

Assignment 6: Build a Java Console-based Banking App with the below functionalities using Collections

1] Add Account, 2] View All Accounts, 3] View Account, 4] Update Account, 5] Delete Account, 6] Exit
Provide implementation for the above functionality with the below collections.

a) ArrayList, b) LinkedList, c) HashSet, d) TreeSet, e) HashMap, f) TreeMap

Folder structure:

```
▼ <img alt="IDE icon" data-bbox="125 225 145 240"/> > bankingapp-with-collection [indium_jav
  ▼ <img alt="JRE icon" data-bbox="145 245 165 260"/> JRE System Library [JavaSE-17]
  ▼ <img alt="src icon" data-bbox="145 265 165 280"/> > src
    ▼ <img alt="com.indium.bankingapp icon" data-bbox="165 285 185 300"/> > com.indium.bankingapp
      ▼ <img alt="BankingAppMain.java icon" data-bbox="185 305 205 320"/> BankingAppMain.java
    ▼ <img alt="com.indium.bankingapp.model icon" data-bbox="165 325 185 340"/> > com.indium.bankingapp.model
      ▼ <img alt="Account.java icon" data-bbox="185 345 205 360"/> Account.java
    ▼ <img alt="com.indium.bankingapp.service icon" data-bbox="165 365 185 380"/> > com.indium.bankingapp.service
      ▼ <img alt="AccountService.java icon" data-bbox="185 385 205 400"/> AccountService.java
      ▼ <img alt="AccountServiceArrListImpl.java icon" data-bbox="185 405 205 420"/> AccountServiceArrListImpl.java
      ▼ <img alt="AccountServiceHashMapImpl.java icon" data-bbox="185 425 205 440"/> AccountServiceHashMapImpl.java
      ▼ <img alt="AccountServiceHashSetImpl.java icon" data-bbox="185 445 205 460"/> AccountServiceHashSetImpl.java
      ▼ <img alt="AccountServiceLnkListImpl.java icon" data-bbox="185 465 205 480"/> AccountServiceLnkListImpl.java
      ▼ <img alt="AccountServiceTreeMapImpl.java icon" data-bbox="185 485 205 500"/> AccountServiceTreeMapImpl.java
      ▼ <img alt="AccountServiceTreeSetImpl.java icon" data-bbox="185 505 205 520"/> AccountServiceTreeSetImpl.java
```

Add account:

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 1
Enter account number: 101
Enter account holder's name: vijay kumar
Enter initial balance: 1000

Account added successfully.
Account ID: 101

1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice:
```

Adding a new account with an existing account number:

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 1
Enter account number: 101
Account number already exists. Please choose a different account number.
Enter account number:
```

View All Accounts:

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 2
All Accounts:
+-----+-----+-----+
| Account Number | Account Holder | Account Balance |
+-----+-----+-----+
| 101            | vijay kumar    | $1000.00        |
+-----+-----+-----+
| 102            | balaji         | $20000.00       |
+-----+-----+-----+
| 103            | shemu          | $30000.00       |
+-----+-----+-----+

1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice:
```

View Account by Account Number:

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 3
Enter account number to view: 103
```

```
Account Number: 103
Account Holder: shemu
Account Balance: $30000.0
```

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice:
```

Update Account:

```
Account Number: 103
Account Holder: shemu
Account Balance: $30000.0
```

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 4
Enter account number to update: 103
Update account holder's name: Shemu Bandi
Account updated successfully.
```

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 2
```

All Accounts:

Account Number	Account Holder	Account Balance
101	vijay kumar	\$1000.00
102	balaji	\$20000.00
103	Shemu Bandi	\$30000.00

Deposit Amount:

```
1) Add Account
2) View All Accounts
3) View Account
4) Update Account
5) Deposit Amount
6) Withdraw Amount
7) Delete Account
8) Exit
Enter your choice: 5
Enter account number to deposit: 103
Enter Amount
50000
Deposit Amount: 50000.0
Current Balance: 80000.0
Amount successfully deposited
```

```
1) Add Account
2) View All Accounts
3) View Account
4) Update Account
5) Deposit Amount
6) Withdraw Amount
7) Delete Account
8) Exit
Enter your choice: 2
All Accounts:
```

Account Number	Account Holder	Account Balance
101	vijay kumar	\$1000.00
102	balaji	\$20000.00
103	Shemu Bandi	\$80000.00

Withdrawal Amount

```
1) Add Account
2) View All Accounts
3) View Account
4) Update Account
5) Deposit Amount
6) Withdraw Amount
7) Delete Account
8) Exit
Enter your choice: 6
Enter account number to withdraw: 103
Enter Amount
30000
Withdrawal Amount: 30000.0
Current Balance: 50000.0
Successful withdrawal of money
```

```
1) Add Account
2) View All Accounts
3) View Account
4) Update Account
5) Deposit Amount
6) Withdraw Amount
7) Delete Account
8) Exit
Enter your choice: 2
All Accounts:
```

Account Number	Account Holder	Account Balance
101	vijay kumar	\$1000.00
102	balaji	\$20000.00
103	Shemu Bandi	\$50000.00

If user withdrawal amount is higher:

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 6
Enter account number to withdraw: 103
Enter Amount
60000
Insufficient funds.
withdrawal failed

1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 2
All Accounts:
+-----+-----+-----+
| Account Number | Account Holder | Account Balance |
+-----+-----+-----+
| 101             | vijay kumar    | $1000.00        |
+-----+-----+-----+
| 102             | balaji         | $20000.00       |
+-----+-----+-----+
| 103             | Shemu Bandi    | $50000.00       |
+-----+-----+-----+
```

Delete Account

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 7
Enter account number to delete: 102
Account deleted successfully.

1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Delete Account
8] Exit
Enter your choice: 2
All Accounts:
+-----+-----+-----+
| Account Number | Account Holder | Account Balance |
+-----+-----+-----+
| 101             | vijay kumar    | $1000.00        |
+-----+-----+-----+
| 103             | Shemu Bandi    | $50000.00       |
+-----+-----+-----+
```