Module Code & Module Title

CS5004NI Emerging Programming Platforms and Technologies

Assessment Weightage & Type

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Year and Semester

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Title: Bookstore Information System

Group Name:			
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Assignment Due Date: 10 January 2022

Assignment Submission Date: 10 January 2022

I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a marks of zero will be awarded.

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1. PROPOSAL

PROPOSAL TITLE: - BOOKSTORE INFORMATION SYSTEM

In this coursework, an information system needs to be developed to keep the record of respective organization. Our group has decided to create an information system for a bookstore in order to record all of the store's information. So because majority of our country's book stores still utilize traditional conventional methods for each and every transaction and many other daily tasks, developing an information system for book stores will be more productive in their daily lives because it makes work easier, faster, and more predictable. 'Book Land' is the name of the bookshop where the information system will be developed. It gathers and provides information about items found in a bookshop. The system works by allowing users to enter relevant data that they are acquainted with, as well as filter, edit, and delete data based on their preferences.

The prime focus in developing this software is to make it as user-friendly and innovative as possible. This program provides the meaning for every user's ease of use. The GUI interface will appeal to consumers and tidy, making it simple to use for everyone. Software that is simple to use and comfortable to use will be more productive in maximizing customer satisfaction.

LIST OF DATA:-

- JLabel():- The object of JLabel class is a component for placing text in a container. It is used to display a single line of read only text. (String)
- JTextField():-The object of a JTextField class is a text component that allows the editing of a single line text. (string)
- JRadioButton():-Creates an unselected radio button with no text.(string)
- JComboBox():-The object of Choice class is used to show popup menu of choices. Choice selected by user is shown on the top of a menu.
- JTable():-The JTable class is used to display data in tabular form. It is composed of rows and columns.

LIST OF FEATURES:-

- The user can search for a product on the basis of price.
- The system allows the user to add item details to the inventory table.
- The system allow the user to update an item's details that exists in the system record table.
- The user can delete an item detail that exists in the system record table.
- The system allow the user to delete all the record by using the drop table button.
- The system allows the user to import .csv or .txt files from their computer to the system record table.
- The user can export a .csv or .txt file which contains the data of the system record table.

TOOLS USED:-

- Apache NetBeans IDE

The Apache NetBeans Project is a top-level Apache Project dedicated to providing rock-solid software development products (the Apache NetBeans IDE and the Apache NetBeans Platform) that address the needs of developers, users, and businesses who rely on NetBeans as a foundation for their products; specifically, to enable them to develop these products quickly, efficiently, and easily by leveraging the strengths of the Java platform and other relevant industry standards. We utilized Apache NetBeans for our project/system, which met all of our requirements.

- Balsamiq Wireframes:

Balsamiq Wireframes is a low-fidelity UI wire framing tool that simulates sketching on a notepad or whiteboard but on a computer. It compels to concentrate on structure and substance rather than extensive conversations about colors and details, which should be saved for later in the process. It serves as a guideline of our system's GUI for our project.

1.1 OVERALL DESIGN FOR SYSTEM

1. WIREFRAME FOR HOME PAGE

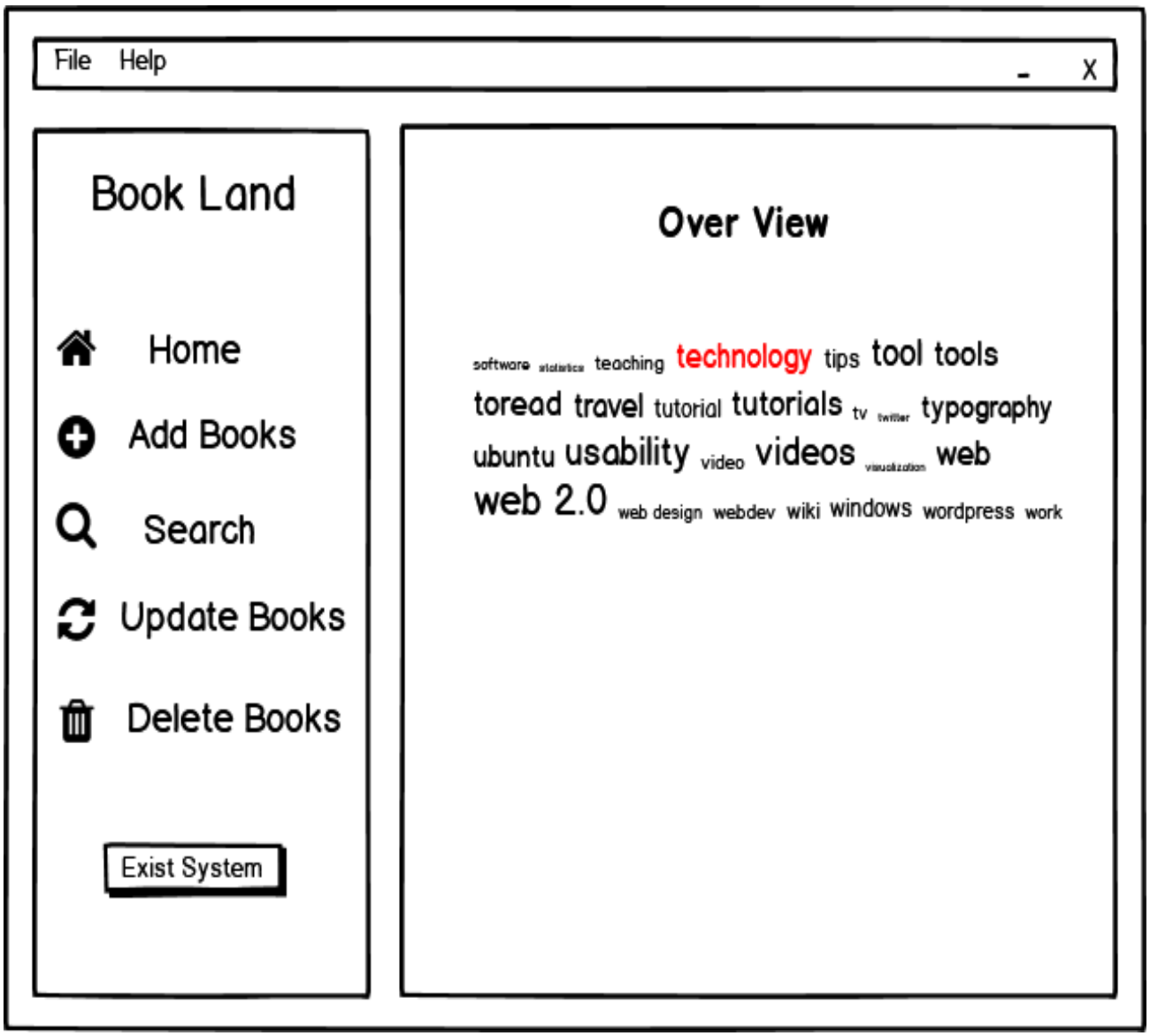

FIGURE 1 WIREFRAME OF HOME PAGE

2. WIREFRAME FOR ADD BOOKS

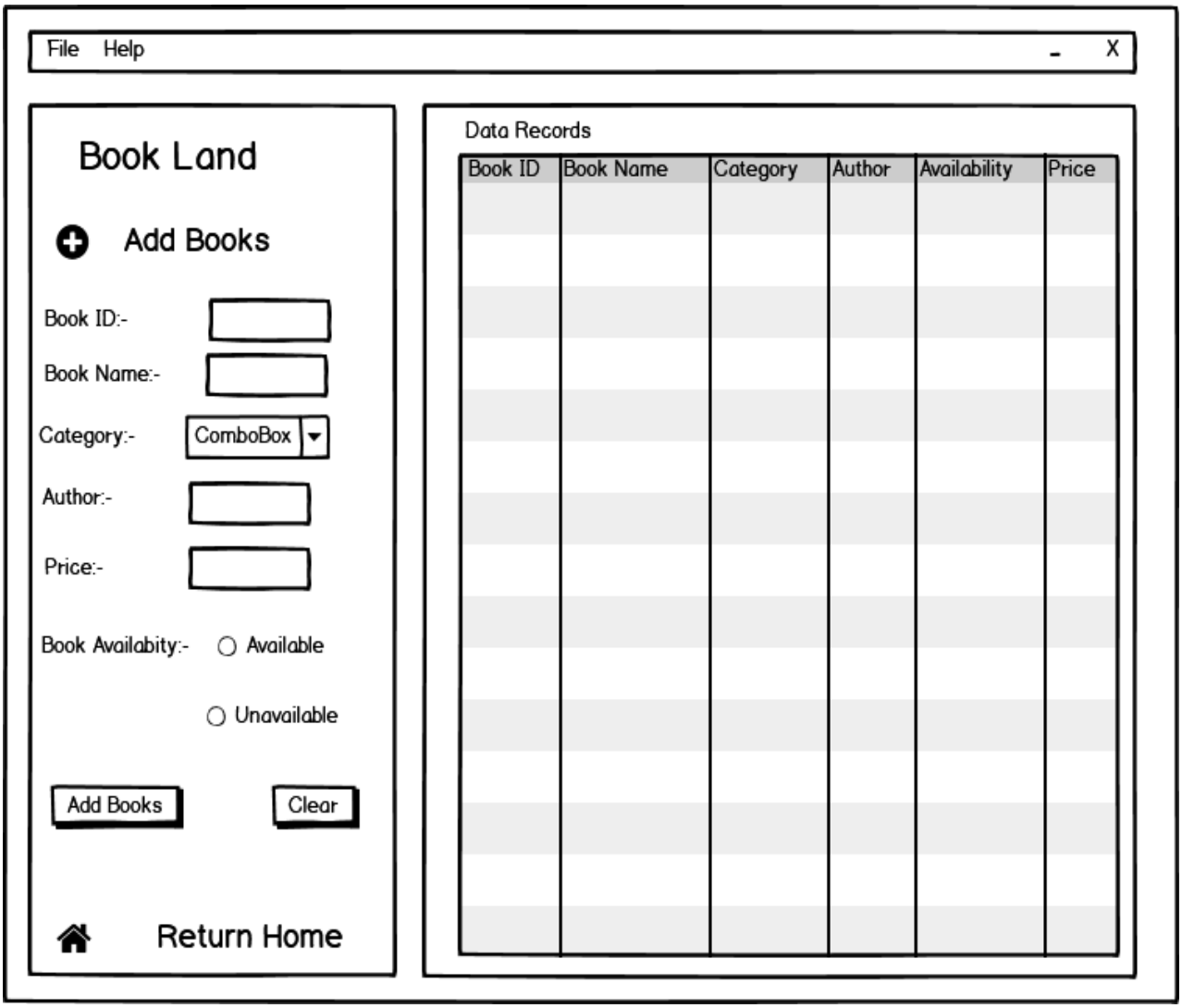

FIGURE 2 WIREFRAME OF ADD BOOKS

3. WIREFRAME FOR SEARCH BOOKS

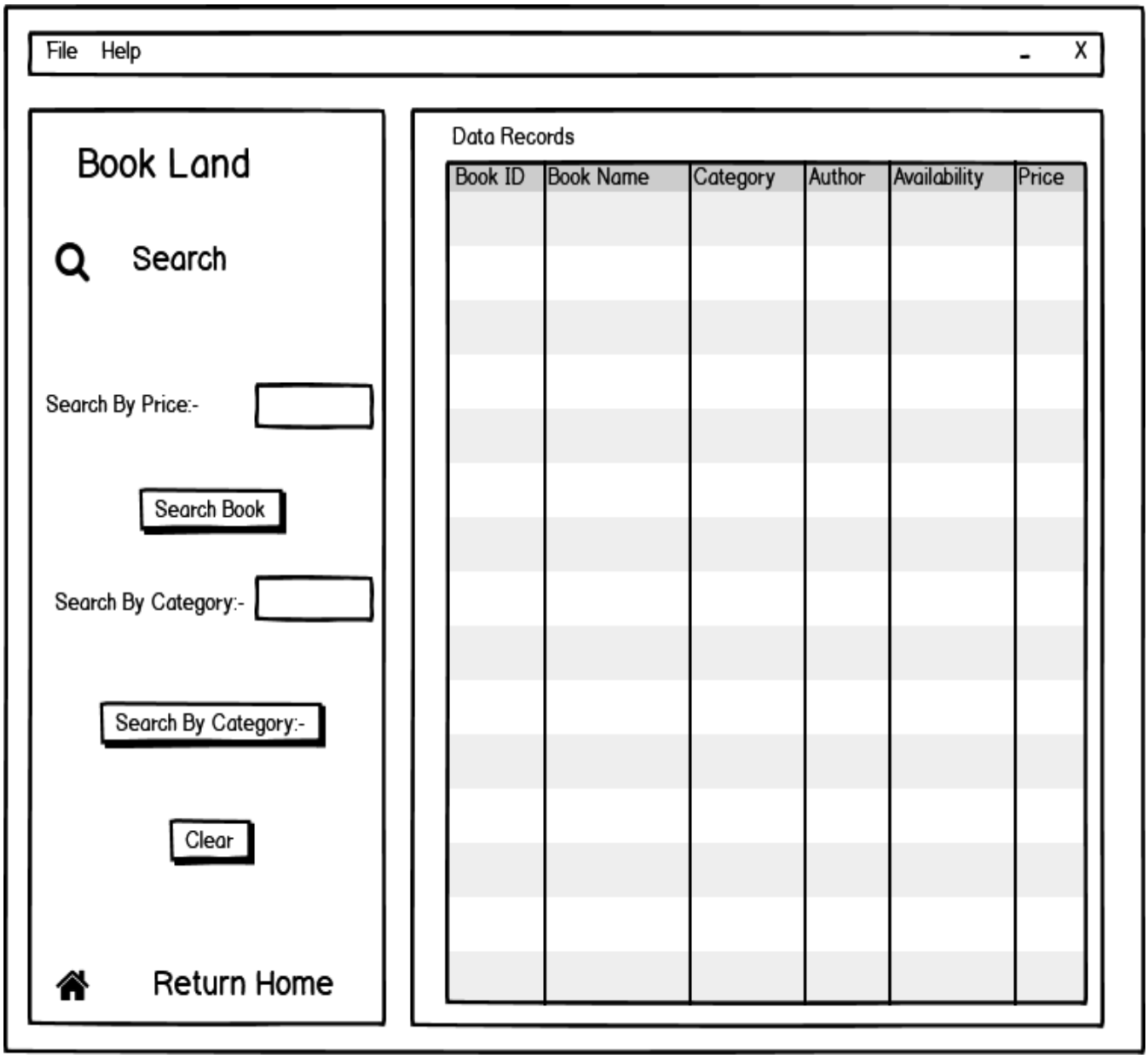

FIGURE 3 WIREFRAME OF SEARCH BOOKS

4. WIREFRAME FOR UPDATE BOOKS

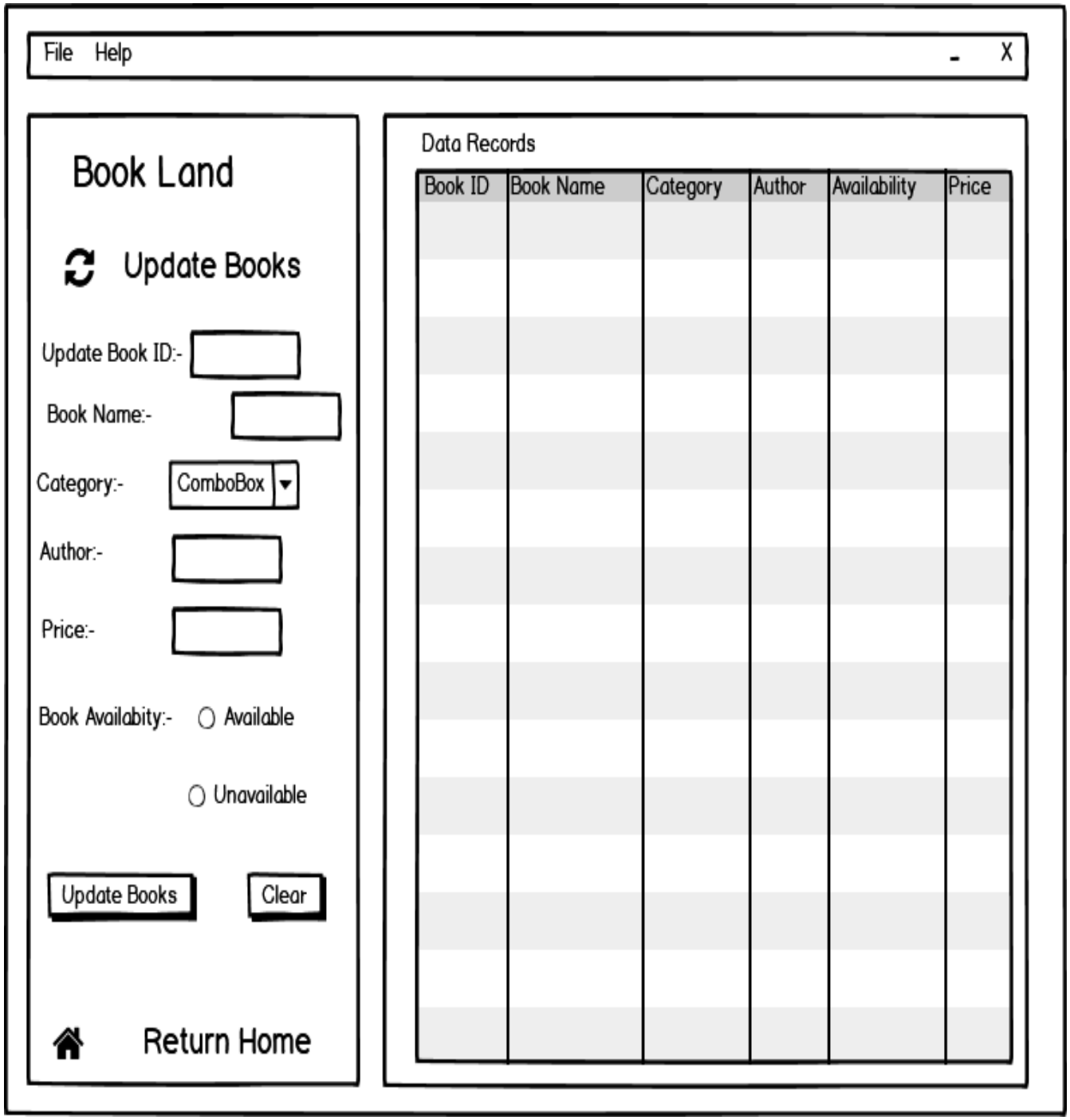

FIGURE 4 WIREFRAME FOR UPDATE BOOKS

5. WIREFRAME FOR DELETE BOOKS

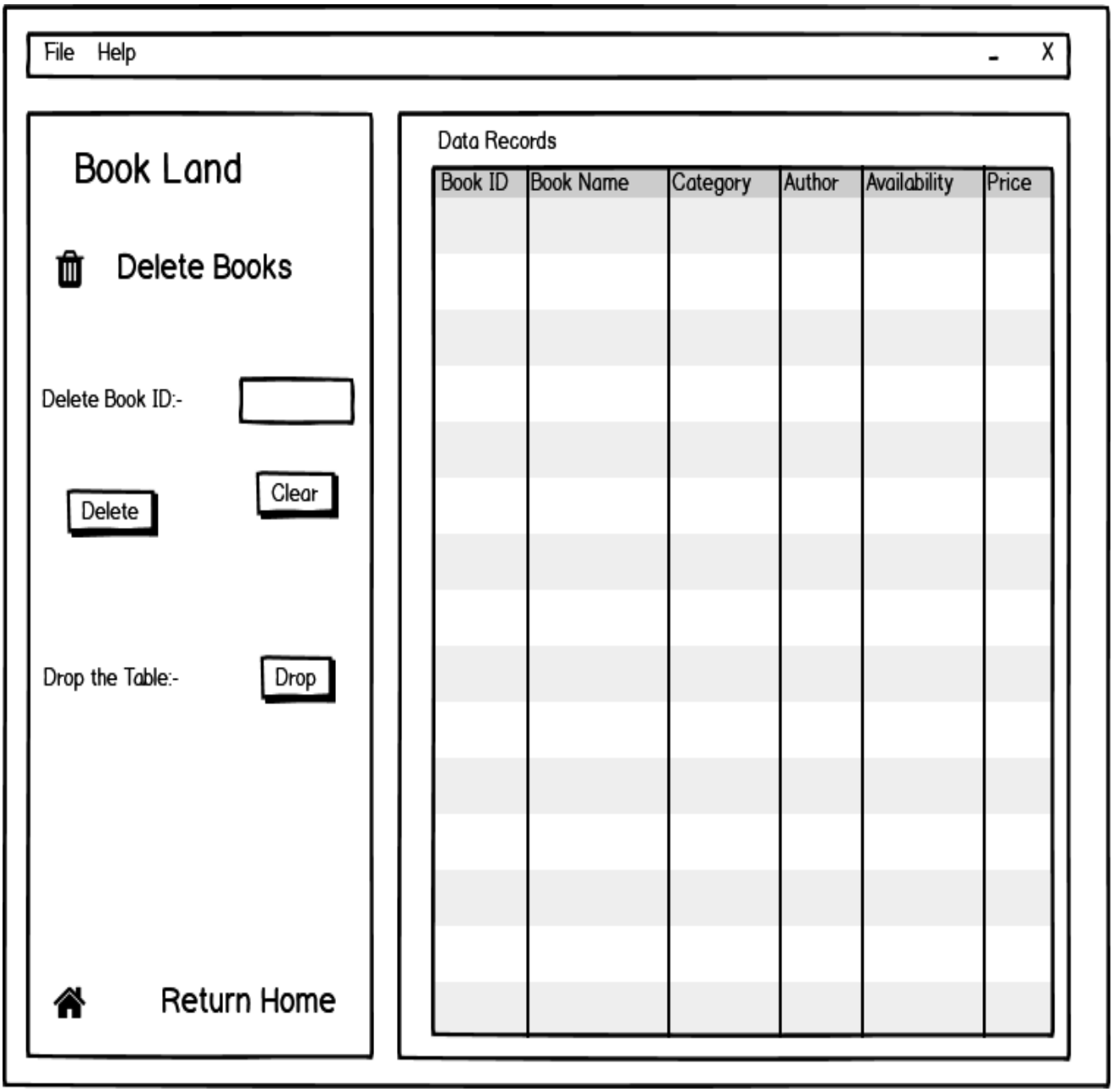

FIGURE 5 WIREFRAME FOR DELETE BOOKS

2. INDIVISUAL TASK

	INDIVISUAL TASKS	
STUDENT'S NAMES	DOCUMENTATION TASKS	SOURCE CODE TASKS
Aadesh Gyawali	➢ Wireframes for the program GUI. ➢ Testing of the program in apache NetBeans ➢ Introduction of system ➢ Conclusion.	➢ Binary search implementation in the source code ➢ Exception handling in the software and presentation of an appropriate dialogue box to explain the error to the user. ➢ The program's Update Item functionality is being developed. ➢ Creating the.csv/.txt file import and export capabilities and creating the code for it. ➢ Creating a home page ➢ Developing the program's delete function.
Osaka Mali	➢ The binary search algorithm's functioning mechanism is explained. ➢ A description of the program's binary search implementation. ➢ Description of the methods present in the program. ➢ Description of individual tasks. ➢ Testing of the program	➢ Detecting and resolving errors in the application. Exception handling in the software and presentation of an appropriate dialogue box to explain the error to the user ➢ Changing the variable names for the java text fields, java radio buttons, java combo box, and java buttons while designing the program's GUI ➢ Incorporate selection sorting into the software and Validation of the Add Frame. ➢ Creating a user manual and about us for the software. ➢ Developing the program's delete function.

		➢ Validation of the form and display of appropriate dialog boxes informing the user
Priyanka Singh Thakuri	➢ Proposal for assignment. ➢ Appendix ➢ Assists Description of the methods present in the program ➢ Testing of the program	➢ Validation of the form and display of appropriate dialog boxes informing the user ➢ Exception handling in the software and presentation of an appropriate dialogue box to explain the error to the user ➢ Validation of the form and display of the menu bar features such as opening a - file to populate the table with items and accessing the user's help instructions/user manual. ➢ Creating event action performed methods and coding these methods to do a specified job. ➢ Exception handling in the software and presentation of an appropriate dialogue box to explain the error to the user. ➢ Creating the.csv/.txt file import and export capabilities and creating the code for it.

TABLE 1 INDIVISUAL TASK OF EACH MEMBER

3. INTRODUCTION

An information system program including information about the stock that the firm holds had to be written for the first group assignment of the module 'Emerging Programming Platform and Technologies.' For the task, a book store entitled 'Book Land' was chosen as the type of business. The assignment's key objectives were to create an interactive and appealing GUI that had radio buttons, a combo box to select a category, text fields to input data, a simple menu bar that contained the file, and help options. Additionally, the software should allow the user to add a product, search for a product by price, and browse products by category, as well as display error and informative messages to the user as needed.

The information system for Book Land took a lot of time, effort, study, and creativity to design. The user interface was created to be simple and attractive. The information system application has all of the assignment's needed features, such as adding an item, searching for it by price, exploring products in a category, and populating the table with data from.csv and.txt files. Update item, delete item, drop table, and export.csv/.txt file are some of the other capabilities that have been introduced to the applications. The program also includes a user manual that describes how to use program correctly, as well as knowledge regarding the company.

The programs add an item functionality allows users to add a new item to a system records as evidence. The update item functionality, on the other hand, allows the user to change the item details that are stored in the system record table. Similarly, the delete item feature can be used to remove an item's information from the system record table, while the drop table function can be used to remove all of the item details from the system record table. The explore by category tool also allows the user to search for products within a specific category. The user can import.csv/.txt files to populate the ability to manage table with data, and export.csv/.txt files to store the data from the system record table to their computer. Additionally, the application can handle exceptions such as attempting to input a string value for an integer variable, entering a negative value, entering a number greater than 100, and so on. As a result, the information system program for the Book Land was created by meeting all of the assignment's requirements.

4. PROCESS FOR SYSTEM DEVELOPMENT

In order to meet all of the criteria in the coursework, the system development process went through many phases. NetBeans was justified as the instrument for building the courses while constructing the application. JFrame, JMenuBar, JMenu, JMenuItems, JLabel, JTextField, JComboBox, JRadiobutton, and JButton are some of the components of the User Interface that we created during the development process.

Before developing the system wireframes are developed. Wireframes help to direct the process that we going through. After creating the wireframes of system five different GUI are created for the home, add, search, update and delete simultaneously. JFrame was created, and a menu bar was placed within the frame, with help (about us) added to the JMenu Bar in the system. According to the GUI, each GUI has its own nature like delete up and so on.

Inside the each input panel , JComponents such as JLabel, JTextField, JRadioButton, and JComboBox were altered to make the user's life simpler, and then two JButtons were added to do certain tasks: -

- Insert into the array list.
- Delete all data from the input panel.
- Update data
- Search data according to price

5. BINARY SEARCH ALGORITHM

The binary search algorithm is a fast search method with an O run-time complexity (log n). This search algorithm is based on the divide-and-conquer strategy. The data collection should be in sorted form for this method to perform effectively. Binary search compares the middle item in the collection to find a specific item. If a match is found, the item's index is returned. The item is searched in the sub-array to the left of the middle item if the middle item is greater than the item. Otherwise, look for the item in the sub-array to the right of the center item. This method is repeated on the sub-array until the subarray's size is reduced to zero (TutorialsPoint, 2019).

5.1 THE WORKING MECHANISM OF BINARY SEARCH ALGORITHM

The target array must be sorted in order for a binary search to operate if the insert data isn't shorted, the data is shorted before it's utilized for binary search. The following is an example of an unsorted array of book prices.

100	370	50	80	600	420	140
0	1	2	3	4	5	6

The provided data is now first sorted in in either ascending order or descending order. In these program of ours we do these by using ascending order. Two of the nearest data is being compared and the larger data values is kept at last position among all the values. After, all the data will be compared with on another the largest data of all will be sorted and will be placed at the last position (GeeksforGeeks, 20 Dec, 2021).

100	370	50	60	600	420	140
0	1	2	3	4	5	6

100	370	50	60	600	420	140
0	1	2	3	4	5	6

100	50	370	60	600	420	140
0	1	2	3	4	5	6

100	50	60	370	600	420	140
0	1	2	3	4	5	6

100	50	60	370	600	420	140
0	1	2	3	4	5	6

100	50	60	370	420	600	140
0	1	2	3	4	5	6

100	50	60	370	420	140	600
0	1	2	3	4	5	6

After all of the comparisons were completed, the sorted data value was increased, but the process was repeated until all of the data had been sorted.

100	50	60	370	420	140	600
0	1	2	3	4	5	6

100	50	60	370	140	420	600
0	1	2	3	4	5	6

100	50	60	140	370	420	600
0	1	2	3	4	5	6

Let's, suppose we have to find 60 from the shorted array from array list. We have to find using the formula, mid = low + (high - low) /2

Where, low index = 0, high index = 6

So, mid = 3 (mid value is 3)

100	50	60	140	370	420	600
0	1	2	3	4	5	6

In the given array index value are compared as a < b where small value is sorted in first index of array. If the array is shorted algorithm does not swap them.

We may locate the midpoint here, where 3 is the appropriate value and 140 is the value, but 60 is less than 140, thus the data from the third to the final indexes are not erased.

The mid position is now determined using an array list once more.

Low = 0 and high = 0 so, mid = 1

Because the first index matches the search item, the program now terminates because the search value has been discovered.

5.2 IMPLEMENTATION OF BINARY SEARCH IN THE PROGRAM SYSTEM

In terms of its functioning mechanism, the software has built a binary search algorithm for array lists. The array list has been populated with data such as book ID, book name, category, author, availability, and price. These aid in the correct storage of data while also providing it with a meaningful meaning. Furthermore, because the working mechanism of the binary search method requires that the array be sorted, the software sorts the array list according to the item's price. Selection method of sorting The Sort class is in charge of sorting the array list, while the Binary Search Algorithm is in charge of the search algorithm, and this program was made feasible by the integration of methods.

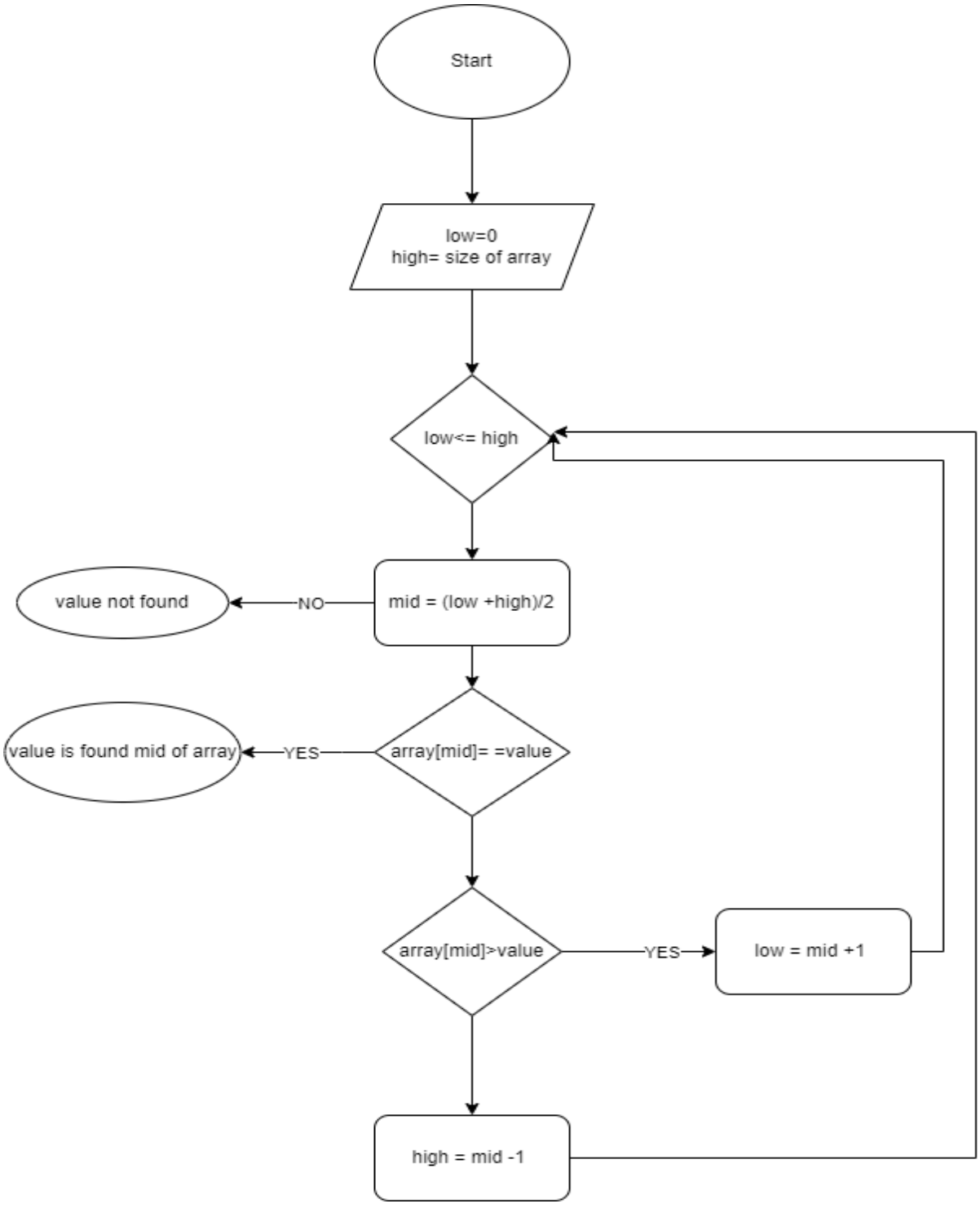

FIGURE 6 FLOW CHART OF BINARY SEARCH ALGORITHM

6. SORTING ALGORITHM.

A sorting algorithm is a method for reorganizing a large number of items into a specific order, such as alphabetical, highest-to-lowest value or shortest-to-longest distance. Sorting algorithms take lists of items as input data, perform specific operations on those lists and deliver ordered arrays as output. The many applications of sorting algorithms include organizing items by price on a retail website and determining the order of sites on a search engine results page (Wigmore, October 2017). The main goal is to arrange the objects in the desired sequence so that searching becomes easy. Types of sorting algorithm:-

- Bubble Sort

  It is the most basic sort algorithm, which involves continually pushing the largest member to the array's highest index. It entails comparing each element to its neighboring element and replacing them as necessary

- Merge sort

  Merge sort uses a divide-and-conquer strategy, in which the list is first divided into equal-sized groups, and then each half is sorted separately using merge sort. To create a basic sorted array, the sorted list is joined once again.

- Selection sort

  Selection sort locates the smallest element in the array and places it first on the list, followed by the second smallest member in the array and placing it second. This method is repeated until all of the pieces have been relocated to their proper positions. It has an O (n2) running time, which is slower than insertion sort.

Note: - selection sort working mechanism is describe in 5.1

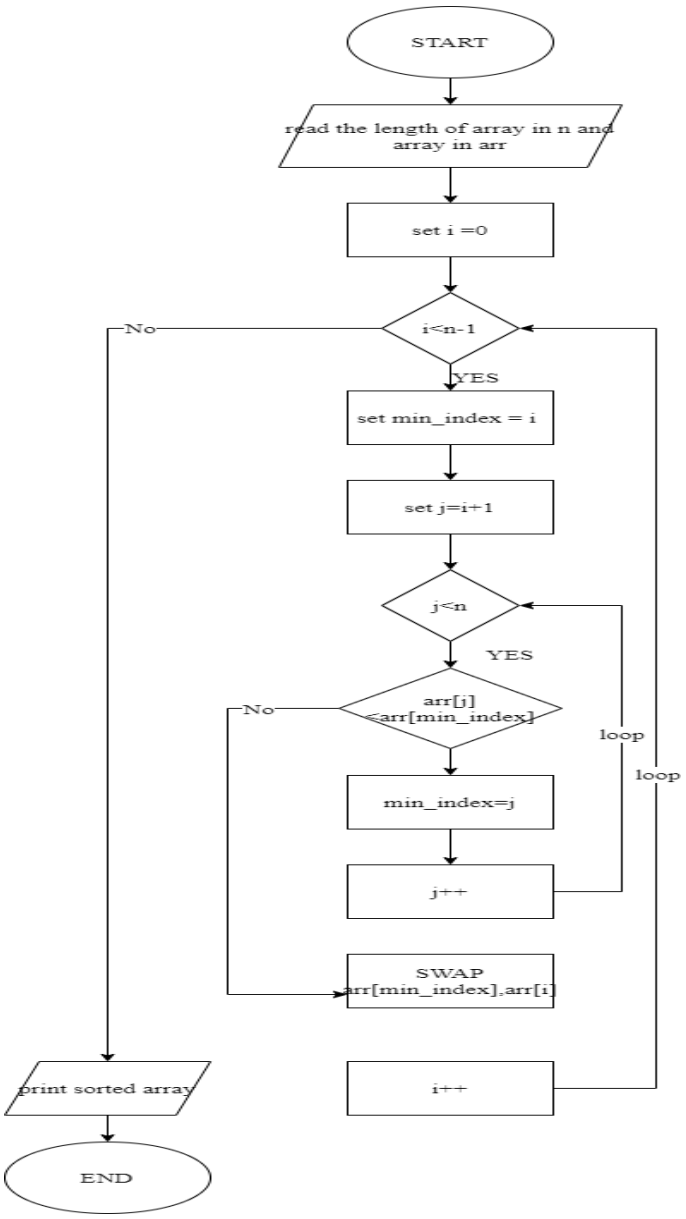

FIGURE 7 FLOWCHART OF SELECTION SORT ALOGORITHM

6.1 IMPLEMENTATION OF SELECTION SORT IN THE PROGRAM

As a sorting algorithm, the program employed selection sort. It very much followed the operating mechanism step by step. The algorithm's code is made up of a Selection Sort class with a function sort that is responsible for sorting the data. That is, however, incomplete without two more methods: min Pos Finder and swap. min Pos Finder is in charge of finding the element's minimal position in the array, whereas swap merely swaps the element as needed. The complete selection sort implemented in the software is the sort technique merged with min Pos Finder and swap method.

7. METHOD DESCRIPTION

1. SearchButtonActionPerformed (java.awt.event.ActionEvent evt)

- Parameter :- java.awt.event.ActionEvent evt)
- Return type:- Void
- This method search book details such as a book ID, book name, category, price, author after validation to the jTable and the priceArrayList.

2. UpdateButtonActionPerformed (java.awt.event.ActionEvent evt)

- Parameter :- java.awt.event.ActionEvent evt)
- Return type:- Void
- The method updates the book details such as a book ID, book name, category, price, author after validation to the jTable and the priceArrayList.

3. DeleteButtonActionPerformed (java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method delete the book details such as a book ID, book name, category, price, author after validation to the jTable and the priceArrayList

4. AddButtonActionPerformed (java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method add the book details such as a book ID, book name, category, price, author after validation to the jTable and the priceArrayList

5. HomeButtonActionPerformed(java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method is used for the hovering the one frame to another

6. ExitButtonActionPerformed (java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method is used for the existing the system

7. ManualGuideActionPerformed(java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method helps to import the manual guide from pdf format.

8. AboutActionPerformed(java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method helps to import the about us text from pdf format And display.

9. ExportActionPerformed (java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method helps to import the manual guide from pdf format and the method displays a .pdf file for User Manual.

10. DeleteRowButtonActionPerformed(java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method helps to certain row in the jtable.

11. DropTableButtonActionPerformed(java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- This method helps to drop all details or a row from tables.

12. PriceSearchActionPerformed(java.awt.event.ActionEvent evt

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- The method invokes a method that sorts the itemArrayList in ascending order of price, followed by another method that does a binary search of the index holding the price, and if a price is found, the item details are presented.

13. CategorySearchActionPerformed(java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- The method does a binary search of the required category with the data in our itemArrayList, proper messages are displayed when items are found or not

14. HelpActionPerformed(java.awt.event.ActionEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt)
- Return type:- Void
- The method displays a .pdf file for Help.

15. Update_ButtonMouseClicked(java.awt.event.MouseEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt
- Return type:- Void
- The method update the data of the Book Details

16. DataRecordTableMouseClicked(java.awt.event.MouseEvent evt)

- Parameter :- (java.awt.event.ActionEvent evt
- Return type:- Void
- This method keeps or store the data to excel.

17. .getBookID ():

- parameter: null
- return: String
- The method returns the book id of the item when called.

18. getCategory():

- parameter: null
- return: String
- The method returns the book category of the item when called.

19. getPrice():

- parameter: null
- return: Int
- The method returns the book id of the item when called.

20. getauthor():-

- parameter: null
- return: String
- The method returns the book id of the item when called.

21. .setBookID ():

- parameter: null
- return: String
- The method sets the book id of the item when called.

22. setCategory():

- parameter: null
- return: String
- The method setsthe book category of the item when called.

23. setPrice():

- parameter: null
- return: Int
- The method sets the book id of the item when called.

24. setauthor():-

- parameter: null
- return: String
- The method sets the book id of the item when called.

8. TESTING

8.1 TEST 1: TO TEST IF THE PROGRAM CAN RUN ON APACHE NETBEANS IDE

TEST IF THE PROGRAM CAN RUN ON APACHE NETBEANS IDE	
Objective	To inspect if the program can run on the Apache NetBeans IDE.
Action	➢ Run project in Apache NetBeans IDE. ➢ Can be exit or re-enter from the option
Expected Result	The loading screen, and after that the Book Land system record's GUI, should open and appear without any errors.
Result	The loading screen appeared, and after that the Book Land system record's GUI appeared, all without problem.
Conclusion	The test was successful

TABLE 2 TO TEST IF THE PROGRAM CAN RUN ON APACHE NETBEANS IDE

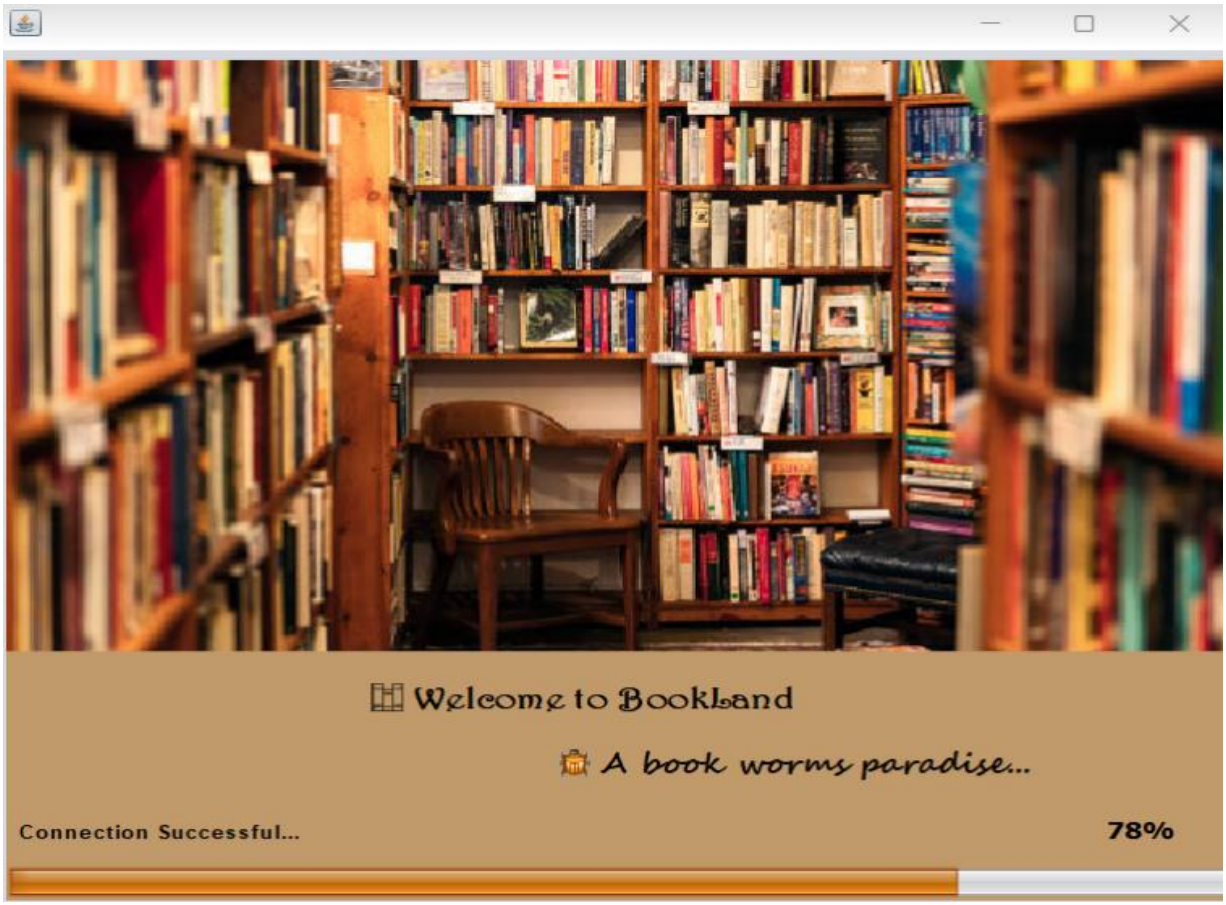

FIGURE 8 TEST IF THE PROGRAM CAN RUN ON APACHE NETBEANS IDE MAIN PAGE

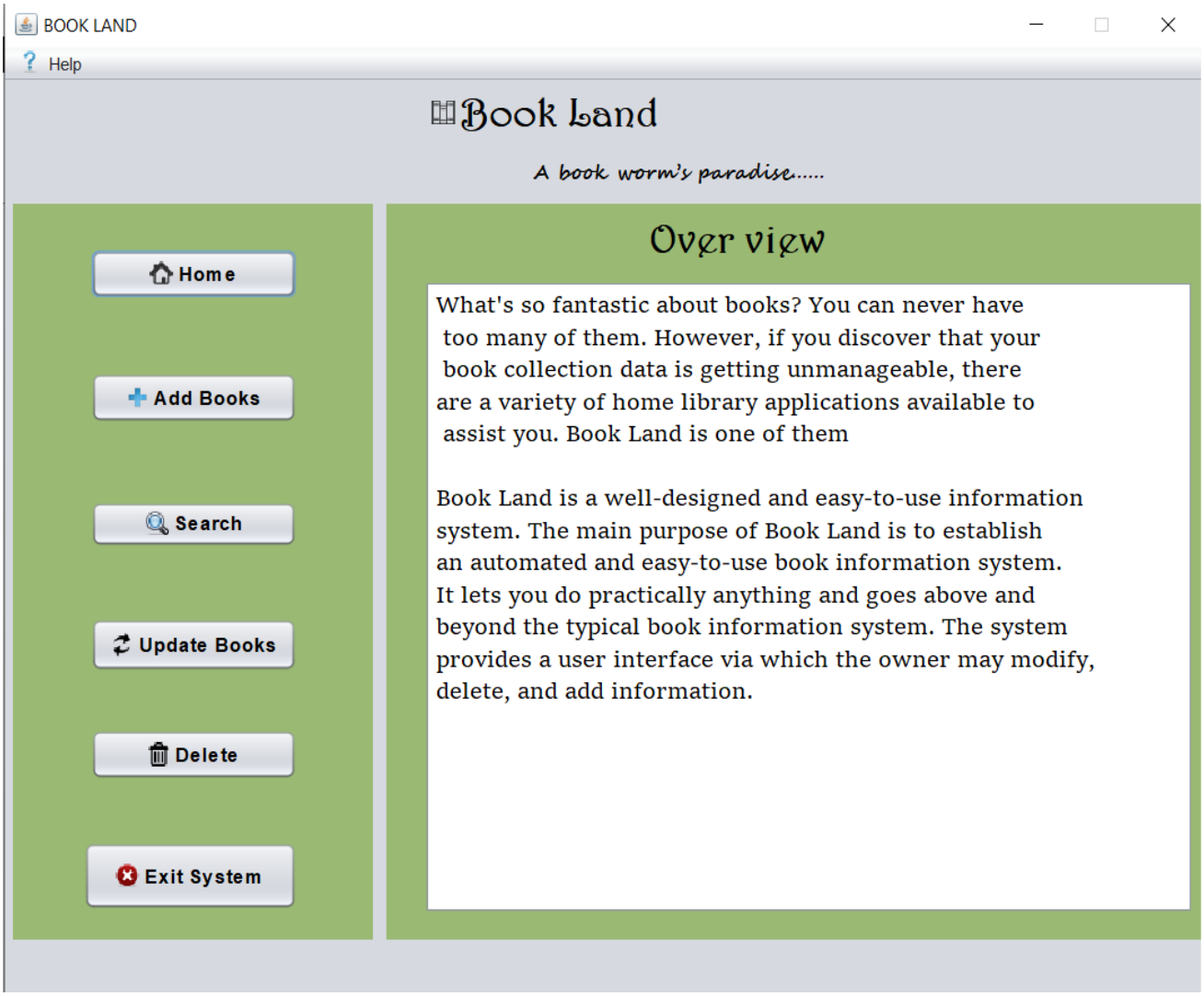

FIGURE 9 TEST IF THE PROGRAM CAN RUN ON APACHE NETBEANS IDE HOME PAGE

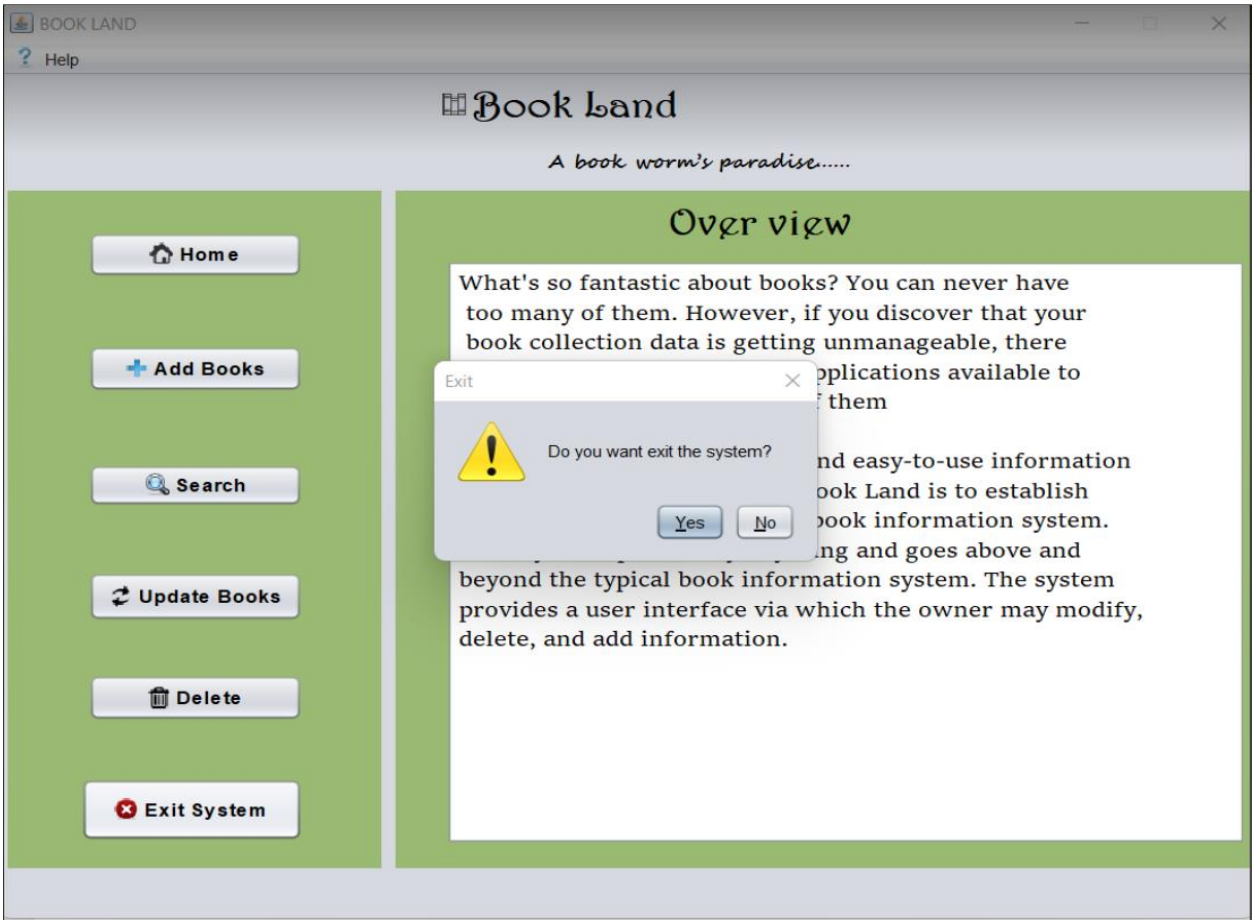

FIGURE 10 TO TEST USER CAN EXIT THROUGH THE EXIT SYSTEM

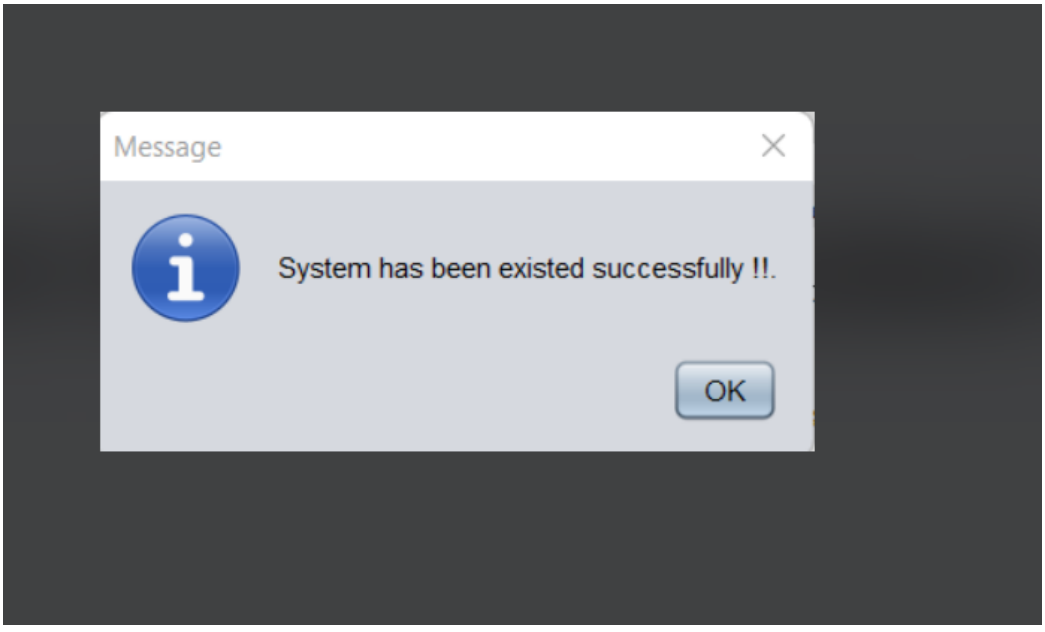

FIGURE 11 USER EXIT SYSTEM SUCCESFULLY

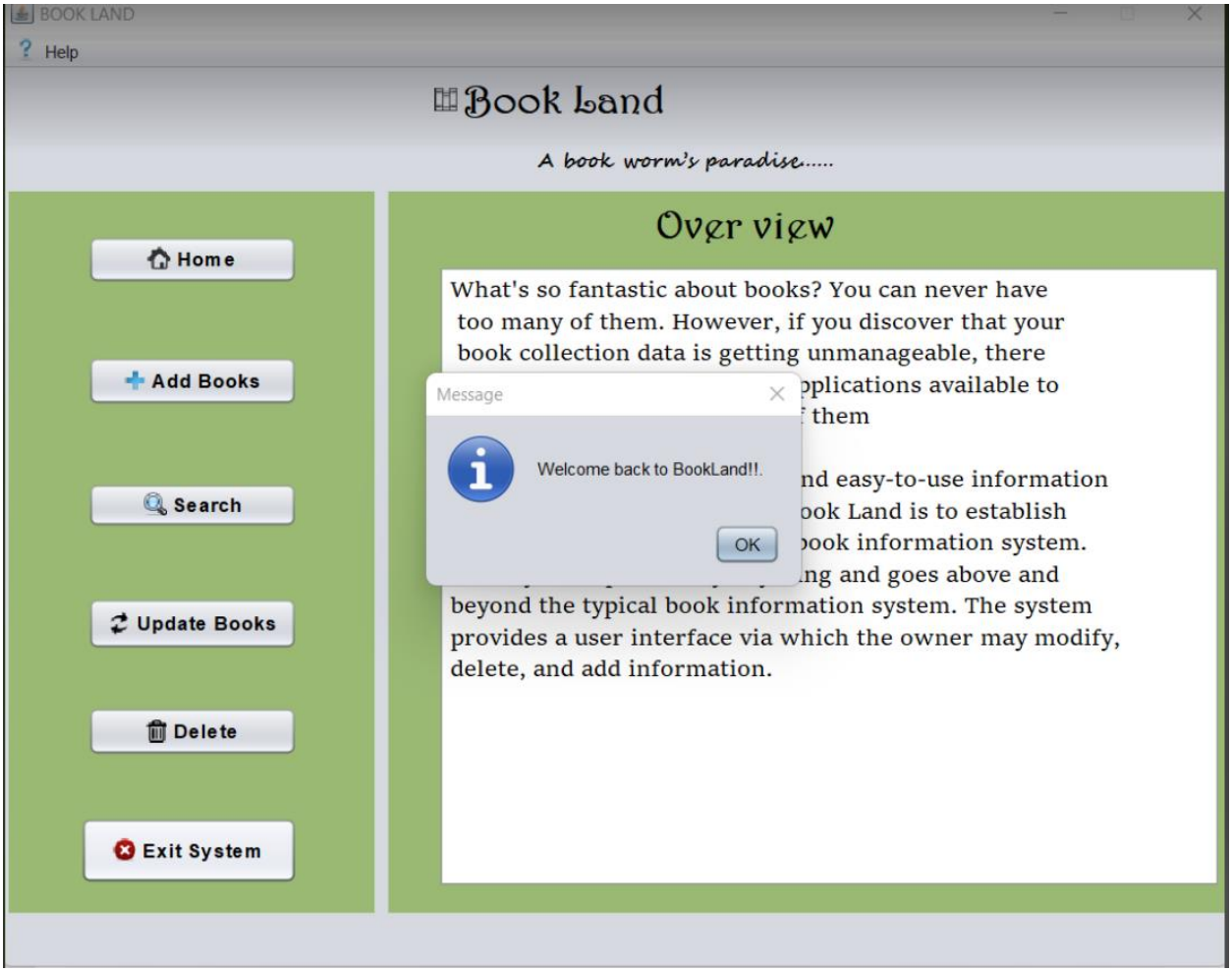

FIGURE 12 TO TEST USER CAN RETURN THROUGH THE EXIT SYSTEM TO HOME PAGE

8.2 TEST 2: TO PROVIDE EVIDENCE FOR ADDING BOOK DETAILS TO THE TABLE.

TO PROVIDE EVIDENCE FOR ADDING ITEM DETAILS TO THE TABLE.	
Objective	To provide proof for entering item data into the table.
Action	➢ Filling up the information of an item without making any mistakes or leaving any blank spaces. ➢ Clicking the add item button.
Expected Result	The table should be updated with the data of an item filled out by the user, and a dialog box should appear telling the user that the item has been added to the table.
Result	The user-filled details of an item were added to the database, and a dialog box displayed to alert the user that the item had been added to the table.
Conclusion	The test was successful.

TABLE 3TO PROVIDE EVIDENCE FOR ADDING ITEM DETAILS TO THE TABLE.

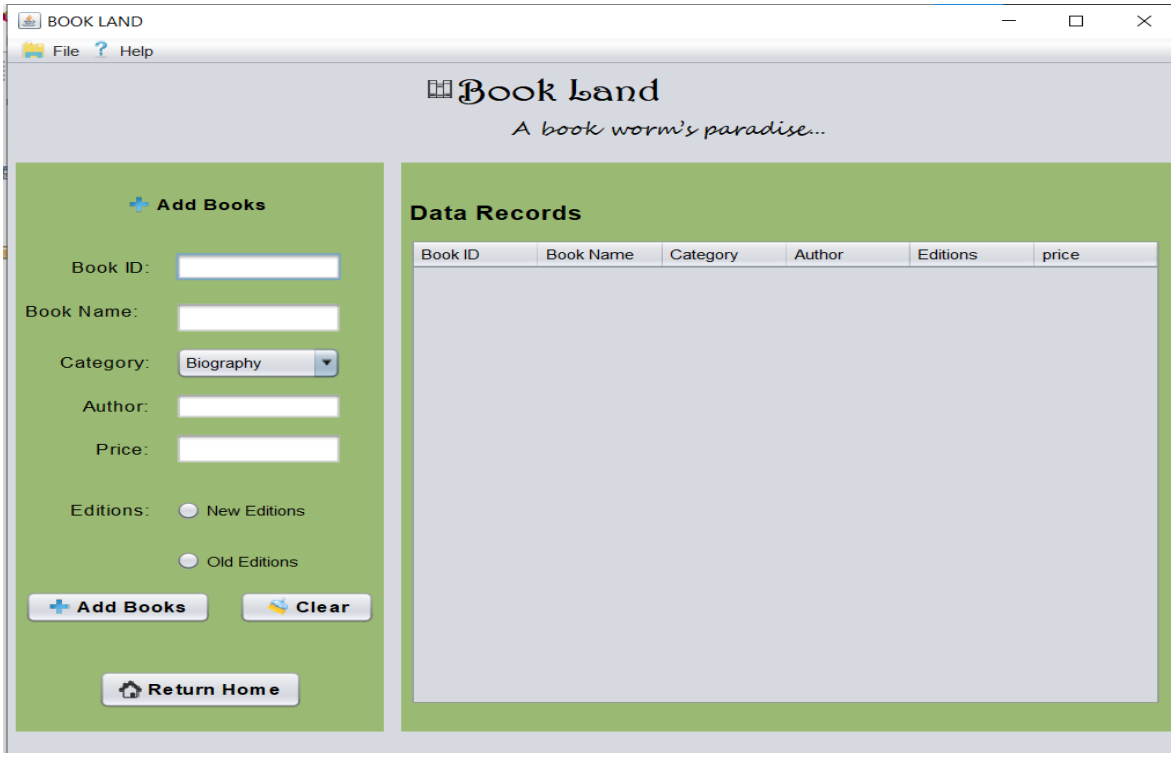

FIGURE 13 ADD BOOK FRAME

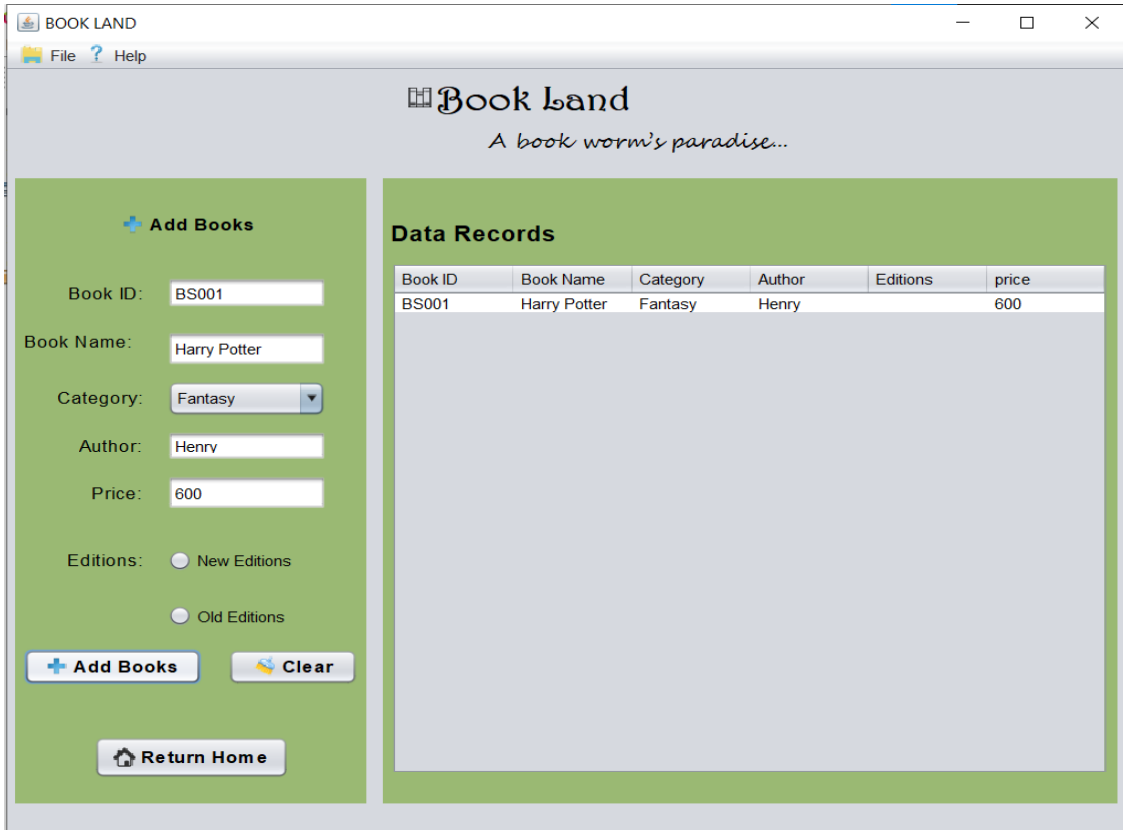

FIGURE 14TO PROVIDE EVIDENCE FOR ADDING BOOK DETAILS TO THE TABLE.

8.3 TEST 3: TO PROVIDE EVIDENCE FOR SEARCHING FOR AN ITEM IN THE TABLE BASED ON PRICE.

TO PROVIDE EVIDENCE FOR SEARCHING FOR AN ITEM IN THE TABLE BASED ON PRICE.	
Objective	To provide evidence for a price-based search of an item in the table
Action	The price of a product that was in the table was input. ➢ The search item button is pressed. ➢ A product's price was input that was not found in the table. ➢ The search item button is pressed. ➢ Data was imported.
Expected Result	When the price given by the user matches the price of an item in the table, the needed product should be presented in a dialogue box. When a user's pricing does not match the price of a product in the table, a message should appear in the dialogue box informing the user that the product does not exist in the database.
Result	When the user entered a price that matched the price of the item in the table, the needed product was presented in a dialogue box. When the price given by the user differed from the price of a product in the table, a message appeared in the dialogue box informing the user that the product in the table did not exist.
Conclusion	The test was successful.

TABLE 4 TO PROVIDE EVIDENCE FOR SEARCHING FOR AN ITEM IN THE TABLE BASED ON PRICE.

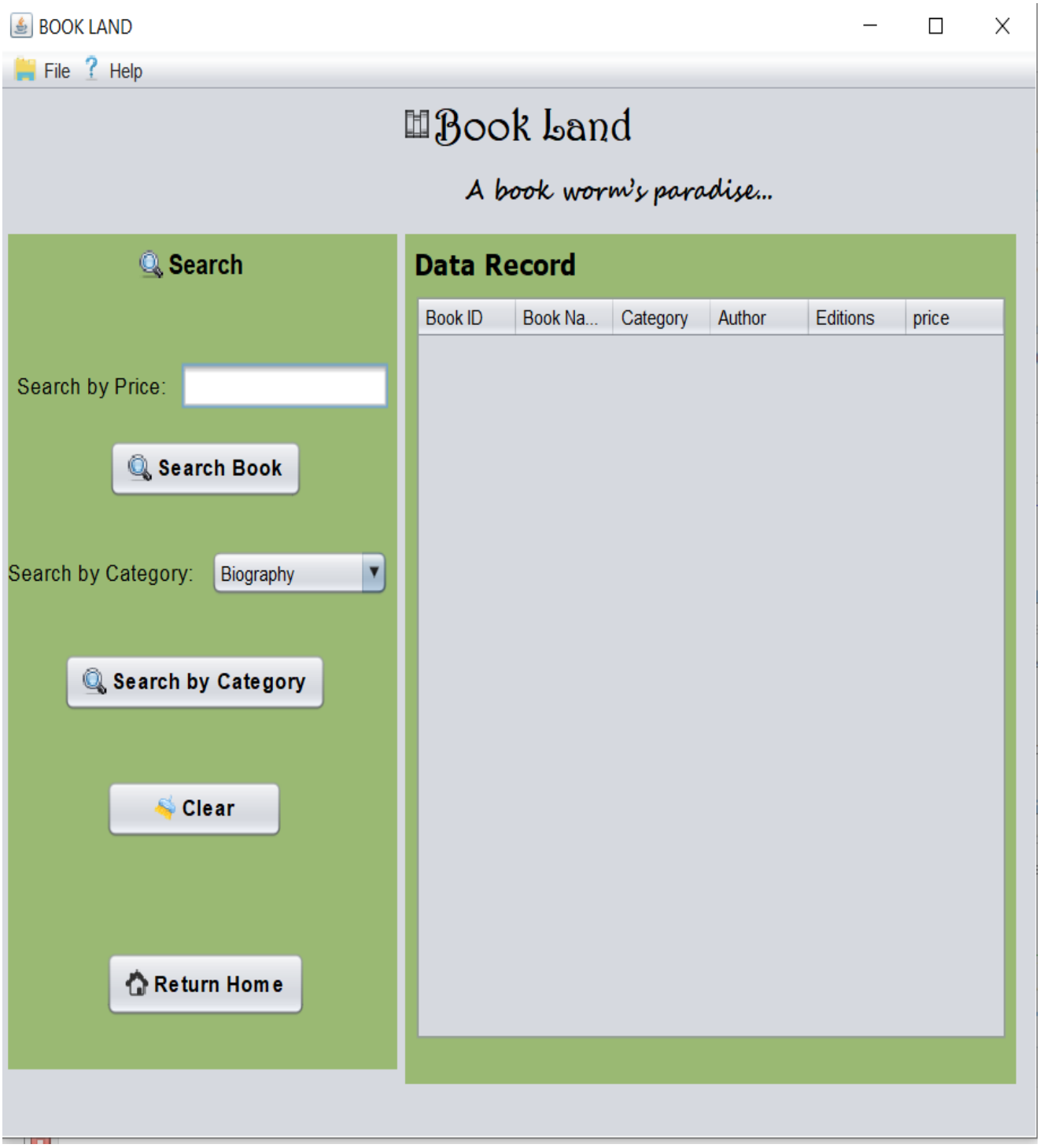

FIGURE 15 SREACH BOOK FRAME

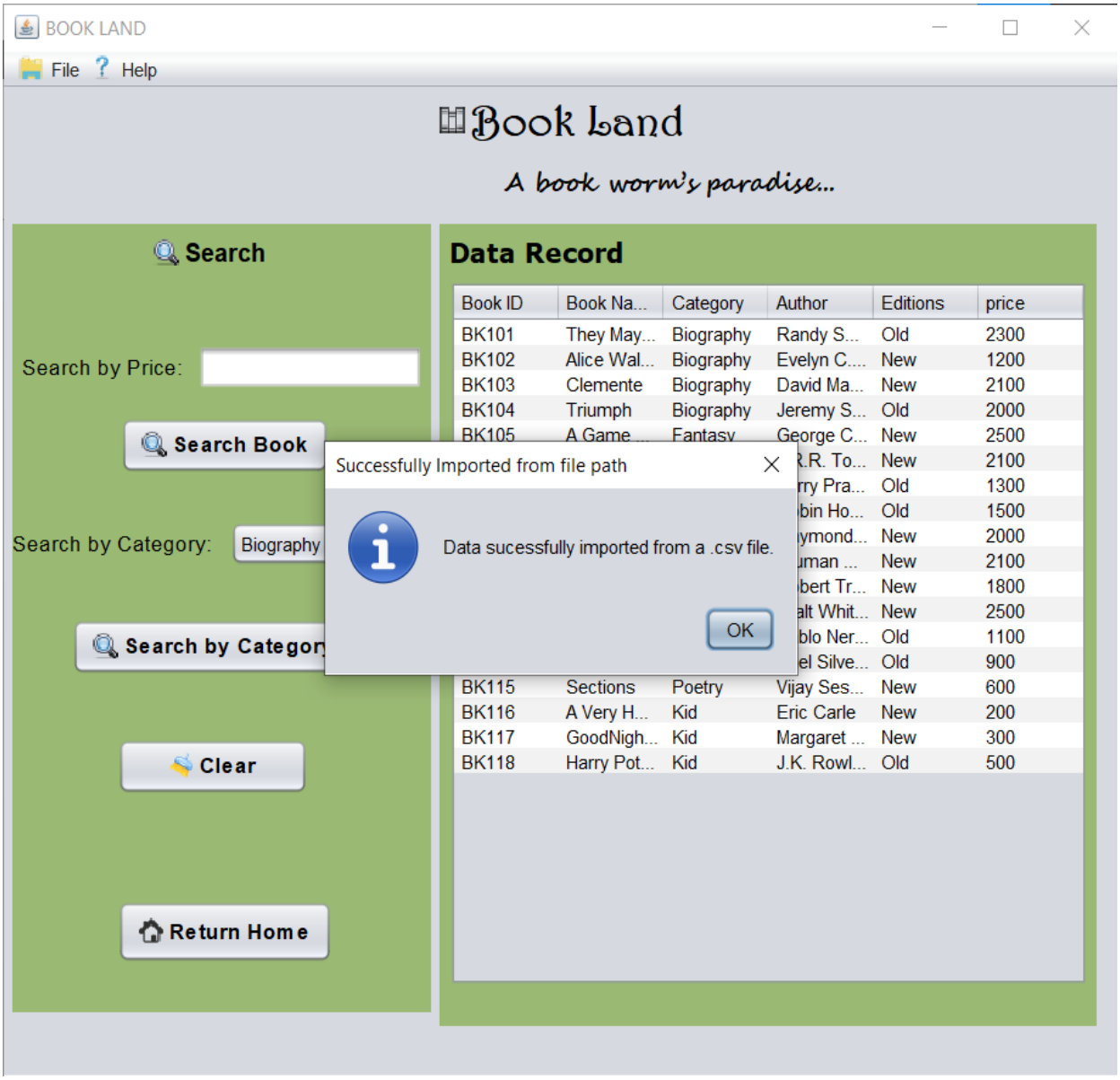

FIGURE 16 IMPORTING AVAIABLE DATA BEFORE SEARCH

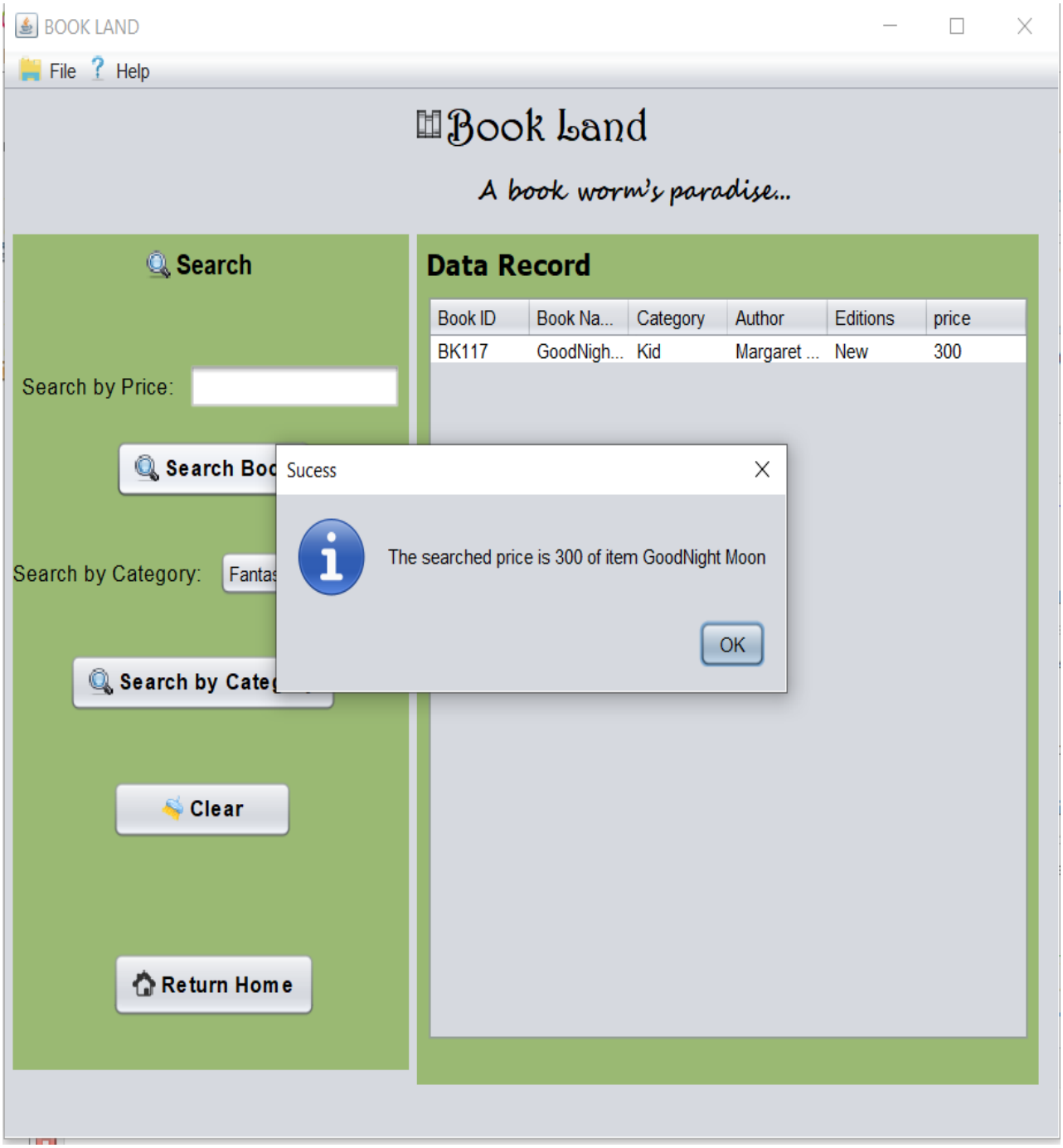

FIGURE 17 SEARCHING BOOKS BASIS ON PRICE

8.4 TEST 4: TO PROVIDE EVIDENCE FOR SEARCHING THE NUMBER OF ITEMS/PRODUCTS IN A CATEGORY.

TO PROVIDE EVIDENCE FOR SEARCHING THE NUMBER OF ITEMS/PRODUCTS IN A CATEGORY.	
Objective	To provide proof that there are a certain number of items/products in a category.
Action	➢ A category for an item has been chosen. ➢ The button that says "Items available in Category" was pressed. ➢ A category with no items in it was chosen. ➢ The search button has been pressed.
Expected Result	A message box should show the number of items and their names that are present under the specified category. When the selected category contains no items, a dialogue box should popup telling the user that the selected category contains no items.
Actual Result	A message box indicated the amount of items and their names in the selected category. When the selected category had no items, a message showed in the dialogue box informing the user that the selected category had no items.
Conclusion	The test was successful.

TABLE 5 TO PROVIDE EVIDENCE FOR SEARCHING THE NUMBER OF ITEMS/PRODUCTS IN A CATEGORY

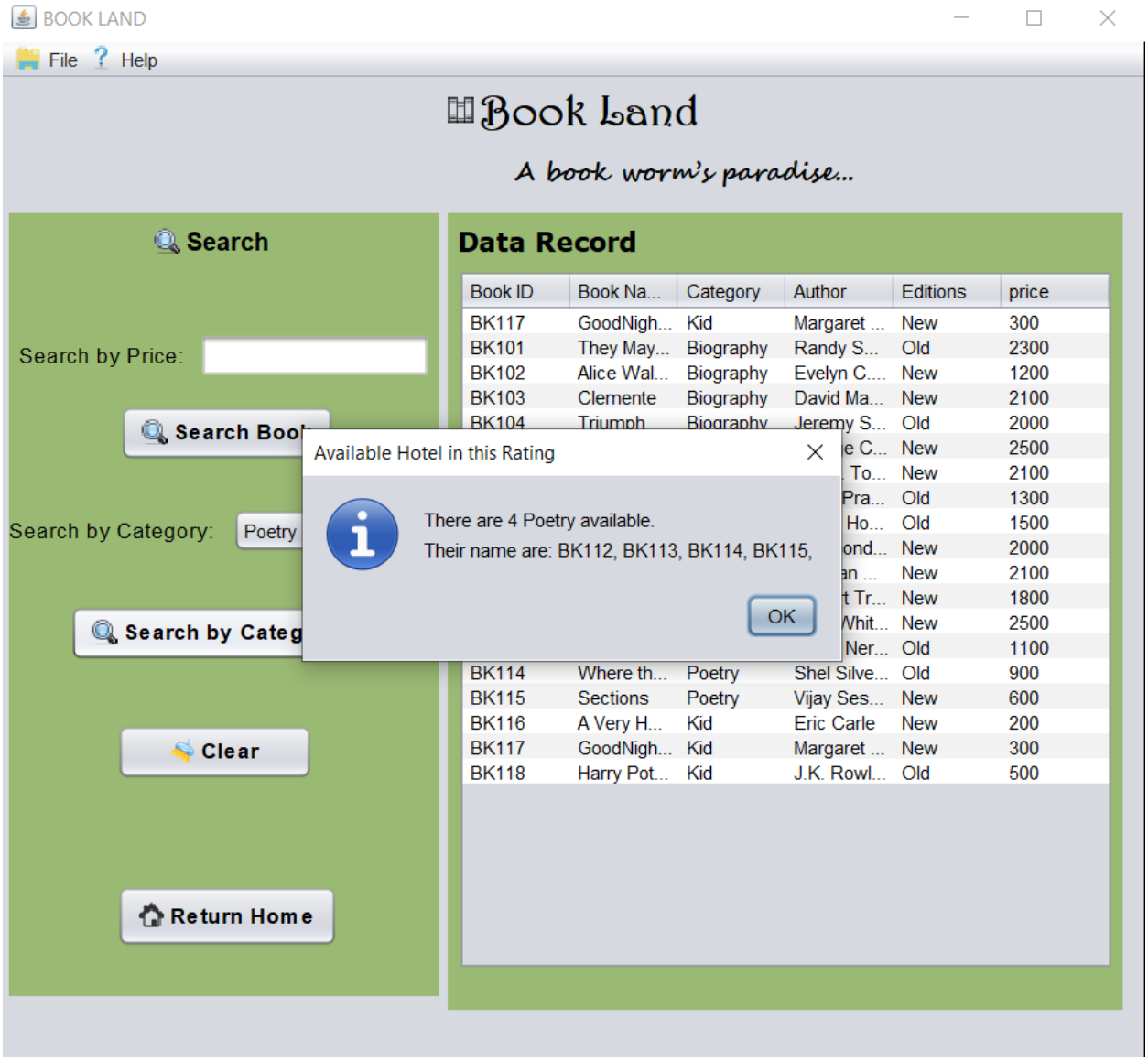

FIGURE 18 SERARCHING BOOKS BASIS ON CATEGORY

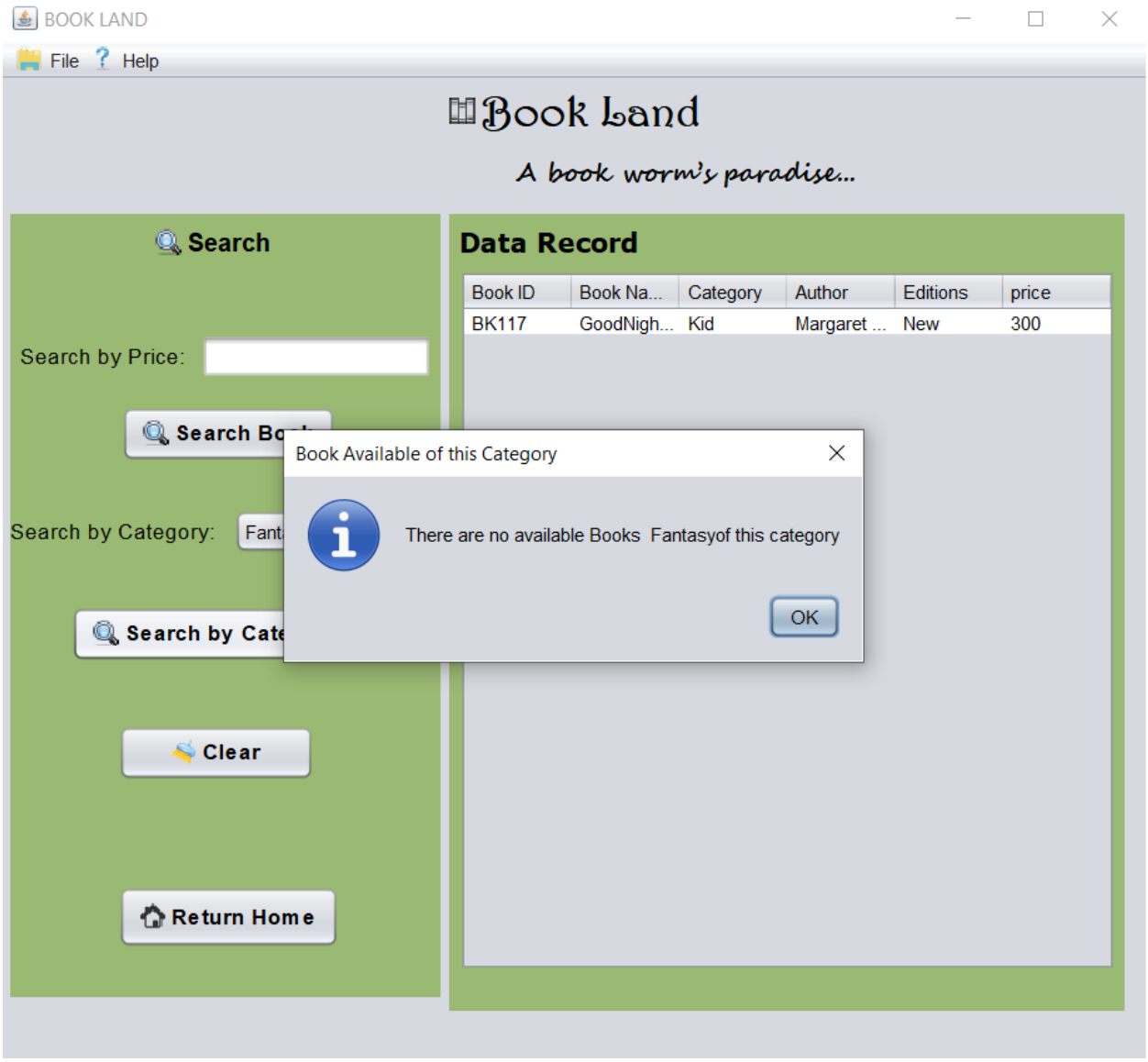

FIGURE 19 SEARCHING UNVAIBALE BOOKS CATEGORY FOR VALIDATION

8.5 TEST 5: TO PROVIDE EVIDENCE FOR OPENING A FILE FROM THE MENU.

TO PROVIDE EVIDENCE FOR OPENING A FILE FROM THE MENU	
Objective	To provide proof for selecting a file (.txt)/(.csv) from the menu bar and populating the table with data.
Action	➢ In the menu bar, select the file option. ➢ Using the Import.csv File Ctrl + O/ Import.txt File option from the file drop-down menu. ➢ Choosing a file in the (.txt)/(.csv) format from a location.
Expected Result	The system record table in the software should be populated when a (.txt)/(.csv) format file is chosen.
Actual Result	The system record table in the software was populated when a (.txt)/(.csv) format file was chosen.
Conclusion	The test was successful.

TABLE 6 TO PROVIDE EVIDENCE FOR OPENING A FILE FROM THE MENU

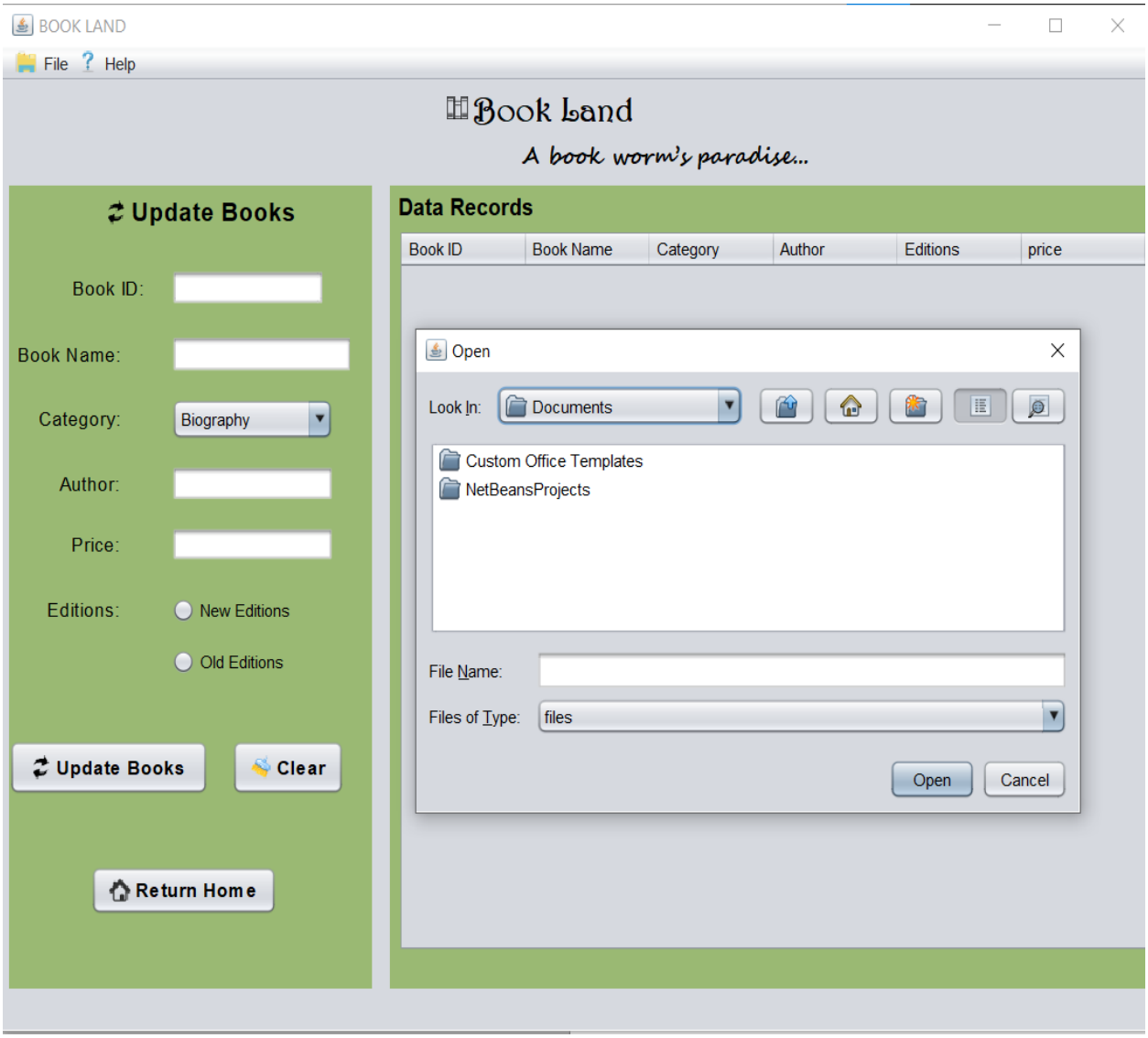

FIGURE 20 IMPORTING FILES FOR UPDATING BOOKS DETAILS

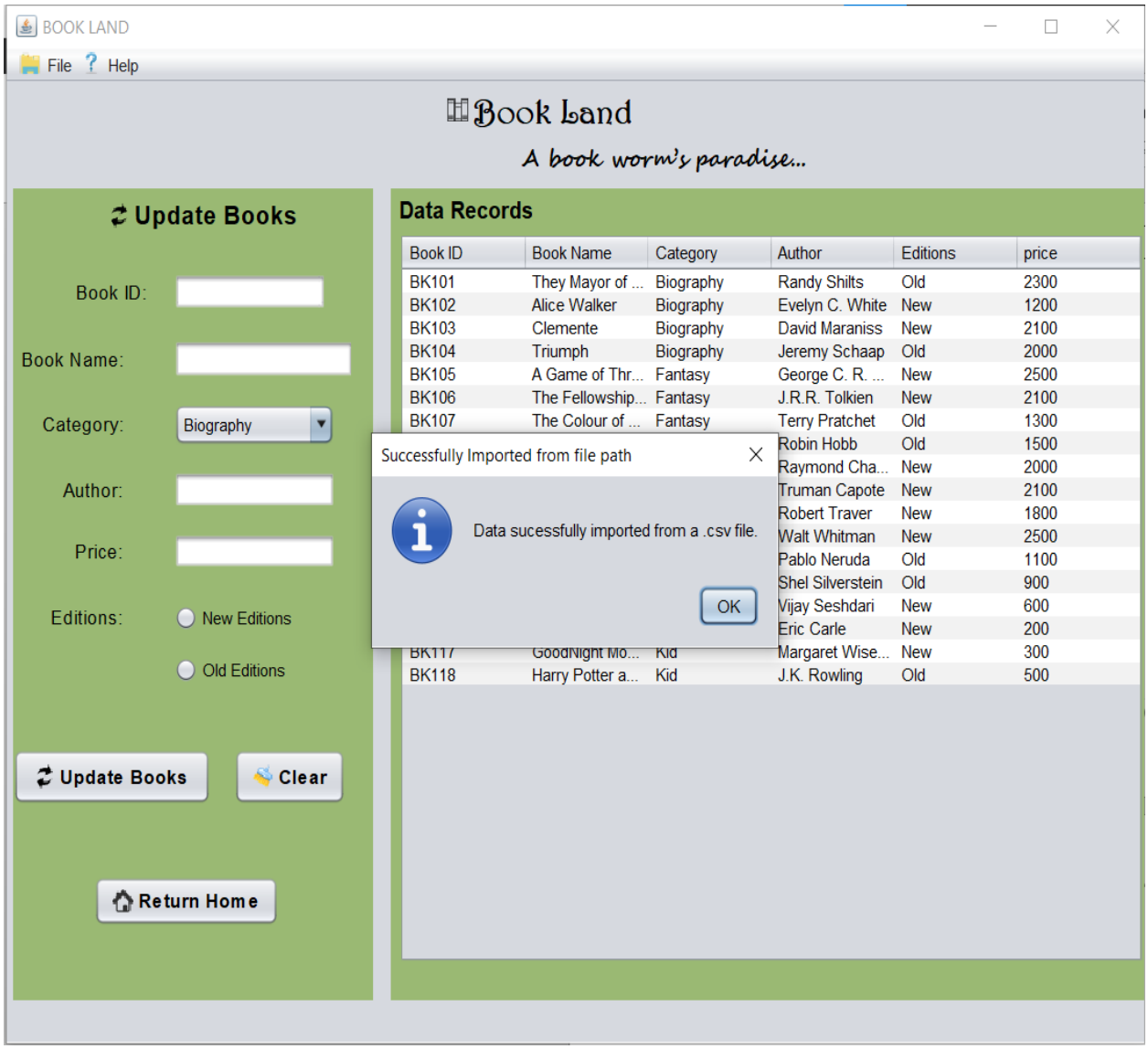

FIGURE 21 IMPORTEDFILES FOR UPDATING BOOKS DETAILS

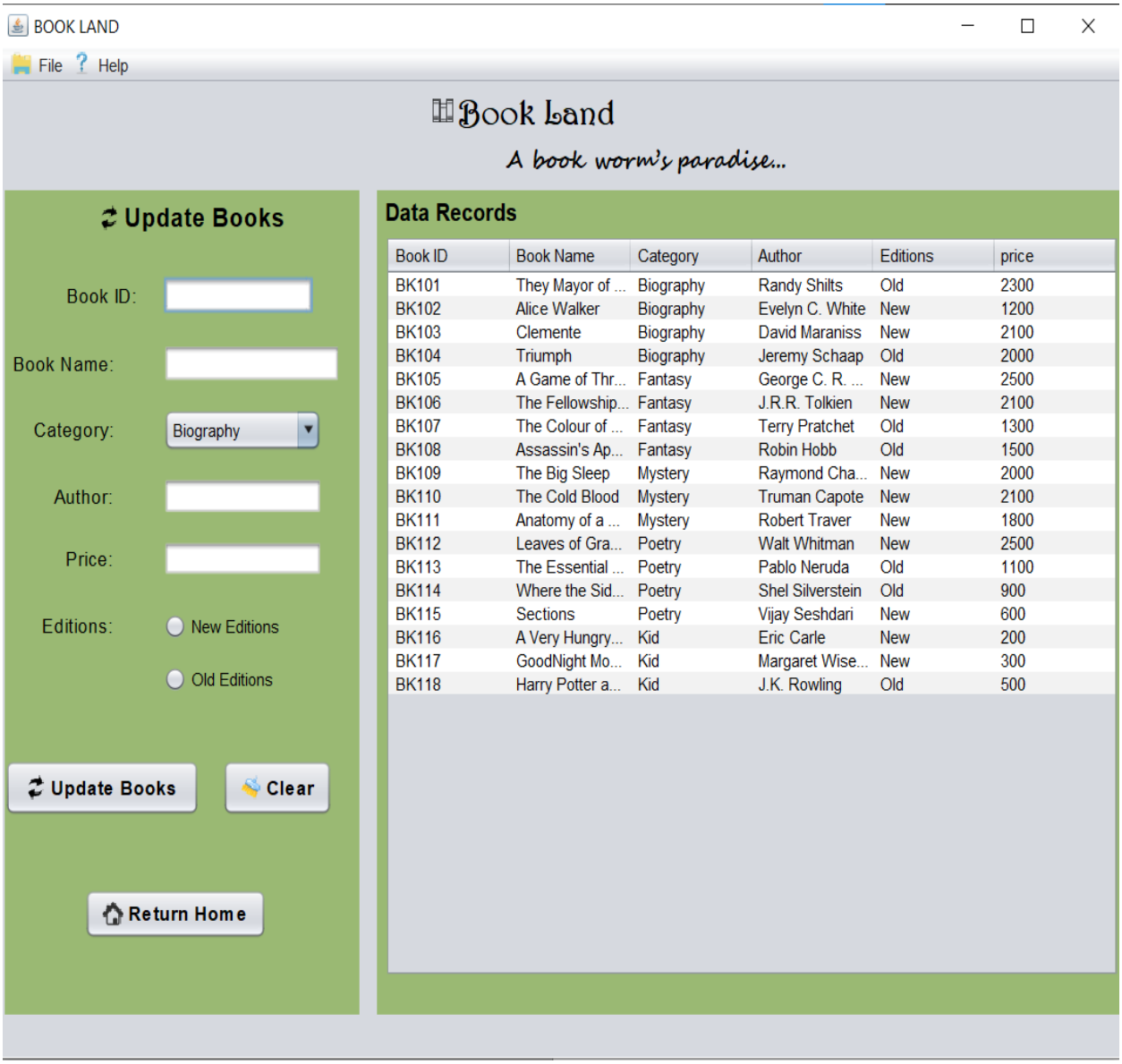

FIGURE 22 SCREESSHOT FOR UPDATED BOOKS DETAILS

8.6 TEST 6: TO PROVIDE EVIDENCE FOR SYSTEM VALIDATION

8.6.1 VALIDATION OF ADD AN ITEM PANEL:

VALIDATION OF ADD AN ITEM PANEL	
Objective	To provide evidence for input validation in the Add an Item Panel's Text field, Combo Box, and Radio Button.
Action	➢ Except for the book Availability radio button, enter and choose every item information. ➢ Except for Item Category, enter and choose every item information. ➢ Every item detail, save the Book ID, is entered and selected. ➢ Except for book Name, enter and choose every item information. ➢ Except for author, enter and choose every item information. ➢ Except for the price, every item detail is entered and selected. ➢ Entering a complete and accurate item description.
Expected Result	When necessary, the software should display error messages.
Actual Result	Error messages were displayed by the program.
Conclusion	The test was successful.

TABLE 7 VALIDATION OF ADD AN ITEM PANEL

FIGURE 23 VALIDATION ADDING OF BOOK ID

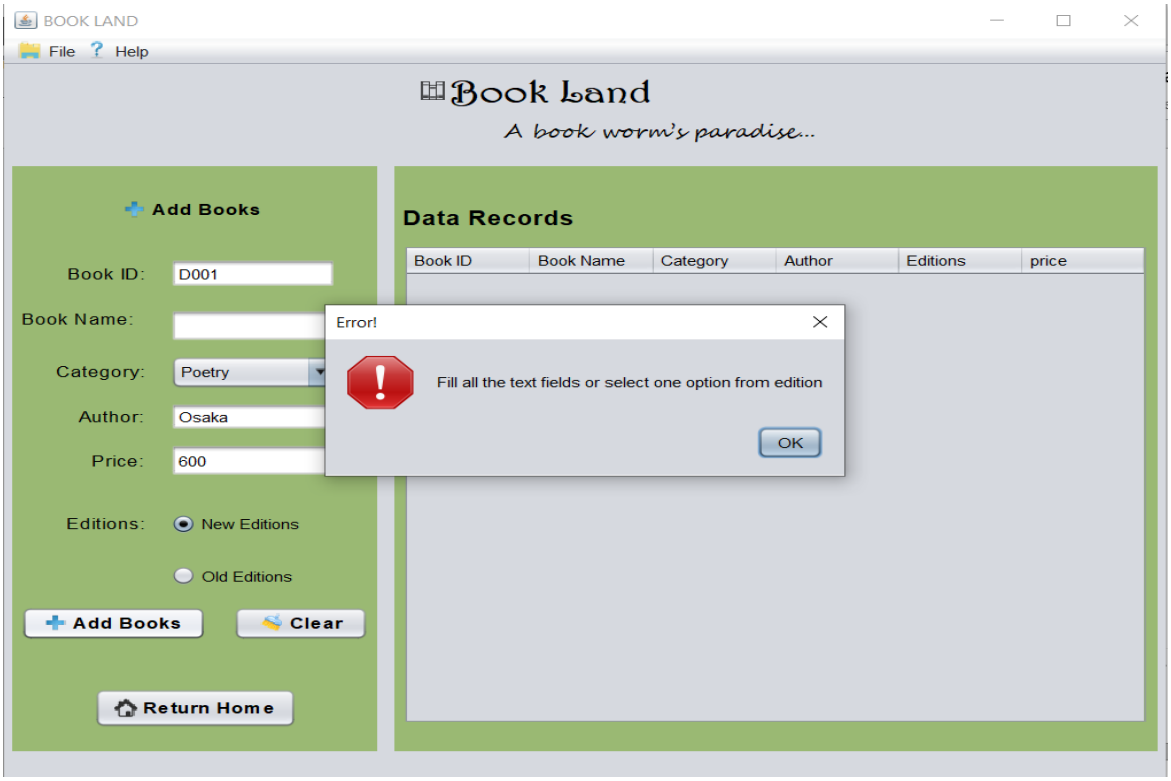

FIGURE 24VALIDATION ADDING OF BOOK NAME

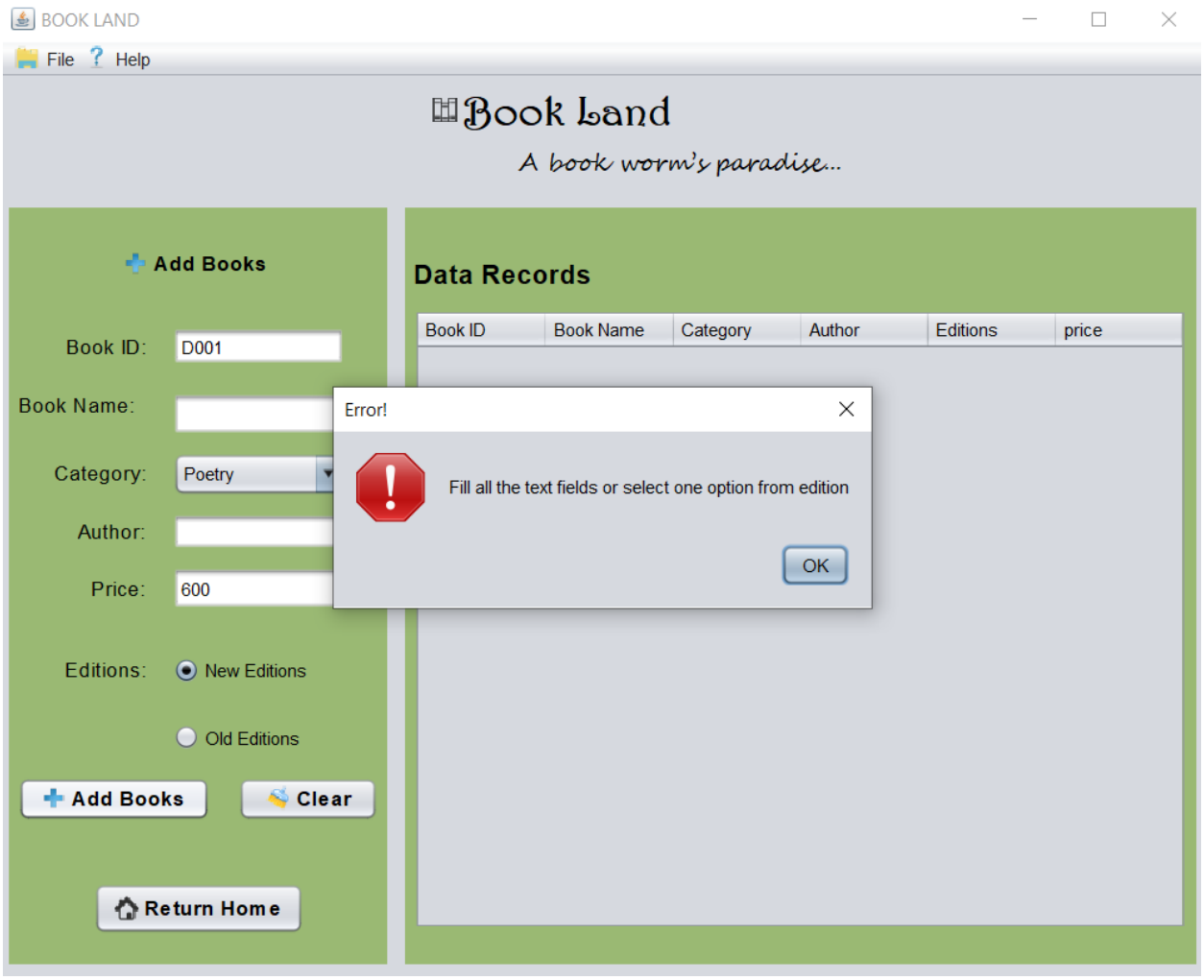

FIGURE 25 ADDING VALIDATION OF AUTHOR

8.6.2 VALIDATION OF TEXT FIELDS, COMBO BOX, AND RADIO BUTTONS IN UPDATE AN ITEM PANEL

VALIDATION OF TEXT FIELDS, COMBO BOX, AND RADIO BUTTONS IN UPDATE AN ITEM PANEL	
Objective	In the edit an item panel, provide evidence for data validation of text fields, combo boxes, and radio buttons.
Action	➢ When there is no data in the System Record Table, enter book ID. ➢ When data is click from table JTextField should be written automatically. ➢ The obtain item detail button is pressed. ➢ Entering a value for a book ID that does not exist in the System Record Table. ➢ The obtain item detail button is pressed. ➢ The Item Id Text Field is left blank. ➢ The obtain item details button is pressed. ➢ Entering a valid item ID and selecting the "Get Item Details" button. ➢ Except for the Item Name, every item detail can be updated and selected. ➢ Except for choosing Item Category, updating and selecting every item detail of an item is possible. ➢ Changing and choosing all of an item's details except the price. ➢ Entering the Negative Price Zone. ➢ Entering the right and appropriate data and clicking the update item button.
Expected Result	The program should display error messages where required
Actual Result	The program displayed error messages were required.
Conclusion	The test was successful

TABLE 8 VALIDATION OF TEXT FIELDS, COMBO BOX, AND RADIO BUTTONS IN UPDATE AN ITEM PANEL

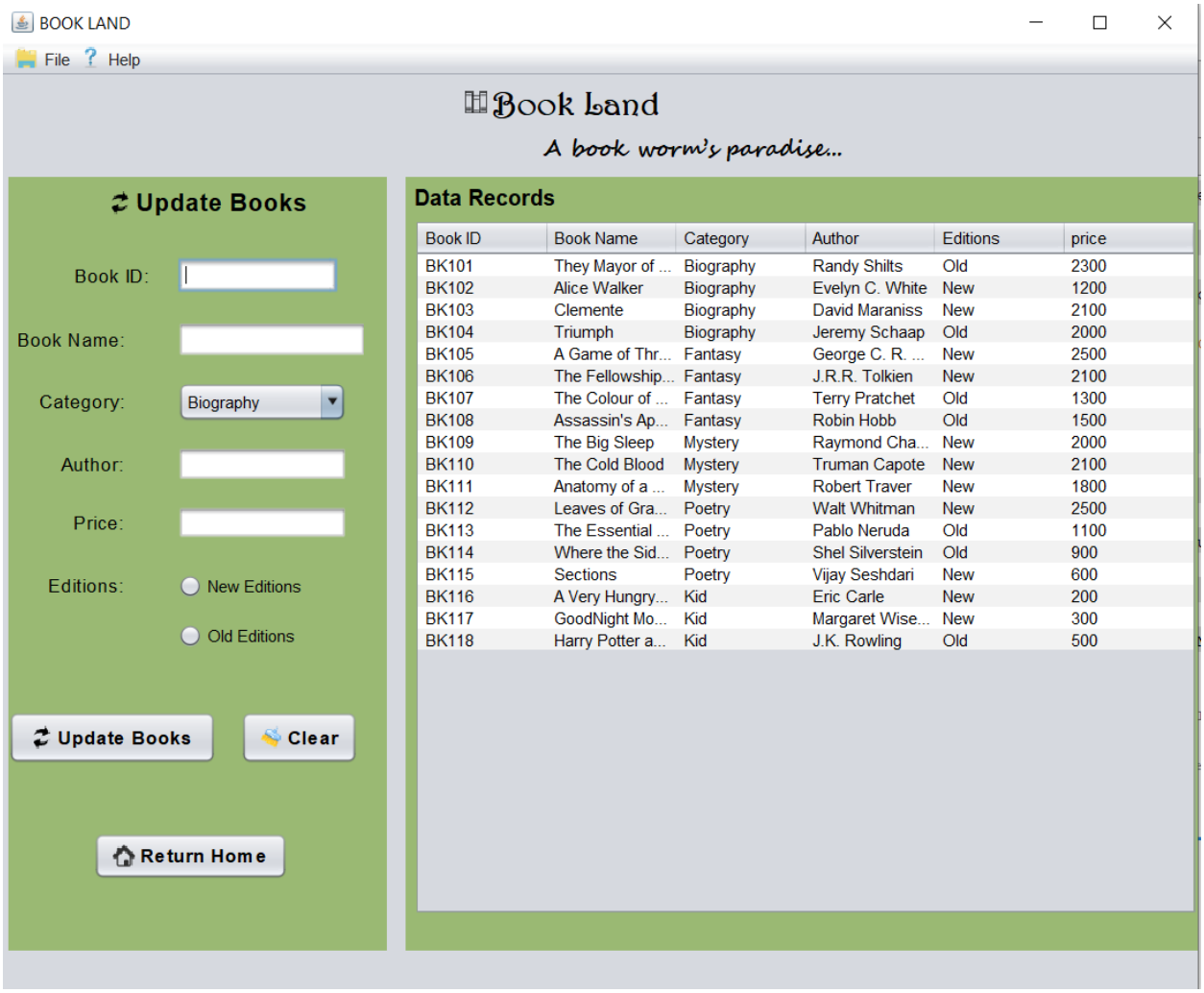

FIGURE 26 FARME VALIDATION OF UPDATING BOOK DETAILS

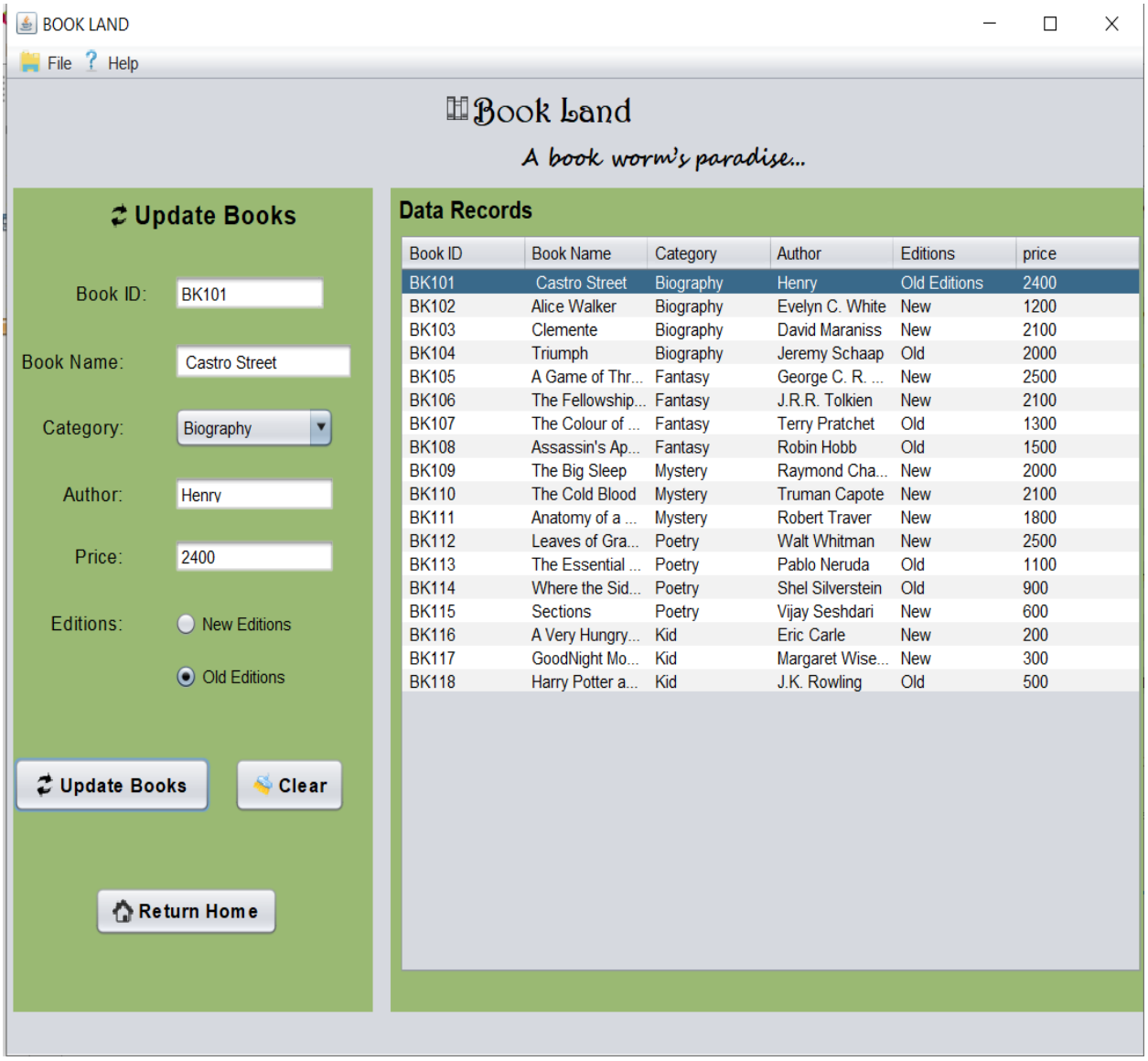

FIGURE 27 VALIDATION UPDATING OF BOOK DETAILS

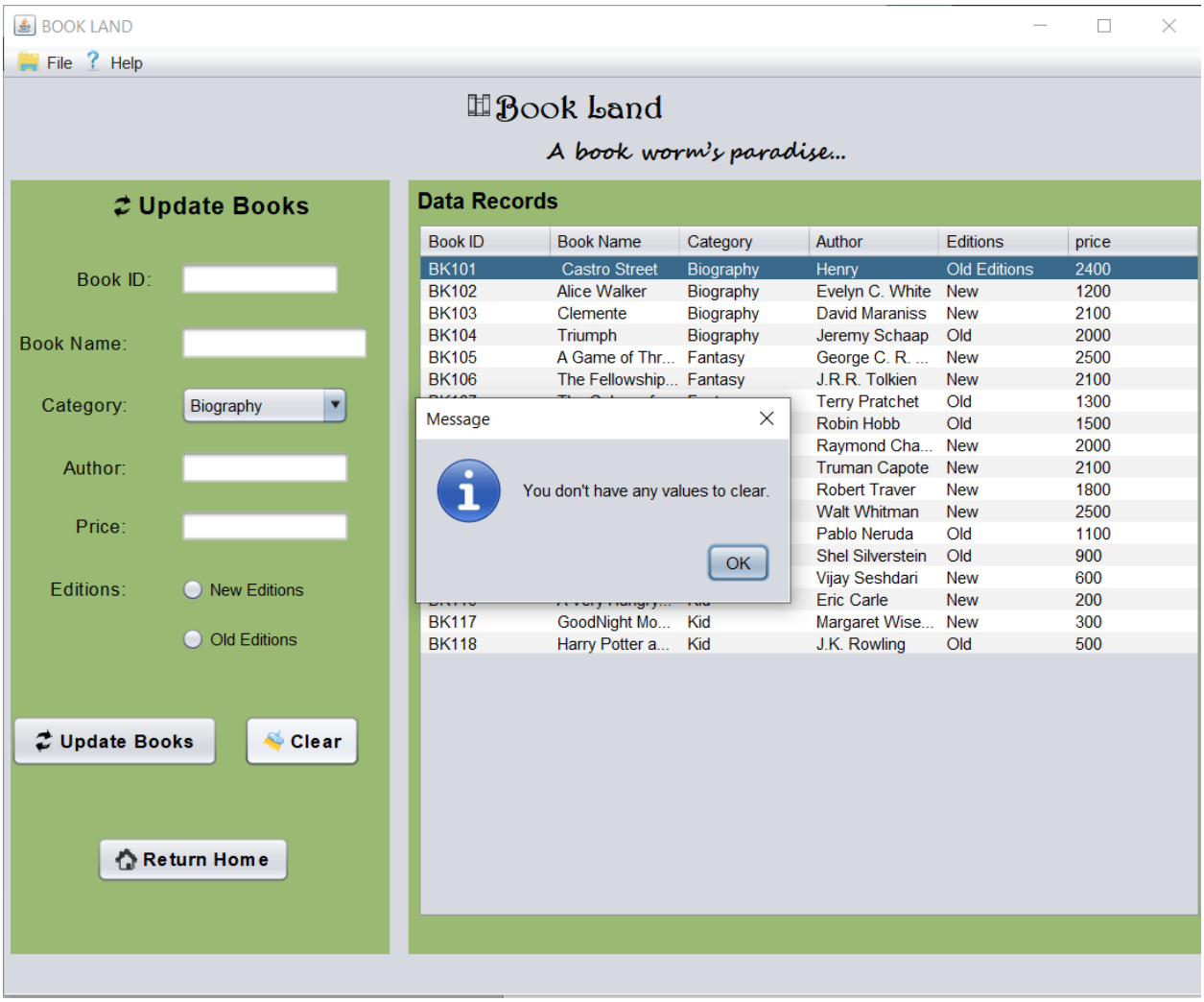

FIGURE 28 VALIDATION CLEAR IN UPDATING OF BOOK DETAILS

8.6.3 VALIDATION OF TEXT FIELDS IN THE DELETE DETAILS PANEL

VALIDATION OF TEXT FIELDS IN THE DELETE DETAILS PANEL	
Objective	To provide evidence for the text field validation in the remove details panel.
Action	➢ When there is no data in the system record database, provide a value in the delete item id text box. ➢ Delete an item by clicking the delete button. ➢ Entering a value for an item that does not exist in the system record database. ➢ Delete an item by clicking the delete button. ➢ In the remove item id text box, there is no data. ➢ Delete an item by clicking the delete button. ➢ Entering a valid item id from the system record table. ➢ Delete an item by clicking the delete button.
Expected Result	When necessary, appropriate conversation boxes should show.
Actual Result	When necessary, appropriate conversation boxes displayed.
Conclusion	The test was successful

TABLE 9 VALIDATION OF TEXT FIELDS IN THE DELETE DETAILS PANEL

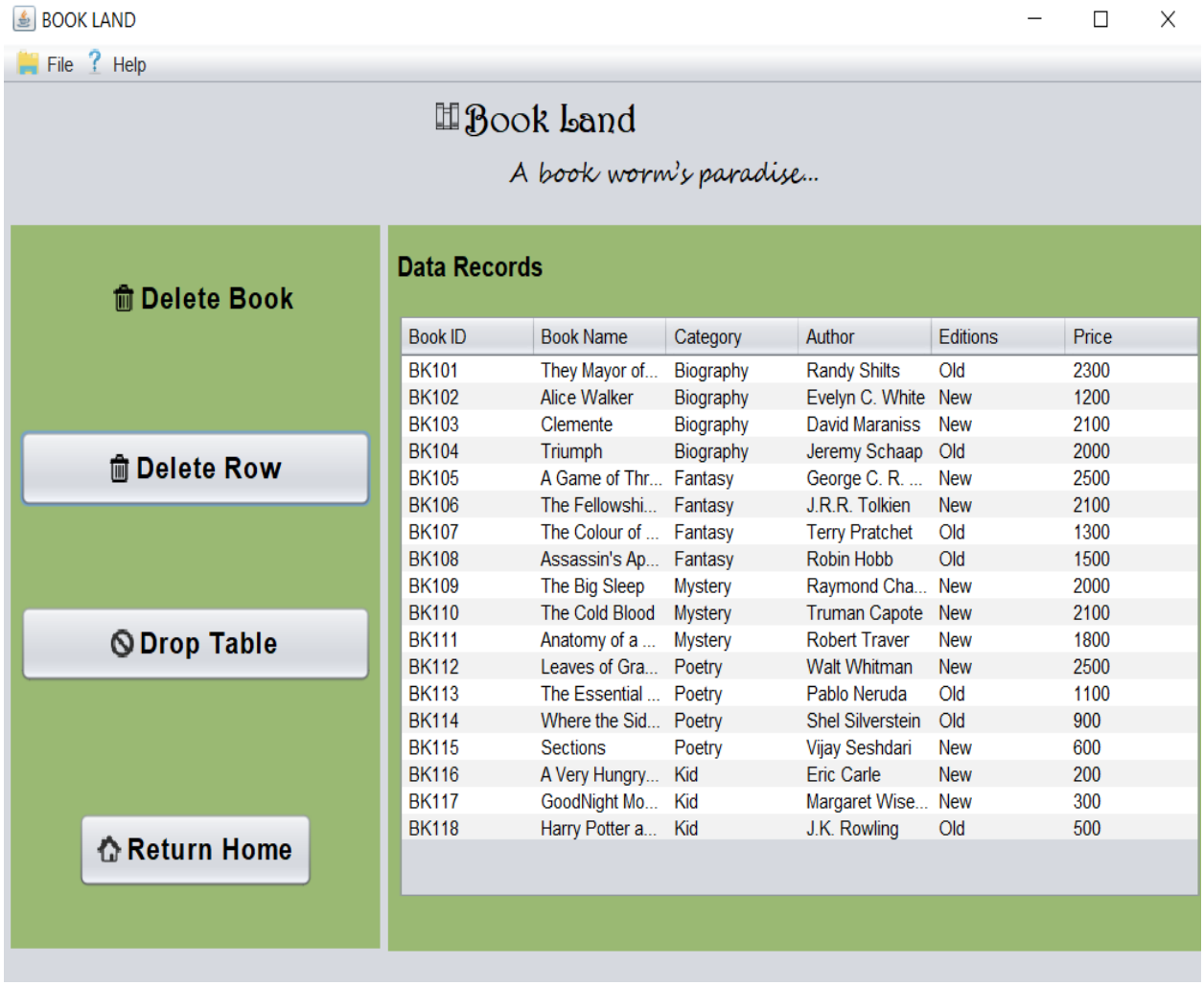

FIGURE 29 VALIDATION DELET OF BOOK DETAILS

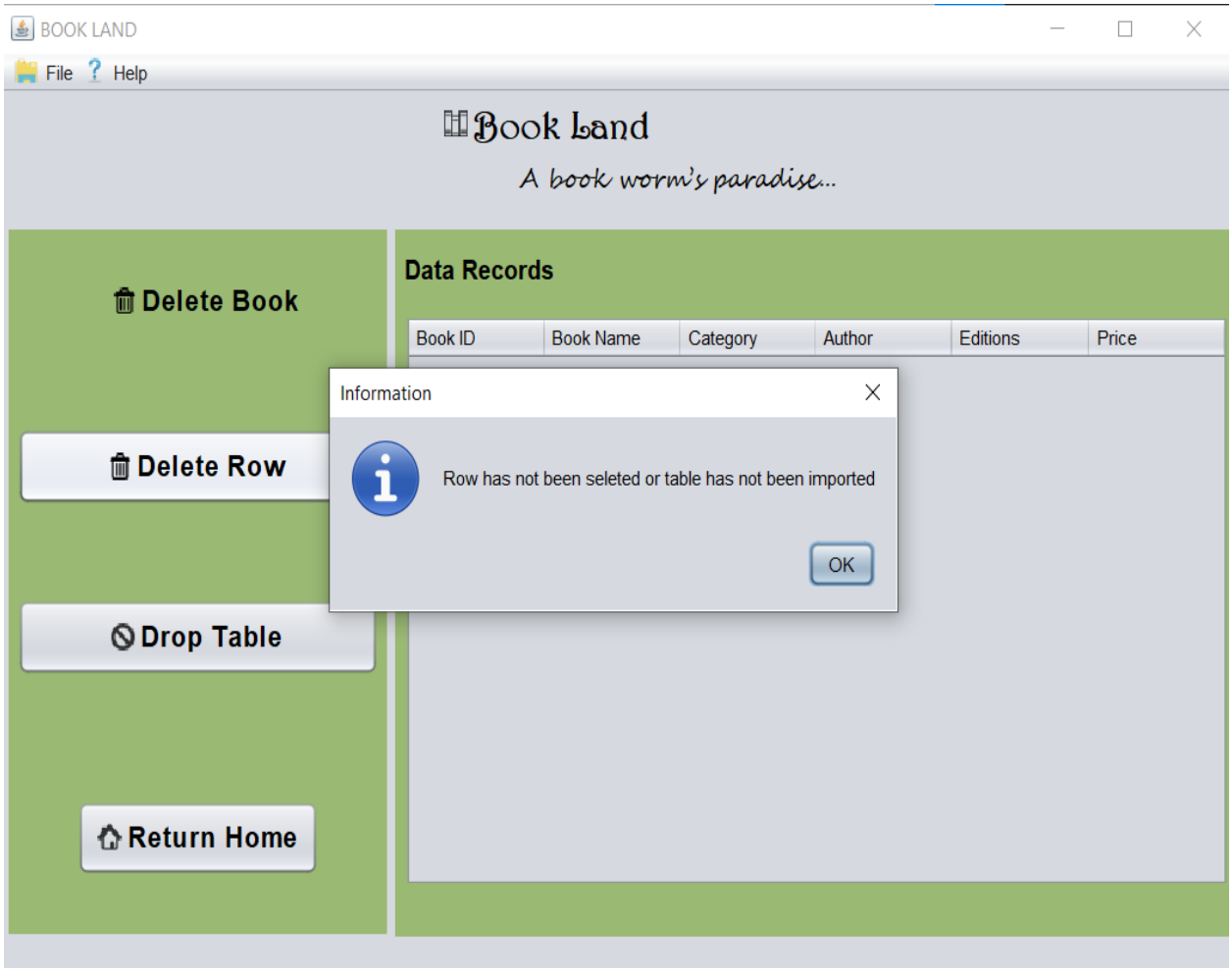

FIGURE 30VALIDATION DELET ROWS OF NO BOOK DETAILS

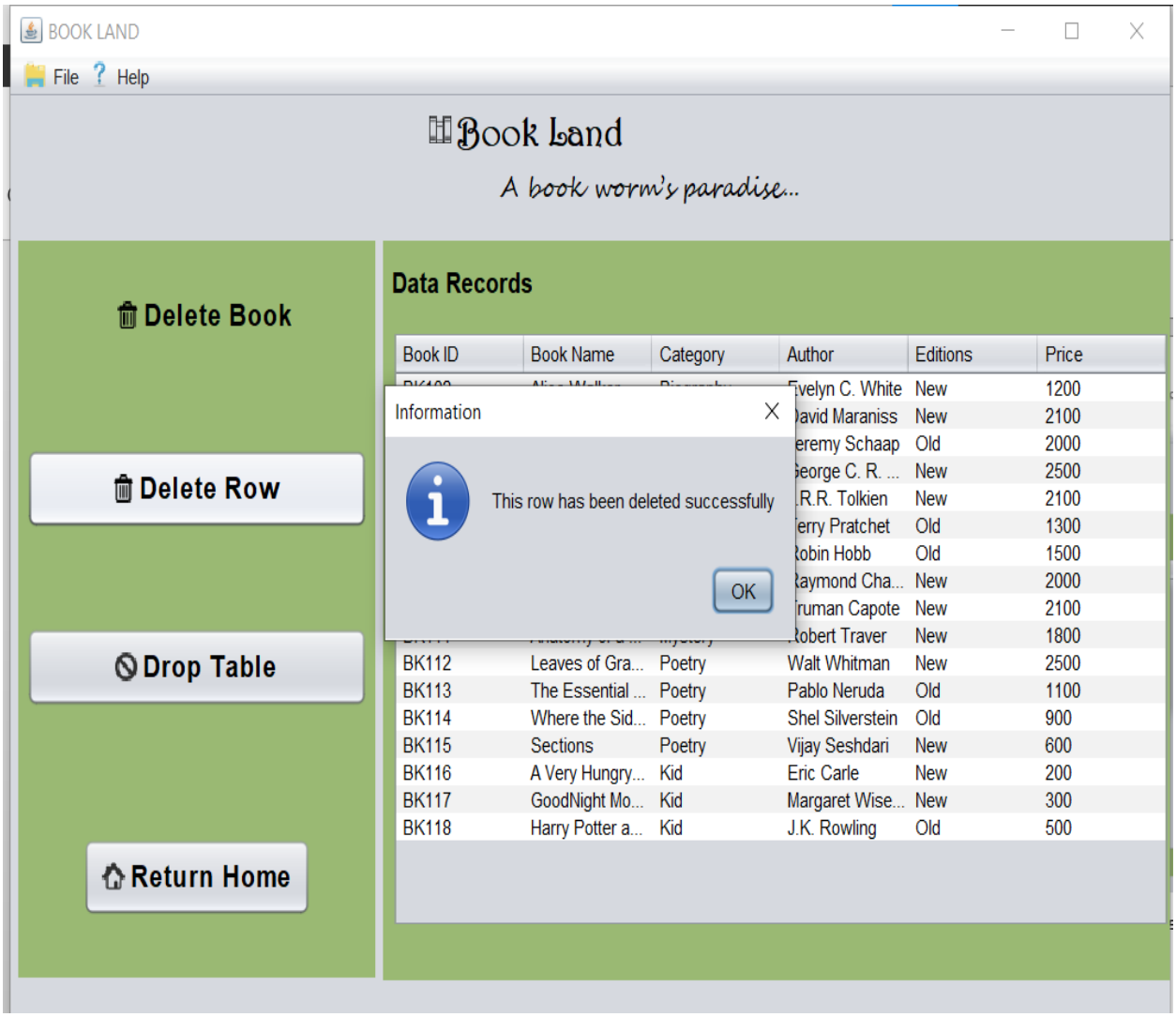

FIGURE 31 VALIDATION OF ROW DELETE WITH DATA

8.6.4. VALIDATION OF TEXT FIELDS AND COMBO BOX IN THE SEARCH/BROWSE PANEL.

VALIDATION OF TEXT FIELDS AND COMBO BOX IN THE SEARCH/BROWSE PANEL.	
Objective	To provide evidence for the text field and combo box validation in the search/browse panel.
Action	➢ When there is no data in the system record database, enter a value in the search by price text box. ➢ Choosing the Search Item Button. ➢ Leaving the Search by price text area blank. ➢ The Search Item Button is pressed. ➢ Entering a price value that does not exist in the system's record database. ➢ The Search Item Button is pressed. ➢ When there is no data in the system record database, selecting a category. ➢ The Items Available in Category Button is clicked. ➢ In the combo box, choose no category. ➢ The Items Accessible in Category Button is clicked. Choosing a category that has no items. ➢ The Items Available on Category Button is clicked.
Expected result	When necessary, appropriate conversation boxes should show.
Actual result	When necessary, appropriate conversation boxes displayed.
Conclusion	The test was successful

TABLE 10 VALIDATION OF TEXT FIELDS AND COMBO BOX IN THE SEARCH/BROWSE PANEL.

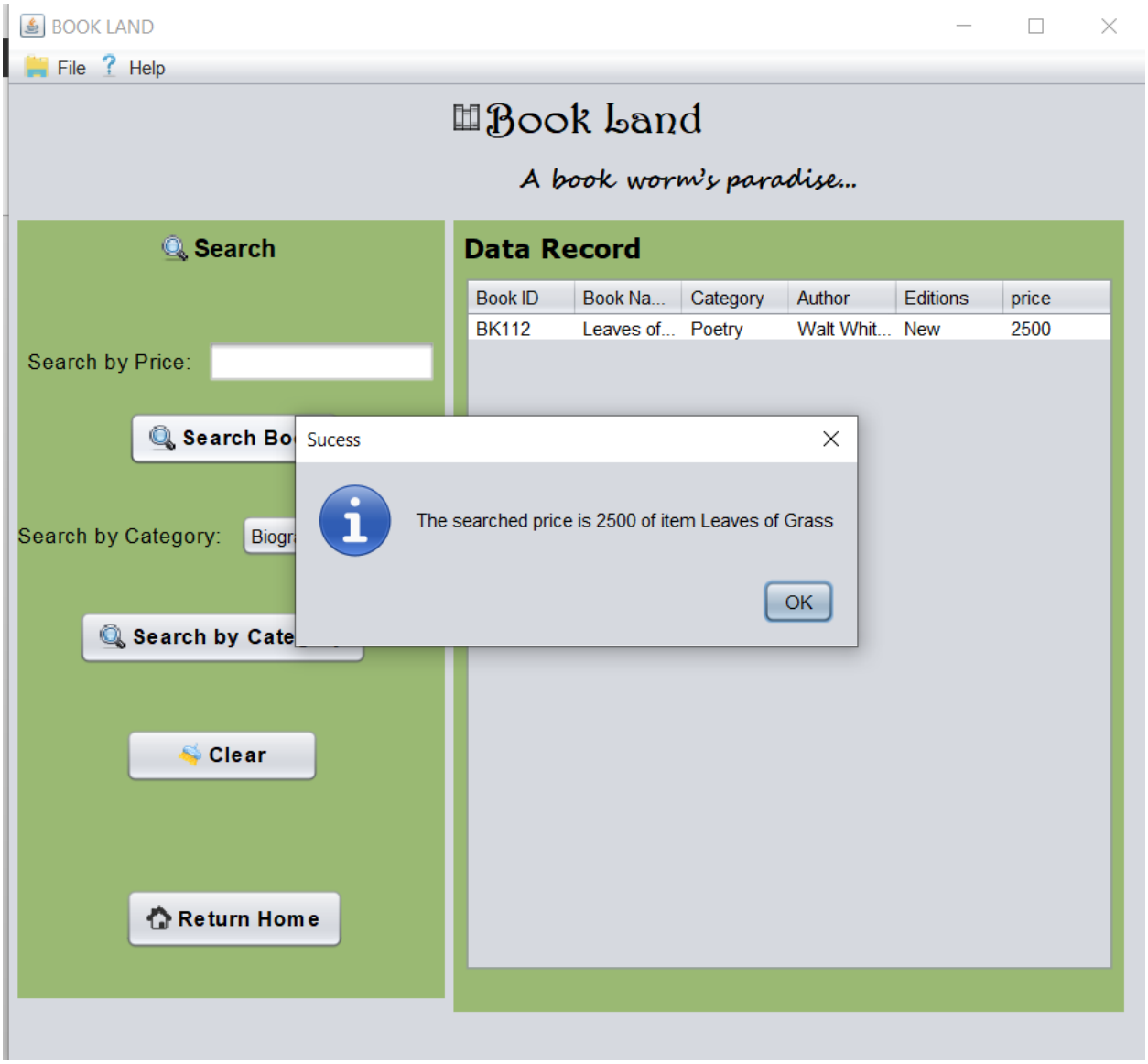

FIGURE 32 VALIDATION SEARCH OF BOOK DETAILS BY PRICE

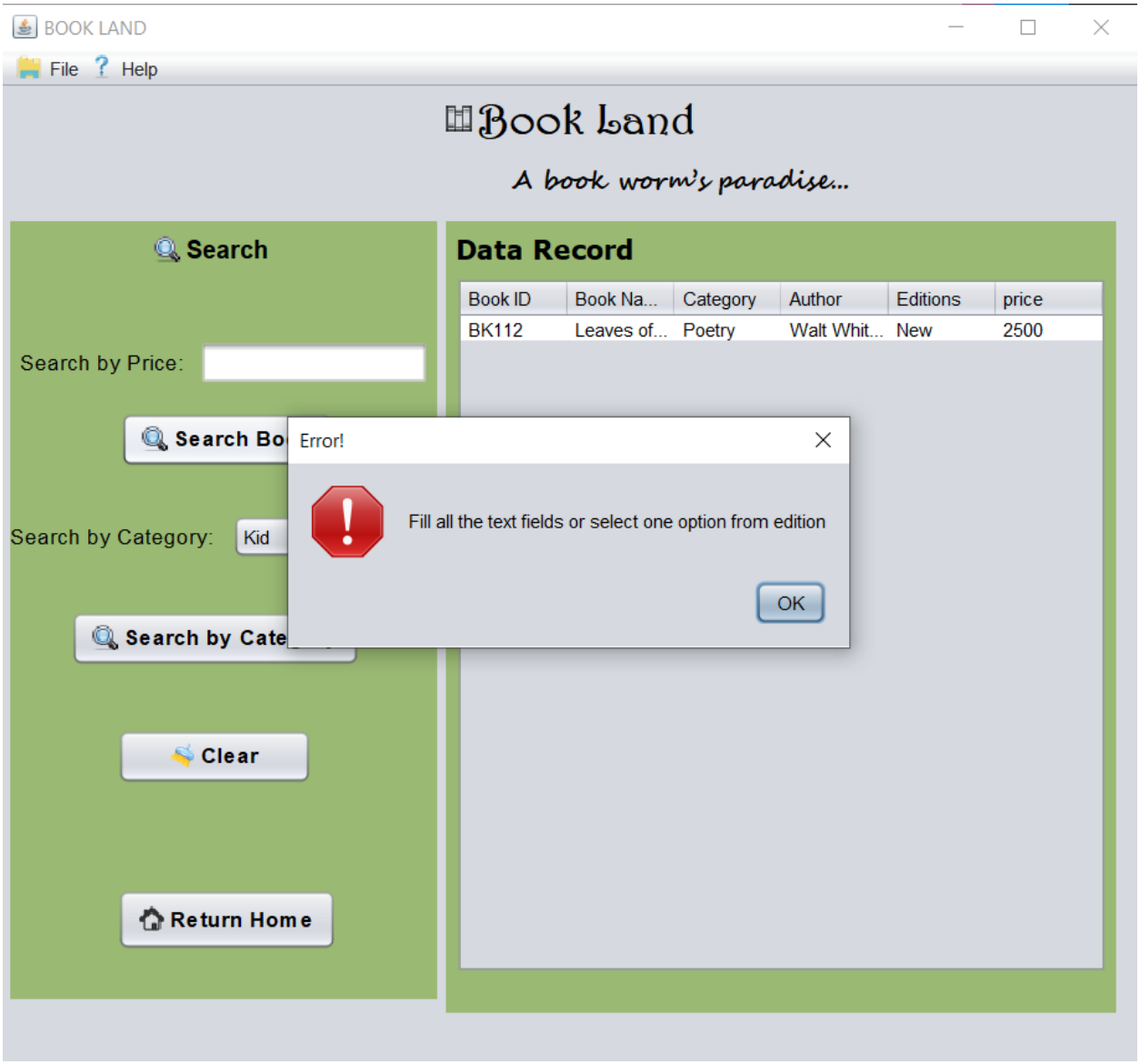

FIGURE 33 VALIDATION ERROR SEARCH OF BOOK DETAILS BY PRICE

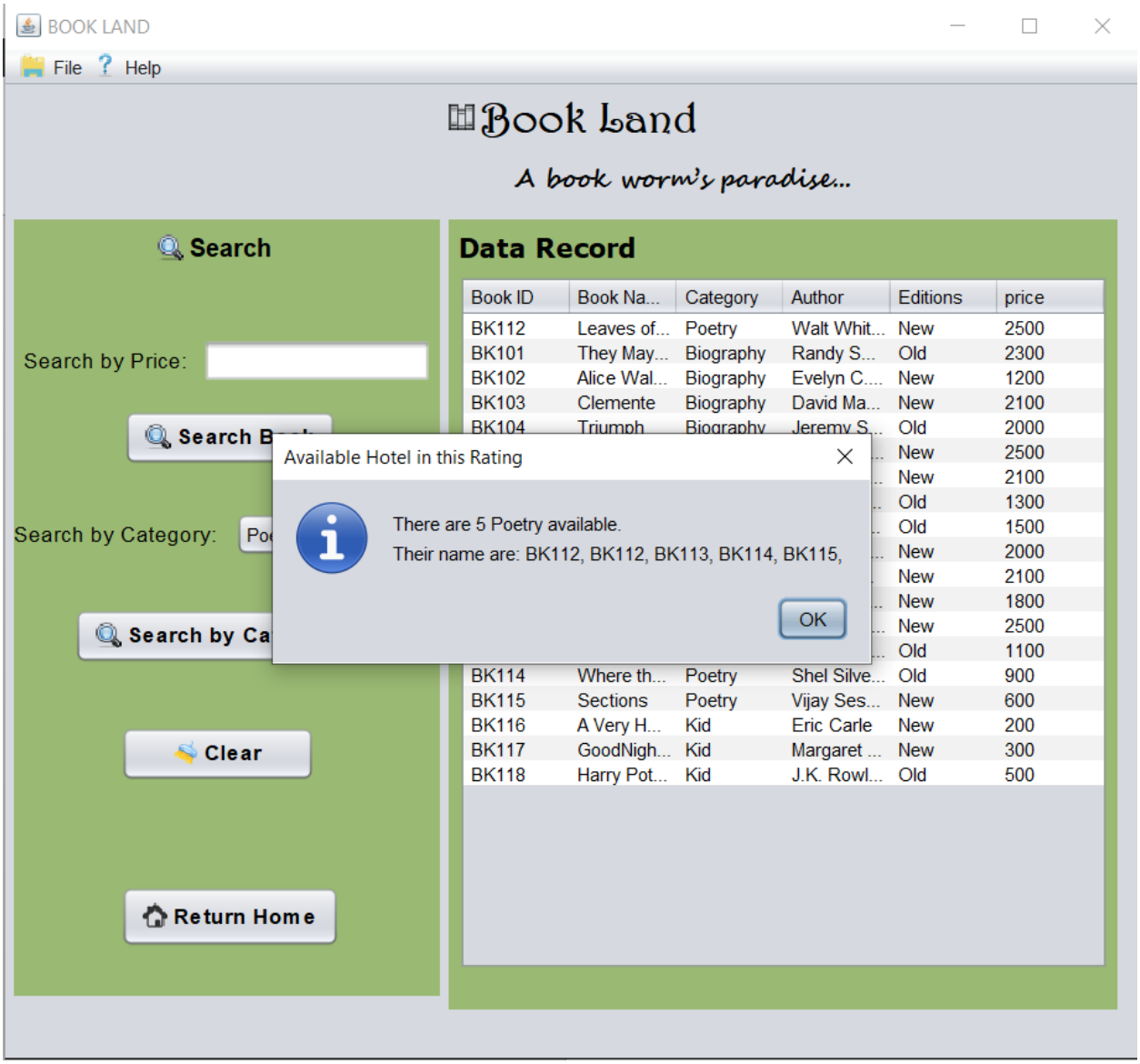

FIGURE 34 VALIDATION SEARCH OF BOOK DETAILS BY CATEGORY

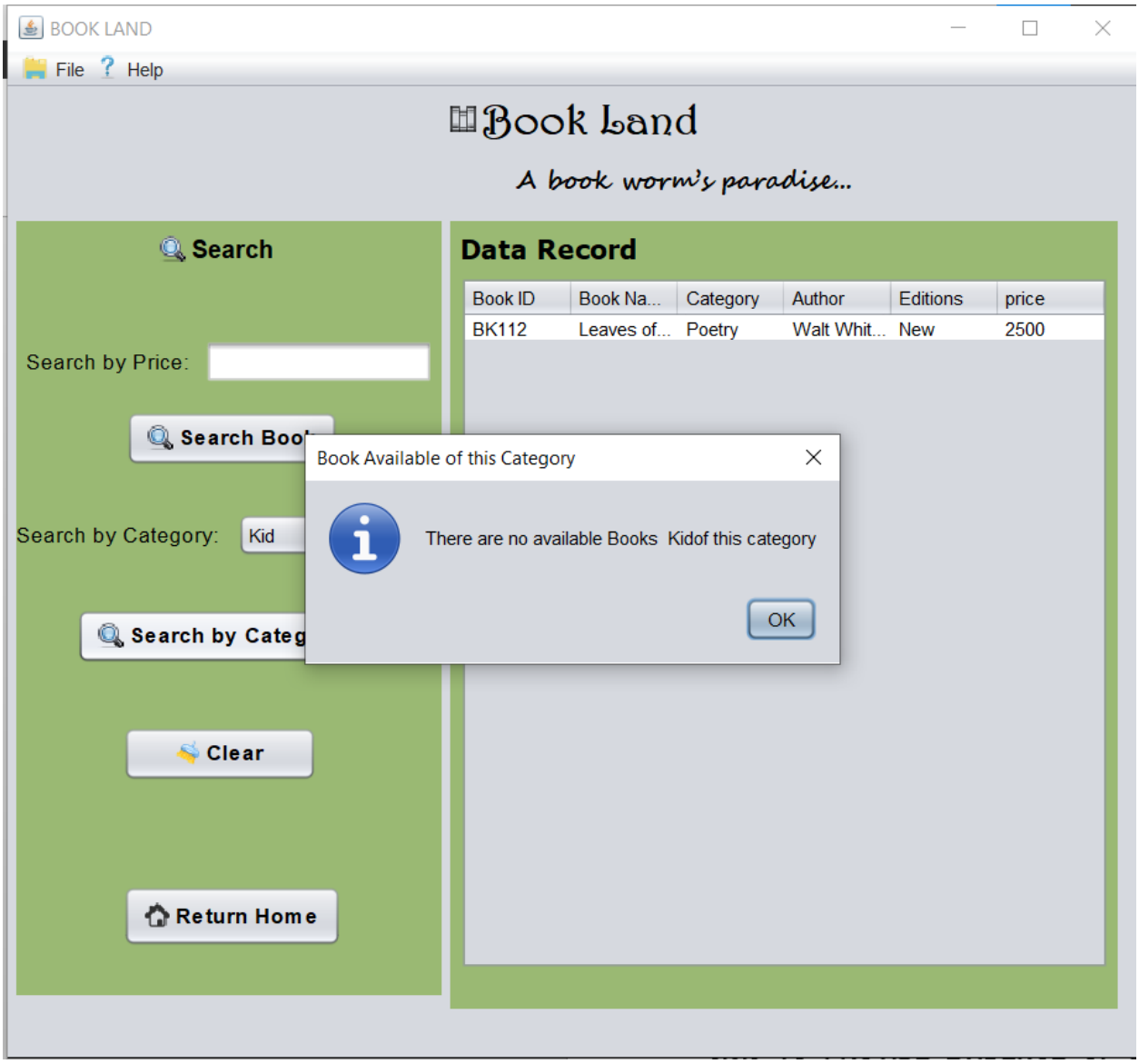

FIGURE 35 VALIDATION ERROR SEARCH OF BOOK DETAILS BY CATEGORY

8.7 TEST 8: TO PROVIDE EVIDENCE OF DROPPING THE TABLE/ DELETING ALL THE ITEM DETAILS IN THE SYSTEM RECORD TABLE.

TO PROVIDE EVIDENCE OF DROPPING THE TABLE/ DELETING ALL THE ITEM DETAILS IN THE SYSTEM RECORD TABLE.	
Objective	To provide proof that all item information in the system record database have been deleted.
Action	➢ The drop table button is pressed.
Expected Result:	All of the table's information should be removed.
Actual Result	The table's information were all removed.
Conclusion	The test was successful

TABLE 11TO PROVIDE EVIDENCE OF DROPPING THE TABLE/ DELETING ALL THE ITEM DETAILS IN THE SYSTEM RECORD TABLE.

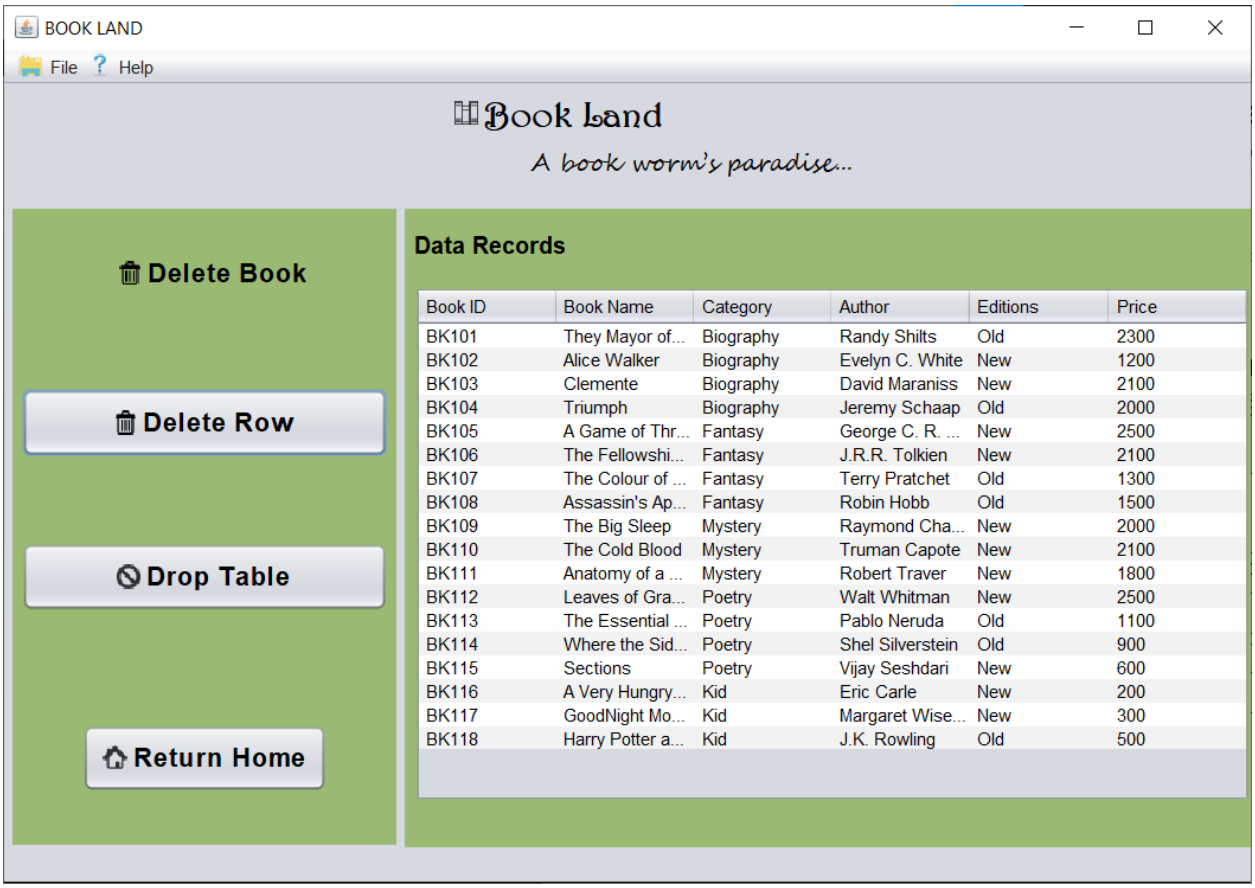

FIGURE 36 VALIDATION OF DROP TABLE FOR BOOK DETAILS

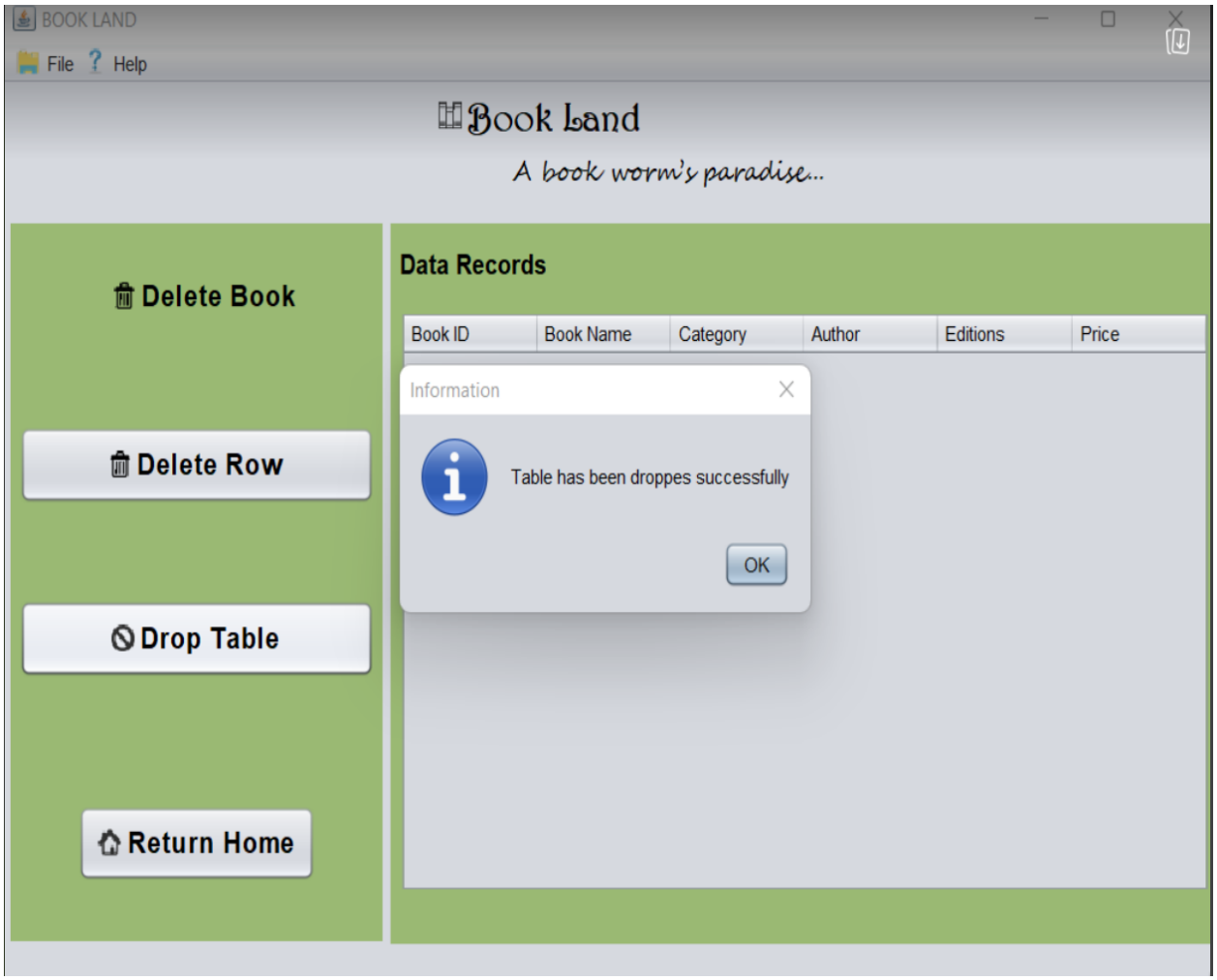

FIGURE 37 VALIDATION OF DROP TABLE WITH BOOK DETAILS

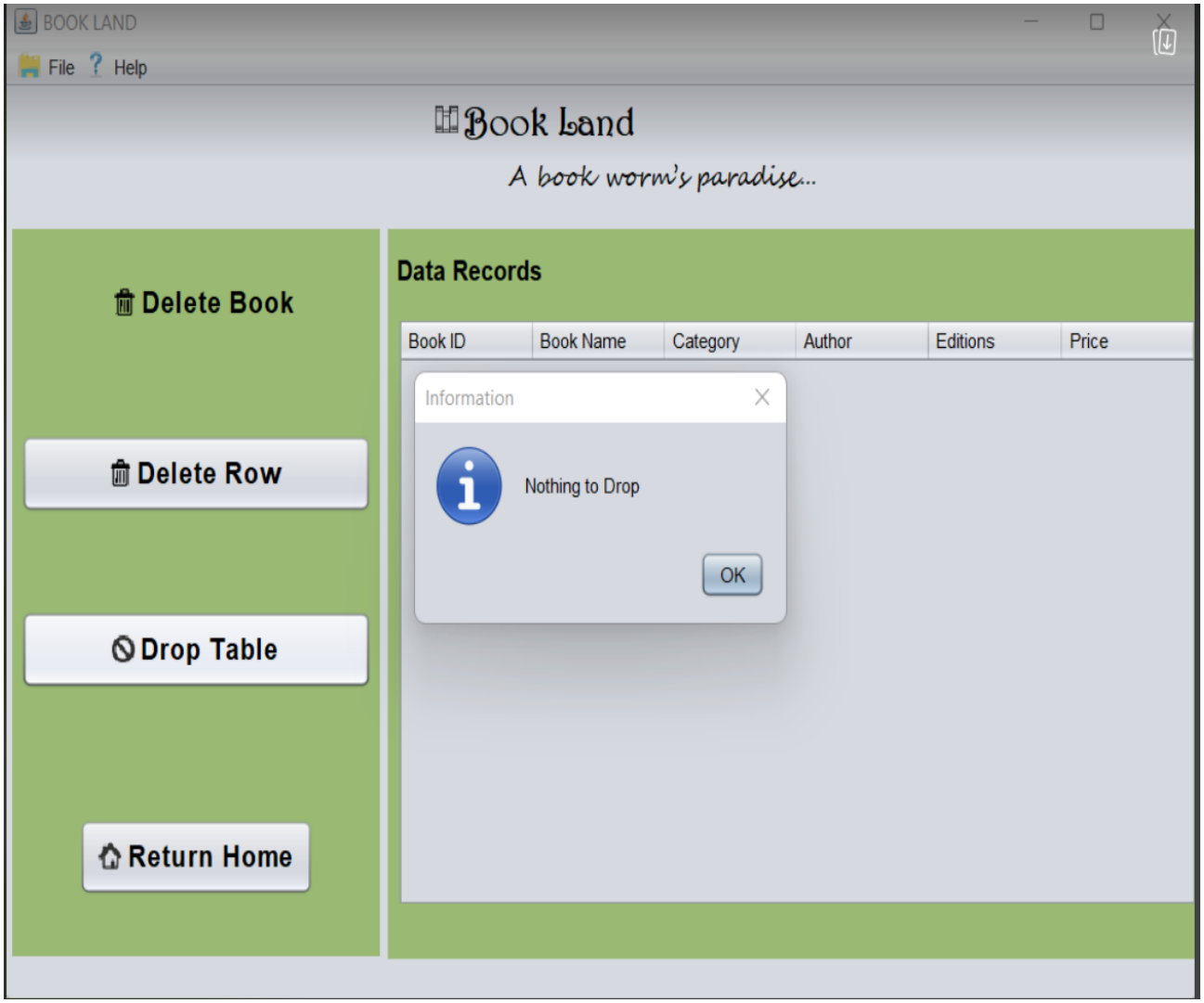

FIGURE 38 VALIDATION OF DROP TABLE WITHOUT BOOK DETAILS

8.9 TEST 9: TO PROVIDE EVIDENCE OF UPDATING AN ITEM'S DETAILS PRESENT IN THE SYSTEM RECORD TABLE.

TO PROVIDE EVIDENCE OF UPDATING AN ITEM'S DETAILS PRESENT IN THE SYSTEM RECORD TABLE.	
Objective	To provide proof that an item's details in the system record table need to be updated.
Action	➢ To update, enter the book ID. ➢ The obtain item details button is pressed. ➢ Changing the required text fields, combo boxes, and radio buttons. ➢ The Update book Button is pressed. ➢ Putting a book ID into the table that doesn't exist
Expected Result	The information of the matched item id should be placed in the text fields, combo box, and radio button when the book id is entered and the obtain item details button is selected, and a message should be presented in the dialogue box informing the user that the item details have been inserted. The book details should be modified when the appropriate details have been changed and the update book button has been clicked. When an item id is supplied that does not exist in the system record database, the user should receive an error notice in a dialogue box.
Actual Result	The details of the matched book id were inserted into the text fields, combo box, and radio button when the item id was entered and the obtain item details button was clicked, and a message was presented in the dialogue box informing the user that the item information had been placed. The book details were updated when the relevant details were changed and the update item button was pressed. When an item id that doesn't exist in the system is used, When a record table was inserted, the user received an error warning in a dialogue box.
Conclusion	The test was successful

TABLE 12 TO PROVIDE EVIDENCE OF UPDATING AN ITEM'S DETAILS PRESENT IN THE SYSTEM RECORD TABLE.

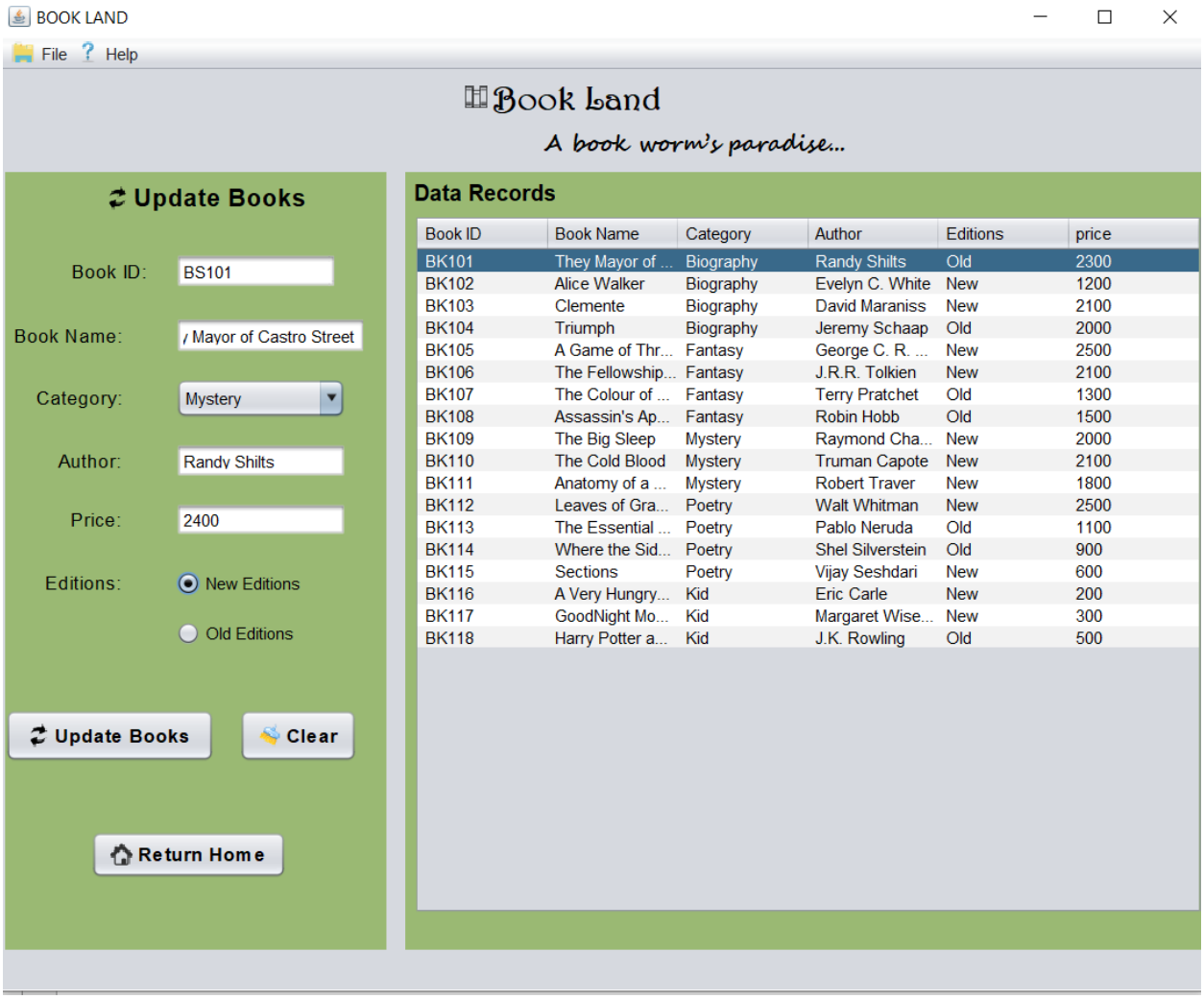

FIGURE 39 VALIDATION OF UPDATES IMPORTED DATA FOR BOOKS DETAILS

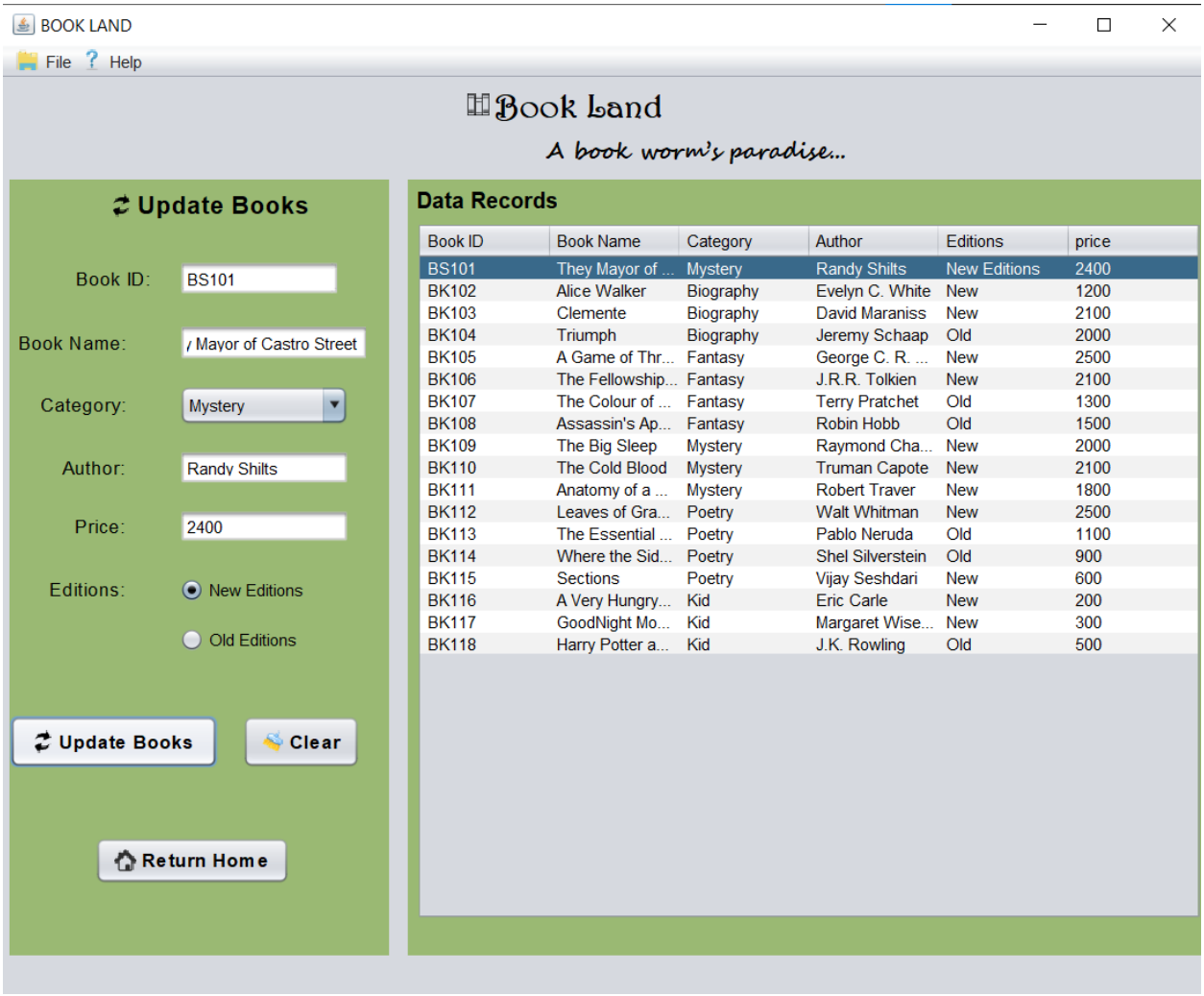

FIGURE 40 UPDATED DETAILS OF IMPORTED DATA FOR BOOK DETAILS

8.10 TEST 10: TO PROVIDE EVIDENCE OF EXPORTING THE .CSV/.TXT FILE TO THE COMPUTER.

TO PROVIDE EVIDENCE OF EXPORTING THE .CSV/.TXT FILE TO THE COMPUTER	
Objective	To provide proof that a.csv/.txt file was exported to the PC.
Action	➢ Choosing the export.csv File option from the file's dropdown menu. ➢ Choosing a location to save the file. ➢ Importing the file that was recently exported back into the software to double-check the information.
Expected Result	A successful export of a.csv/.txt file should result in a notice in a dialogue box informing the user that the file has been saved. It should fill the system record table when importing the file that was exported by the application.
Actual Result	After a successful export of a.csv/.txt file, a notification displayed in a dialogue box informing the user that the file had been saved. The system record table had been populated when the program's output file was imported.
Conclusion	The test was successful

TABLE 13 TO PROVIDE EVIDENCE OF EXPORTING THE .CSV/.TXT FILE TO THE COMPUTER

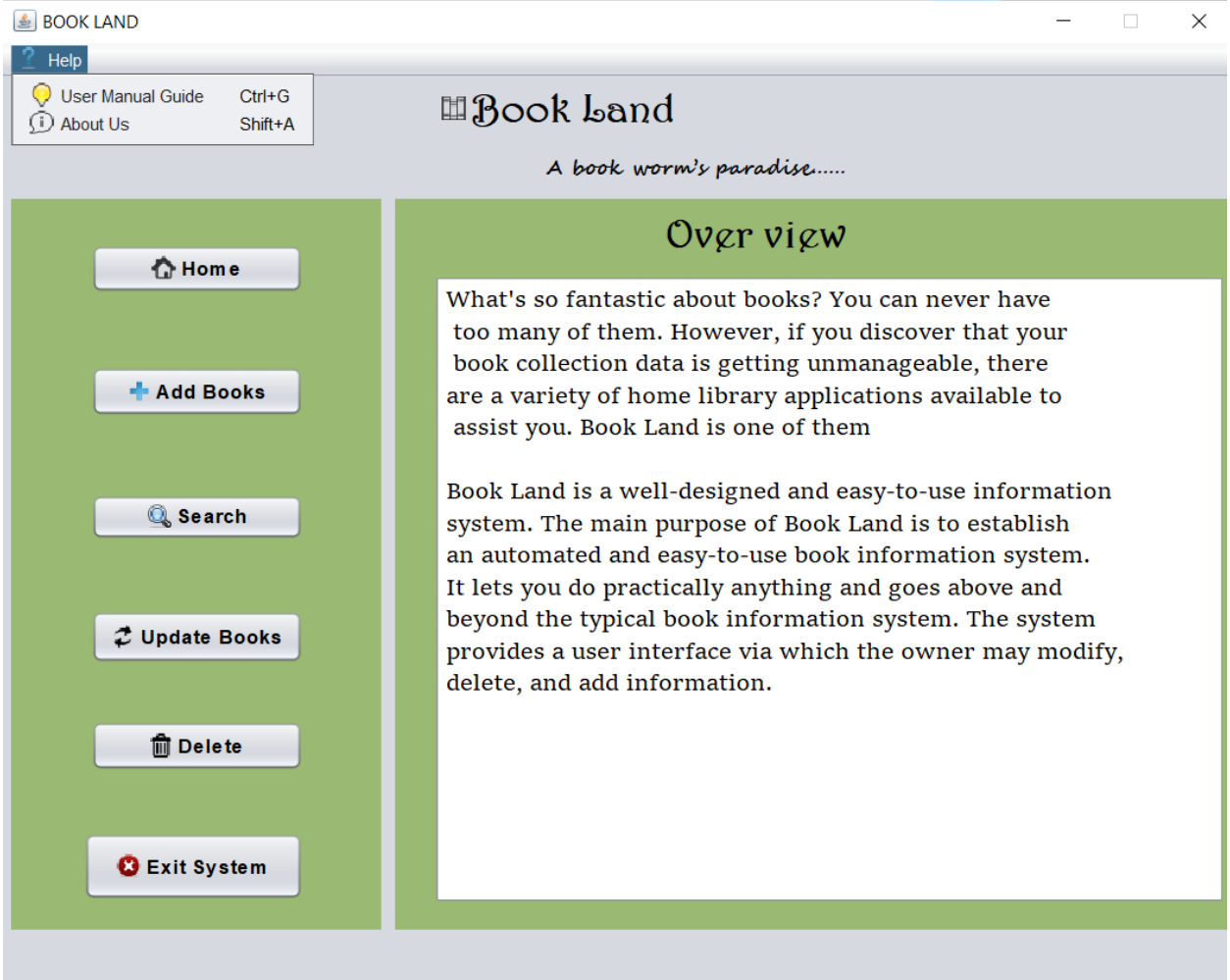

FIGURE 41 IMPORTING .TXT AND .CSV FILE

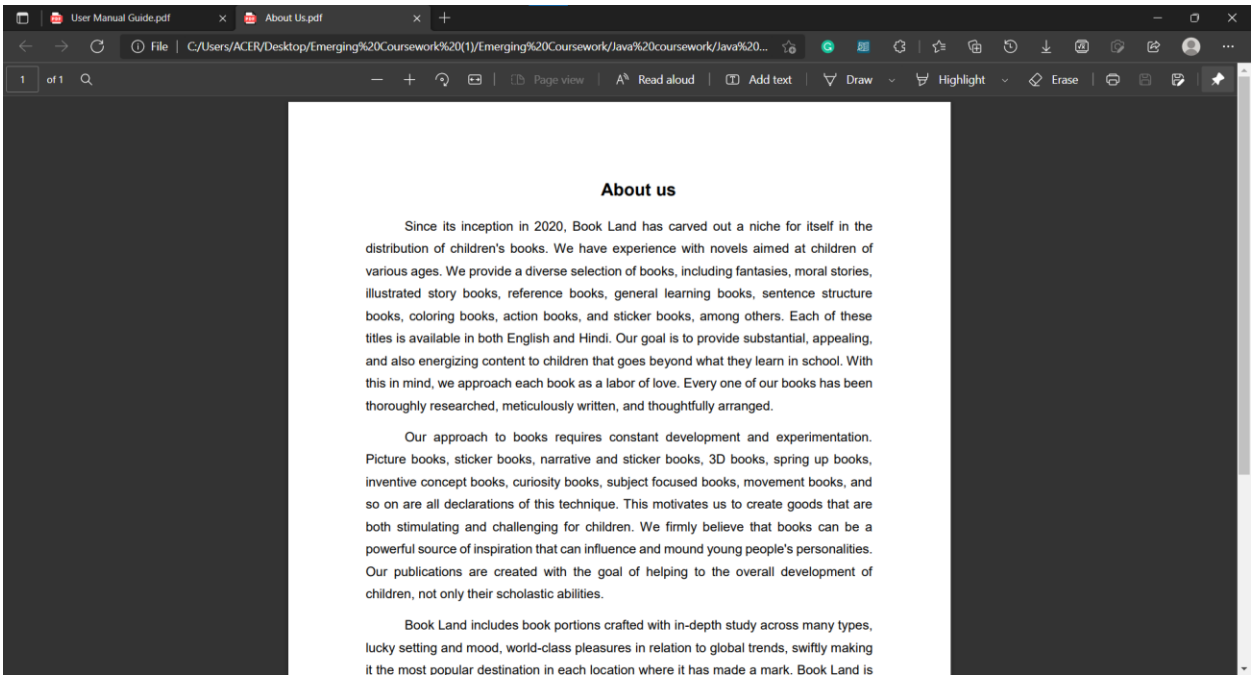

FIGURE 42 IMPORTED .TXT FILE FOR ABOUT US

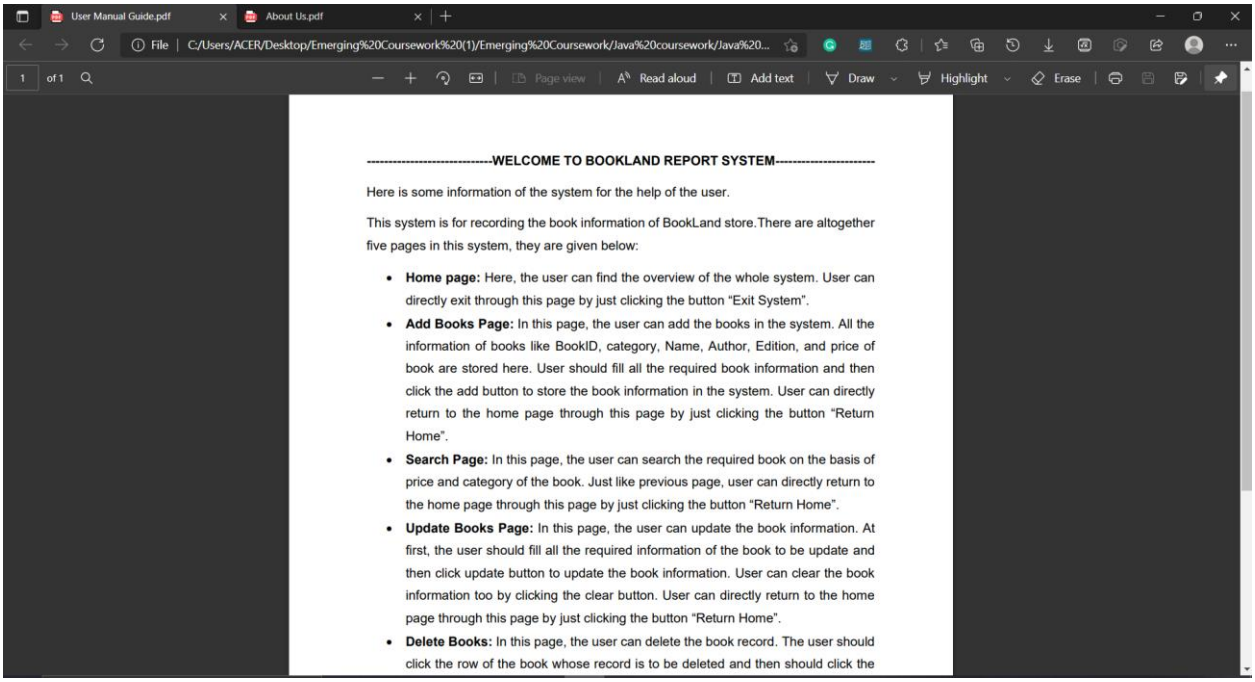

FIGURE 43IMPORTED .TXT FILE FOR USER MANUAL

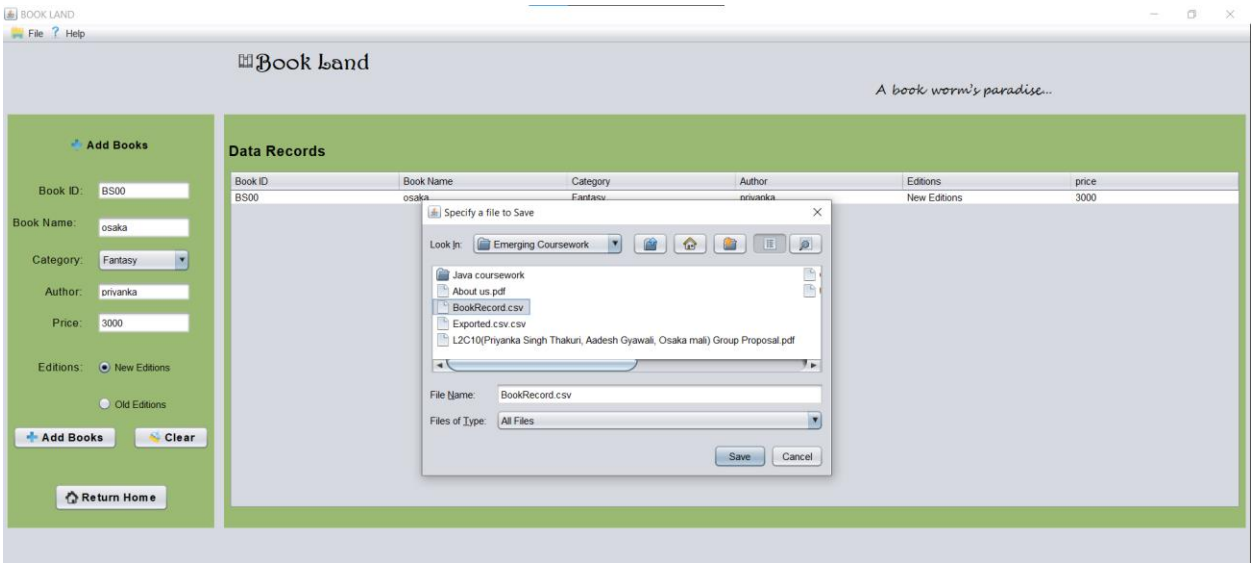

FIGURE 44 EXPORTING UPDATED BOOKS DETAILS

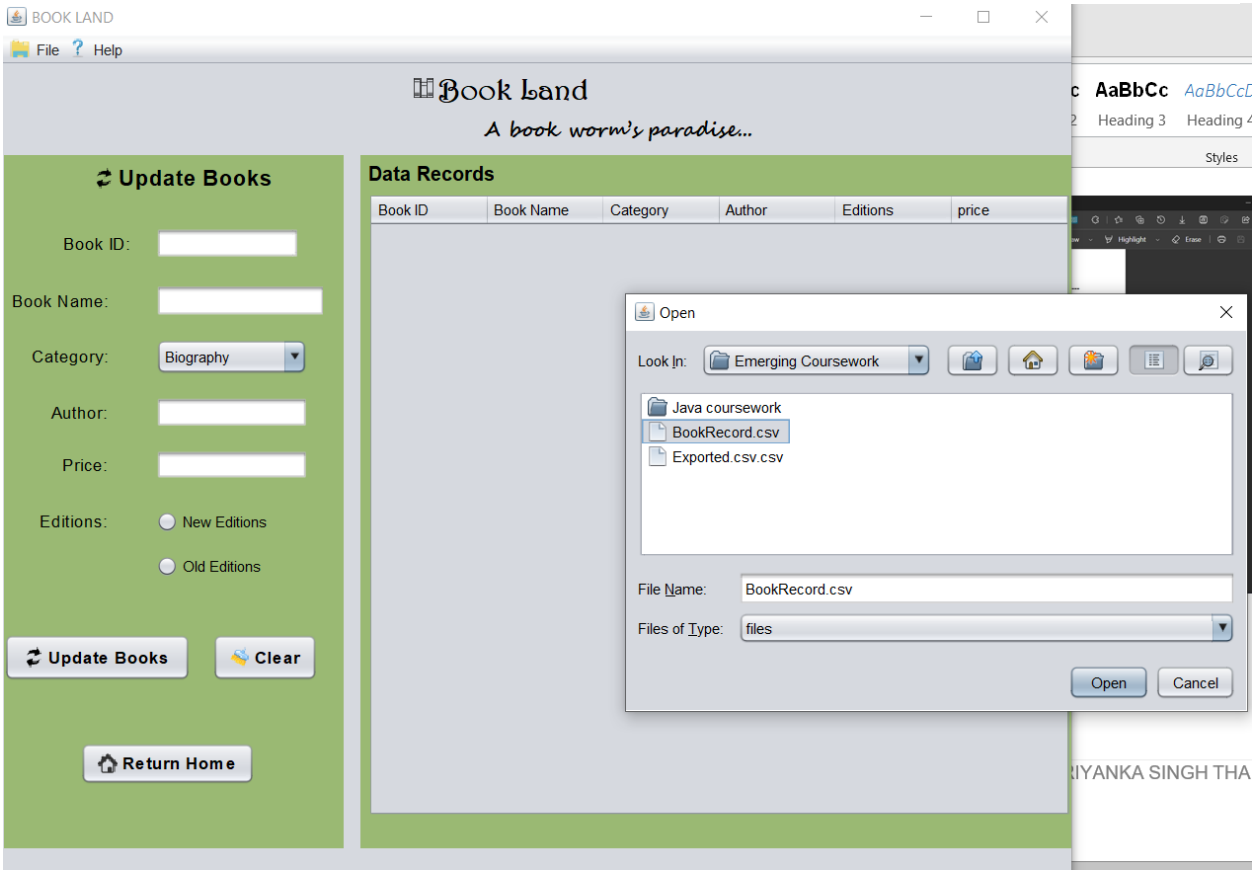

FIGURE 45 IMPORTING UPDATED BOOKS DETAILS

9. CONCLUSION

It required a huge effort and research to complete the assignment and meet all of the prerequisites. Requirements. Because this was a cooperative project, it was much simpler to correct mistakes. The program, as well as any lingering questions about the assignment Members of the group's entire commitment, hard effort, feedback, opinion, creativity, and completion of the task duties allowed the program to be developed and completed in a more efficient and effective manner. A cost-effective method Overall, it was an exciting, fruitful, and beneficial learning experience.

According to the coursework, a book information system had to be designed for a certain firm, and the members of a group had to choose a company type. As a result, we decided to create a book information system for a bookstore called 'Book Land.' A design for the Book Land information system was developed once the group members began to conceptualize a Graphical User Interface (GUI). The wireframes for the program's GUI were eventually created using the Balsamiq software. Designing a GUI was a complex and tedious effort in earlier Java coursework, but the professors taught us a far more efficient and straightforward approach to develop a GUI utilizing the NetBeans IDE. Following the wireframes, a GUI was quickly created that included all of the essential functions as well as a few extras.

Following that, a variety of backend coding responsibilities such as creating action performed methods for various buttons and labels that performed a specific task, implementing binary search, implementing selection sort, adding an item detail to the table, importing.csv/.txt file, updating item detail, deleting item detail, data validation for text fields, exception handling, and so on were evenly distributed among the group members. There were several basic and sophisticated code problems that were corrected with the help of research, recorded lecture videos, lecture materials, and the instructor. As a result, a user-friendly book information system application was created for Book Land.

Any convenience shop, as well as large supermarkets, can utilize the designed warehouse information system application. Any item under a certain category may be added, deleted, or updated using the application. It also allows users to search for products by price and explore items by category. The group members learned about binary search, selection sort, GUI design, data validation, exception management, and other topics after completing this project.

Furthermore, the members of the group learned how to operate as a team as well as individually. The information and skills gained from completing this project will undoubtedly be put to good use in the future.

10. REFERENCES

GeeksforGeeks, 20 Dec, 2021. *GeeksforGeeks.* [Online]
Available at: https://www.geeksforgeeks.org
[Accessed 5 January 2022].

TutorialsPoint, 2019. *TutorialsPoint.* [Online]
Available at: https://www.tutorialspoint.com
[Accessed 5 january 2022].

Wigmore, I., October 2017. *techtarget.* [Online]
Available at: https://whatis.techtarget.com/
[Accessed 5 january 2022].

11. APPENDIX

MAIN

```
package com.coursework;

import com.coursework.Homeframe;

import javax.swing.JOptionPane;

public class mainframe extends javax.swing.JFrame {

     * Creates new form mainframe

    public mainframe() {

        initComponents();

    }

    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {


        jPanel2 = new javax.swing.JPanel();

        loadingbar = new javax.swing.JProgressBar();

        LoadingLable = new javax.swing.JLabel();

        Loadingvalue = new javax.swing.JLabel();

        Picture = new javax.swing.JLabel();

        BookLandLabel = new javax.swing.JLabel();

        Slogan = new javax.swing.JLabel();
```

```
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setLocation(new java.awt.Point(0, 0));

        jPanel2.setBackground(new java.awt.Color(193, 154, 107));

        LoadingLable.setFont(new java.awt.Font("Arial", 1, 11)); // NOI18N
        LoadingLable.setText("Loading...");

        Loadingvalue.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
        Loadingvalue.setText("0%");

        Picture.setIcon(new javax.swing.ImageIcon(getClass().getResource("/Starting
Background.jpg"))); // NOI18N

        BookLandLabel.setFont(new java.awt.Font("Harrington", 1, 18)); // NOI18N
        BookLandLabel.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);
        BookLandLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Bookland.png")
)); // NOI18N
        BookLandLabel.setText("Welcome to BookLand");

        Slogan.setFont(new java.awt.Font("Segoe Script", 1, 16)); // NOI18N
        Slogan.setText("A book worms paradise...");
```

```
        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addComponent(Picture)
                .addGap(0, 0, Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addComponent(loadingbar,          javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addContainerGap())
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(LoadingLable)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(Loadingvalue)
                .addGap(32, 32, 32))
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(135, 135, 135)
```

```
            .addComponent(BookLandLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    302,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()

            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

            .addComponent(Slogan)

            .addGap(104, 104, 104))

    );

    jPanel2Layout.setVerticalGroup(


jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel2Layout.createSequentialGroup()

            .addComponent(Picture,  javax.swing.GroupLayout.PREFERRED_SIZE,  338,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(BookLandLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    40,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(5, 5, 5)

            .addComponent(Slogan)

            .addGap(15, 15, 15)
```

```
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(LoadingLable)
                .addComponent(Loadingvalue))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(loadingbar,     javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );

        javax.swing.GroupLayout                layout                =                new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jPanel2,              javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addContainerGap())
        );
```

```
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE, 480, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );

        setBounds(500, 170, 626, 532);
    }// </editor-fold>

    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
```

```
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
java.util.logging.Logger.getLogger(mainframe.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(mainframe.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(mainframe.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(mainframe.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        }
        //</editor-fold>
```

```
mainframe mf = new mainframe();
mf.setVisible(true);
Homeframe hf = new Homeframe();
try{

   for(int i=0;i<=100;i++){
       Thread.sleep(100);
       mf.Loadingvalue.setText(i +"%");

       if(i==10){
          mf.LoadingLable.setText("Turning On Modules...");
       }
       if(i==20){
          mf.LoadingLable.setText("Loading to Modules...");
        }
       if(i==50){
          mf.LoadingLable.setText("Connecting to Database...");
       }
       if(i==70){
          mf.LoadingLable.setText("Connection Successful...");
       }
       if(i==90){
```

```
                mf.LoadingLable.setText("Launching Application...");
            }
            mf.loadingbar.setValue(i);
        }


    }catch(Exception e){
        JOptionPane.showMessageDialog(null, e);
    }

    hf.setVisible(true);
    mf.dispose();

}

  // Variables declaration - do not modify
  private javax.swing.JLabel BookLandLabel;
  private javax.swing.JLabel LoadingLable;
  private javax.swing.JLabel Loadingvalue;
  private javax.swing.JLabel Picture;
  private javax.swing.JLabel Slogan;
  private javax.swing.JPanel jPanel2;
  private javax.swing.JProgressBar loadingbar;
```

```
    // End of variables declaration
}
```

HOME

```
package com.coursework;
import java.awt.Desktop;
import java.io.File;
import javax.swing.JOptionPane;
public class Homeframe extends javax.swing.JFrame {

    /**
     * Creates new form Homeframe
     */
    public Homeframe() {
        initComponents();
    }
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        HomeButton = new javax.swing.JButton();
        AddButton = new javax.swing.JButton();
        SearchButton = new javax.swing.JButton();
        UpdateButton = new javax.swing.JButton();
```

```
        DeleteButton = new javax.swing.JButton();
        ExitButton = new javax.swing.JButton();
        jPanel2 = new javax.swing.JPanel();
        OverviewLabel = new javax.swing.JLabel();
        jScrollPane1 = new javax.swing.JScrollPane();
        OverviewArea = new javax.swing.JTextArea();
        BookLandLabel = new javax.swing.JLabel();
        Slogan = new javax.swing.JLabel();
        jMenuBar1 = new javax.swing.JMenuBar();
        Help = new javax.swing.JMenu();
        ManualGuide = new javax.swing.JMenuItem();
        About = new javax.swing.JMenuItem();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setTitle("BOOK LAND");
        setResizable(false);

        jPanel1.setBackground(new java.awt.Color(154, 185, 115));

        HomeButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        HomeButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/home-
icon.png"))); // NOI18N
```

```
        HomeButton.setText("Home");
        HomeButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                HomeButtonActionPerformed(evt);
            }
        });

        AddButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        AddButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/add-
icon.png"))); // NOI18N
        AddButton.setText("Add Books");
        AddButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                AddButtonActionPerformed(evt);
            }
        });

        SearchButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        SearchButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Search-
icon.png"))); // NOI18N
        SearchButton.setText("Search");
        SearchButton.addActionListener(new java.awt.event.ActionListener() {
```

```
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            SearchButtonActionPerformed(evt);
        }
    });

    UpdateButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
    UpdateButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Updates-
icon.png"))); // NOI18N
    UpdateButton.setText("Update Books");
    UpdateButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            UpdateButtonActionPerformed(evt);
        }
    });

    DeleteButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
    DeleteButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Delete-
icon.png"))); // NOI18N
    DeleteButton.setText("Delete");
    DeleteButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            DeleteButtonActionPerformed(evt);
```

```
        }
    });

    ExitButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
    ExitButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/close-
icon.png"))); // NOI18N
    ExitButton.setText("Exit System");
    ExitButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            ExitButtonActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap(50, Short.MAX_VALUE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING)
```

```
                .addComponent(ExitButton, javax.swing.GroupLayout.PREFERRED_SIZE,
151, javax.swing.GroupLayout.PREFERRED_SIZE)


.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)

                    .addComponent(DeleteButton,
javax.swing.GroupLayout.DEFAULT_SIZE,  javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                    .addComponent(HomeButton,
javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE,  javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                    .addComponent(AddButton,
javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE,  javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                    .addComponent(SearchButton,
javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE,  javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                    .addComponent(UpdateButton,
javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE,  javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)))

                .addGap(54, 54, 54))

        );

        jPanel1Layout.setVerticalGroup(
```

```
jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(31, 31, 31)
            .addComponent(HomeButton,  javax.swing.GroupLayout.PREFERRED_SIZE, 33, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(51, 51, 51)
            .addComponent(AddButton,  javax.swing.GroupLayout.PREFERRED_SIZE, 34, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(54, 54, 54)
            .addComponent(SearchButton, javax.swing.GroupLayout.PREFERRED_SIZE, 31, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(49, 49, 49)
            .addComponent(UpdateButton, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(40, 40, 40)
            .addComponent(DeleteButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(ExitButton,  javax.swing.GroupLayout.PREFERRED_SIZE, 46, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(21, 21, 21))
```

```
);

jPanel2.setBackground(new java.awt.Color(154, 185, 115));

OverviewLabel.setFont(new java.awt.Font("Harrington", 1, 28)); // NOI18N
OverviewLabel.setText("Over view");

OverviewArea.setEditable(false);
OverviewArea.setColumns(20);
OverviewArea.setFont(new java.awt.Font("Sitka Text", 0, 17)); // NOI18N
OverviewArea.setRows(5);
OverviewArea.setText("What's so fantastic about books? You can never have\n too many of them. However, if you discover that your\n book collection data is getting unmanageable, there \nare a variety of home library applications available to\n assist you. Book Land is one of them\n\nBook Land is a well-designed and easy-to-use information\nsystem. The main purpose of Book Land is to establish\nan automated and easy-to-use book information system.\nIt lets you do practically anything and goes above and \nbeyond the typical book information system. The system\nprovides a user interface via which the owner may modify,\ndelete, and add information.\n");
jScrollPane1.setViewportView(OverviewArea);

javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
jPanel2.setLayout(jPanel2Layout);
jPanel2Layout.setHorizontalGroup(
```

```
jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel2Layout.createSequentialGroup()
            .addGap(186, 186, 186)
            .addComponent(OverviewLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    150,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
            .addContainerGap(26, Short.MAX_VALUE)
            .addComponent(jScrollPane1,  javax.swing.GroupLayout.PREFERRED_SIZE,
546, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap())
    );
    jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel2Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(OverviewLabel)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
```

```
            .addComponent(jScrollPane1,  javax.swing.GroupLayout.PREFERRED_SIZE,
433, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(18, Short.MAX_VALUE))
        );

        BookLandLabel.setFont(new java.awt.Font("Harrington", 1, 28)); // NOI18N
        BookLandLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Bookland.png")
)); // NOI18N
        BookLandLabel.setText("Book Land");

        Slogan.setFont(new java.awt.Font("Segoe Script", 1, 14)); // NOI18N
        Slogan.setText("   A book worm’s paradise.....");

        Help.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/help.png")));   //
NOI18N
        Help.setText("Help");

ManualGuide.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyE
vent.VK_G, java.awt.event.InputEvent.CTRL_DOWN_MASK));
        ManualGuide.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/guide-
icon.png"))); // NOI18N
```

```
        ManualGuide.setText("User Manual Guide");
        ManualGuide.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ManualGuideActionPerformed(evt);
            }
        });
        Help.add(ManualGuide);



About.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.VK
_A, java.awt.event.InputEvent.SHIFT_DOWN_MASK));
        About.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/About-
icon.png"))); // NOI18N
        About.setText("About Us");
        About.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                AboutActionPerformed(evt);
            }
        });
        Help.add(About);


        jMenuBar1.add(Help);
```

```
        setJMenuBar(jMenuBar1);


        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(97, 97, 97)
                        .addComponent(Slogan)
                        .addContainerGap())
                    .addGroup(layout.createSequentialGroup()
                        .addGap(10, 10, 10)
                        .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))))
            .addGroup(layout.createSequentialGroup()
                .addGap(303, 303, 303)
```

```
            .addComponent(BookLandLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    217,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap())
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
            .addComponent(BookLandLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    44,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(Slogan,  javax.swing.GroupLayout.PREFERRED_SIZE,  29,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                .addComponent(jPanel1,          javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jPanel2,          javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addGap(37, 37, 37))
        );
```

```
        setBounds(460, 100, 871, 686);
    }// </editor-fold>

    private void SearchButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        SearchFrame search_frame = new SearchFrame();
        search_frame.setVisible(true);
        dispose();

    }

    private void UpdateButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        updateframe update_frame = new updateframe();
        update_frame.setVisible(true);
        dispose();



    }

    private void DeleteButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
```

```
        Deleteframe delete_frame = new Deleteframe();
        delete_frame.setVisible(true);
        dispose();
    }

    private void AddButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        AddFrame add = new AddFrame();
        add.setVisible(true);
        dispose();
    }

    private void HomeButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void ExitButtonActionPerformed(java.awt.event.ActionEvent evt) {
        //confirm dialog for exiting system
        int clearConfirmation = JOptionPane.showConfirmDialog(this, "Do you want exit the
system?", "Exit", JOptionPane.YES_NO_OPTION,
JOptionPane.WARNING_MESSAGE);
        if (clearConfirmation == 0){
            this.dispose();
```

```
            JOptionPane.showMessageDialog(this,"System has been existed successfully !!.","Message",JOptionPane.INFORMATION_MESSAGE); //information display
        }else{
            JOptionPane.showMessageDialog(this,"Welcome back to BookLand!!.","Message",JOptionPane.INFORMATION_MESSAGE); //information display
        }
    }

    private void ManualGuideActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        File file = new File("src\\Help\\User Manual Guide.pdf");
        try {
            Desktop.getDesktop().open(file);
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(this, "File not found");
        }
    }

    private void AboutActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        File file = new File("src\\Help\\About Us.pdf");
        try {
```

```
            Desktop.getDesktop().open(file);
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(this, "File not found");
        }
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
```

```
            }
        }
    } catch (ClassNotFoundException ex) {
java.util.logging.Logger.getLogger(Homeframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(Homeframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(Homeframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(Homeframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new Homeframe().setVisible(true);
```

```
        }
    });
}

// Variables declaration - do not modify
private javax.swing.JMenuItem About;
private javax.swing.JButton AddButton;
private javax.swing.JLabel BookLandLabel;
private javax.swing.JButton DeleteButton;
private javax.swing.JButton ExitButton;
private javax.swing.JMenu Help;
private javax.swing.JButton HomeButton;
private javax.swing.JMenuItem ManualGuide;
private javax.swing.JTextArea OverviewArea;
private javax.swing.JLabel OverviewLabel;
private javax.swing.JButton SearchButton;
private javax.swing.JLabel Slogan;
private javax.swing.JButton UpdateButton;
private javax.swing.JMenuBar jMenuBar1;
private javax.swing.JPanel jPanel1;
private javax.swing.JPanel jPanel2;
private javax.swing.JScrollPane jScrollPane1;
// End of variables declaration
```

```
}
```

Add

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package com.coursework;

import java.awt.Desktop;
import java.awt.HeadlessException;
import java.io.BufferedWriter;
import java.io.File;
import java.io.FileWriter;
import java.io.IOException;
import javax.swing.JFileChooser;
import javax.swing.JOptionPane;
import javax.swing.filechooser.FileNameExtensionFilter;
import javax.swing.table.DefaultTableModel;

/**
 *
```

```
 * @author hp
 */
public class AddFrame extends javax.swing.JFrame {

    boolean errorFound = false;
    boolean fileSaved = true;

    public AddFrame() {
        initComponents();

    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        buttonGroup1 = new javax.swing.ButtonGroup();
        jMenuItem1 = new javax.swing.JMenuItem();
```

```
jPanel1 = new javax.swing.JPanel();
AddBooksLabel = new javax.swing.JLabel();
jLabelBookID = new javax.swing.JLabel();
jLabelBookName = new javax.swing.JLabel();
jLabelcategory = new javax.swing.JLabel();
jLabelAuthor = new javax.swing.JLabel();
jLabelPrice = new javax.swing.JLabel();
jLabelEdition = new javax.swing.JLabel();
jRadioButtonNew = new javax.swing.JRadioButton();
jRadioButtonOld = new javax.swing.JRadioButton();
AddButton = new javax.swing.JButton();
ClearButton = new javax.swing.JButton();
ReturnhomeButton = new javax.swing.JButton();
jTextFieldBookID = new javax.swing.JTextField();
jTextFieldBookName = new javax.swing.JTextField();
jComboBoxCategory = new javax.swing.JComboBox<>();
jTextFieldAuthor = new javax.swing.JTextField();
jTextFieldprice = new javax.swing.JTextField();
jPanel2 = new javax.swing.JPanel();
jScrollPane1 = new javax.swing.JScrollPane();
DataTecordTable = new javax.swing.JTable();
DataRecordLabel = new javax.swing.JLabel();
BookLandLabel = new javax.swing.JLabel();
```

```
        Slogan = new javax.swing.JLabel();
        jMenuBar1 = new javax.swing.JMenuBar();
        File = new javax.swing.JMenu();
        Export = new javax.swing.JMenuItem();
        Help = new javax.swing.JMenu();
        ManualGuide = new javax.swing.JMenuItem();

        jMenuItem1.setText("jMenuItem1");

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setTitle("BOOK LAND");

        jPanel1.setBackground(new java.awt.Color(154, 185, 115));

        AddBooksLabel.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        AddBooksLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/add-
icon.png"))); // NOI18N
        AddBooksLabel.setText("Add Books");

        jLabelBookID.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        jLabelBookID.setText("Book ID:");
```

```
jLabelBookName.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
jLabelBookName.setText("Book Name:");

jLabelcategory.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
jLabelcategory.setText("Category:");

jLabelAuthor.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
jLabelAuthor.setText("Author:");

jLabelPrice.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
jLabelPrice.setText("Price:");

jLabelEdition.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
jLabelEdition.setText("Editions:");

buttonGroup1.add(jRadioButtonNew);
jRadioButtonNew.setText("New Editions");

buttonGroup1.add(jRadioButtonOld);
jRadioButtonOld.setText("Old Editions");

AddButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
```

```
        AddButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/add-
icon.png"))); // NOI18N
        AddButton.setText("Add Books");
        AddButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                AddButtonActionPerformed(evt);
            }
        });

        ClearButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        ClearButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Clear-
icon.png"))); // NOI18N
        ClearButton.setText("Clear");
        ClearButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ClearButtonActionPerformed(evt);
            }
        });

        ReturnhomeButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
```

```
        ReturnhomeButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/home-
icon.png"))); // NOI18N
        ReturnhomeButton.setText("Return Home");
        ReturnhomeButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ReturnhomeButtonActionPerformed(evt);
            }
        });

        jComboBoxCategory.setModel(new     javax.swing.DefaultComboBoxModel<>(new
String[] { "Biography", "Fantasy", "Mystery", "Poetry", "Kid", " " }));
        jComboBoxCategory.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBoxCategoryActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
```

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(30, 30, 30)
                    .addComponent(jLabelcategory))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                    .addContainerGap()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                        .addComponent(jLabelBookID,
javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(jLabelAuthor,
javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(jLabelPrice,
javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(jLabelEdition,
javax.swing.GroupLayout.Alignment.TRAILING))))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                .addComponent(jTextFieldBookID,
javax.swing.GroupLayout.DEFAULT_SIZE, 115, Short.MAX_VALUE)
```

```
                .addComponent(jRadioButtonNew,
javax.swing.GroupLayout.PREFERRED_SIZE,                                93,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jRadioButtonOld,
javax.swing.GroupLayout.PREFERRED_SIZE,                                93,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jTextFieldBookName)

                .addComponent(jTextFieldAuthor)

                .addComponent(jComboBoxCategory,                       0,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addComponent(jTextFieldprice))

            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()

            .addGap(0, 0, Short.MAX_VALUE)

            .addComponent(AddBooksLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                               104,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(73, 73, 73))

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()

            .addContainerGap()


.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
```

```
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                    .addComponent(jLabelBookName)
                    .addGap(170, 170, 170))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                    .addComponent(AddButton,   javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addGap(19, 19, 19)
                    .addComponent(ClearButton,
javax.swing.GroupLayout.PREFERRED_SIZE,                    94,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addContainerGap())))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(ReturnhomeButton)
                .addGap(56, 56, 56))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(24, 24, 24)
```

```
            .addComponent(AddBooksLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    27,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(29, 29, 29)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

                .addComponent(jTextFieldBookID,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    25,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabelBookID,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    25,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

                .addComponent(jLabelBookName)

                .addComponent(jTextFieldBookName,
javax.swing.GroupLayout.DEFAULT_SIZE, 27, Short.MAX_VALUE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

                .addComponent(jLabelcategory)
```

```
                .addComponent(jComboBoxCategory,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    29,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(jTextFieldAuthor,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    24,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabelAuthor))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(jTextFieldprice,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    28,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabelPrice))
            .addGap(32, 32, 32)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(jLabelEdition)
                .addComponent(jRadioButtonNew))
```

```
            .addGap(27, 27, 27)
            .addComponent(jRadioButtonOld)
            .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(ClearButton)
                .addComponent(AddButton))
            .addGap(42, 42, 42)
            .addComponent(ReturnhomeButton,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    34,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(21, 21, 21))
        );

        jPanel2.setBackground(new java.awt.Color(154, 185, 115));

        DataTecordTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {

            },
            new String [] {
                "Book ID", "Book Name", "Category", "Author", "Editions", "price"
            }
```

```
        ) {
            boolean[] canEdit = new boolean [] {
                false, false, false, false, false, false
            };

            public boolean isCellEditable(int rowIndex, int columnIndex) {
                return canEdit [columnIndex];
            }
        });
        jScrollPane1.setViewportView(DataTecordTable);

        DataRecordLabel.setFont(new java.awt.Font("Arial", 1, 18)); // NOI18N
        DataRecordLabel.setText("Data Records");

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()
```

```
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                .addGroup(jPanel2Layout.createSequentialGroup()
                    .addComponent(DataRecordLabel)
                    .addGap(0, 0, Short.MAX_VALUE))
                .addComponent(jScrollPane1,    javax.swing.GroupLayout.DEFAULT_SIZE,
520, Short.MAX_VALUE))
            .addContainerGap())
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(28, 28, 28)
                .addComponent(DataRecordLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    34,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jScrollPane1,  javax.swing.GroupLayout.PREFERRED_SIZE,
416, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );
```

```
        BookLandLabel.setFont(new java.awt.Font("Harrington", 1, 28)); // NOI18N

        BookLandLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Bookland.png")
)); // NOI18N

        BookLandLabel.setText("Book Land");


        Slogan.setFont(new java.awt.Font("Segoe Script", 0, 16)); // NOI18N

        Slogan.setText("A book worm’s paradise...");


        File.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/File-
icon.png"))); // NOI18N

        File.setText("File");



Export.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.V
K_E, java.awt.event.InputEvent.SHIFT_DOWN_MASK));

        Export.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Excel-
icon.png"))); // NOI18N

        Export.setText("Export Excel");

        Export.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                ExportActionPerformed(evt);

            }
```

```
        });
        File.add(Export);


        jMenuBar1.add(File);


        Help.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/help.png")));    //
NOI18N
        Help.setText("Help");



ManualGuide.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyE
vent.VK_G, java.awt.event.InputEvent.CTRL_DOWN_MASK));
        ManualGuide.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/guide-
icon.png"))); // NOI18N
        ManualGuide.setText("User Manual Guide");
        ManualGuide.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ManualGuideActionPerformed(evt);
            }
        });
        Help.add(ManualGuide);
```

```
        jMenuBar1.add(Help);


        setJMenuBar(jMenuBar1);


        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(31, 31, 31)
                        .addComponent(BookLandLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 174, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                    .addGroup(layout.createSequentialGroup()
```

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addContainerGap())))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
            .addComponent(Slogan)
            .addGap(244, 244, 244))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(BookLandLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    34,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(1, 1, 1)
            .addComponent(Slogan,  javax.swing.GroupLayout.PREFERRED_SIZE,  36,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                .addComponent(jPanel1,          javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jPanel2,          javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addContainerGap(24, Short.MAX_VALUE))
        );


        setBounds(460, 100, 846, 684);
    }// </editor-fold>


    private void AddButtonActionPerformed(java.awt.event.ActionEvent evt) {
        try { //checking for nulls
            if                  (jTextFieldBookID.getText().isEmpty()                  ||
jTextFieldBookName.getText().isEmpty() || jTextFieldAuthor.getText().isEmpty()
                || jTextFieldprice.getText().isEmpty()) //checking for null values
            {
                JOptionPane.showMessageDialog(this, "Fill all the text fields or select one
option from edition", "Error!", JOptionPane.ERROR_MESSAGE);
            } else {
                if (Integer.parseInt(jTextFieldprice.getText()) < 1)//checking for zero or negative
values
                {//checking for negative input
```

```
            JOptionPane.showMessageDialog(this, "Please input positive integer in the field !!", "Error!", JOptionPane.ERROR_MESSAGE);
        } else {
            String BookID = jTextFieldBookID.getText();
            String BookName = jTextFieldBookName.getText();
            String Category = (String) jComboBoxCategory.getSelectedItem();
            int index = jComboBoxCategory.getSelectedIndex();
            String Author = jTextFieldAuthor.getText();
            String Price = jTextFieldprice.getText();
            int rowCount = DataTecordTable.getRowCount();
            int columnCount = DataTecordTable.getColumnCount();
            int rowIndex = 0;
            String Edition = "";
            if (jRadioButtonNew.isSelected()) {
                Edition = jRadioButtonNew.getText();
            }
            if (jRadioButtonOld.isSelected()) {
                Edition = jRadioButtonOld.getText();
            }

            String[] values = {BookID, BookName, Category, Author, Edition, Price};
            DefaultTableModel model = (DefaultTableModel) DataTecordTable.getModel();
```

```
                model.addRow(values);
            }
        }
    } catch (NumberFormatException ex) {
        JOptionPane.showMessageDialog(this, "Enter valid input", "Error!", JOptionPane.ERROR_MESSAGE);
    }
}

private void jComboBoxCategoryActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void ClearButtonActionPerformed(java.awt.event.ActionEvent evt) {
    if (jTextFieldBookID.getText().equals("") || jTextFieldBookName.getText().equals("") || jTextFieldAuthor.getText().equals("")
        || jTextFieldprice.getText().equals("")) //checking for null values
    {
        JOptionPane.showMessageDialog(this, "You don't have any values to clear.", "Message", JOptionPane.INFORMATION_MESSAGE); //display message
    } else {
        jTextFieldBookID.setText("");
        jTextFieldBookName.setText("");
```

```
            jTextFieldAuthor.setText("");
            jTextFieldprice.setText("");
            buttonGroup1.clearSelection();
        }
    }

    private void ReturnhomeButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        Homeframe home_frame = new Homeframe();
        home_frame.setVisible(true);
        this.dispose();
    }

    private void ManualGuideActionPerformed(java.awt.event.ActionEvent evt) {
        File file = new File("src\\Help\\User Manual Guide.pdf");
        try {
            Desktop.getDesktop().open(file);
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(this, "File not found");
        }
    }

    private void ExportActionPerformed(java.awt.event.ActionEvent evt) {
```

```
        errorFound = false;


        JFileChooser fileChooser = new JFileChooser();
        fileChooser.setDialogTitle("Specify a file to Save");
        int userSelection = fileChooser.showSaveDialog(this);
        fileChooser.addChoosableFileFilter((new FileNameExtensionFilter("Txt", ".csv", ".txt")));


        if (userSelection == JFileChooser.APPROVE_OPTION) {
            File filetosave = fileChooser.getSelectedFile();
            String filePath = filetosave.getPath();
            filetosave = new File(filePath + ".csv");
            try {
                try ( FileWriter fw = new FileWriter(filetosave);  BufferedWriter bw = new BufferedWriter(fw)) {
                    bw.write("Book ID,Book Name,Category,Author,Edition,Price");
                    bw.newLine();
                    for (int i = 0; i < DataTecordTable.getRowCount(); i++) {
                        for (int j = 0; j < DataTecordTable.getColumnCount(); j++) {
                            bw.write(DataTecordTable.getValueAt(i, j).toString() + ",");
                        }
                        bw.newLine();
                    }
```

```
                JOptionPane.showMessageDialog(this, "Loaded Sucessfully", "Sucess",
JOptionPane.INFORMATION_MESSAGE);


            }


            fileSaved = true;


            errorFound = false;
        } catch (HeadlessException | IOException e) {
            JOptionPane.showMessageDialog(null, "Error", "Error",
JOptionPane.ERROR_MESSAGE);
            errorFound = true;
        }


    }
}


/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
```

```
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional)
">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and
feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(AddFrame.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(AddFrame.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
```

```
java.util.logging.Logger.getLogger(AddFrame.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(AddFrame.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new AddFrame().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel AddBooksLabel;
    private javax.swing.JButton AddButton;
    private javax.swing.JLabel BookLandLabel;
    private javax.swing.JButton ClearButton;
    private javax.swing.JLabel DataRecordLabel;
```

```
    private javax.swing.JTable DataTecordTable;
    private javax.swing.JMenuItem Export;
    private javax.swing.JMenu File;
    private javax.swing.JMenu Help;
    private javax.swing.JMenuItem ManualGuide;
    private javax.swing.JButton ReturnhomeButton;
    private javax.swing.JLabel Slogan;
    private javax.swing.ButtonGroup buttonGroup1;
    private javax.swing.JComboBox<String> jComboBoxCategory;
    private javax.swing.JLabel jLabelAuthor;
    private javax.swing.JLabel jLabelBookID;
    private javax.swing.JLabel jLabelBookName;
    private javax.swing.JLabel jLabelEdition;
    private javax.swing.JLabel jLabelPrice;
    private javax.swing.JLabel jLabelcategory;
    private javax.swing.JMenuBar jMenuBar1;
    private javax.swing.JMenuItem jMenuItem1;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JRadioButton jRadioButtonNew;
    private javax.swing.JRadioButton jRadioButtonOld;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTextField jTextFieldAuthor;
```

```
    private javax.swing.JTextField jTextFieldBookID;
    private javax.swing.JTextField jTextFieldBookName;
    private javax.swing.JTextField jTextFieldprice;
    // End of variables declaration
}
```

UPDATE

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package com.coursework;

import java.awt.Desktop;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileReader;
import javax.swing.JFileChooser;
import javax.swing.JOptionPane;
import javax.swing.JRadioButton;
import javax.swing.filechooser.FileNameExtensionFilter;
```

```
import javax.swing.table.DefaultTableModel;
import javax.swing.table.TableModel;


/**
 *
 * @author hp
 */
public class updateframe extends javax.swing.JFrame {
//GLOBAL DECLARATION

    DefaultTableModel dm;


    public updateframe() {
        initComponents();


    }


    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
```

```
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        buttonGroup1 = new javax.swing.ButtonGroup();
        jMenuItem2 = new javax.swing.JMenuItem();
        jPanel2 = new javax.swing.JPanel();
        jScrollPane1 = new javax.swing.JScrollPane();
        DataRecordTable = new javax.swing.JTable();
        dataRecord = new javax.swing.JLabel();
        jPanel1 = new javax.swing.JPanel();
        UpdateBooksLabel = new javax.swing.JLabel();
        BookID = new javax.swing.JLabel();
        BookName = new javax.swing.JLabel();
        Category = new javax.swing.JLabel();
        Author = new javax.swing.JLabel();
        Price = new javax.swing.JLabel();
        Edition = new javax.swing.JLabel();
        NewEdition_Option = new javax.swing.JRadioButton();
        OldEdition_Option = new javax.swing.JRadioButton();
        Update_Button = new javax.swing.JButton();
        Clear_Button = new javax.swing.JButton();
        ReturnHome_Button = new javax.swing.JButton();
        BookID_Field = new javax.swing.JTextField();
```

```
BookName_Field = new javax.swing.JTextField();
Category_Combobox = new javax.swing.JComboBox<>();
Author_Field = new javax.swing.JTextField();
Price_Field = new javax.swing.JTextField();
BookLandLabel = new javax.swing.JLabel();
Slogan = new javax.swing.JLabel();
jMenuBar1 = new javax.swing.JMenuBar();
File = new javax.swing.JMenu();
Import = new javax.swing.JMenuItem();
Export = new javax.swing.JMenuItem();
Help = new javax.swing.JMenu();
ManualGuide = new javax.swing.JMenuItem();

jMenuItem2.setText("jMenuItem2");

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setTitle("BOOK LAND");

jPanel2.setBackground(new java.awt.Color(154, 185, 115));

DataRecordTable.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
```

```
        },
        new String [] {
            "Book ID", "Book Name", "Category", "Author", "Editions", "price"
        }
    ) {
        boolean[] canEdit = new boolean [] {
            false, false, false, false, false, false
        };

        public boolean isCellEditable(int rowIndex, int columnIndex) {
            return canEdit [columnIndex];
        }
    });
    DataRecordTable.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            DataRecordTableMouseClicked(evt);
        }
    });
    jScrollPane1.setViewportView(DataRecordTable);

    dataRecord.setFont(new java.awt.Font("Arial", 1, 16)); // NOI18N
    dataRecord.setText("Data Records");
```

```
        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addComponent(jScrollPane1)
                    .addGroup(jPanel2Layout.createSequentialGroup()
                        .addComponent(dataRecord)
                        .addContainerGap(468, Short.MAX_VALUE))))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(dataRecord)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jScrollPane1,  javax.swing.GroupLayout.PREFERRED_SIZE,
505, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addContainerGap(26, Short.MAX_VALUE))
        );

        jPanel1.setBackground(new java.awt.Color(154, 185, 115));

        UpdateBooksLabel.setFont(new java.awt.Font("Arial", 1, 18)); // NOI18N
        UpdateBooksLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Updates-
icon.png"))); // NOI18N
        UpdateBooksLabel.setText("Update Books");

        BookID.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        BookID.setText("Book ID:");

        BookName.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        BookName.setText("Book Name:");

        Category.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        Category.setText("Category:");

        Author.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        Author.setText("Author:");
```

```
        Price.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        Price.setText("Price:");

        Edition.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        Edition.setText("Editions:");

        buttonGroup1.add(NewEdition_Option);
        NewEdition_Option.setText("New Editions");

        buttonGroup1.add(OldEdition_Option);
        OldEdition_Option.setText("Old Editions");

        Update_Button.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        Update_Button.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Updates-
icon.png"))); // NOI18N
        Update_Button.setText("Update Books");
        Update_Button.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                Update_ButtonMouseClicked(evt);
            }
        });
        Update_Button.addActionListener(new java.awt.event.ActionListener() {
```

```
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            Update_ButtonActionPerformed(evt);
        }
    });

    Clear_Button.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
    Clear_Button.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Clear-
icon.png"))); // NOI18N
    Clear_Button.setText("Clear");
    Clear_Button.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            Clear_ButtonActionPerformed(evt);
        }
    });

    ReturnHome_Button.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
    ReturnHome_Button.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/home-
icon.png"))); // NOI18N
    ReturnHome_Button.setText("Return Home");
    ReturnHome_Button.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            ReturnHome_ButtonActionPerformed(evt);
```

```
            }
        });

        Category_Combobox.setModel(new     javax.swing.DefaultComboBoxModel<>(new
String[] { "Biography", "Fantasy", "Mystery", "Poetry", "Kid" }));

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(73, 73, 73)
                        .addComponent(UpdateBooksLabel))
                    .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                            .addGroup(jPanel1Layout.createSequentialGroup()
                                .addContainerGap()
```

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                    .addComponent(Category)
                    .addComponent(BookName)
                    .addComponent(Author)
                    .addComponent(Price)
                    .addComponent(Edition)))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(48, 48, 48)
                    .addComponent(BookID)))
            .addGap(21, 21, 21)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(BookName_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                    137,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(BookID_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                    116,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(Category_Combobox,
javax.swing.GroupLayout.PREFERRED_SIZE,                    123,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                    .addComponent(Author_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    123,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addComponent(Price_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    123,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addComponent(NewEdition_Option,
javax.swing.GroupLayout.PREFERRED_SIZE,                                     93,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addComponent(OldEdition_Option,
javax.swing.GroupLayout.PREFERRED_SIZE,                                     93,
javax.swing.GroupLayout.PREFERRED_SIZE)))

                .addGroup(jPanel1Layout.createSequentialGroup()

                    .addComponent(Update_Button,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    151,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(18, 18, 18)

                    .addComponent(Clear_Button))

                .addGroup(jPanel1Layout.createSequentialGroup()

                    .addGap(62, 62, 62)

                    .addComponent(ReturnHome_Button)))

            .addContainerGap(15, Short.MAX_VALUE))

        );

        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(UpdateBooksLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    27,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(26, 26, 26)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(BookID,    javax.swing.GroupLayout.PREFERRED_SIZE,
25, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(BookID_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                    25,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(20, 20, 20)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(BookName_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                    26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(BookName))
            .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
```

```
                .addComponent(Category)

                .addComponent(Category_Combobox,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    29,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

                .addComponent(Author)

                .addComponent(Author_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    25,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

                .addComponent(Price)

                .addComponent(Price_Field,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    24,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addGap(25, 25, 25)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

                .addComponent(Edition)

                .addComponent(NewEdition_Option))
```

```
            .addGap(18, 18, 18)
            .addComponent(OldEdition_Option)
            .addGap(46, 46, 46)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                .addComponent(Update_Button, javax.swing.GroupLayout.DEFAULT_SIZE, 38, Short.MAX_VALUE)
                .addComponent(Clear_Button,  javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(ReturnHome_Button, javax.swing.GroupLayout.PREFERRED_SIZE, 34, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(52, 52, 52))
        );

        BookLandLabel.setFont(new java.awt.Font("Harrington", 1, 24)); // NOI18N
        BookLandLabel.setIcon(new javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Bookland.png"))); // NOI18N
        BookLandLabel.setText("Book Land");

        Slogan.setFont(new java.awt.Font("Segoe Script", 1, 16)); // NOI18N
```

```
        Slogan.setText("A book worm’s paradise...");


        File.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/File-
icon.png"))); // NOI18N
        File.setText("File");


Import.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.V
K_I, java.awt.event.InputEvent.CTRL_DOWN_MASK));
        Import.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Excel-
icon.png"))); // NOI18N
        Import.setText("Import Excel");
        Import.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ImportActionPerformed(evt);
            }
        });
        File.add(Import);


Export.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.V
K_E, java.awt.event.InputEvent.SHIFT_DOWN_MASK));
```

```
        Export.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Excel-
icon.png"))); // NOI18N

        Export.setText("Export Excel ");

        File.add(Export);


        jMenuBar1.add(File);


        Help.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/help.png")));    //
NOI18N

        Help.setText("Help");

        Help.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                HelpActionPerformed(evt);

            }

        });



ManualGuide.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyE
vent.VK_G, java.awt.event.InputEvent.SHIFT_DOWN_MASK));

        ManualGuide.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/guide-
icon.png"))); // NOI18N

        ManualGuide.setText("User Manual Guide");
```

```
        ManualGuide.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ManualGuideActionPerformed(evt);
            }
        });
        Help.add(ManualGuide);

        jMenuBar1.add(Help);

        setJMenuBar(jMenuBar1);

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(394, 394, 394)
                        .addComponent(Slogan, javax.swing.GroupLayout.PREFERRED_SIZE,
218, javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
                .addGroup(layout.createSequentialGroup()
                    .addGap(337, 337, 337)
                    .addComponent(BookLandLabel)))
            .addContainerGap(258, Short.MAX_VALUE))
        .addGroup(layout.createSequentialGroup()
            .addGap(5, 5, 5)
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(BookLandLabel)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(Slogan)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                .addComponent(jPanel1,          javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jPanel2,          javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addGap(30, 30, 30))
        );

        setBounds(460, 100, 884, 733);
    }// </editor-fold>

    private void ReturnHome_ButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        Homeframe home_frame = new Homeframe();
        home_frame.setVisible(true);
        this.dispose();
    }

    private void Update_ButtonActionPerformed(java.awt.event.ActionEvent evt) {
        //update the record of Table
        try { //checking for nulls
```

```
        if (BookID_Field.getText().isEmpty() || BookName_Field.getText().isEmpty() || Author_Field.getText().isEmpty()
                || Price_Field.getText().isEmpty()) //checking for null values
        {
            JOptionPane.showMessageDialog(this, "Fill all the text fields or select one option from edition", "Error!", JOptionPane.ERROR_MESSAGE);
        } else {
            if (Integer.parseInt(Price_Field.getText()) < 1)//checking for zero or negative values
            {//checking for negative input
                JOptionPane.showMessageDialog(this, "Please input valid values in the field !!", "Error!", JOptionPane.ERROR_MESSAGE);
            } else {
                dm = (DefaultTableModel) DataRecordTable.getModel();
                dm.setValueAt(BookID_Field.getText(), DataRecordTable.getSelectedRow(), 0);
                dm.setValueAt(BookName_Field.getText(), DataRecordTable.getSelectedRow(), 1);
                dm.setValueAt(Category_Combobox.getSelectedItem(), DataRecordTable.getSelectedRow(), 2);
                dm.setValueAt(Author_Field.getText(), DataRecordTable.getSelectedRow(), 3);
                dm.setValueAt(Price_Field.getText(),  DataRecordTable.getSelectedRow(), 5);
                if (NewEdition_Option.isSelected()) {
```

```
                dm.setValueAt(NewEdition_Option.getText(),
DataRecordTable.getSelectedRow(), 4);
            } else if (OldEdition_Option.isSelected()) {
                dm.setValueAt(OldEdition_Option.getText(),
DataRecordTable.getSelectedRow(), 4);
            }
        }
    }

    } catch (NumberFormatException ex) {
        JOptionPane.showMessageDialog(this, "Enter valid input", "Error!",
JOptionPane.ERROR_MESSAGE);
    }


}

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

    if (BookID_Field.getText().equals("") || BookName_Field.getText().equals("") ||
Author_Field.getText().equals("")
        || Price_Field.getText().equals("")) //checking for null values
    {
```

```
        JOptionPane.showMessageDialog(this, "You don't have any values to clear.", "Message", JOptionPane.INFORMATION_MESSAGE); //display message
    } else {
        BookID_Field.setText("");
        BookName_Field.setText("");
        Author_Field.setText("");
        Price_Field.setText("");
        buttonGroup1.clearSelection();
    }

}

private void ImportActionPerformed(java.awt.event.ActionEvent evt) {
    String filename;
    JFileChooser choose = new JFileChooser();
    FileNameExtensionFilter filter = new FileNameExtensionFilter("files", "csv", "txt");
    choose.setFileFilter(filter);
    choose.showOpenDialog(null);
    File f = choose.getSelectedFile();
    filename = f.getAbsolutePath();

    try {
        FileReader fr = new FileReader(filename);
```

```
        BufferedReader br = new BufferedReader(fr);


        DefaultTableModel model = (DefaultTableModel) DataRecordTable.getModel();
        Object[] lines = br.lines().toArray();


        for (int i = 0; i < lines.length; i++) {
            String[] line = lines[i].toString().split(",");
            model.addRow(line);
        }
        JOptionPane.showMessageDialog(rootPane, "Data sucessfully imported from a .csv file.", "Successfully Imported from file path", JOptionPane.INFORMATION_MESSAGE);
    } catch (Exception e) {
        JOptionPane.showMessageDialog(rootPane, "File not found", "Error 404", JOptionPane.ERROR_MESSAGE);
    }
}


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


}


private void ManualGuideActionPerformed(java.awt.event.ActionEvent evt) {
```

```
        // TODO add your handling code here:
        File file = new File("src\\Help\\User Manual Guide.pdf");
        try {
            Desktop.getDesktop().open(file);
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(this, "File not found");
        }
    }

    private void Update_ButtonMouseClicked(java.awt.event.MouseEvent evt) {


    }

    private void DataRecordTableMouseClicked(java.awt.event.MouseEvent evt) {
        int i = DataRecordTable.getSelectedRow();
        TableModel model = DataRecordTable.getModel();
        BookID_Field.setText(model.getValueAt(i, 0).toString());
        BookName_Field.setText(model.getValueAt(i, 1).toString());
        String category = model.getValueAt(i, 2).toString();
        switch (category) {
            case "Biography":
                Category_Combobox.setSelectedIndex(0);
                break;
```

```
            case "Fantasy":
                Category_Combobox.setSelectedIndex(1);
                break;
            case "Mystery":
                Category_Combobox.setSelectedIndex(2);
                break;
            case "Poetry":
                Category_Combobox.setSelectedIndex(3);
                break;
            case "Kid":
                Category_Combobox.setSelectedIndex(4);
                break;
        }

        Author_Field.setText(model.getValueAt(i, 3).toString());
        String Edition = model.getValueAt(i, 4).toString();
        if (Edition.equals("New Editions")) {
            NewEdition_Option.setSelected(true);
        } else {
            OldEdition_Option.setSelected(true);
        }
        Price_Field.setText(model.getValueAt(i, 5).toString());
    }
```

```
    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
```

```
java.util.logging.Logger.getLogger(updateframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(updateframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(updateframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(updateframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new updateframe().setVisible(true);
            }
        });
    }
```

```
    // Variables declaration - do not modify
    private javax.swing.JLabel Author;
    private javax.swing.JTextField Author_Field;
    private javax.swing.JLabel BookID;
    private javax.swing.JTextField BookID_Field;
    private javax.swing.JLabel BookLandLabel;
    private javax.swing.JLabel BookName;
    private javax.swing.JTextField BookName_Field;
    private javax.swing.JLabel Category;
    private javax.swing.JComboBox<String> Category_Combobox;
    private javax.swing.JButton Clear_Button;
    private javax.swing.JTable DataRecordTable;
    private javax.swing.JLabel Edition;
    private javax.swing.JMenuItem Export;
    private javax.swing.JMenu File;
    private javax.swing.JMenu Help;
    private javax.swing.JMenuItem Import;
    private javax.swing.JMenuItem ManualGuide;
    private javax.swing.JRadioButton NewEdition_Option;
    private javax.swing.JRadioButton OldEdition_Option;
    private javax.swing.JLabel Price;
    private javax.swing.JTextField Price_Field;
```

```
    private javax.swing.JButton ReturnHome_Button;
    private javax.swing.JLabel Slogan;
    private javax.swing.JLabel UpdateBooksLabel;
    private javax.swing.JButton Update_Button;
    private javax.swing.ButtonGroup buttonGroup1;
    private javax.swing.JLabel dataRecord;
    private javax.swing.JMenuBar jMenuBar1;
    private javax.swing.JMenuItem jMenuItem2;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JScrollPane jScrollPane1;
    // End of variables declaration
}
```

Search

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package com.coursework;


import java.awt.Desktop;
```

```
import java.awt.HeadlessException;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileReader;
import java.util.ArrayList;
import javax.swing.JFileChooser;
import javax.swing.JOptionPane;
import javax.swing.filechooser.FileNameExtensionFilter;
import javax.swing.table.DefaultTableModel;

/**
 *
 * @author hp
 */
public class SearchFrame extends javax.swing.JFrame {

    ArrayList al;
    DefaultTableModel rowData, searchRowData;

    public SearchFrame() {
        initComponents();

    }
```

```
    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jMenuItem1 = new javax.swing.JMenuItem();
        jMenuItem2 = new javax.swing.JMenuItem();
        jMenuItem3 = new javax.swing.JMenuItem();
        jMenuItem5 = new javax.swing.JMenuItem();
        jPanel1 = new javax.swing.JPanel();
        Searchlabel = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jTextFieldSearch = new javax.swing.JTextField();
        PriceSearch = new javax.swing.JButton();
        jLabel4 = new javax.swing.JLabel();
        ComboBoxCategory = new javax.swing.JComboBox<>();
        CategorySearch = new javax.swing.JButton();
        ClearButton = new javax.swing.JButton();
```

```
ReturnHomeButton = new javax.swing.JButton();
jPanel2 = new javax.swing.JPanel();
jScrollPane1 = new javax.swing.JScrollPane();
DataRecordTable = new javax.swing.JTable();
jLabel6 = new javax.swing.JLabel();
BookLandLabel = new javax.swing.JLabel();
Slogan = new javax.swing.JLabel();
jMenuBar1 = new javax.swing.JMenuBar();
File = new javax.swing.JMenu();
Import = new javax.swing.JMenuItem();
Help = new javax.swing.JMenu();
ManualGuide = new javax.swing.JMenuItem();

jMenuItem1.setText("jMenuItem1");

jMenuItem2.setText("jMenuItem2");

jMenuItem3.setText("jMenuItem3");

jMenuItem5.setText("jMenuItem5");

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setTitle("BOOK LAND ");
```

```
        jPanel1.setBackground(new java.awt.Color(154, 185, 115));

        Searchlabel.setFont(new java.awt.Font("Arial", 1, 16)); // NOI18N
        Searchlabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Search-
icon.png"))); // NOI18N
        Searchlabel.setText("Search");

        jLabel3.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
        jLabel3.setText("Search by Price:");

        PriceSearch.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        PriceSearch.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Search-
icon.png"))); // NOI18N
        PriceSearch.setText("Search Book");
        PriceSearch.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                PriceSearchActionPerformed(evt);
            }
        });

        jLabel4.setFont(new java.awt.Font("Arial", 0, 14)); // NOI18N
```

```
        jLabel4.setText("Search by Category:");


        ComboBoxCategory.setModel(new      javax.swing.DefaultComboBoxModel<>(new
String[] { "Biography", "Fantasy", "Mystery", "Poetry", "Kid" }));


        CategorySearch.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        CategorySearch.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Search-
icon.png"))); // NOI18N
        CategorySearch.setText("Search by Category");
        CategorySearch.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                CategorySearchActionPerformed(evt);
            }
        });


        ClearButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
        ClearButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Clear-
icon.png"))); // NOI18N
        ClearButton.setText("Clear");
        ClearButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ClearButtonActionPerformed(evt);
```

```
        }
    });

    ReturnHomeButton.setFont(new java.awt.Font("Arial", 1, 14)); // NOI18N
    ReturnHomeButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/home-
icon.png"))); // NOI18N
    ReturnHomeButton.setText("Return Home");
    ReturnHomeButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            ReturnHomeButtonActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
```

```
                .addContainerGap()
                .addComponent(jLabel3)
                .addGap(10, 10, 10)
                .addComponent(jTextFieldSearch))
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addComponent(jLabel4)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(ComboBoxCategory,                    0,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(93, 93, 93)
                    .addComponent(Searchlabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    79,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(69, 69, 69)
                    .addComponent(ClearButton,
javax.swing.GroupLayout.PREFERRED_SIZE,                    125,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(jPanel1Layout.createSequentialGroup()
```

```
                        .addGap(69, 69, 69)
                        .addComponent(ReturnHomeButton)))
                    .addGap(0, 0, Short.MAX_VALUE)))
            .addContainerGap())
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(39, 39, 39)
            .addComponent(CategorySearch)
            .addContainerGap(50, Short.MAX_VALUE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
            .addComponent(PriceSearch)
            .addGap(67, 67, 67))
    );
    jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(Searchlabel,   javax.swing.GroupLayout.PREFERRED_SIZE,
25, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(46, 46, 46)
```

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(jTextFieldSearch,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    28,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel3))
            .addGap(18, 18, 18)
            .addComponent(PriceSearch,  javax.swing.GroupLayout.PREFERRED_SIZE,
35, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(31, 31, 31)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                .addComponent(ComboBoxCategory,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    28,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel4))
            .addGap(34, 34, 34)
            .addComponent(CategorySearch,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    35,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(41, 41, 41)
            .addComponent(ClearButton,  javax.swing.GroupLayout.PREFERRED_SIZE,
35, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(68, 68, 68)
```

```
            .addComponent(ReturnHomeButton,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    39,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(32, Short.MAX_VALUE))
        );

        jPanel2.setBackground(new java.awt.Color(154, 185, 115));
        jPanel2.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N

        DataRecordTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {

            },
            new String [] {
                "Book ID", "Book Name", "Category", "Author", "Editions", "price"
            }
        ) {
            boolean[] canEdit = new boolean [] {
                false, false, false, false, false, false
            };

            public boolean isCellEditable(int rowIndex, int columnIndex) {
                return canEdit [columnIndex];
```

```
        }
    });
    jScrollPane1.setViewportView(DataRecordTable);

    jLabel6.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
    jLabel6.setText("Data Record");

    javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
    jPanel2.setLayout(jPanel2Layout);
    jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel2Layout.createSequentialGroup()
            .addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                .addComponent(jScrollPane1,    javax.swing.GroupLayout.DEFAULT_SIZE,
420, Short.MAX_VALUE)
                .addGroup(jPanel2Layout.createSequentialGroup()
                    .addComponent(jLabel6)
                    .addGap(0, 0, Short.MAX_VALUE)))
            .addContainerGap())
    );
```

```
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jLabel6,  javax.swing.GroupLayout.PREFERRED_SIZE,  24,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jScrollPane1,  javax.swing.GroupLayout.PREFERRED_SIZE,
448, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(26, Short.MAX_VALUE))
        );

        BookLandLabel.setFont(new java.awt.Font("Harrington", 1, 28)); // NOI18N
        BookLandLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Bookland.png")
)); // NOI18N
        BookLandLabel.setText("Book Land");

        Slogan.setFont(new java.awt.Font("Segoe Script", 1, 16)); // NOI18N
        Slogan.setText("A book worm’s paradise...");

        File.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/File-
icon.png"))); // NOI18N
```

```
        File.setText("File");



Import.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.V
K_I, java.awt.event.InputEvent.CTRL_DOWN_MASK));
        Import.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Excel-
icon.png"))); // NOI18N
        Import.setText("Import Excel");
        Import.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ImportActionPerformed(evt);
            }
        });
        File.add(Import);


        jMenuBar1.add(File);


        Help.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/help.png"))); //
NOI18N
        Help.setText("Help");
```

```
ManualGuide.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.VK_G, java.awt.event.InputEvent.SHIFT_DOWN_MASK));
        ManualGuide.setIcon(new javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/guide-icon.png"))); // NOI18N
        ManualGuide.setText("User Manual Guide");
        ManualGuide.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ManualGuideActionPerformed(evt);
            }
        });
        Help.add(ManualGuide);

        jMenuBar1.add(Help);

        setJMenuBar(jMenuBar1);

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
```

```
            .addContainerGap()
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addGap(14, 14, 14))
                .addGroup(layout.createSequentialGroup()
                    .addComponent(BookLandLabel)
                    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
            .addComponent(Slogan)
            .addGap(186, 186, 186))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
```

```
            .addGap(7, 7, 7)
            .addComponent(BookLandLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                    29,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(Slogan)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jPanel1,      javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jPanel2,      javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addContainerGap(32, Short.MAX_VALUE))
        );


        setBounds(460, 100, 764, 689);
    }// </editor-fold>

    private void ReturnHomeButtonActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
```

```
        Homeframe home_frame = new Homeframe();
        home_frame.setVisible(true);
        this.dispose();
    }

    private void ManualGuideActionPerformed(java.awt.event.ActionEvent evt) {
        File file = new File("src\\Help\\User Manual Guide.pdf");
        try {
            Desktop.getDesktop().open(file);
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(this, "File not found");
        }
    }

    private void ImportActionPerformed(java.awt.event.ActionEvent evt) {
        String filename;
        JFileChooser choose = new JFileChooser();
        FileNameExtensionFilter filter = new FileNameExtensionFilter("files", "csv", "txt");
        choose.setFileFilter(filter);
        choose.showOpenDialog(null);
        File f = choose.getSelectedFile();
        filename = f.getAbsolutePath();
```

```
        try {
            FileReader fr = new FileReader(filename);
            BufferedReader br = new BufferedReader(fr);

            DefaultTableModel model = (DefaultTableModel) DataRecordTable.getModel();
            Object[] lines = br.lines().toArray();

            for (int i = 0; i < lines.length; i++) {
                String[] line = lines[i].toString().split(",");
                model.addRow(line);
            }
            JOptionPane.showMessageDialog(rootPane, "Data sucessfully imported from a .csv file.", "Successfully Imported from file path", JOptionPane.INFORMATION_MESSAGE);
        } catch (Exception e) {
            JOptionPane.showMessageDialog(rootPane, "File not found", "Error 404", JOptionPane.ERROR_MESSAGE);
        }
    }

    private boolean numberVerification(String number) {
        try {
            int i = Integer.parseInt(number);
```

```
            return true;
        } catch (NumberFormatException ex) {
            return false;
        }
    }

    public void sort() {
        for (int i = 0; i < al.size(); i++) {
            int minPosition = minPositionFinder(al, i);
            swap(al, minPosition, i);
        }
    }

    public int minPositionFinder(ArrayList al, int from) {
        int m = from;
        ArrayList tempa = (ArrayList) al.get(from);
        for (int i = from + 1; i < al.size(); i++) {
            ArrayList tempal = (ArrayList) al.get(i);
            if (Integer.parseInt((String) tempa.get(5)) > Integer.parseInt((String) tempal.get(5))) {
                tempa = tempal;
                m = i;
            }
```

```
        }
        return m;
    }

    public void swap(ArrayList al, int minPos, int from) {
        ArrayList swapList = (ArrayList) al.get(minPos);
        al.set(minPos, al.get(from));
        al.set(from, swapList);
    }

    public static int binarySearch(ArrayList a, int low, int high, int find) {
        if (low <= high) {
            int mid = (low + high) / 2;
            if (Integer.parseInt(a.get(mid).toString()) == find) {
                return mid;
            } else if (Integer.parseInt(a.get(mid).toString()) < find) {
                return binarySearch(a, mid + 1, high, find);
            } else if (Integer.parseInt(a.get(mid).toString()) > find) {
                return binarySearch(a, low, mid - 1, find);
            }
        } else {
            return -1;
        }
```

```
        return 0;
    }

    private void PriceSearchActionPerformed(java.awt.event.ActionEvent evt) {
        try {//checking for nulls
            if (jTextFieldSearch.getText().isEmpty()) {
                JOptionPane.showMessageDialog(this, "Fill all the text fields or select one option from edition", "Error!", JOptionPane.ERROR_MESSAGE);
            } else {
                if (Integer.parseInt(jTextFieldSearch.getText()) < 1)//checking for zero or negative values
                {//checking for negative input
                    JOptionPane.showMessageDialog(this, "Please input valid values in the field !!", "Error!", JOptionPane.ERROR_MESSAGE);
                } else {

                    String searchPrice = jTextFieldSearch.getText();
                    Boolean isNumeric = numberVerification(searchPrice);
                    ArrayList sortedPriceArray;

                    if (isNumeric == true) {
                        //Fetching row and column count from the table
                        int rowCount = DataRecordTable.getRowCount();
```

```
int colCount = DataRecordTable.getColumnCount();

//Initializing a new arraylist al
al = new ArrayList();
for (int i = 0; i < rowCount; i++) {
    ArrayList tempAl = new ArrayList();
    for (int j = 0; j < colCount; j++) {
        //Adding details from the table jTable1 to the arrayList
        tempAl.add(DataRecordTable.getValueAt(i, j));
    }
    //Adding the temporary arraylist tempAl main ArrayList al
    al.add(tempAl);
}
//Calling sort method for selection sorting of the price
this.sort();
//Creating a new arraylist that stores sorted price values
sortedPriceArray = new ArrayList();

for (int i = 0; i < al.size(); i++) {
    ArrayList tempal = (ArrayList) al.get(i);
    //Fetching price from the fourth index of tempAl to create array of sorted
price
    sortedPriceArray.add(tempal.get(5));
```

```
            }

            int find = Integer.parseInt(jTextFieldSearch.getText());
            int low = 0;
            int high = sortedPriceArray.size() - 1;
            //Calling binarySearch method in index variable so that the method returns index of searched data
            int index = binarySearch(sortedPriceArray, low, high, find);

            if (index == -1) {
                jTextFieldSearch.setText("");
                JOptionPane.showMessageDialog(this, "No search result found", "Notice", JOptionPane.INFORMATION_MESSAGE);
            } else {
                //Appending searched data into the search table
                ArrayList searchedArray = (ArrayList) al.get(index);
                String ID = searchedArray.get(0).toString();
                String Name = searchedArray.get(1).toString();
                String Category = searchedArray.get(2).toString();
                String Author = searchedArray.get(3).toString();
                String Edition = searchedArray.get(4).toString();
                String price = searchedArray.get(5).toString();
                String[] row1 = {ID, Name, Category, Author, Edition, price};
```

```
                DefaultTableModel tblModel = (DefaultTableModel) DataRecordTable.getModel();
                while (tblModel.getRowCount() > 0) {
                    tblModel.removeRow(0);
                }
                tblModel.addRow(row1);

                jTextFieldSearch.setText("");
                JOptionPane.showMessageDialog(this, "The searched price is " + price + " of item " + Name, "Sucess", JOptionPane.INFORMATION_MESSAGE);
                    }
                } else {
                    JOptionPane.showMessageDialog(this, "Error! The provided datatype isn't numeric.", "Notice", JOptionPane.INFORMATION_MESSAGE);

                }
            }
        }

    } catch (NumberFormatException ex) {

        JOptionPane.showMessageDialog(this, "Enter valid input", "Error!", JOptionPane.ERROR_MESSAGE);
```

```
    }
  }

  private void CategorySearchActionPerformed(java.awt.event.ActionEvent evt) {
    try {
      String name = "";
      int count = 0;
      if (ComboBoxCategory.getSelectedItem() != "Search By Category") { // checking if the selected category is valid
        for (int i = 0; i < DataRecordTable.getRowCount(); i++) {
          if (DataRecordTable.getValueAt(i, 2).toString().equals(ComboBoxCategory.getSelectedItem().toString())) {
            count = count + 1;
            name += DataRecordTable.getValueAt(i, 0).toString() + ", ";
          }
        }
        if (count == 0) {
          JOptionPane.showMessageDialog(rootPane, "There are no available Books " + ComboBoxCategory.getSelectedItem() + "of this category", "Book Available of this Category", JOptionPane.INFORMATION_MESSAGE);
        } else {
          JOptionPane.showMessageDialog(rootPane, "There are " + count + " " + ComboBoxCategory.getSelectedItem() + " available." + "\n" + "Their name are: " + name, "Available Hotel in this Rating", JOptionPane.INFORMATION_MESSAGE);
```

```
            }
        } else {
            JOptionPane.showMessageDialog(rootPane, "You must select a given book category", "Select an Item", JOptionPane.ERROR_MESSAGE);
        }
    } catch (NullPointerException e) {
        JOptionPane.showMessageDialog(rootPane, "Error", "Error!!", JOptionPane.ERROR_MESSAGE);
    }
}

private void ClearButtonActionPerformed(java.awt.event.ActionEvent evt) {
    jTextFieldSearch.setText("");
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
```

```
        * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
        */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(SearchFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(SearchFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(SearchFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
```

```
java.util.logging.Logger.getLogger(SearchFrame.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new SearchFrame().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel BookLandLabel;
    private javax.swing.JButton CategorySearch;
    private javax.swing.JButton ClearButton;
    private javax.swing.JComboBox<String> ComboBoxCategory;
    private javax.swing.JTable DataRecordTable;
    private javax.swing.JMenu File;
    private javax.swing.JMenu Help;
    private javax.swing.JMenuItem Import;
```

```
    private javax.swing.JMenuItem ManualGuide;
    private javax.swing.JButton PriceSearch;
    private javax.swing.JButton ReturnHomeButton;
    private javax.swing.JLabel Searchlabel;
    private javax.swing.JLabel Slogan;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JMenuBar jMenuBar1;
    private javax.swing.JMenuItem jMenuItem1;
    private javax.swing.JMenuItem jMenuItem2;
    private javax.swing.JMenuItem jMenuItem3;
    private javax.swing.JMenuItem jMenuItem5;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTextField jTextFieldSearch;
    // End of variables declaration
}
```

Delete

```
/*
```

```
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package com.coursework;

import java.awt.Desktop;
import java.awt.HeadlessException;
import java.io.BufferedReader;
import java.io.BufferedWriter;
import java.io.File;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;
import javax.swing.JFileChooser;
import javax.swing.JOptionPane;
import javax.swing.filechooser.FileNameExtensionFilter;
import javax.swing.table.DefaultTableModel;

/**
 *
 * @author hp
```

```
 */
public class Deleteframe extends javax.swing.JFrame {

    boolean errorFound = false;
    boolean fileSaved = true;

    public Deleteframe() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jMenuBar2 = new javax.swing.JMenuBar();
        jMenu3 = new javax.swing.JMenu();
        jMenu4 = new javax.swing.JMenu();
        jPanel1 = new javax.swing.JPanel();
```

```
ReturnHomeButton = new javax.swing.JButton();
DeleteBookLabel = new javax.swing.JLabel();
DeleteRowButton = new javax.swing.JButton();
DropTableButton = new javax.swing.JButton();
jPanel2 = new javax.swing.JPanel();
jScrollPane1 = new javax.swing.JScrollPane();
DataTecordTable = new javax.swing.JTable();
DataRecord = new javax.swing.JLabel();
BookLandLabel = new javax.swing.JLabel();
Slogan = new javax.swing.JLabel();
jMenuBar1 = new javax.swing.JMenuBar();
File = new javax.swing.JMenu();
Import = new javax.swing.JMenuItem();
Export = new javax.swing.JMenuItem();
Help = new javax.swing.JMenu();
manualGuide = new javax.swing.JMenuItem();

jMenu3.setText("File");
jMenuBar2.add(jMenu3);

jMenu4.setText("Edit");
jMenuBar2.add(jMenu4);
```

```
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setTitle("BOOK LAND");

        jPanel1.setBackground(new java.awt.Color(154, 185, 115));

        ReturnHomeButton.setFont(new java.awt.Font("Arial", 1, 18)); // NOI18N
        ReturnHomeButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/home-
icon.png"))); // NOI18N
        ReturnHomeButton.setText("Return Home");
        ReturnHomeButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ReturnHomeButtonActionPerformed(evt);
            }
        });

        DeleteBookLabel.setFont(new java.awt.Font("Arial", 1, 18)); // NOI18N
        DeleteBookLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Delete-
icon.png"))); // NOI18N
        DeleteBookLabel.setText("Delete Book");

        DeleteRowButton.setFont(new java.awt.Font("Arial", 1, 18)); // NOI18N
```

```
        DeleteRowButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Delete-
icon.png"))); // NOI18N
        DeleteRowButton.setText("Delete Row");
        DeleteRowButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                DeleteRowButtonActionPerformed(evt);
            }
        });

        DropTableButton.setFont(new java.awt.Font("Arial", 1, 18)); // NOI18N
        DropTableButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/drop-
icon.png"))); // NOI18N
        DropTableButton.setText("Drop Table");
        DropTableButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                DropTableButtonActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(
```

```
jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(47, 47, 47)
                .addComponent(ReturnHomeButton)
                .addContainerGap(47, Short.MAX_VALUE))
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(71, 71, 71)
                        .addComponent(DeleteBookLabel)
                        .addGap(0, 0, Short.MAX_VALUE))
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addContainerGap()
                        .addComponent(DropTableButton,
javax.swing.GroupLayout.DEFAULT_SIZE,   javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addContainerGap()
                        .addComponent(DeleteRowButton,
javax.swing.GroupLayout.DEFAULT_SIZE,   javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)))
                .addContainerGap())
```

```
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(26, 26, 26)
                .addComponent(DeleteBookLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    35,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(60, 60, 60)
                .addComponent(DeleteRowButton,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    46,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(58, 58, 58)
                .addComponent(DropTableButton,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    46,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
77, Short.MAX_VALUE)
                .addComponent(ReturnHomeButton,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    45,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(36, 36, 36))
        );
```

```
jPanel2.setBackground(new java.awt.Color(154, 185, 115));

DataTecordTable.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {
        "Book ID", "Book Name", "Category", "Author", "Editions", "Price"
    }
) {
    boolean[] canEdit = new boolean [] {
        false, false, false, false, false, false
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});
jScrollPane1.setViewportView(DataTecordTable);

DataRecord.setFont(new java.awt.Font("Arial", 1, 16)); // NOI18N
DataRecord.setText("Data Records");
```

```
        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel2Layout.createSequentialGroup()
                        .addComponent(DataRecord)
                        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addComponent(jScrollPane1)))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(15, 15, 15)
                .addComponent(DataRecord)
                .addGap(18, 18, 18)
```

```
            .addComponent(jScrollPane1,  javax.swing.GroupLayout.PREFERRED_SIZE,
348, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(31, Short.MAX_VALUE))
        );

        BookLandLabel.setFont(new java.awt.Font("Harrington", 1, 24)); // NOI18N
        BookLandLabel.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Bookland.png")
)); // NOI18N
        BookLandLabel.setText("Book Land");

        Slogan.setFont(new java.awt.Font("Segoe Script", 0, 16)); // NOI18N
        Slogan.setText("A book worm’s paradise...");

        File.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/File-
icon.png"))); // NOI18N
        File.setText("File");

Import.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.V
K_I, java.awt.event.InputEvent.CTRL_DOWN_MASK));
        Import.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Excel-
icon.png"))); // NOI18N
```

```
        Import.setText("Import Excel");
        Import.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ImportActionPerformed(evt);
            }
        });
        File.add(Import);


Export.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyEvent.V
K_E, java.awt.event.InputEvent.SHIFT_DOWN_MASK));
        Export.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/Excel-
icon.png"))); // NOI18N
        Export.setText("Export Excel");
        Export.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ExportActionPerformed(evt);
            }
        });
        File.add(Export);


        jMenuBar1.add(File);
```

```
        Help.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/help.png")));    //
NOI18N

        Help.setText("Help");



manualGuide.setAccelerator(javax.swing.KeyStroke.getKeyStroke(java.awt.event.KeyE
vent.VK_G, java.awt.event.InputEvent.SHIFT_DOWN_MASK));

        manualGuide.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/com/coursework/icons/guide-
icon.png"))); // NOI18N

        manualGuide.setText("User Manual Guide");

        manualGuide.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                manualGuideActionPerformed(evt);

            }

        });

        Help.add(manualGuide);


        jMenuBar1.add(Help);


        setJMenuBar(jMenuBar1);


        javax.swing.GroupLayout                layout                =                new
javax.swing.GroupLayout(getContentPane());
```

```
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(304, 304, 304)
                        .addComponent(BookLandLabel))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(355, 355, 355)
                        .addComponent(Slogan)))
                .addContainerGap(269, Short.MAX_VALUE))
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(BookLandLabel,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    29,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(Slogan)
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jPanel2,      javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jPanel1,      javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addContainerGap(24, Short.MAX_VALUE))
        );

        setBounds(460, 100, 856, 602);
    }// </editor-fold>

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

        DefaultTableModel model = (DefaultTableModel) DataTecordTable.getModel();
```

```
        //get selected row index
        try {
            int SelectedRowIndex = DataTecordTable.getSelectedRow();
            model.removeRow(SelectedRowIndex);
            JOptionPane.showMessageDialog(this, "This row has been deleted successfully", "Information", JOptionPane.INFORMATION_MESSAGE);
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(this, "Row has not been seleted or table has not been imported","Information", JOptionPane.INFORMATION_MESSAGE);
        }
    }

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

        Homeframe home_frame = new Homeframe();
        home_frame.setVisible(true);
        this.dispose();

    }

    private void DropTableButtonActionPerformed(java.awt.event.ActionEvent evt) {
        if (DataTecordTable.getSelectedRowCount() == 0) {
```

```
        JOptionPane.showMessageDialog(this, "Nothing to Drop", "Information", JOptionPane.INFORMATION_MESSAGE);
    } else {

        DefaultTableModel dm = (DefaultTableModel) DataTecordTable.getModel();
        dm.getDataVector().removeAllElements();
        dm.fireTableDataChanged();

        JOptionPane.showMessageDialog(this, "Table has been droppes successfully", "Information", JOptionPane.INFORMATION_MESSAGE);

    }
  }

  private void ExportActionPerformed(java.awt.event.ActionEvent evt) {
    errorFound = false;

    JFileChooser fileChooser = new JFileChooser();
    fileChooser.setDialogTitle("Specify a file to Save");
    int userSelection = fileChooser.showSaveDialog(this);
    fileChooser.addChoosableFileFilter((new FileNameExtensionFilter("Txt", ".csv", ".txt")));
```

```
        if (userSelection == JFileChooser.APPROVE_OPTION) {
            File filetosave = fileChooser.getSelectedFile();
            String filePath = filetosave.getPath();
            filetosave = new File(filePath + ".csv");
            try {
                try ( FileWriter fw = new FileWriter(filetosave);  BufferedWriter bw = new BufferedWriter(fw)) {
                    bw.write("Book ID,Book Name,Category,Author,Edition,Price");
                    bw.newLine();
                    for (int i = 0; i < DataTecordTable.getRowCount(); i++) {
                        for (int j = 0; j < DataTecordTable.getColumnCount(); j++) {
                            bw.write(DataTecordTable.getValueAt(i, j).toString() + ",");
                        }
                        bw.newLine();
                    }
                    JOptionPane.showMessageDialog(this, "Loaded Sucessfully", "Sucess", JOptionPane.INFORMATION_MESSAGE);

                }

                fileSaved = true;

                errorFound = false;
```

```
            } catch (HeadlessException | IOException e) {
                JOptionPane.showMessageDialog(null, "Error", "Error",
JOptionPane.ERROR_MESSAGE);
                errorFound = true;
            }

        }
    }

    private void manualGuideActionPerformed(java.awt.event.ActionEvent evt) {
        File file = new File("src\\Help\\User Manual Guide.pdf");
        try {
            Desktop.getDesktop().open(file);
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(this, "File not found");
        }
    }

    private void ImportActionPerformed(java.awt.event.ActionEvent evt) {
        String filename;
        JFileChooser choose = new JFileChooser();
        FileNameExtensionFilter filter = new FileNameExtensionFilter("files", "csv", "txt");
        choose.setFileFilter(filter);
```

```
        choose.showOpenDialog(null);
        File f = choose.getSelectedFile();
        filename = f.getAbsolutePath();

        try {
            FileReader fr = new FileReader(filename);
            BufferedReader br = new BufferedReader(fr);

            DefaultTableModel model = (DefaultTableModel) DataTecordTable.getModel();
            Object[] lines = br.lines().toArray();

            for (int i = 0; i < lines.length; i++) {
                String[] line = lines[i].toString().split(",");
                model.addRow(line);
            }
            JOptionPane.showMessageDialog(rootPane, "Data sucessfully imported from a .csv file.", "Successfully Imported from file path", JOptionPane.INFORMATION_MESSAGE);
        } catch (Exception e) {
            JOptionPane.showMessageDialog(rootPane, "File not found", "Error 404", JOptionPane.ERROR_MESSAGE);
        }
    }
```

```
    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
```

```
java.util.logging.Logger.getLogger(Deleteframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(Deleteframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(Deleteframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(Deleteframe.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Deleteframe().setVisible(true);
            }
        });
    }
```

```
    // Variables declaration - do not modify
    private javax.swing.JLabel BookLandLabel;
    private javax.swing.JLabel DataRecord;
    private javax.swing.JTable DataTecordTable;
    private javax.swing.JLabel DeleteBookLabel;
    private javax.swing.JButton DeleteRowButton;
    private javax.swing.JButton DropTableButton;
    private javax.swing.JMenuItem Export;
    private javax.swing.JMenu File;
    private javax.swing.JMenu Help;
    private javax.swing.JMenuItem Import;
    private javax.swing.JButton ReturnHomeButton;
    private javax.swing.JLabel Slogan;
    private javax.swing.JMenu jMenu3;
    private javax.swing.JMenu jMenu4;
    private javax.swing.JMenuBar jMenuBar1;
    private javax.swing.JMenuBar jMenuBar2;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JMenuItem manualGuide;
    // End of variables declaration
```

```
}
```