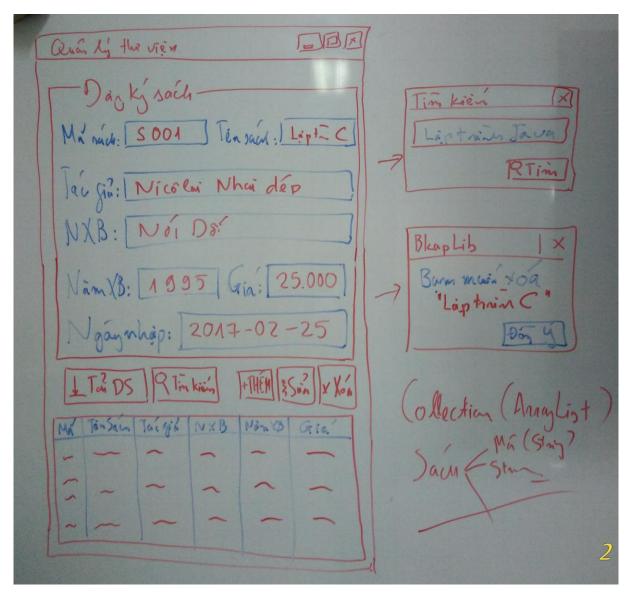# Chuyên đề 1
Ứng dụng Java Form

Mục tiêu

- ✓ Xây dựng được form ứng dụng Java Desktop bằng Swing
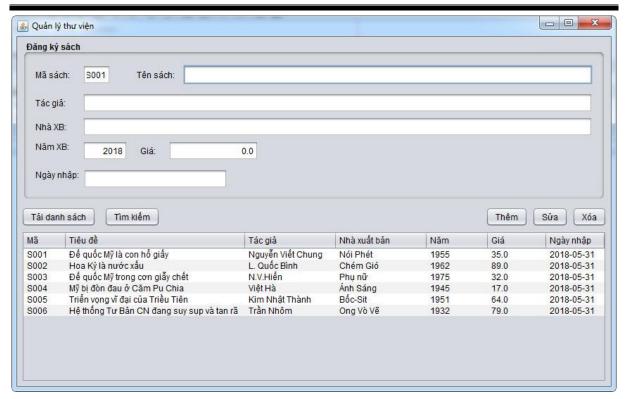- ✓ Tích hợp được thư viện JDBC để kết nối với CSDL.

Bài thực hành:

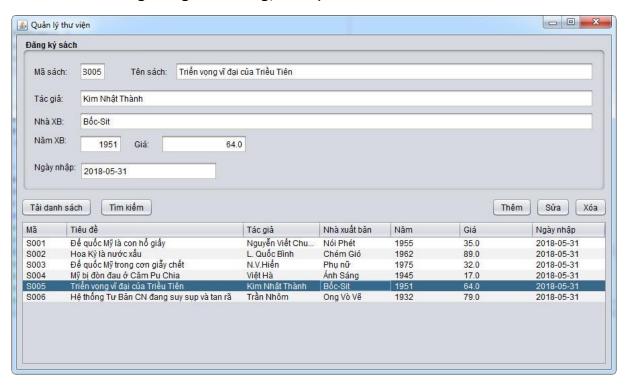**Yêu cầu:** Tạo ứng dụng quản lý thư viện như hình mô tả bên dưới

Form ứng dụng có bố cục như hình:

Khi click vào từng dòng trên bảng, dữ liệu sẽ đổ lên form

Cửa sổ tìm kiếm:

Cửa sổ xác nhận xóa

Tham khảo cấu trúc ứng dụng:

Code tham khảo:

Book.java

package javaform.chuyende1;

```java
/**
 *
 * @author minhvufc
 */
public class Book {

    private String ma;
    private String ten;
    private String tacgia;
    private String nxb;
    private int nam;
    private float gia;
    private String ngaynhap;

    public Book() {
```

```java
    }

    public Book(String ma, String ten, String tacgia, String nxb, int nam, float gia,
String ngaynhap) {
        this.ma = ma;
        this.ten = ten;
        this.tacgia = tacgia;
        this.nxb = nxb;
        this.nam = nam;
        this.gia = gia;
        this.ngaynhap = ngaynhap;
    }

    public String getMa() {
        return ma;
    }

    public void setMa(String ma) {
        this.ma = ma;
    }

    public String getTen() {
        return ten;
    }

    public void setTen(String ten) {
        this.ten = ten;
    }

    public String getTacgia() {
        return tacgia;
    }

    public void setTacgia(String tacgia) {
        this.tacgia = tacgia;
    }

    public String getNxb() {
        return nxb;
    }

    public void setNxb(String nxb) {
        this.nxb = nxb;
    }
```

```java
    public int getNam() {
        return nam;
    }

    public void setNam(int nam) {
        this.nam = nam;
    }

    public float getGia() {
        return gia;
    }

    public void setGia(float gia) {
        this.gia = gia;
    }

    public String getNgaynhap() {
        return ngaynhap;
    }

    public void setNgaynhap(String ngaynhap) {
        this.ngaynhap = ngaynhap;
    }

}
```

BConnection.java

```java
package javaform.chuyende1;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.util.logging.Level;
import java.util.logging.Logger;

/**
 *
 * @author minhvufc
 */
public class BConnection {

    private static final String HOST = "jdbc:sqlserver://localhost\\MINHVUFC-PC\\SQLEXPRESS2014:1433;databaseName=BKLibrary";
```

```java
    private static final String USERNAME = "sa";
    private static final String PASSWORD = "1234$";

    public static Connection getConnection() {
        try {
            Class.forName("com.microsoft.sqlserver.jdbc.SQLServerDriver");
            return DriverManager.getConnection(HOST, USERNAME, PASSWORD);
        } catch (ClassNotFoundException ex) {
            Logger.getLogger(BConnection.class.getName()).log(Level.SEVERE, null, ex);
        } catch (SQLException ex) {
            Logger.getLogger(BConnection.class.getName()).log(Level.SEVERE, null, ex);
        }
        return null;
    }
}
```

BookManager.java

```java
package javaform.chuyende1;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.ArrayList;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.table.DefaultTableModel;

/**
 *
 * @author minhvufc
 */
public class BookManager {

    private final Connection conn;
    ArrayList<Book> lstBook = new ArrayList<>();

    public BookManager() {
        conn = BConnection.getConnection();
        if (conn != null) {
            System.out.println("Kết nối thành công");
```

```java
        } else {
            System.err.println(">>> Kiểm tra kết nối !!!");
        }
    }

    public DefaultTableModel getAllShoes(String bookName) {
        // Reset mảng dữ liệu
        lstBook.removeAll(lstBook);
        String columnNames[] = {"Mã", "Tiêu đề", "Tác giả", "Nhà xuất bản",
"Năm", "Giá", "Ngày nhập"};
        DefaultTableModel dtf = new DefaultTableModel(columnNames, 0);

        try {
            String sql = "SELECT * FROM Book";
            if (bookName != null) {
                sql = "SELECT * FROM Book b WHERE b.ten LIKE N'%" +
bookName + "%' OR b.tacgia LIKE N'%" + bookName + "%'";
            }
            Statement stt = conn.createStatement();
            ResultSet rs = stt.executeQuery(sql);
            while (rs.next()) {
                Book b = new Book(rs.getString("ma"), rs.getString("ten"),
rs.getString("tacgia"),
                        rs.getString("nxb"), rs.getInt("nam"), rs.getFloat("gia"),
rs.getString("ngaynhap"));
                lstBook.add(b);
                dtf.addRow(new Object[]{rs.getString("ma"), rs.getString("ten"),
rs.getString("tacgia"),
                        rs.getString("nxb"), rs.getInt("nam"), rs.getFloat("gia"),
rs.getString("ngaynhap")});
            }
        } catch (SQLException ex) {
            Logger.getLogger(BookManager.class.getName()).log(Level.SEVERE,
null, ex);
        } finally {
            return dtf;
        }
    }

    public int create(Book b) {
        try {
            String sql = "INSERT INTO Book(ma,ten,tacgia,nxb,nam,gia,ngaynhap) VALUES \n"
                    + "(?, ?, ?, ?, ?, ?, ?)";
```

```java
            PreparedStatement pstt = conn.prepareStatement(sql);
            pstt.setString(1, b.getMa());
            pstt.setString(2, b.getTen());
            pstt.setString(3, b.getTacgia());
            pstt.setString(4, b.getNxb());
            pstt.setInt(5, b.getNam());
            pstt.setFloat(6, b.getGia());
            pstt.setString(7, b.getNgaynhap());
            return pstt.executeUpdate();
        } catch (SQLException ex) {
            Logger.getLogger(BookManager.class.getName()).log(Level.SEVERE,
null, ex);
            return 0;
        }
    }

    public int update(Book b) {
        try {
            String sql = "UPDATE Book\n"
                    + "SET ten = ?,\n"
                    + "tacgia = ?,\n"
                    + "nxb = ?,\n"
                    + "nam = ?,\n"
                    + "gia = ?,\n"
                    + "ngaynhap = ?\n"
                    + "WHERE ma = ?";
            PreparedStatement pstt = conn.prepareStatement(sql);
            pstt.setString(1, b.getTen());
            pstt.setString(2, b.getTacgia());
            pstt.setString(3, b.getNxb());
            pstt.setInt(4, b.getNam());
            pstt.setFloat(5, b.getGia());
            pstt.setString(6, b.getNgaynhap());
            pstt.setString(7, b.getMa());
            return pstt.executeUpdate();
        } catch (SQLException ex) {
            Logger.getLogger(BookManager.class.getName()).log(Level.SEVERE,
null, ex);
            return 0;
        }
    }

    public int delete(String id) {
        try {
```

```
        String sql = "DELETE Book WHERE ma = ?";
        PreparedStatement pstt = conn.prepareStatement(sql);
        pstt.setString(1, id);
        return pstt.executeUpdate();
    } catch (SQLException ex) {
        Logger.getLogger(BookManager.class.getName()).log(Level.SEVERE,
null, ex);
        return 0;
    }
  }

}
```

ThongBao.java

```java
package javaform.chuyende1;

/**
 *
 * @author minhvufc
 */
public class ThongBao extends javax.swing.JDialog {

    CallbackDelete cbDel;
    String id;

    interface CallbackDelete {

        public void doDelete(String id);
    }

    /**
     * Creates new form ThongBao
     */
    public ThongBao(java.awt.Frame parent, boolean modal, CallbackDelete cbDel)
{
        super(parent, modal);
        initComponents();
        setLocationRelativeTo(null);
        this.cbDel = cbDel;
    }

    public void setTitle(String id, String title) {
        this.id = id;
        lblName.setText(title);
```

```java
    }

    /**
     * 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() {

        jLabel1 = new javax.swing.JLabel();
        lblName = new javax.swing.JLabel();
        jButton1 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

        jLabel1.setText("Bạn muốn xóa");

        lblName.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
        lblName.setForeground(new java.awt.Color(255, 0, 0));
        lblName.setText("<Tên sách>");

        jButton1.setText("Đồng ý");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        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()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel1)
                    .addComponent(lblName))
```

```java
            .addContainerGap(207, Short.MAX_VALUE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
            .addComponent(jButton1)
            .addContainerGap())
    );
    layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jLabel1)

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

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jButton1)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
    );

    pack();
}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    cbDel.doDelete(this.id);
    dispose();
}

/**
 * @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
     */
```

```java
    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(ThongBao.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ThongBao.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ThongBao.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

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

    /* Create and display the dialog */
    java.awt.EventQueue.invokeLater(new Runnable() {
      public void run() {
        ThongBao dialog = new ThongBao(new javax.swing.JFrame(), true,
null);
        dialog.addWindowListener(new java.awt.event.WindowAdapter() {
          @Override
          public void windowClosing(java.awt.event.WindowEvent e) {
            System.exit(0);
          }
        });
        dialog.setVisible(true);
      }
    });
  }

  // Variables declaration - do not modify
```

```java
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel lblName;
    // End of variables declaration
}
```

TimKiem.java

```java
package javaform.chuyende1;

/**
 *
 * @author minhvufc
 */
public class TimKiem extends javax.swing.JDialog {

    CallbackSearch cb;

    interface CallbackSearch {

        public void doAction(String bookName);
    }

    /**
     * Creates new form TimKiem
     */
    public TimKiem(java.awt.Frame parent, boolean modal, CallbackSearch back)
    {
        super(parent, modal);
        initComponents();
        setLocationRelativeTo(null);

        // Cài đặt đối tượng callback
        this.cb = back;
    }

    /**
     * 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() {
```

```java
txtName = new javax.swing.JTextField();
jButton1 = new javax.swing.JButton();


setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);
    setTitle("Tìm kiếm");
    setLocation(new java.awt.Point(0, 0));

    jButton1.setText("Tìm kiếm");
    jButton1.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton1ActionPerformed(evt);
        }
    });

    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()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADI
NG)
                .addComponent(txtName)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                    .addGap(0, 207, Short.MAX_VALUE)
                    .addComponent(jButton1)))
            .addContainerGap())
    );
    layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(txtName,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

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

```java
            .addComponent(jButton1)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
    );

    pack();
}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    cb.doAction(txtName.getText());
    dispose();
}

/**
 * @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(TimKiem.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(TimKiem.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {
```

```java
java.util.logging.Logger.getLogger(TimKiem.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

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

        /* Create and display the dialog */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                TimKiem dialog = new TimKiem(new javax.swing.JFrame(), true, null);
                dialog.addWindowListener(new java.awt.event.WindowAdapter() {
                    @Override
                    public void windowClosing(java.awt.event.WindowEvent e) {
                        System.exit(0);
                    }
                });
                dialog.setVisible(true);
            }
        });
    }


    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JTextField txtName;
    // End of variables declaration
}
```

QuanLyThuVien.java

```java
package javaform.chuyende1;

import java.util.ArrayList;
import javax.swing.JOptionPane;
import javax.swing.event.ListSelectionEvent;
import javax.swing.event.ListSelectionListener;

/**
 *
 * @author minhvufc
 */
```

```java
public class QuanLyThuVien extends javax.swing.JFrame implements
TimKiem.CallbackSearch, ThongBao.CallbackDelete {

    ArrayList<Book> lstBook;

    /**
     * Creates new form QuanLyThuVien
     */
    public QuanLyThuVien() {
        initComponents();
        setLocationRelativeTo(null);
        loadBooks(null);
    }

    private void loadBooks(String bookName) {
        BookManager bm = new BookManager();
        tblBook.setModel(bm.getAllShoes(bookName));
        lstBook = bm.lstBook;

        if (lstBook.size() > 0) {
            // Cài đặt sự kiện khi chọn item trên bảng
            tblBook.getSelectionModel().addListSelectionListener(new
ListSelectionListener() {
                @Override
                public void valueChanged(ListSelectionEvent e) {
                    int pos = tblBook.getSelectedRow();
                    if (pos < 0) {
                        pos = 0;
                    }
                    txtCode.setText(lstBook.get(pos).getMa());
                    txtName.setText(lstBook.get(pos).getTen());
                    txtAuthor.setText(lstBook.get(pos).getTacgia());
                    txtPublisher.setText(lstBook.get(pos).getNxb());
                    txtYear.setText(String.valueOf(lstBook.get(pos).getNam()));
                    txtPrice.setText(String.valueOf(lstBook.get(pos).getGia()));
                    txtDateOfImport.setText(lstBook.get(pos).getNgaynhap());

                }
            });
            tblBook.changeSelection(0, 0, false, false);
        }
    }

    /**
```

```
 * 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() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    txtCode = new javax.swing.JTextField();
    jLabel2 = new javax.swing.JLabel();
    txtName = new javax.swing.JTextField();
    jLabel3 = new javax.swing.JLabel();
    txtAuthor = new javax.swing.JTextField();
    jLabel4 = new javax.swing.JLabel();
    txtPublisher = new javax.swing.JTextField();
    jLabel5 = new javax.swing.JLabel();
    txtYear = new javax.swing.JFormattedTextField();
    jLabel6 = new javax.swing.JLabel();
    txtPrice = new javax.swing.JFormattedTextField();
    jLabel7 = new javax.swing.JLabel();
    txtDateOfImport = new javax.swing.JFormattedTextField();
    jButton1 = new javax.swing.JButton();
    jButton2 = new javax.swing.JButton();
    jButton3 = new javax.swing.JButton();
    jButton4 = new javax.swing.JButton();
    jButton5 = new javax.swing.JButton();
    jScrollPane1 = new javax.swing.JScrollPane();
    tblBook = new javax.swing.JTable();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    setTitle("Quản lý thư viện");

    jPanel1.setBorder(javax.swing.BorderFactory.createTitledBorder("Đăng ký
sách"));

    jLabel1.setText("Mã sách:");

    txtCode.setText("S001");

    jLabel2.setText("Tên sách:");

    jLabel3.setText("Tác giả:");
```

```
jLabel4.setText("Nhà XB:");

jLabel5.setText("Năm XB:");

txtYear.setFormatterFactory(new
javax.swing.text.DefaultFormatterFactory(new
javax.swing.text.NumberFormatter(new java.text.DecimalFormat("###0"))));
txtYear.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
txtYear.setText("2018");

jLabel6.setText("Giá:");

txtPrice.setFormatterFactory(new
javax.swing.text.DefaultFormatterFactory(new
javax.swing.text.NumberFormatter()));
txtPrice.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
txtPrice.setText("0.0");

jLabel7.setText("Ngày nhập:");

txtDateOfImport.setFormatterFactory(new
javax.swing.text.DefaultFormatterFactory(new
javax.swing.text.DateFormatter(new java.text.SimpleDateFormat("yyyy-MM-
dd"))));

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

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
    .addGroup(jPanel1Layout.createSequentialGroup()
        .addContainerGap()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.LEADING)
                .addComponent(jLabel1)
                .addComponent(jLabel3)
```

```
                    .addComponent(jLabel4)
                    .addComponent(jLabel5))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addComponent(txtCode,
javax.swing.GroupLayout.PREFERRED_SIZE, 40,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(37, 37, 37)
                        .addComponent(jLabel2)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .addComponent(txtName))
                    .addComponent(txtAuthor)
                    .addComponent(txtPublisher)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addComponent(txtYear,
javax.swing.GroupLayout.PREFERRED_SIZE, 64,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(18, 18, 18)
                        .addComponent(jLabel6)
                        .addGap(18, 18, 18)
                        .addComponent(txtPrice,
javax.swing.GroupLayout.PREFERRED_SIZE, 128,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(0, 221, Short.MAX_VALUE))))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addComponent(jLabel7)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(txtDateOfImport,
javax.swing.GroupLayout.PREFERRED_SIZE, 205,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(0, 0, Short.MAX_VALUE)))
                .addContainerGap())
        );
        jPanel1Layout.setVerticalGroup(

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

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.BASELINE)
            .addComponent(jLabel1)
            .addComponent(txtCode,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(jLabel2)
            .addComponent(txtName,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.BASELINE)
            .addComponent(jLabel3)
            .addComponent(txtAuthor,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.BASELINE)
            .addComponent(jLabel4)
            .addComponent(txtPublisher,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.LEADING)
            .addComponent(jLabel5)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.BASELINE)
            .addComponent(txtYear,
javax.swing.GroupLayout.PREFERRED_SIZE,
```

```java
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(jLabel6)
            .addComponent(txtPrice,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)))

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

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignmen
t.LEADING)
            .addComponent(jLabel7)
            .addComponent(txtDateOfImport,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
    );

    jButton1.setText("Tải danh sách");
    jButton1.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton1ActionPerformed(evt);
        }
    });

    jButton2.setText("Tìm kiếm");
    jButton2.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton2ActionPerformed(evt);
        }
    });

    jButton3.setText("Xóa");
    jButton3.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton3ActionPerformed(evt);
        }
    });

    jButton4.setText("Sửa");
    jButton4.addActionListener(new java.awt.event.ActionListener() {
```

```java
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton4ActionPerformed(evt);
        }
    });

    jButton5.setText("Thêm");
    jButton5.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton5ActionPerformed(evt);
        }
    });

    tblBook.setModel(new javax.swing.table.DefaultTableModel(
        new Object [][] {
            {null, null, null, null},
            {null, null, null, null},
            {null, null, null, null},
            {null, null, null, null}
        },
        new String [] {
            "Title 1", "Title 2", "Title 3", "Title 4"
        }
    ));
    jScrollPane1.setViewportView(tblBook);

    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()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jScrollPane1)
                .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addGroup(layout.createSequentialGroup()
                    .addComponent(jButton1)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                    .addComponent(jButton2)
```

```java
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(jButton5)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jButton4)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jButton3)))
        .addContainerGap())
    );
    layout.setVerticalGroup(

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.BASELINE)
                .addComponent(jButton1)
                .addComponent(jButton2)
                .addComponent(jButton3)
                .addComponent(jButton4)
                .addComponent(jButton5))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jScrollPane1,
javax.swing.GroupLayout.DEFAULT_SIZE, 215, Short.MAX_VALUE)
            .addContainerGap())
    );

    pack();
}// </editor-fold>

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
    TimKiem tk = new TimKiem(this, true, this);
    tk.setVisible(true);
}
```

```java
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
    ThongBao tb = new ThongBao(this, true, this);
    tb.setTitle(txtCode.getText(), txtName.getText());
    tb.setVisible(true);
}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    loadBooks(null);
}

private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {
    Book b = new Book(
        txtCode.getText(),
        txtName.getText(),
        txtAuthor.getText(),
        txtPublisher.getText(),
        Integer.parseInt(txtYear.getText()),
        Float.parseFloat(txtPrice.getText()),
        txtDateOfImport.getText());
    BookManager bm = new BookManager();
    int row = bm.create(b);
    if (row > 0) {
        JOptionPane.showMessageDialog(rootPane, "Thêm thành công", "BKAP
Library", JOptionPane.INFORMATION_MESSAGE);
        loadBooks(null);
    } else {
        JOptionPane.showMessageDialog(rootPane, "Thêm THẤT BẠI", "BKAP
Library", JOptionPane.ERROR_MESSAGE);
    }
}

private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
    Book b = new Book(
        txtCode.getText(),
        txtName.getText(),
        txtAuthor.getText(),
        txtPublisher.getText(),
        Integer.parseInt(txtYear.getText()),
        Float.parseFloat(txtPrice.getText()),
        txtDateOfImport.getText());
    BookManager bm = new BookManager();
    int row = bm.update(b);
    if (row > 0) {
```

```java
        JOptionPane.showMessageDialog(rootPane, "Sửa thành công", "BKAP
Library", JOptionPane.INFORMATION_MESSAGE);
        loadBooks(null);
    } else {
        JOptionPane.showMessageDialog(rootPane, "Sửa THẤT BẠI", "BKAP
Library", 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(QuanLyThuVien.class.getName()).log(java.util
.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(QuanLyThuVien.class.getName()).log(java.util
.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(QuanLyThuVien.class.getName()).log(java.util
.logging.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
```

```java
java.util.logging.Logger.getLogger(QuanLyThuVien.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 QuanLyThuVien().setVisible(true);
        }
    });
}

// Variables declaration - do not modify
private javax.swing.JButton jButton1;
private javax.swing.JButton jButton2;
private javax.swing.JButton jButton3;
private javax.swing.JButton jButton4;
private javax.swing.JButton jButton5;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
private javax.swing.JLabel jLabel4;
private javax.swing.JLabel jLabel5;
private javax.swing.JLabel jLabel6;
private javax.swing.JLabel jLabel7;
private javax.swing.JPanel jPanel1;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JTable tblBook;
private javax.swing.JTextField txtAuthor;
private javax.swing.JTextField txtCode;
private javax.swing.JFormattedTextField txtDateOfImport;
private javax.swing.JTextField txtName;
private javax.swing.JFormattedTextField txtPrice;
private javax.swing.JTextField txtPublisher;
private javax.swing.JFormattedTextField txtYear;
// End of variables declaration

@Override
public void doAction(String bookName) {
    loadBooks(bookName);
}
```

```java
    @Override
    public void doDelete(String id) {
        BookManager bm = new BookManager();
        bm.delete(id);
        loadBooks(null);
    }
}
```