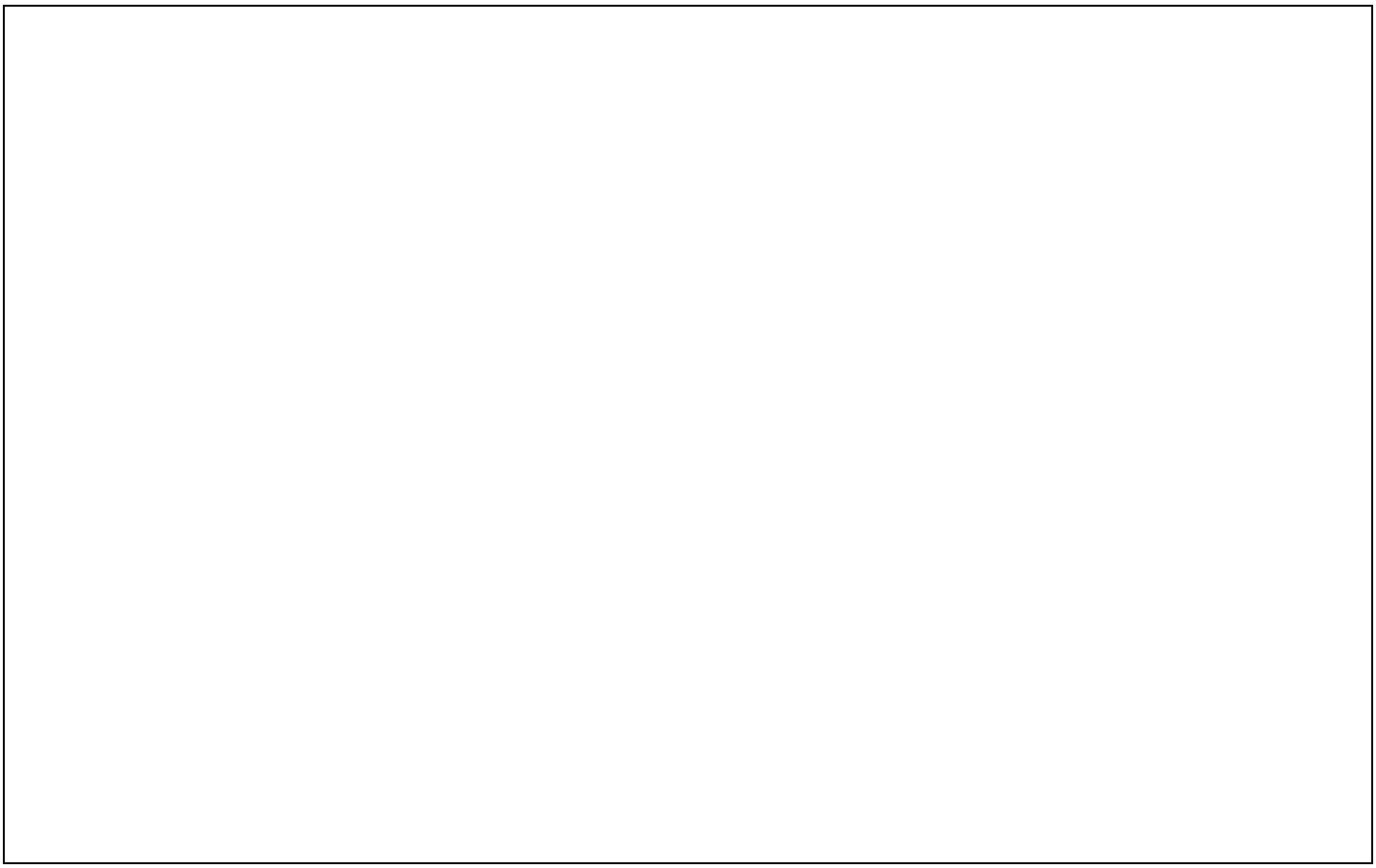
// Write operation 2 code here

}

```
private void btn_previous_ActionPerformed(java.awt.event.ActionEvent evt) {
        // Write operation 3 code here
```



```
    }
private void btn_search_ActionPerformed(java.awt.event.ActionEvent evt) {
        // Write operation 4 code here
```



```
    }
}
```