

```
import java.util.HashMap;

import java.util.Scanner;


// Represents a customer with a name, password, and balance
class Customer {

    String custName;

    String password;

    double balance;


    // Constructor for Customer

    public Customer(String custName, String password, double balance) {

        this.custName = custName;

        this.password = password;

        this.balance = balance;

    }


    // Getter for customer name

    public String getCustName() {

        return custName;

    }


    // Getter for password

    public String getPassword() {

        return password;

    }

}
```

```
// Getter for balance

public double getBalance() {

    return balance;

}


// Method to deposit an amount to the customer's balance

public void deposit(double amount) {

    if (amount > 0) {

        balance += amount;

    }

}


// Method to withdraw an amount from the customer's balance

public boolean withdraw(double amount) {

    if (amount > 0 && amount <= balance) {

        balance -= amount;

        return true;

    }

    return false;

}


public class BankApp {

    private static HashMap<String, Customer> customerDatabase = new HashMap<>();

    private static Scanner scanner = new Scanner(System.in);
```

```
// Main method, entry point of the program

public static void main(String[] args) {

    while (true) {

        mainMenu();

    }

}


// Displays the main menu and handles user interaction

private static void mainMenu() {

    System.out.println("Customer");

    System.out.println("1. Customer Login");

    System.out.println("2. New Customer Sign in");

    System.out.println("3. Exit");

    System.out.print("Choose an option: ");

    int choice = scanner.nextInt();

    scanner.nextLine(); // Consume newline


    switch (choice) {

        case 1:

            customerLogin();

            break;

        case 2:

            newCustomerSignIn();

            break;

        case 3:

            System.out.println("Exited Application successfully...");

    }

}
```

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        System.exit(0);

        break;

    default:

        System.out.println("Invalid option. Please choose again.");

    }

}

// Handles customer login
private static void customerLogin() {

    System.out.print("Enter Customer Name: ");

    String custName = scanner.nextLine();

    System.out.print("Enter Password: ");

    String password = scanner.nextLine();

    Customer customer = customerDatabase.get(custName);

    if (customer != null && customer.getPassword().equals(password)) {

        System.out.println("Welcome " + custName + "...");

        accountMenu(customer);

    } else {

        System.out.println("Not a valid customer...");

        mainMenu();

    }

}

// Handles new customer registration
private static void newCustomerSignIn() {

```

```
System.out.print("Enter New Customer Name: ");
String custName = scanner.nextLine();
System.out.print("Enter Password: ");
String password = scanner.nextLine();
System.out.print("Initial Deposit Amount: ");
double balance = scanner.nextDouble();
scanner.nextLine(); // Consume newline

if (customerDatabase.containsKey(custName)) {
    System.out.println("Customer already exists!");
} else {
    customerDatabase.put(custName, new Customer(custName, password, balance));
    System.out.println("Customer registered successfully!");
}
mainMenu();
}
```

// Displays and handles the account menu for logged-in customers

```
private static void accountMenu(Customer customer) {
    while (true) {
        System.out.println("Account Details");
        System.out.println("a) Amount Deposit");
        System.out.println("b) Amount Withdrawal");
        System.out.println("c) Check Balance");
        System.out.println("d) Exit to Main Menu");
        System.out.print("Choose an option: ");
```

```
String option = scanner.nextLine();

switch (option) {
    case "a":
        System.out.print("Enter deposit amount: ");
        double depositAmount = scanner.nextDouble();
        scanner.nextLine(); // Consume newline
        if (depositAmount > 0) {
            customer.deposit(depositAmount);

            System.out.println("Deposited successfully. Current Balance: " +
customer.getBalance());
        } else {
            System.out.println("Invalid amount. Try again.");
        }
        break;
    case "b":
        System.out.print("Enter withdrawal amount: ");
        double withdrawalAmount = scanner.nextDouble();
        scanner.nextLine(); // Consume newline
        if (withdrawalAmount > 0) {
            if (customer.withdraw(withdrawalAmount)) {
                System.out.println("Withdrawn successfully. Current Balance: " +
customer.getBalance());
            } else {
                System.out.println("Insufficient funds.");
            }
        }
    }
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    } else {  
        System.out.println("Invalid amount. Try again.");  
    }  
    break;  
case "c":  
    System.out.println("Current Balance: " + customer.getBalance());  
    break;  
case "d":  
    mainMenu();  
    return;  
default:  
    System.out.println("Invalid option. Please choose again.");  
}  
}  
}  
}
```