**IMPORT** the java swing class

**IMPORT** java awt Event class

**IMPORT** the java awt color class

**IMPORT** the java awt font class

**IMPORT** the java util ArrayList class

**CREATE** the BankGUI class

**DECLARE** mainJFrame, checkBalance\_frame and cancelCredit\_frame

**JFrames** with private access modifiers.

**DECLARE** JPanels with private access modifiers

**DECLARE** the required JButtons with private access modifiers

**DECLARE** the required JLabels with private access modifiers

**DECLARE** the required JTextFields with private access modifiers

**DECLARE** JComboBox that holds the String data type with private access modifiers

**DECLARE** and **INITIALIZE** three array’s that store String data type for storing the day, month, and year for the combo box with private access modifiers.

**DECLARE**  a ArrayList bankcard\_ArrayList that stores objects of the BankCard class with private access

**DECLARE** and **INITIALIZE** all the required icons with private access

**CREATE** a **CONSTRUCTOR** for BankGUI class with no parameters

**DO**

**INITIALIZE** the bankcard\_ArrayList

**INITIALIZE** the required JFrames

**INITIALIZE** the required Fonts

**INITIALIZE** all the required JLabel components with their appropriate texts

**SET** the font of all the JLabel components according to their use

**INITIALIZE** all the required JButton components with the appropriate label and icons

**ADD** action listener to all the JButtons

**INITIALIZE** all the required JTextFields

**INITIALIZE** the combo-box for storing date for withdrawal and credit card that displays the dates from previously initialized arrays

**POSITION** all the JLabel components

**POSITION** all the JTextField components

**POSITION** all the JButton components

**POSITION** all the JComboBox components

**SET** the **visibility** of change user button to false by default

**ADD** the respective components to the mainScreen\_panel

**ADD** the respective components to the addDebitCard\_panel

**ADD** the respective components to the addCreditCard\_panel

**ADD** the respective components to the withdraw\_panel

**ADD** the respective components to the setCredit\_panel

**ADD** the respective components to the checkBalance\_frame

**ADD** the respective components to the cancelCredit\_frame

**SET** the **layout** of mainScreen\_panel to null

**SET** the **size** ofmainScreen\_panel

**SET** the **visibility** of mainScreen\_panel to **true**

**SET** the **layout** of addDebitCard\_panel to null

**SET** the **size** ofaddDebitCard \_panel

**SET** the **visibility** of addDebitCard \_panel to **false**

**SET** the **layout** of addCreditCard\_panel to null

**SET** the **size** ofaddCreditCard \_panel

**SET** the **visibility** of addCreditCard \_panel to **false**

**SET** the **layout** of setCredit\_panel to null

**SET** the **size** ofsetCredit \_panel

**SET** the **visibility** of setCredit\_panel to **false**

**SET** the **layout** of withdraw\_panel to null

**SET** the **size** ofwithdraw\_panel

**SET** the **visibility** of withdraw\_panel to **false**

**ADD** mainScreen\_panel to mainJFrame

**ADD** addDebitCard\_panel to mainJFrame

**ADD** addCreditCard\_panel to mainJFrame

**ADD** setCredit\_panel to mainJFrame

**ADD** withdraw\_panel to mainJFrame

**ADD** setCredit\_panel to mainJFrame

**SET** the default close operation for mainJFrame

**SET** the layout of mainJFrame to **null**

**SET** the size of mainJFrame

**SET** the relative location of mainJFrame to **null**

**SET** the resizable value of mainJFrame to **false**

**SET** the visibility of mainJFrame to **true**

**SET** the layout of checkBalance\_frame to **null**

**SET** the size of checkBalance\_frame

**SET** the relative location of checkBalance\_frame to **null**

**SET** the resizable value of checkBalance\_frame to **false**

**SET** the visibility of checkBalance\_frame to **false**

**SET** the layout of cancelCredit\_frame to **null**

**SET** the size of cancelCredit \_frame

**SET** the relative location of cancelCredit \_frame to **null**

**SET** the resizable value of cancelCredit \_frame to **false**

**SET** the visibility of cancelCredit\_frame to **false**

**END**

**CREATE** a public method actionPerformed with the ActionEvent e parameter with no return type

**DO**

**INITIALIZE** a string named getClientName that stores the name written in the ClientName\_textField

**IF** addClientNameMainScreen\_button is pressed

**IF** clientName is empty

**DISPLAY** an error message

**ELSE**

**SET** the client’s name for all the panels

**SET** the visibility of add client button to **false**

**SET** the visibility of instruction label to **false**

**SET** the visibility of clientName JTextField to **false**

**SET** the visibility of change client button to **true**

**ELSE IF** changeClientNameMainScreen\_button is pressed

**SET**  text of welcomeUserMainScreen\_lablel back to default

**SET** the visibility of add client button and text field to **true**

**SET** the visibility of change client name button to **false**

**SET** the value of clientName to an empty string

**ELSE IF** addDebitCardMainScreen\_button is pressed

**IF** clientName is empty

**DISPLAY** an error message

**ELSE**

**SET** the visibility of the mainScreen\_panel to **false**

**SET** the visibility of addDebitCard\_panel to **true**

**ELSE IF** setCreditLimitMainScreen\_button is pressed

**INITIALIZE** creditExists Boolean as **false**

**IF** clientName is empty

**DISPLAY** an error message

**ELSE**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of CreditCard Class

**SET** creditExists to **true**

**IF** creditExists is **true**

**SET** the visibility of the mainScreen\_panel to **false**

**SET** the visibility of setCredit\_panel to **true**

**ELSE**

**DISPLAY** an error message

**ELSE IF** checkBalanceMainScreen\_button is pressed

**INITIALIZE** debitExists Boolean as **false**

**IF** clientName is empty

**DISPLAY** an error message

**ELSE**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of DebitCard Class

**CAST** a BankCard object as a DebitCard object and assign it to the DebiCard obj

**SET** the text of balance amount in withdraw screen using the get\_balance method in DebitCard class

**SET** debitExists to **true**

**IF** debitExists is **false**

**Display** an error message

**Else**

**SET** check setBalance\_frame visibility to **true**

**ELSE IF** debitCardInfoMainScreen\_button is pressed

**INITIALIZE** debitExists Boolean to **false**

**IF** clientName is empty

**DISPLAY** an error message

**ELSE**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of DebitCard Class

**CAST** a BankCard object as a DebitCard object and assign it to the DebiCard obj

**CALL** the display method from DebitCard class using the DebitCard Object

**SET** debitExists to **true**

**IF** debitExists is **false**

**DISPLAY** an error message

**ELSE IF** creditCardInfoMainScreen\_button is pressed

**INITIALIZE** cardExists Boolean to **false**

**IF** clientName is empty

**DISPLAY** an error message

**ELSE**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of CreditCard Class

**CAST** a BankCard object as a CreditCard object and assign it to the CreditCard obj

**CALL** the display method from CreditCard class using the CrediCard Object

**SET** creditExists to **true**

**IF** creditExists is **false**

**DISPLAY** an error message

**ELSE IF** withdrawMainScreen\_button is pressed

**INITIALIZE** debitExists Boolean to **false**

**IF** clientName Is empty

**DISPLAY** an error message

**ELSE**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of DebitCard Class

**CAST** a BankCard object as a DebitCard object and assign it to the DebiCard obj

**SET** balance label to current balance using the get balance method

**SET** debitExists to **true**

**IF** debitExists is **true**

**SET** visibility of mainScreen\_panel to **false**

**SET** visibility of withdrawScreen\_panel to **true**

**ELSE**

**DISPLAY** an error message

**ELSE IF** exitAddDebit\_button is pressed

**SET** the visibility of addDebit\_panel to **false**

**SET** the visibility of mainScreen\_panel to **true**

**ELSE IF** clearAddDebit\_button is pressed

**SET** the text of all text fields to empty

**Display** success option pane

**ELSE IF** exitAddCredit\_button is pressed

**SET** the visibility of addCredit\_panel to **false**

**SET** the visibility of mainScreen\_panel to **true**

**ELSE IF** clearAddCredit\_button is pressed

**SET** the text of all text fields to empty

**Display** success option pane

**ELSE IF** setCredit\_button is pressed

**SET** the visibility of setCredit\_panel to **false**

**SET** the visibility of mainScreen\_panel to **true**

**ELSE IF** clearSetCredit\_button is pressed

**SET** the text of all text fields to empty

**Display** success option pane

**ELSE IF** exitWithdraw\_button is pressed

**SET** the visibility of Withdraw\_panel to **false**

**SET** the visibility of mainScreen\_panel to **true**

**ELSE IF** clearWithdraw\_button is pressed

**SET** the text of all text fields to empty

**Display** success option pane

**ELSE IF** addDebitCard\_button is pressed

**TRY**

**GET** the values of issuer bank and bank account using t he getText method

**GET** the value of cardID, balanceAmount and pinNumber using the getText method and convert it to integer using the parseInt method

**SET** the value of debitExists Boolean as **false**

**IF** any fields are empty

**DISPLAY** an error message

**ELSE**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of DebitCard Class

**DISPLAY** debit exists error

**SET** debitExists to **true**

**IF** debitExists is false

**CREATE** a new debit card object and call the DebitCard constructor

**ADD** the object to the ArrayList

**DISPLAY** success dialog

**SET** addDebitCard\_panel visible to **false**

**SET** mainScreen\_panel visible to **true**

**SET** debitExists to **true**

**DISPLAY** a success message

**CATCH** any numberFormatException

**DISPLAY** an error message

**ELSE IF** withdraw\_button is pressed

**TRY**

**GET** the values of cardId, withdrawalAmount and pinNumber from their respective textFields and convert them to integer using pareInt

**GET** the selected day, month and year values from the combo box and concatenate it to a single string date

**INITIALIZE** a DebitCard object debitCard\_obj as **null**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of DebitCard Class **and** user input cardId is equal to the DebitCard cardId

**CAST** a BankCard object as a DebitCard object and assign it to the DebiCard obj

**IF** the debitCard\_obj is **null**

**IF** user input pin number is equal to DebitCard pin number **and** withdrawal amount is less than or equal to balance amount

**CALL** the withdraw method using debitCard\_obj

**DISPLAY** the success message

**ELSE**

**DISPLAY** an error message

**ELSE**

**DISPLAY** debit not found error

**CATCH** any numberFormatError

**DISPLAY** an error message

**ELSE IF** cancelCreditMainScreen\_button is pressed

**IF** clientName is empty

**DISPLAY** an error message

**ELSE**

**SET** the visibility of cancelCredit\_frame to **true**

**ELSE IF** addCreditCard\_button

**TRY**

**GET** the values of issuerBank and bank account from their text fields

**GET** the values of card Id, balance amount and CVC number from their text fields and convert it to integer using the parseInt method

**GET** the value of interest rate from its text field and convert it to a double using the parseDouble method

**GET** the day, month and year from their combo box and concatenate to a single String date

**INITIALIZE** the value of Boolean creditExists as **false**

**IF** issuer bank or bank account is **empty**

**DISPLAY** an error message

**ELSE**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of CreditCard Class and card Id is equal to the BankCard class

**DISPLAY** card already exists dialog

**SET** creditExists to **true**

**IF** creditExists is **false**

**INITIALIZE** a new credit card object and pass the required parameters to the constructor

**ADD** the object to the Array List

**DISPLAY** success dialog

**SET** the visibility of add Credit panel to **false**

**SET** the visibility of mainScreen panel to **true**

**CATCH** any numberFormatException

**DISPLAY** an error message

**ELSE IF** setCredit\_button is pressed

**INITIALIZE** the Boolean value of creditIsGranted as **false**

**TRY**

**GET** the values of cardID, credit limit and grace period from the text field and convert them to integer using parseInt

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of CreditCard Class and card Id is equal to the BankCard class

**CAST** a BankCard object as a CreditCard object and assign it to the CreditCard obj

**CALL** the setCredit method from CreditCard class using the CrediCard Object

**SET** creditIsGranted to **true**

**IF** creditIsGranted is **false**

**DISPLAY** an error messge

**ELSE**

**DISPLAY** success message

**SET** the visibility of setCredit panel to **false**

**SET** the visibility of mainScreen\_panel to **true**

**CATCH** any number format exception

**DISPLAY** an error message

**ELSE IF** cancelCredit\_button is pressed

**TRY**

**GET** the value of card id from the textfield and convert it into

Integer using the parseInt method

**INITIALIZE** a creditCard\_obj as **null**

**ITERATE** over BankCard object in bankcard\_ArrayList

**IF** the object is of CreditCard Class and card Id is equal to the BankCard class

**CAST** a BankCard object as a CreditCard object and assign it to the CreditCard obj

**IF** creditCard\_obj is not **null**

**CALL** the cancelCreditCard method

**DISPLAY** a success dialog

**SET** the visible of cancel credit frame to **false**

**ELSE**

**DISPLAY** card id not found error

**CATCH** any number format exception

**DISPLAY** an error message

**END DO**

**DECLARE** the static main method

**DO**

**CREATE** a new BankGUI object

**END DO**

**END**