

ATM Interface -Java Project

A GUI-based ATM system with
authentication, transactions, and PIN
management

Introduction

- This project simulates an ATM interface using Java Swing.
- Features:
 - -User Authentication
 - -Withdraw, Deposit, Balance Inquiry
 - -Change PIN
 - -GUI-based Interface

Imported Libraries & Purpose

- `import javax.swing.*` -For GUI Components
- `import java.awt.*` -For Layout & Styling
- `import java.awt.event.*` -For Button Click Handling
- `import java.util.HashMap` -For Storing User Accounts

Class Overview

- The program consists of three main classes:
- 1. Account -Manages user details
- 2. ATMGUI -Handles Login UI
- 3. ATMOperations -Manages ATM transactions

Account Class

- Stores Account Details:
- -Account Number, PIN, Balance
- Functions:
- ✓authenticate() -Validates PIN
- ✓getBalance() -Returns account balance
- ✓deposit() -Adds funds
- ✓withdraw() -Deducts funds
- ✓changePin() -Updates PIN

ATMGUI Class (Login Screen)

- Handles User Login:
- -Takes Card Number & PIN
- -Validates Input
- -Switches to ATM Menu on Success
- Components:
- ✓JTextField & JPasswordField for Input
- ✓JButton for Login
- ✓JLabel for Status Message

ATMOperations Class (Main Menu)

- Handles ATM Transactions:
 - ✓ Withdraw Money
 - ✓ Deposit Money
 - ✓ Check Balance
 - ✓ Change PIN
 - ✓ Logout

Withdraw Function

- ✓ Prompts user for amount
- ✓ Checks if sufficient balance is available
- ✓ Deducts amount & updates balance
- ✓ Displays success or failure message

Deposit Function

- ✓ Prompts user for deposit amount
- ✓ Adds amount to account balance
- ✓ Displays success message

Check Balance Function

- ✓ Fetches current balance
- ✓ Displays balance to the user

Change PIN Function

- ✓ Prompts user for a new PIN
- ✓ Updates stored PIN if valid

Logout Function

- ✓ Closes ATMOperations window
- ✓ Resets login screen for next user

Full-Screen Mode Implementation

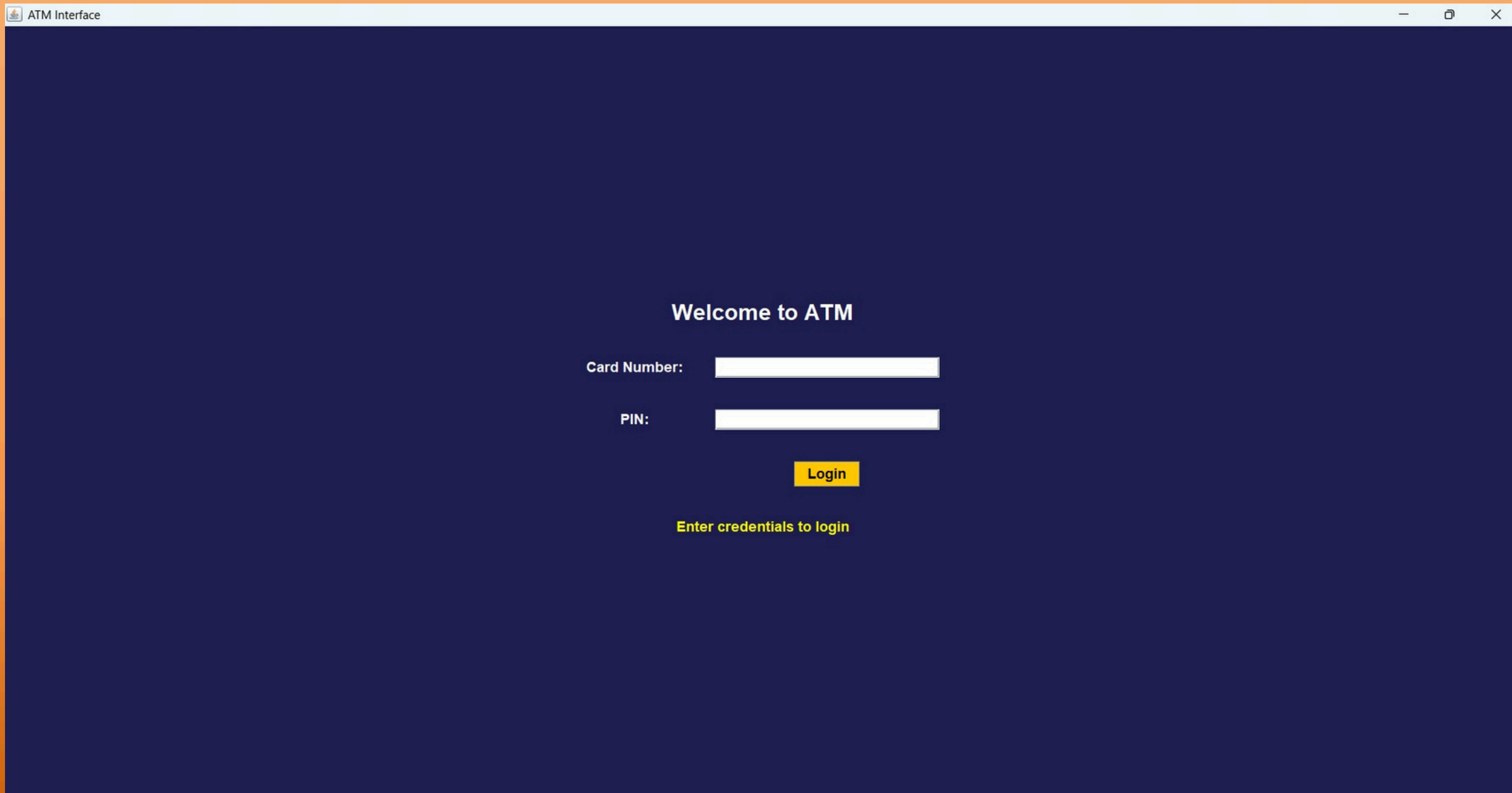
- ✓
setExtendedState(JFrame.MAXIMIZED_BOTH)
ensures full screen UI
- ✓ Enhances user experience and visibility

Error Handling

- ✓ Validates user inputs
- ✓ Ensures balance before withdrawing
- ✓ Handles incorrect PIN entry

Output

Login,



ATM Interface

Welcome to ATM

Card Number:

PIN:

Login

Enter credentials to login

Authenticating,

ATM Interface

Welcome to ATM

Card Number:

123456

PIN:

Login

Enter credentials to login

User Option,

ATM Menu

Current Balance: ₹5000.00

Withdraw

Deposit

Check Balance

Change PIN

Logout

Withdraw,

ATM Menu

Current Balance: ₹5000.00

Withdraw

Input

Enter amount to withdraw:

3500

OK

Cancel

Deposit

Check Balance

Change PIN

Logout

Deposit,

ATM Menu

Current Balance: ₹1500.00

Withdraw

Deposit

Input

Enter amount to deposit:

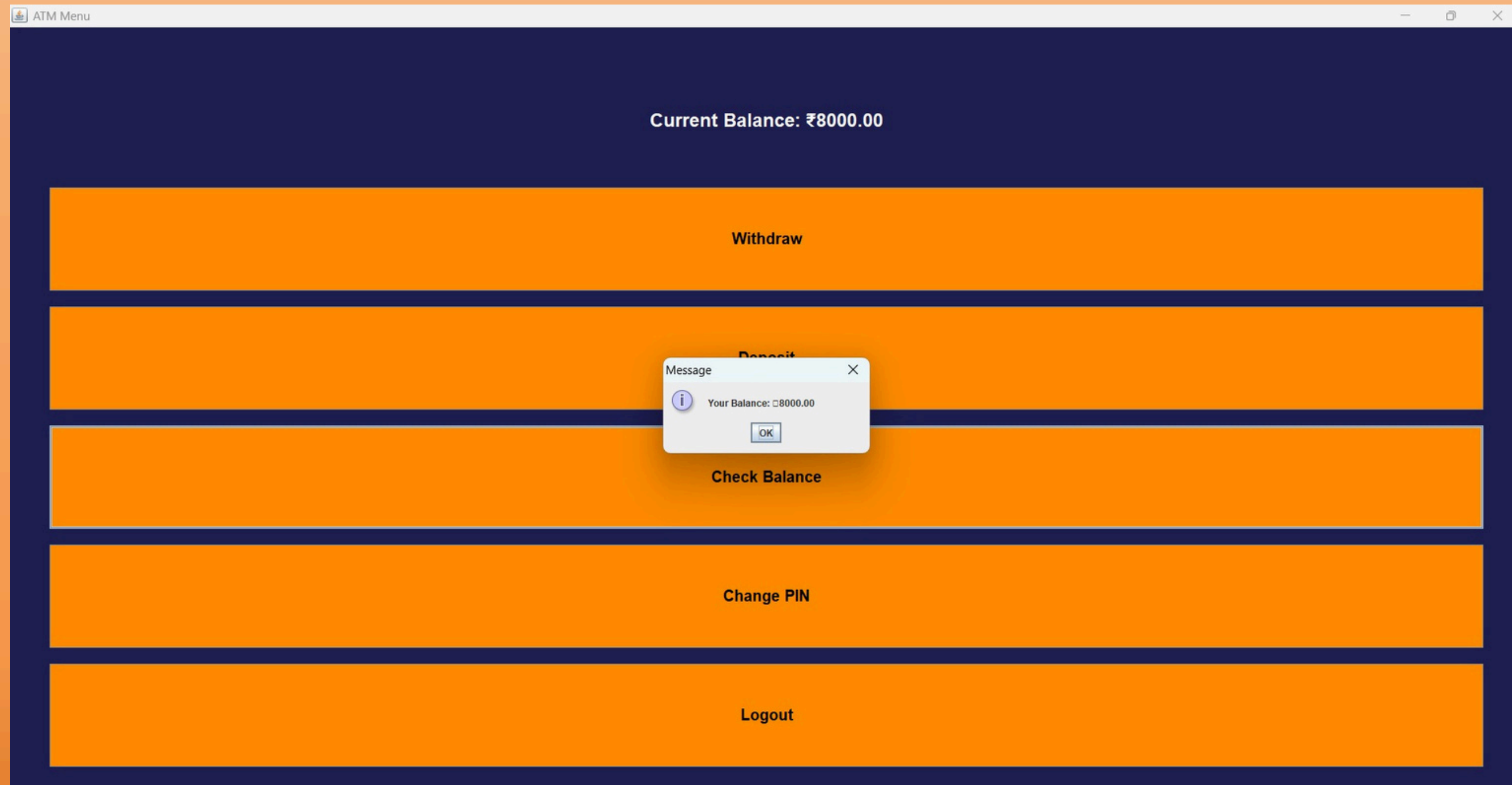
6500

OKCancel

Change PIN

Logout

Balance,



Changing PIN,

ATM Menu

Current Balance: ₹8000.00

Withdraw

Deposit

Change PIN

Logout

Input

?

Enter new PIN:

1222

OK

Cancel

Logging with new PIN,

ATM Menu

Current Balance: ₹8000.00

Withdraw

Deposit

Check Balance

Change PIN

Logout

Conclusion

- This Java ATM GUI provides a basic banking interface with:
- ✓Secure authentication
- ✓Transaction handling
- ✓User-friendly UI
- Future improvements: Database integration, multiple users, and enhanced security.