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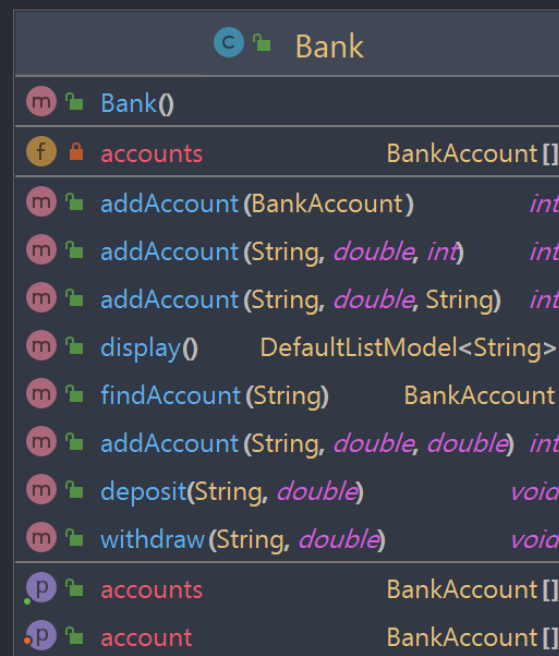
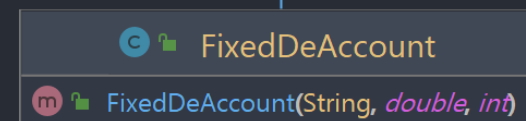
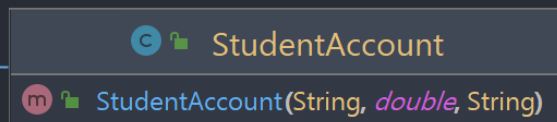
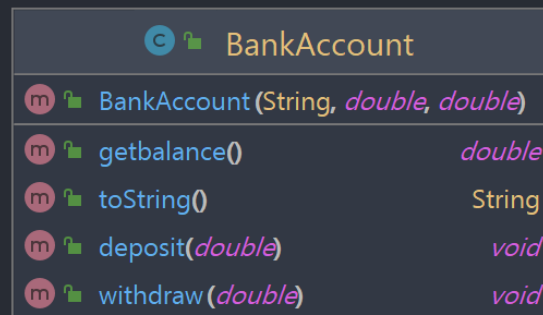
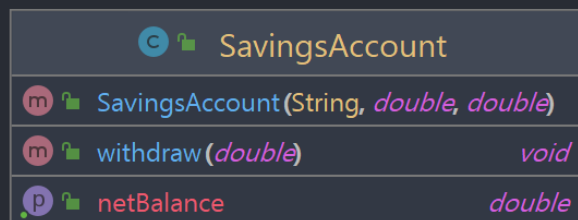
รายงานนี้เป็นส่วนหนึ่งของการเรียนการสอนวิชา Program Fundamental II

ภาคเรียนที่ 2 ปีการศึกษา 2565

มหาวิทยาลัยเกษตรศาสตร์ วิทยาเขตศรีราชา



Banking System



Bank

```
private BankAccount[] accounts = new BankAccount[100];

public int addAccount(BankAccount acc) {
    int i = 0;
    for (i = 0; i < 100; i++) {
        if (getAccounts()[i] == null) {
            break;
        }
    }
    getAccounts()[i] = acc;
    return i;
}

public int addAccount(String name, double balance, double maxWithLimit) {
    SavingsAccount acc = new SavingsAccount(name, balance, maxWithLimit);
    return this.addAccount(acc);
}

public int addAccount(String name, double balance, int countMouth) throws Exception {
    FixedDeAccount acc = new FixedDeAccount(name, balance, countMouth);
    return this.addAccount(acc);
}

public int addAccount(String name, double balance, String institutionName) {
    StudentAccount acc = new StudentAccount(name, balance, institutionName);
    return this.addAccount(acc);
}

public BankAccount findAccount(String accountNum) {
    int i;
    for (i = 0; i < 100; i++) {
        if (getAccounts()[i] == null) {
            break;
        }
        if (getAccounts()[i].acc_num.equals(accountNum)) {
            return getAccounts()[i];
        }
    }
    return null;
}
```

```

public void deposit(String aaccountNum, double amt) throws InvalidAmount, AcNotFound
{
    if (amt < 0) {
        throw new InvalidAmount(s:"Invalid Deposit amount");
    }
    BankAccount temp = findAccount(aaccountNum);
    if (temp == null) {
        throw new AcNotFound(s:"Account Not Found");
    }
    if (temp != null) {
        temp.deposit(amt);
    }
}

public void withdraw(String aaccountNum, double amt) throws MaxBalance, AcNotFound, MaxWithdraw, InvalidAmount {
    BankAccount temp = findAccount(aaccountNum);

    if (temp == null) {
        throw new AcNotFound(s:"Account Not Found");
    }

    if (amt <= 0) {
        throw new InvalidAmount(s:"Invalid Amount");
    }

    if (amt > temp.getbalance()) {
        throw new MaxBalance(s:"Insufficient Balance");
    }
    if (temp != null) {
        temp.withdraw(amt);
    }
}

```

```

public DefaultListModel<String> display() {
    DefaultListModel<String> list = new DefaultListModel<String>();
    int i;

    for (i = 0; i < 100; i++) {
        if (getAccounts()[i] == null) {
            break;
        }
        list.addElement(getAccounts()[i].toString());
    }

    return list;
}

public BankAccount[] getAccounts() {
    return accounts;
}

public void setAccount(BankAccount[] accounts) {
    this.accounts = accounts;
}

```

Bank Account

```
public BankAccount(String name, double balance, double min_balance) {
    this.name = name;
    this.balance = balance;
    this.min_balance = min_balance;
    acc_num = 10000 + (int) (Math.random() * 89999) + "";
}

public void deposit(double amount) {
    balance += amount;
}

public void withdraw(double amount) throws MaxWithdraw, MaxBalance {
    if ((balance - amount) >= min_balance && amount < balance) {
        balance -= amount;
    } else {
        throw new MaxBalance(s:"Insufficient Balance");
    }
}

public double getbalance() {
    return balance;
}

@Override
public String toString() {
    return "Name: " + name + ", Id: " + acc_num + ", Balance: " + balance + ", Type: " + this.getClass();
}
```

Fixed Deposit Account

```
public class FixedDeAccount extends BankAccount {
    int countMonth;

    public FixedDeAccount(String name, double balance, int countMonth) throws Exception {
        super(name, balance, min_balance:5000);
        this.countMonth = countMonth;
        if (balance < 1000)
            throw new Exception(message:"Insufficient Balance");
    }
}
```

Student Account

```
public class StudentAccount extends SavingsAccount {

    String institutionName;

    public StudentAccount(String name, double balance, String institutioName) {
        super(institutioName, balance, maxWithdrawLimit:2000);
        min_balance = 100;
        this.institutionName = institutioName;
    }
}
```

Saving Account

```
public class SavingsAccount extends BankAccount {

    float rate = .05f;
    double maxWithdrawLimit;

    public SavingsAccount(String name, double balance, double maxWithdrawLimit) {
        super(name, balance, min_balance:2000);
        this.maxWithdrawLimit = maxWithdrawLimit;
    }

    public double getNetBalance() {
        double NetBalance = getbalance() + (getbalance() * rate);
        return NetBalance;
    }

    public void withdraw(double amount) throws MaxBalance, MaxWithdraw {
        if (amount < maxWithdrawLimit) {
            super.withdraw(amount);
        } else {
            throw new MaxWithdraw(s:"Maximum Withdraw Limit Exceed");
        }
    }
}
```

File IO

```
public static Bank bank = null;

public static void Read() {
    FileInputStream fis = null;
    ObjectInputStream oin = null;

    try {
        fis = new FileInputStream(name:"data");
        oin = new ObjectInputStream(fis);
        FileIO.bank = (Bank) oin.readObject();
    } catch (Exception e) {
        FileIO.bank = new Bank();
    } finally {
        try {
            if (oin != null)
                oin.close();
            if (fis != null)
                fis.close();
        } catch (IOException e) {
        }
    }
}

public static void Write() {
    try {
        FileOutputStream fout = new FileOutputStream(name:"data");
        ObjectOutputStream out = new ObjectOutputStream(fout);
        out.writeObject(FileIO.bank);
        out.flush();
        fout.close();
    } catch (Exception e) {
    }
}
```


Exception

AccNotFound

```
public class AcNotFound extends Exception {  
    public AcNotFound(String s) {  
        super(s);  
    }  
}
```

MaxWithdraw

```
public class MaxWithdraw extends Exception {  
    public MaxWithdraw(String s) {  
        super(s);  
    }  
}
```

InvalidAmount

```
public class InvalidAmount extends Exception {  
    public InvalidAmount(String s) {  
        super(s);  
    }  
}
```

MaxBalance

```
public class MaxBalance extends Exception {  
    public MaxBalance(String s) {  
        super(s);  
    }  
}
```

Login

```
frame = new JFrame();
frame.setBounds(x:100, y:100, width:450, height:300);
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
frame.setTitle(title:"Banking System");
frame.getContentPane().setLayout(mgr:null);

JLabel label = new JLabel(text:"Banking System");
label.setFont(new Font(name:"Tahoma", Font.BOLD, size:17));
label.setBounds(x:147, y:11, width:151, height:41);
frame.getContentPane().add(label);

JLabel lblLoginScreen = new JLabel(text:"Login Screen");
lblLoginScreen.setFont(new Font(name:"Tahoma", Font.PLAIN, size:13));
lblLoginScreen.setBounds(x:170, y:63, width:101, height:23);
frame.getContentPane().add(lblLoginScreen);

JLabel lblUsername = new JLabel(text:"Username:");
lblUsername.setFont(new Font(name:"Tahoma", Font.PLAIN, size:12));
lblUsername.setBounds(x:55, y:119, width:64, height:23);
frame.getContentPane().add(lblUsername);

JLabel lblPassword = new JLabel(text:"Password:");
lblPassword.setFont(new Font(name:"Tahoma", Font.PLAIN, size:12));
lblPassword.setBounds(x:55, y:159, width:64, height:23);
frame.getContentPane().add(lblPassword);

textField = new JTextField();
textField.setBounds(x:130, y:121, width:86, height:20);
frame.getContentPane().add(textField);
textField.setColumns(columns:10);
textField.setText(t:"admin");


textField_1 = new JPasswordField();
textField_1.setBounds(x:130, y:161, width:86, height:20);
frame.getContentPane().add(textField_1);
textField_1.setColumns(columns:10);
```

```
JButton btnLogin = new JButton(text:"Login");
You, 11 minutes ago | 1 author (You)
btnLogin.addActionListener(new ActionListener() {
    @SuppressWarnings("deprecation")
    public void actionPerformed(ActionEvent e) {
        String user, pass;
        textField.setText(t:"admin"); You, 11 minutes ago • first commit
        user = "admin";
        // user=textField.getText();
        pass = textField_1.getText();
        if ((user.equals(anObject:"admin") && (pass.equals(anObject:"admin")))) {
            JOptionPane.showMessageDialog(frame.getComponent(n:0), message:"Login Successfully");
            frame.setVisible(b:false);

            GUIForm.menu.setVisible(b:true);

        } else {
            JOptionPane.showMessageDialog(frame.getComponent(n:0), message:"Login Failed");
        }
    }
});
btnLogin.setBounds(x:260, y:138, width:89, height:23);
frame.getContentPane().add(btnLogin);
```

GUI Login

 Banking System — □ ×

Banking System

Login Screen

Username:

Password:

Menu

```
FileIO.Read();
JButton btnDepositToAccount = new JButton(text:"Deposit To Account");
btnDepositToAccount.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (!GUIForm.depositacc.isVisible()) {
            GUIForm.depositacc.setVisible(b:true);
        } else {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Already Opened", title:"Warning", messageType:0);
        }
    }
});
btnDepositToAccount.setBounds(x:217, y:213, width:194, height:33);
contentPane.add(btnDepositToAccount);

JButton btnWithdrawFromAccount = new JButton(text:"Withdraw From Account");
btnWithdrawFromAccount.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (!GUIForm.withdraw.isVisible()) {
            GUIForm.withdraw.setVisible(b:true);
        } else {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Already Opened", title:"Warning", messageType:0);
        }
    }
});
btnWithdrawFromAccount.setBounds(x:217, y:256, width:194, height:33);
contentPane.add(btnWithdrawFromAccount);

JButton btnDisplayAccountList = new JButton(text:"Display Account List");
btnDisplayAccountList.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (!GUIForm.displaylist.isVisible()) {
            GUIForm.displaylist.setVisible(b:true);
        } else {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Already Opened", title:"Warning", messageType:0);
        }
    }
});
btnDisplayAccountList.setBounds(x:217, y:300, width:194, height:32);
contentPane.add(btnDisplayAccountList);
```

Menu

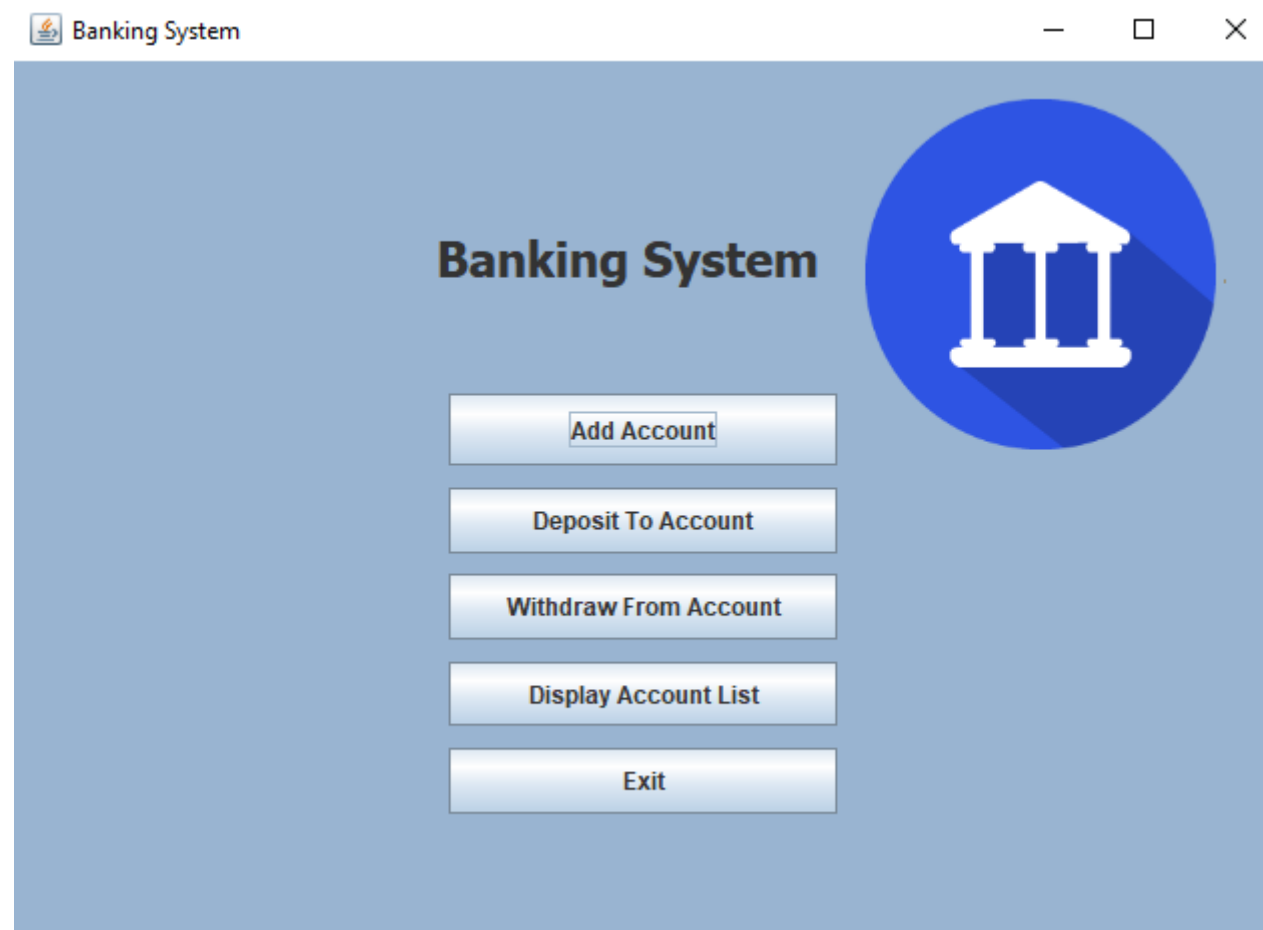
```
JButton btnExit = new JButton(text:"Exit");
btnExit.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent arg0) {
        JOptionPane.showMessageDialog(getComponent(n:0), message:"Thanks For Using");
        FileIO.Write();
        System.exit(status:0);
    }
});
btnExit.setBounds(x:217, y:343, width:194, height:33);
contentPane.add(btnExit);

JButton btnNewButton = new JButton(text:"Add Account");
btnNewButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (!GUIForm.addaccount.isVisible()) {
            GUIForm.addaccount.setVisible(b:true);
        } else {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Already Opened", title:"Warning", messageType:0);
        }
    }
});
btnNewButton.setBounds(x:217, y:166, width:194, height:36);
contentPane.add(btnNewButton);

JLabel lblNewLabel = new JLabel(text:"New label");
lblNewLabel.setIcon(new ImageIcon(Menu.class.getResource(name:"/img/bank.png")));
lblNewLabel.setBounds(x:425, y:16, width:180, height:180);
contentPane.add(lblNewLabel);

ImageIcon icon = new ImageIcon(filename:"/img/bank.png");
```

GUI Menu



Add Account

```
setTitle(title:"Add Account");
setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
setBounds(x:100, y:100, width:450, height:300);
panelAc = new JPanel();
panelAc.setBackground(SystemColor.activeCaption);
panelAc.setBorder(new EmptyBorder(top:5, left:5, bottom:5, right:5));
setContentPane(panelAc);
panelAc.setLayout(mgr:null);

JButton btnAddSavingAccount = new JButton(text:"Add Saving Account");
btnAddSavingAccount.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (!GUIForm.addsavingsaccount.isVisible()) {
            GUIForm.addsavingsaccount.setVisible(b:true);
        } else {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Already Opened", title:"Warning", messageType:0);
        }

        dispose();
    }
});
btnAddSavingAccount.setBounds(x:118, y:56, width:193, height:38);
panelAc.add(btnAddSavingAccount);
JButton btnAddStudentAccount = new JButton(text:"Add Student Account");
btnAddStudentAccount.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (!GUIForm.addstudentaccount.isVisible()) {
            GUIForm.addstudentaccount.setVisible(b:true);
            dispose();
        }

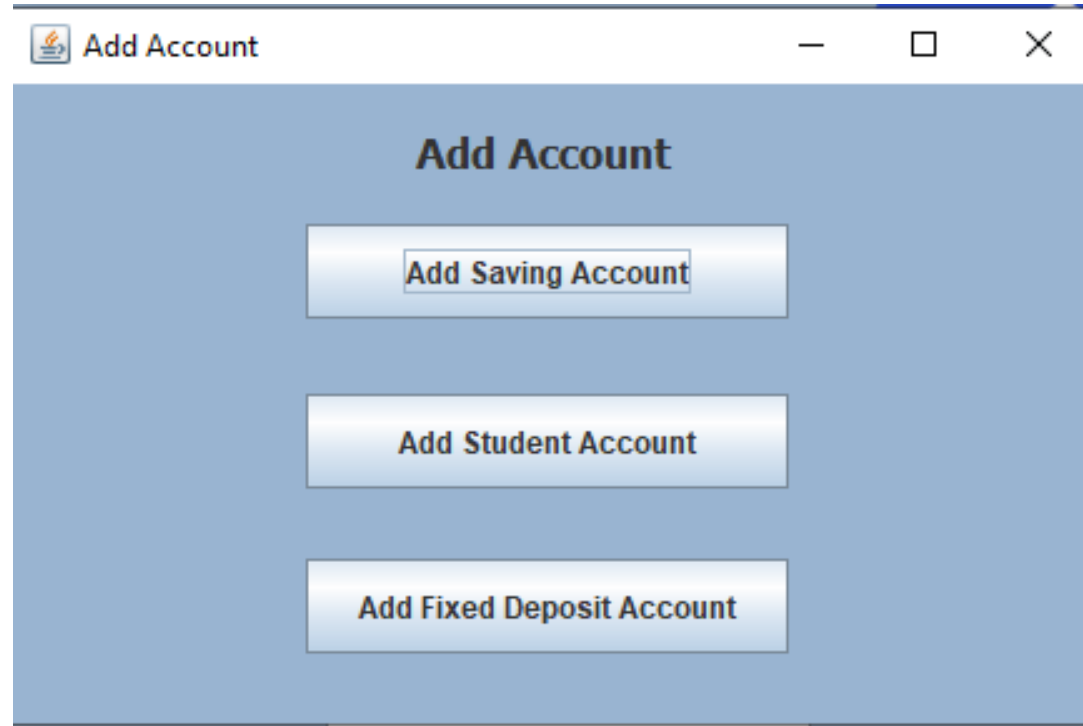
        else {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Already Opened", title:"Warning", messageType:0);
        }
    }
});
```

Add Account

```
JButton button = new JButton(text:"Add Fixed Deposit Account");
button.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (!GUIForm.addFixedDeAccount.isVisible()) {
            GUIForm.addFixedDeAccount.setVisible(b:true);
            dispose();
        } else {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Already Opened", title:"Warning", messageType:0);
        }
    }
});
button.setBounds(x:118, y:190, width:193, height:38);
panelAc.add(button);

JLabel lblAddAccount = new JLabel(text:"Add Account");
lblAddAccount.setFont(new Font(name:"Tahoma", Font.BOLD, size:16));
lblAddAccount.setHorizontalAlignment(SwingConstants.CENTER);
lblAddAccount.setBounds(x:108, y:11, width:210, height:34);
panelAc.add(lblAddAccount);
```


GUI Add Account



Add Saving Account

```
setTitle(title:"Add Savings Account ");
setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
setBounds(x:100, y:100, width:450, height:300);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(top:5, left:5, bottom:5, right:5));
setContentPane(contentPane);
contentPane.setLayout(mgr:null);

JLabel lblAddCurrentAccount = new JLabel(text:"Add Savings Account ");
lblAddCurrentAccount.setFont(new Font(name:"Tahoma", Font.BOLD, size:16));
lblAddCurrentAccount.setHorizontalAlignment(SwingConstants.CENTER);
lblAddCurrentAccount.setBounds(x:10, y:11, width:414, height:34);
contentPane.add(lblAddCurrentAccount);

JLabel lblName = new JLabel(text:"Name:");
lblName.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblName.setBounds(x:10, y:72, width:124, height:14);
contentPane.add(lblName);

textField = new JTextField();
textField.setBounds(x:144, y:69, width:254, height:20);
contentPane.add(textField);
textField.setColumns(columns:10);

JLabel lblBalance = new JLabel(text:"Balance:");
lblBalance.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblBalance.setBounds(x:10, y:118, width:124, height:14);
contentPane.add(lblBalance);

textField_1 = new JTextField();
textField_1.setColumns(columns:10);
textField_1.setBounds(x:144, y:115, width:254, height:20);
contentPane.add(textField_1);

JLabel lblMaximumWithdrawLimit = new JLabel(text:"Maximum Withdraw Limit:");
lblMaximumWithdrawLimit.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblMaximumWithdrawLimit.setBounds(x:10, y:163, width:135, height:14);
contentPane.add(lblMaximumWithdrawLimit);

textField_2 = new JTextField();
textField_2.setColumns(columns:10);
textField_2.setBounds(x:144, y:160, width:254, height:20);
contentPane.add(textField_2);
```

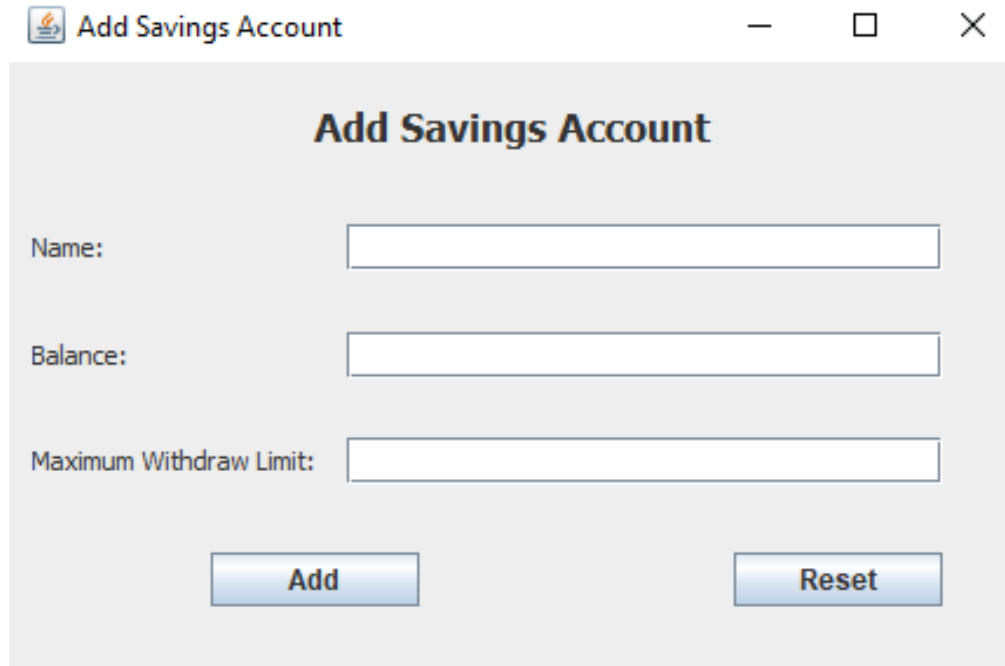
```
btnAdd.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {

        String name = textField.getText();
        double bal = Double.parseDouble(textField_1.getText());
        double maxw = Double.parseDouble(textField_2.getText());
        if (bal < 2000) {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Minimum Limit 2000", title:"Warning", messageType:0);
            textField.setText(t:null);
            textField_1.setText(t:null);
            textField_2.setText(t:null);
        } else {
            if (name == null || bal <= 0 || maxw <= 0) {
                JOptionPane.showMessageDialog(getComponent(n:0), message:"Typing Mismatch!! Try Again");
                textField.setText(t:null);
                textField_1.setText(t:null);
                textField_2.setText(t:null);
            } else {
                int ch = JOptionPane.showConfirmDialog(getComponent(n:0), message:"Confirm?");
                if (ch == 0) {
                    int index = FileIO.bank.addAccount(name, bal, maxw);
                    DisplayList.arr.addElement(FileIO.bank.getAccounts()[index].toString());

                    JOptionPane.showMessageDialog(getComponent(n:0), message:"Added Successfully");
                    dispose();
                } else {
                    JOptionPane.showMessageDialog(getComponent(n:0), message:"Failed");
                    textField.setText(t:null);
                    textField_1.setText(t:null);
                    textField_2.setText(t:null);
                }
            }
        }
    }
});
btnAdd.setBounds(x:86, y:209, width:89, height:23);
contentPane.add(btnAdd);

JButton btnReset = new JButton(text:"Reset");
You, 28 minutes ago | 1 author (You)
btnReset.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField.setText(t:null);
        textField_1.setText(t:null);
        textField_2.setText(t:null);
    }
});
btnReset.setBounds(x:309, y:209, width:89, height:23);
contentPane.add(btnReset);
```

GUI Add Saving Account



The image shows a Java Swing window titled "Add Savings Account". The window has a title bar with a small icon on the left and standard window controls (minimize, maximize, close) on the right. The main content area has a light gray background and a bold title "Add Savings Account" centered at the top. Below the title, there are three input fields arranged vertically. Each field is preceded by a label: "Name:", "Balance:", and "Maximum Withdraw Limit:". At the bottom of the window, there are two buttons: "Add" on the left and "Reset" on the right. Both buttons have a blue gradient and a 3D effect.

Add Savings Account

Name:

Balance:

Maximum Withdraw Limit:

Add **Reset**

Add Student Account

```
setTitle(title:"Add Student Account");
setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
setBounds(x:100, y:100, width:450, height:300);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(top:5, left:5, bottom:5, right:5));
setContentPane(contentPane);
contentPane.setLayout(mgr:null);

JLabel lblAddCurrentAccount = new JLabel(text:"Add Student Account ");
lblAddCurrentAccount.setFont(new Font(name:"Tahoma", Font.BOLD, size:16));
lblAddCurrentAccount.setHorizontalAlignment(SwingConstants.CENTER);
lblAddCurrentAccount.setBounds(x:10, y:11, width:414, height:34);
contentPane.add(lblAddCurrentAccount);

JLabel lblName = new JLabel(text:"Name:");
lblName.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblName.setBounds(x:10, y:72, width:124, height:14);
contentPane.add(lblName);

textField = new JTextField();
textField.setBounds(x:144, y:69, width:254, height:20);
contentPane.add(textField);
textField.setColumns(columns:10);

JLabel lblBalance = new JLabel(text:"Balance:");
lblBalance.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblBalance.setBounds(x:10, y:118, width:124, height:14);
contentPane.add(lblBalance);

textField_1 = new JTextField();
textField_1.setColumns(columns:10);
textField_1.setBounds(x:144, y:115, width:254, height:20);
contentPane.add(textField_1);

JLabel lblMaximumWithdrawLimit = new JLabel(text:"Institution Name:");
lblMaximumWithdrawLimit.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblMaximumWithdrawLimit.setBounds(x:10, y:163, width:135, height:14);
contentPane.add(lblMaximumWithdrawLimit);

textField_2 = new JTextField();
textField_2.setColumns(columns:10);
textField_2.setBounds(x:144, y:160, width:254, height:20);
contentPane.add(textField_2);
```

```
JButton btnAdd = new JButton(text:"Add");
You, 39 minutes ago | 1 author (You)
btnAdd.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {

        String name = textField.getText();
        double bal = Double.parseDouble(textField_1.getText());
        String insname = textField_2.getText();
        You, 38 minutes ago • first commit ...

        if (bal < 100) {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Minimum Limit 100", title:"Warning", messageType:0);
            textField.setText(t:null);
            textField_1.setText(t:null);
            textField_2.setText(t:null);
        } else {
            if (name == null || bal <= 0 || insname == null) {
                JOptionPane.showMessageDialog(getComponent(n:0), message:"Typing Mismatch!! Try Again");
                textField.setText(t:null);
                textField_1.setText(t:null);
                textField_2.setText(t:null);
            } else {
                try {
                    FileIO.bank.addAccount(name, bal, insname);
                } catch (Exception e1) {

                }

                int ch = JOptionPane.showConfirmDialog(getComponent(n:0), message:"Confirm?");
                if (ch == 0) {
                    int index = 0;
                    try {
                        index = FileIO.bank.addAccount(name, bal, insname);
                    } catch (Exception e1) {

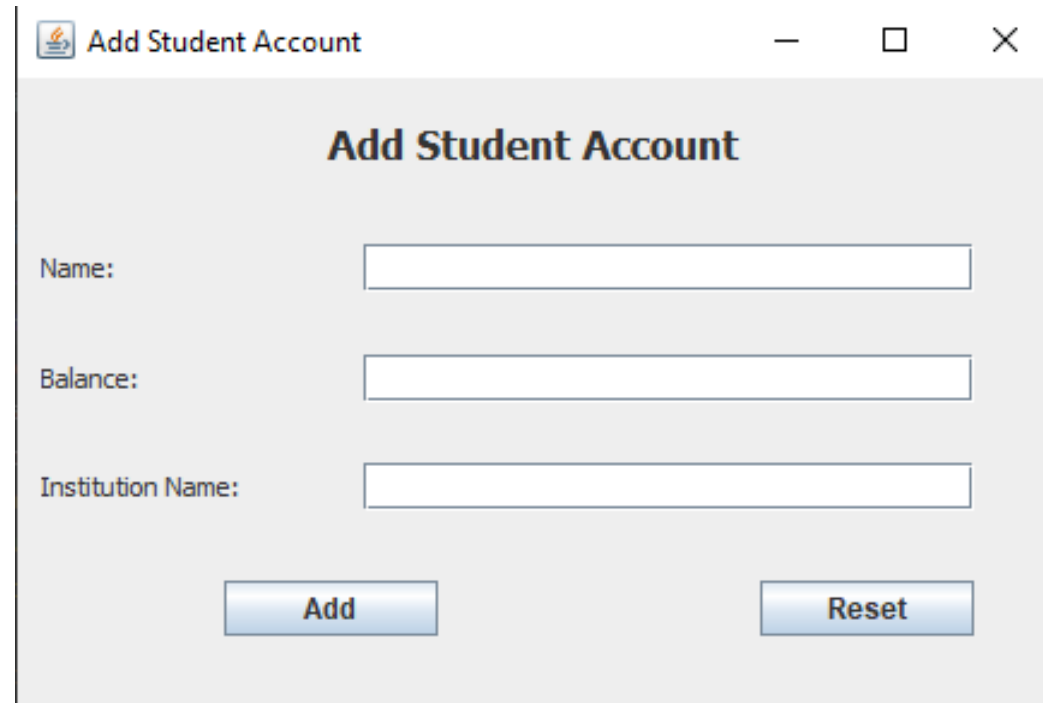
                    }

                    DisplayList.arr.addElement(FileIO.bank.getAccounts()[index].toString());

                    JOptionPane.showMessageDialog(getComponent(n:0), message:"Added Successfully");
                    dispose();
                } else {
                    JOptionPane.showMessageDialog(getComponent(n:0), message:"Failed");
                    textField.setText(t:null);
                    textField_1.setText(t:null);
                    textField_2.setText(t:null);
                }
            }
        }
    }
});
btnAdd.setBounds(x:86, y:209, width:89, height:23);
contentPane.add(btnAdd);

JButton btnReset = new JButton(text:"Reset");
You, 39 minutes ago | 1 author (You)
btnReset.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField.setText(t:null);
        textField_1.setText(t:null);
        textField_2.setText(t:null);
    }
});
```

GUI Add Student Account



The image shows a Java Swing window titled "Add Student Account". The window has a standard title bar with a minimize button, a maximize button (disabled), and a close button. The main content area has a light gray background. At the top center, the text "Add Student Account" is displayed in a bold, black, serif font. Below this, there are three input fields, each preceded by a label: "Name:", "Balance:", and "Institution Name:". Each label is in a black, serif font. The input fields are white rectangles with thin black borders. At the bottom of the window, there are two buttons: "Add" and "Reset". Both buttons are light blue with a gradient and a thin black border. The "Add" button is on the left and the "Reset" button is on the right.

Add Student Account

Name:

Balance:

Institution Name:

Add **Reset**

Add Fixed Deposit Account

```
setTitle(title:"Add Current Account");
setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
setBounds(x:100, y:100, width:450, height:300);
contentPane = new JPanel();
contentPane.setBackground(SystemColor.activeCaption);
contentPane.setBorder(new EmptyBorder(top:5, left:5, bottom:5, right:5));
setContentPane(contentPane);
contentPane.setLayout(mgr:null);

JLabel lblAddCurrentAccount = new JLabel(text:"Add FixedDeposit Account ");
lblAddCurrentAccount.setFont(new Font(name:"Tahoma", Font.BOLD, size:16));
lblAddCurrentAccount.setHorizontalAlignment(SwingConstants.CENTER);
lblAddCurrentAccount.setBounds(x:10, y:11, width:414, height:34);
contentPane.add(lblAddCurrentAccount);

JLabel lblName = new JLabel(text:"Name:");
lblName.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblName.setBounds(x:10, y:72, width:124, height:14);
contentPane.add(lblName);

textField = new JTextField();
textField.setBounds(x:144, y:69, width:254, height:20);
contentPane.add(textField);
textField.setColumns(columns:10);

JLabel lblBalance = new JLabel(text:"Balance:");
lblBalance.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblBalance.setBounds(x:10, y:118, width:124, height:14);
contentPane.add(lblBalance);

textField_1 = new JTextField();
textField_1.setColumns(columns:10);
textField_1.setBounds(x:144, y:115, width:254, height:20);
contentPane.add(textField_1);

JLabel lblMaximumWithdrawLimit = new JLabel(text:"How many months 3-6-12: ");
lblMaximumWithdrawLimit.setFont(new Font(name:"Tahoma", Font.PLAIN, size:11));
lblMaximumWithdrawLimit.setBounds(x:10, y:163, width:135, height:14);
contentPane.add(lblMaximumWithdrawLimit);

textField_2 = new JTextField();
textField_2.setColumns(columns:10);
textField_2.setBounds(x:144, y:160, width:254, height:20);
contentPane.add(textField_2);
```

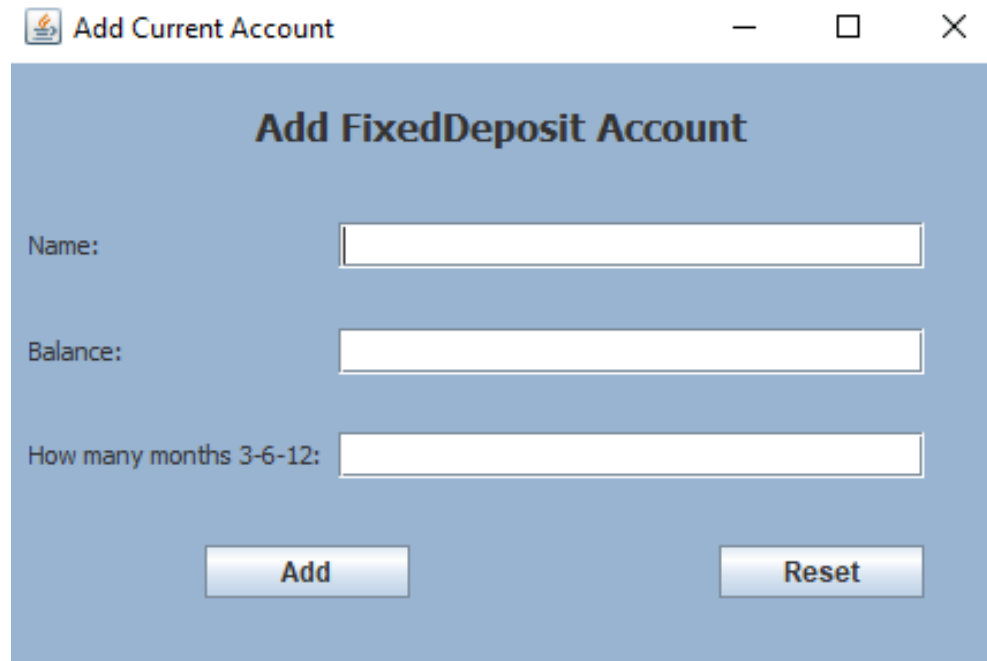
```
JButton btnAdd = new JButton(text:"Add");
...
btnAdd.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        // FileIO file=new FileIO();
        // Bank bank=file.Read();
        String name = textField.getText();
        double bal = Double.parseDouble(textField_1.getText());
        int cm = Integer.parseInt(textField_2.getText());

        if (bal < 1000) {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Minimum Limit 1000", title:"Warning", messageType:0);
            textField.setText(t:null);
            textField_1.setText(t:null);
            textField_2.setText(t:null);
        }

        else {
            if (name == null || bal <= 0 || cm <= 0) {
                JOptionPane.showMessageDialog(getComponent(n:0), message:"Typing Mismatch!! Try Again");
                textField.setText(t:null);
                textField_1.setText(t:null);
                textField_2.setText(t:null);
            } else {
                int ch = JOptionPane.showConfirmDialog(getComponent(n:0), message:"Confirm?");
                if (ch == 0) {
                    int index = 0;
                    try {
                        index = FileIO.bank.addAccount(name, bal, cm);
                    } catch (Exception e1) {
                        e1.printStackTrace();
                    }
                    DisplayList.arr.addElement(FileIO.bank.getAccounts()[index].toString());
                    // file.Write(bank);
                    JOptionPane.showMessageDialog(getComponent(n:0), message:"Success");
                    dispose();
                } else {
                    JOptionPane.showMessageDialog(getComponent(n:0), message:"Failed");
                    textField.setText(t:null);
                    textField_1.setText(t:null);
                    textField_2.setText(t:null);
                }
            }
        }
    }
});
btnAdd.setBounds(x:86, y:209, width:89, height:23);
contentPane.add(btnAdd);

JButton btnReset = new JButton(text:"Reset");
...
btnReset.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField.setText(t:null);
        textField_1.setText(t:null);
        textField_2.setText(t:null);
    }
});
```

GUI Add Fixed Deposit Account



The image shows a graphical user interface window. The title bar at the top reads "Add Current Account" and includes standard window control buttons (minimize, maximize, close). The main content area has a blue background and a title "Add FixedDeposit Account". Below the title, there are three input fields with labels: "Name:", "Balance:", and "How many months 3-6-12:". At the bottom of the window, there are two buttons: "Add" and "Reset".

Add FixedDeposit Account

Name:

Balance:

How many months 3-6-12:

Deposit to Account

```
setTitle(title:"Deposit To Account");
setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
setBounds(x:100, y:100, width:450, height:300);
contentPane = new JPanel();
contentPane.setBackground(SystemColor.activeCaption);
contentPane.setBorder(new EmptyBorder(top:5, left:5, bottom:5, right:5));
setContentPane(contentPane);
contentPane.setLayout(mgr:null);

JLabel lblDepositToAccount = new JLabel(text:"Deposit To Account");
lblDepositToAccount.setFont(new Font(name:"Tahoma", Font.BOLD, size:16));
lblDepositToAccount.setHorizontalAlignment(SwingConstants.CENTER);
lblDepositToAccount.setBounds(x:10, y:11, width:414, height:36);
contentPane.add(lblDepositToAccount);

JLabel lblName = new JLabel(text:"Account Number:");
lblName.setHorizontalAlignment(SwingConstants.RIGHT);
lblName.setBounds(x:0, y:86, width:111, height:14);
contentPane.add(lblName);

textField = new JTextField();
textField.setBounds(x:121, y:83, width:211, height:20);
contentPane.add(textField);
textField.setColumns(columns:10);

textField_1 = new JTextField();
textField_1.setColumns(columns:10);
textField_1.setBounds(x:121, y:147, width:211, height:20);
contentPane.add(textField_1);

JLabel lblAmount = new JLabel(text:"Amount:");
lblAmount.setHorizontalAlignment(SwingConstants.RIGHT);
lblAmount.setBounds(x:0, y:150, width:111, height:14);
contentPane.add(lblAmount);
```

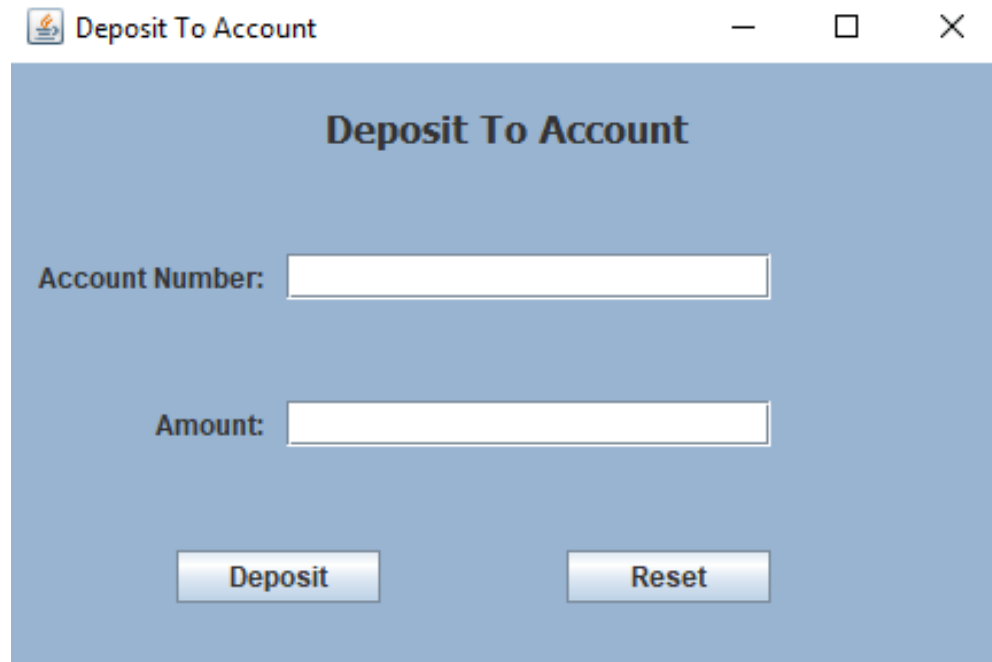
```
JButton btnDeposit = new JButton(text:"Deposit");
btnDeposit.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        String accountNum;
        double amt;
        accountNum = textField.getText();
        amt = Double.parseDouble(textField_1.getText());
        int a = JOptionPane.showConfirmDialog(getComponent(n:0), message:"Confirm");
        if (a == 0) {
            try {
                FileIO.bank.deposit(accountNum, amt);
                JOptionPane.showMessageDialog(getComponent(n:0), message:"Deposit Successful");
                dispose();

                textField.setText(t:null);
                textField_1.setText(t:null);
            } catch (InvalidAmount e1) {
                JOptionPane.showMessageDialog(getComponent(n:0), message:"Sorry! Deposit Amount is Invalid");
            } catch (AcNotFound e1) {
                JOptionPane.showMessageDialog(getComponent(n:0), message:"Sorry! Account is Not Found");
            } finally {
                textField.setText(t:null);
                textField_1.setText(t:null);
            }
        } else {
            textField.setText(t:null);
            textField_1.setText(t:null);
        }
    }
});
btnDeposit.setBounds(x:73, y:212, width:89, height:23);
contentPane.add(btnDeposit);

JButton btnReset = new JButton(text:"Reset");
btnReset.setBounds(x:243, y:212, width:89, height:23);
contentPane.add(btnReset);

btnReset.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField.setText(t:null);
        textField_1.setText(t:null);
    }
});
```


GUI Deposit to Account



Deposit To Account

Account Number:

Amount:

Withdraw From Account

```
setTitle(title:"Withdraw From Account");
setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
setBounds(x:100, y:100, width:450, height:300);
contentPane = new JPanel();
contentPane.setBackground(SystemColor.activeCaption);
contentPane.setBorder(new EmptyBorder(top:5, left:5, bottom:5, right:5));
setContentPane(contentPane);
contentPane.setLayout(mgr:null);

JLabel lblDepositToAccount = new JLabel(text:"Withdraw From Account");
lblDepositToAccount.setFont(new Font(name:"Tahoma", Font.BOLD, size:16));
lblDepositToAccount.setHorizontalAlignment(SwingConstants.CENTER);
lblDepositToAccount.setBounds(x:10, y:11, width:414, height:36);
contentPane.add(lblDepositToAccount);

JLabel lblName = new JLabel(text:"Account Number:");
lblName.setHorizontalAlignment(SwingConstants.RIGHT);
lblName.setBounds(x:0, y:86, width:106, height:14);
contentPane.add(lblName);

textField = new JTextField();
textField.setBounds(x:116, y:83, width:216, height:20);
contentPane.add(textField);
textField.setColumns(columns:10);

textField_1 = new JTextField();
textField_1.setColumns(columns:10);
textField_1.setBounds(x:116, y:147, width:216, height:20);
contentPane.add(textField_1);

JLabel lblAmount = new JLabel(text:"Amount:");
lblAmount.setHorizontalAlignment(SwingConstants.RIGHT);
lblAmount.setBounds(x:10, y:150, width:96, height:14);
contentPane.add(lblAmount);
```

```
JButton btnDeposit = new JButton(text:"Withdraw");
You, 46 minutes ago | 1 author (You)
btnDeposit.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {

        String aaccountNum;
        double amt;
        aaccountNum = textField.getText();
        amt = Double.parseDouble(textField_1.getText());
        try {
            int a = JOptionPane.showConfirmDialog(getComponent(n:0), message:"Confirm?");
            if (a == 0) {

                FileIO.bank.withdraw(aaccountNum, amt);
                JOptionPane.showMessageDialog(getComponent(n:0), message:"Withdraw Successful");
                dispose();
            } else {
                textField.setText(t:null);
                textField_1.setText(t:null);
            }
        } catch (MaxBalance e1) {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Insufficient Balance");
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Failed");
            textField.setText(t:null);
            textField_1.setText(t:null);
        } catch (AcNotFound e1) {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Sorry! Account Not Found");
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Failed");
            textField.setText(t:null);
            textField_1.setText(t:null);
        } catch (MaxWithdraw e1) {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Maximum Withdraw Limit Exceed");
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Failed");
            textField.setText(t:null);
            textField_1.setText(t:null);
        } catch (InvalidAmount e1) {
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Invalid Amount");
            JOptionPane.showMessageDialog(getComponent(n:0), message:"Failed");
            textField.setText(t:null);
            textField_1.setText(t:null);
        }

        textField.setText(t:null);
        textField_1.setText(t:null);
    }
});
btnDeposit.setBounds(x:73, y:212, width:89, height:23);
contentPane.add(btnDeposit);

JButton btnReset = new JButton(text:"Reset");
btnReset.setBounds(x:243, y:212, width:89, height:23);
contentPane.add(btnReset);
You, 47 minutes ago | 1 author (You)
```

GUI Withdraw From Account



A screenshot of a Java Swing window titled "Withdraw From Account". The window has a light blue background and a title bar with standard OS controls (minimize, maximize, close). The main content area contains the title "Withdraw From Account" in bold black text. Below the title are two input fields: "Account Number:" and "Amount:", each followed by a white text box with a thin black border. At the bottom of the window are two buttons: "Withdraw" and "Reset", both with a light blue gradient and a thin black border.

Withdraw From Account

Account Number:

Amount:

Withdraw **Reset**

Display List

```
static DefaultListModel<String> arr = new DefaultListModel<String>();
private JPanel contentPane;

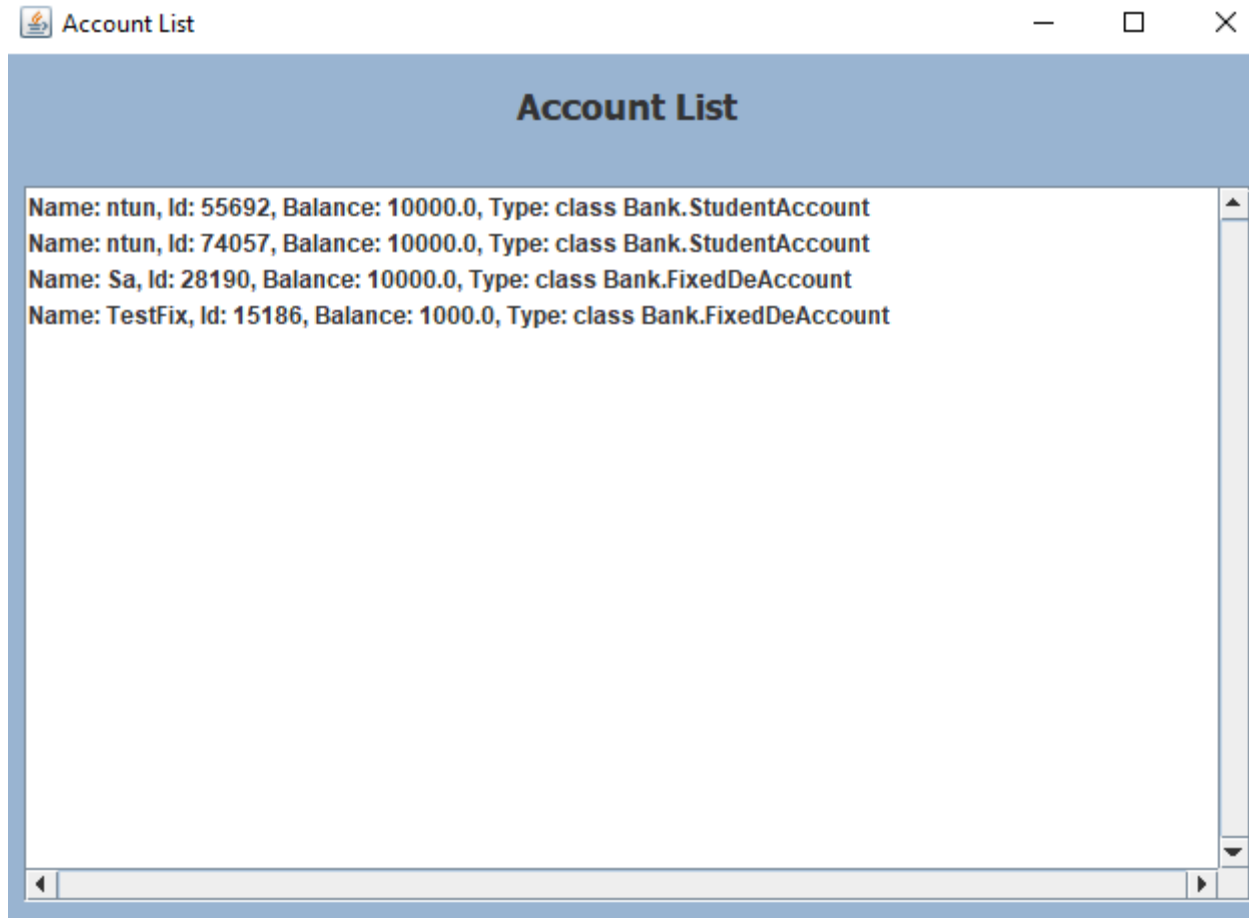
@SuppressWarnings({})
public DisplayList() {
    setTitle(title:"Account List");
    setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
    setBounds(x:100, y:100, width:649, height:474);
    contentPane = new JPanel();
    contentPane.setBackground(SystemColor.activeCaption);
    contentPane.setBorder(new EmptyBorder(top:5, left:5, bottom:5, right:5));
    setContentPane(contentPane);
    contentPane.setLayout(mgr:null);

    JLabel lblAccountList = new JLabel(text:"Account List");
    lblAccountList.setFont(new Font(name:"Tahoma", Font.BOLD, size:18));
    lblAccountList.setHorizontalAlignment(SwingConstants.CENTER);
    lblAccountList.setBounds(x:0, y:11, width:623, height:31);
    contentPane.add(lblAccountList);

    JScrollPane scrollPane = new JScrollPane();
    scrollPane.setVerticalScrollBarPolicy(ScrollPaneConstants.VERTICAL_SCROLLBAR_ALWAYS);
    scrollPane.setHorizontalScrollBarPolicy(ScrollPaneConstants.HORIZONTAL_SCROLLBAR_ALWAYS);
    scrollPane.setBounds(x:10, y:66, width:613, height:358);
    contentPane.add(scrollPane);

    arr = FileIO.bank.display();
    JList<String> list = new JList<String>(arr);
    scrollPane.setViewportView(list);
}
```

GUI Display List



ภาคผนวก

ลิงค์โปรเจกต์ที่นำมาศึกษา <https://github.com/ssoad/BankingSystem>

Link github Project

<https://github.com/Sirapop1071/Project-Banking.git>

Youtube

<https://youtu.be/kzsnhTYKdfI>