

Task-2

ATM INTERFACE

We have all come across ATMs in our cities and it is built on Java. This complex project consists of five different classes and is a console-based application. When the system starts the user is prompted with user id and user pin. On entering the details successfully, then ATM functionalities are unlocked. The project allows to perform following operations:

1. Transactions History
2. Withdraw
3. Deposit
4. Transfer
5. Quit

CODE IN JAVA LANGUAGE

```
import java.util.*;
```

```
class User {
```

```
    private String userId;
```

```
    private String pin;
```

```
    private double balance;
```

```
    public User(String userId, String pin, double balance) {
```

```
        this.userId = userId;
```

```
        this.pin = pin;
```

```
        this.balance = balance;
    }
```

```
public String getUserId() {
    return userId;
}
```

```
public boolean validatePin(String inputPin) {
    return pin.equals(inputPin);
}
```

```
public double getBalance() {
    return balance;
}
```

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

```
public void withdraw(double amount) {
    if (amount <= balance) {
        balance -= amount;
    } else {
        System.out.println("Insufficient balance");
    }
}
```

```
}

public void transfer(User recipient, double amount) {
    if (amount <= balance) {
        balance -= amount;
        recipient.deposit(amount);
    } else {
        System.out.println("Insufficient balance");
    }
}
}
```

```
public class ATMInterface {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Create a user
        User user = new User("123456", "1234", 1000.0);

        // User login
        System.out.print("Enter user ID: ");
        String userId = scanner.nextLine();
        System.out.print("Enter PIN: ");
        String pin = scanner.nextLine();
    }
}
```

```
if (user.getUserId().equals(userId) && user.validatePin(pin)) {  
    System.out.println("Login successful!");  
    showMenu(user, scanner);  
} else {  
    System.out.println("Invalid credentials.");  
}  
}
```

```
public static void showMenu(User user, Scanner scanner) {  
    while (true) {  
        System.out.println("\nATM Menu:");  
        System.out.println("1. Transactions History");  
        System.out.println("2. Withdraw");  
        System.out.println("3. Deposit");  
        System.out.println("4. Transfer");  
        System.out.println("5. Quit");  
  
        System.out.print("Enter your choice: ");  
        int choice = scanner.nextInt();  
        scanner.nextLine(); // Consume the newline  
  
        switch (choice) {  
            case 1:  
                System.out.println("Transactions History:");  
                // Add code to display transaction history
```

```
        break;
    case 2:
        System.out.print("Enter amount to withdraw: ");
        double withdrawAmount = scanner.nextDouble();
        user.withdraw(withdrawAmount);
        System.out.println("Withdrawal successful.");
        break;
    case 3:
        System.out.print("Enter amount to deposit: ");
        double depositAmount = scanner.nextDouble();
        user.deposit(depositAmount);
        System.out.println("Deposit successful.");
        break;
    case 4:
        System.out.print("Enter recipient's user ID: ");
        String recipientId = scanner.nextLine();
        System.out.print("Enter amount to transfer: ");
        double transferAmount = scanner.nextDouble();
        // Add code to find recipient and perform transfer
        break;
    case 5:
        System.out.println("Thank you for using the ATM.
Goodbye!");
        System.exit(0);
    default:
```

```
System.out.println("Invalid choice.");
```

```
}
```

```
}
```

```
}
```

```
}
```

OUTPUT

```
input
Enter user ID: 123456
Enter PIN: 1234
Login successful!

ATM Menu:
1. Transactions History
2. Withdraw
3. Deposit
4. Transfer
5. Quit
Enter your choice: 1
Transactions History:

ATM Menu:
1. Transactions History
2. Withdraw
3. Deposit
4. Transfer
5. Quit
Enter your choice: 2
Enter amount to withdraw: 300
Withdrawal successful.

ATM Menu:
1. Transactions History
2. Withdraw
3. Deposit
4. Transfer
5. Quit
Enter your choice: 3
Enter amount to deposit: 300
Deposit successful.

ATM Menu:
1. Transactions History
2. Withdraw
3. Deposit
4. Transfer
5. Quit
Enter your choice: 4
Enter recipient's user ID: 123456
Enter amount to transfer: 300

ATM Menu:
1. Transactions History
2. Withdraw
3. Deposit
4. Transfer
5. Quit
Enter your choice: 5
Thank you for using the ATM. Goodbye!
```