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Coding GUI And It's Components

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Coding The Files

```
//Write-->output
public void savetofile(String file) throws IOException{
    File f=new File(file);;
    FileOutputStream s1=new FileOutputStream(f);
    ObjectOutputStream s2= new ObjectOutputStream(s1);
    for(int i=0;i<bCount;i++)
    s2.writeObject(books[i]);

    s1.close();
    s2.close();
}
//read->input
public void LoadFromfile(String filename) throws IOException{
    int index=0;
    File f=new File(filename);
    FileInputStream read= new FileInputStream(f);
    ObjectInputStream readObject=new ObjectInputStream(read);
    try {
    while(true) {
    try {
    Book E=(Book)readObject.readObject();
    }catch(ClassNotFoundException e) {
        System.out.println(e);

    }}

}catch(EOFException e) {
    System.out.println("End of read");
    read.close();
    readObject.close();
}
}
```
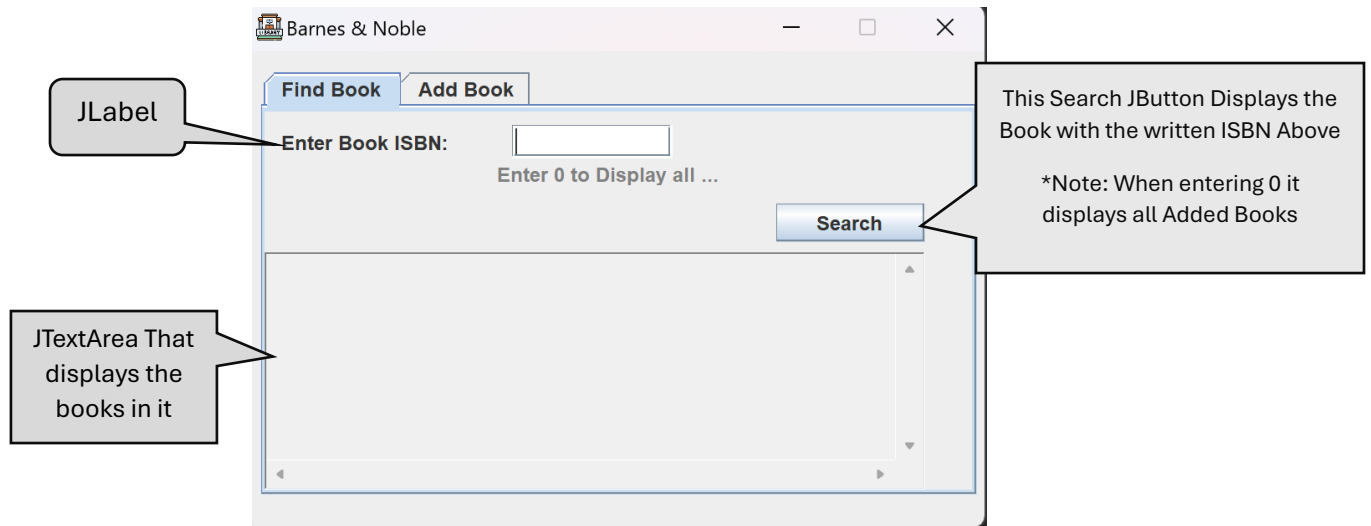
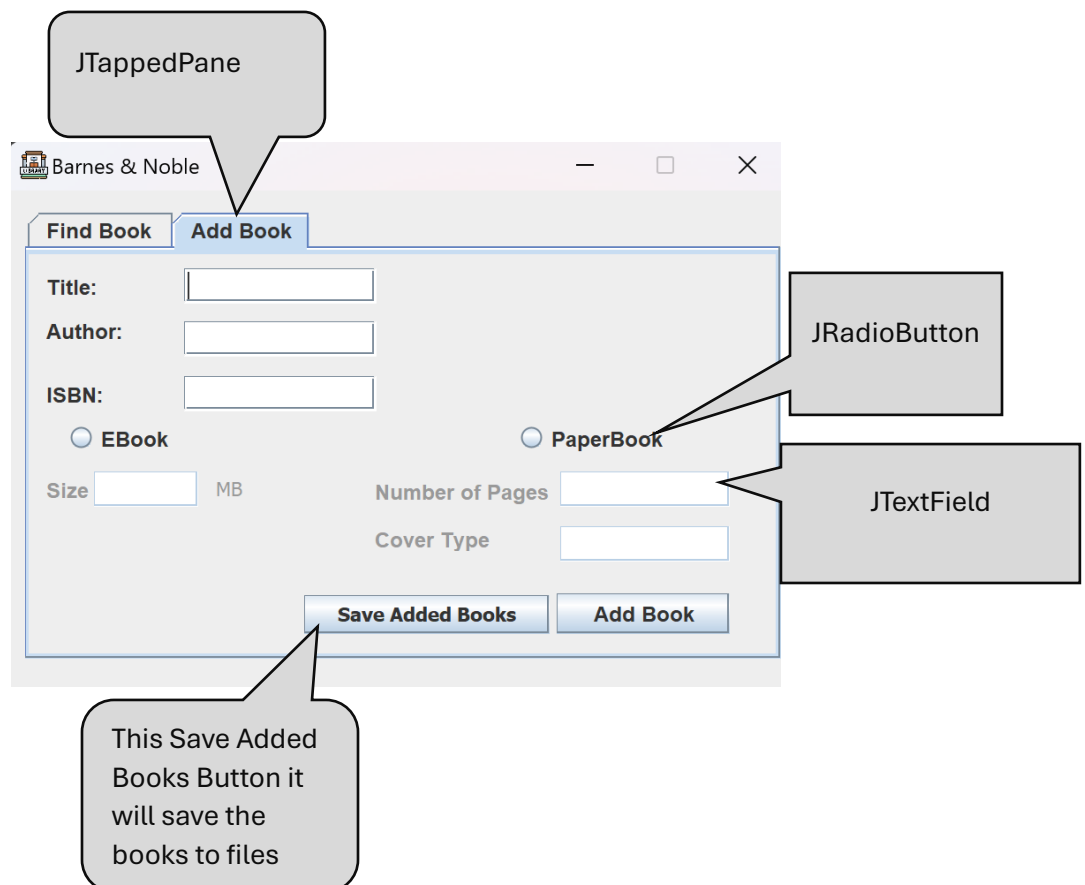When we Use the Save Added Books Button it will save the books to files

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Exceptions

First Frame

JLabel

This Search JButton Displays the Book with the written ISBN Above

*Note: When entering 0 it displays all Added Books

JTextArea That displays the books in it

Second Frame

JTappedPane

JRadioButton

JTextField

This Save Added Books Button it will save the books to files

Checked Exceptions

```
171  public void LoadFromfile(String filename) throws IOException{
172      int index=0;
173      File f=new File(filename);
174      FileInputStream read= new FileInputStream(f);
175      ObjectInputStream readObject=new ObjectInputStream(read);
176      try {
177      while(true) {
178      try {
179      Book E=(Book)readObject.readObject();
180      }catch(ClassNotFoundException e) {
181          System.out.println(e);
182
183      }}
184
185  }catch(EOFException e) {
186      System.out.println("End of read");
187      read.close();
188      readObject.close();
189  }
190
191      }
```

(Class: Library)

Unchecked Exceptions

```
113  SearchButton.addActionListener(new ActionListener() {
114      public void actionPerformed(ActionEvent e) {
115          textArea.setText(null);
116          String WISBN =  textField.getText();
117          try {
118              int ISBN = Integer.parseInt(WISBN);
119              if(ISBN == 0) {
120                  for(int i = 0 ; i<library.bCount; i++) {
121                      textArea.setText(library.displayAllBooks());
122                  }
123
124              } else {
125                  Book found = library.findBook(ISBN);
126                  textArea.setText(found.toString());
127              }
128
129          } catch (NumberFormatException exc1) {
130              System.out.println("Please input whole numbers only!");
131          } catch (NullPointerException exc2) {
132              System.out.println("No book has been found with that ISBN.");
133          }
134      }});
```

(Class: LibraryGui)

Custom Exceptions

```
26  public static boolean addbook(Book b) throws FullOrAddedException{
27      for(int i = 0;i<bCount;i++)
28      if(bCount == books.length || books[i].equals(b.ISBN)) {
29          throw new FullOrAddedException("The library is full or book is already added!");
30      }
31      if(b instanceof PaperBook)
32      books[bCount++] = new PaperBook ((PaperBook) b);
33      else if(b instanceof eBook)
34          books[bCount++] = new eBook ((eBook) b);
35      System.out.println(books[bCount-1]);
36      return true;
37  }
```

```
39  public static boolean removebook (int ISBN) throws NotFoundException {
40      String tempName;
41      for(int i = 0;i < bCount;i++) {
42          if(books[i].equals(ISBN)) {
43              tempName = books[i].name;
44              books[i] = books[bCount-1];
45              System.out.println("Book " + tempName  +" has been removed!");
46              bCount--;
47              return true;
48          }
49      }
50      throw new NotFoundException ("Book has not been found.");
51  }
```

(Class: Library)

Custom Exception Classes

```
1
2  public class FullOrAddedException extends Exception {
3      public FullOrAddedException (String message) {
4          super(message);
5      }
6
7  }
```

```
1
2  public class NotFoundException extends Exception{
3      public NotFoundException(String message) {
4          super(message);
5      }
6
7  }
```