Assignment 10: Banking App JDBC

Enhance Java Console based Banking App to persist data into database and perform CRUD operations

 1] Add Account

 2] View All Accounts

 3] View Account

 4] Update Account

 5] Delete Account

 6] Print Statistics

 a] No of accounts which has balance more than 1 lac

 b] Show no of accounts by account type

 c] Show no of accounts by account type with sorting

 d] Show avg balance by account type

e] List account ids whose account name contains given name

 7) Import

 8) Export

 9] Exit

Folder structure:

- bankingapp-with-jdbc [indium_javaboot
  - JRE System Library [JavaSE-17]
  - src
    - com.indium.bankingapp
      - BankingAppMain.java
    - com.indium.bankingapp.dao
      - AccountDao.java
      - AccountDaoJdbcImpl.java
    - com.indium.bankingapp.enums
      - AccountType.java
    - com.indium.bankingapp.model
      - Account.java
    - com.indium.bankingapp.service
      - AccountService.java
      - AccountServiceHashMapImpl.java
  - Referenced Libraries
    - mysql-connector-java-8.0.30.jar - /hor
  - input
    - input.txt
  - output
    - output.txt

Add account:

```
Enter your choice: 1
Select account type
1] SAVING
2] CURRENT
1
Enter account number: 101
Enter account holder's name: vijay
Enter initial balance: 100000

Account added successfully.
Account ID: 101
```

In DB

#	accountId	accountName	balance	accType
1	101	vijay	100000	SAVING
*	NULL	NULL	NULL	NULL

View all accounts:

```
Enter your choice: 2
All Accounts:
+----------------+----------------+------------------+----------------+
| Account Number | Account Type   | Account Holder   | Account Balance |
+----------------+----------------+------------------+----------------+
| 101            | SAVING         | vijay            | $100000.00     |
+----------------+----------------+------------------+----------------+
| 102            | CURRENT        | shemu            | $100000.00     |
+----------------+----------------+------------------+----------------+
```

In DB

1	101	vijay	100000	SAVING
2	102	shemu	100000	CURRENT
*	NULL	NULL	NULL	NULL

Update Account

```
Enter your choice: 4
Enter account number to update: 101
Update account holder's name: vijay kumar
Account updated successfully.
```

In DB

1	101	vijay kumar	100000	SAVING
2	102	shemu	100000	CURRENT
*	NULL	NULL	NULL	NULL

Deposit Amount:

```
Enter your choice: 5
Enter account number to deposit: 101
Enter Amount
1000
Previous Balance: 100000.0
Deposit Amount: 1000.0
Current Balance: 101000.0
Amount successfully deposited
```

In DB

1	101	vijay kumar	101000	SAVING
2	102	shemu	100000	CURRENT
*	NULL	NULL	NULL	NULL

Withdraw Amount:

```
Enter your choice: 6
Enter account number to withdraw: 101
Enter Amount
1000
Withdrawal Amount: 1000.0
Current Balance: 100000.0
Successful withdrawal of money
```

In DB

1	101	vijay kumar	100000	SAVING
2	102	shemu	100000	CURRENT
*	NULL	NULL	NULL	NULL

Import:

```
Enter your choice: 8
importing data using Import thread
 Account number already exists : 101
 Account number already exists : 102
imported 6 records
```

In DB

1	101	vijay kumar	100000	SAVING
2	102	shemu	100000	CURRENT
3	103	arjun rao	1000000	CURRENT
4	106	vijay	1000000	SAVING
5	109	anantha lakshmi	10000	SAVING
6	110	shemu	100000	CURRENT
7	111	shemu	100000	CURRENT
8	112	anantha lakshmi	10000	SAVING
*	NULL	NULL	NULL	NULL

Export:

```
Enter your choice: 9
Exporting data using Export thread
exported 8 account details
```

Print Statistics:
No of accounts which has balance more than 1 lac

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Print Statistics
8] Import
9] Export
10] Delete Account
11] Exit
Enter your choice: 7
Banking App Statistics:
1. No of accounts which has balance more than 1 lac
2. Show no of account by account type
3. Show no of accounts by account type with sorting
4. Show avg balance by account type
5. List account ids whose account name contains given name
1
Number of accounts with balance above 100000.0: 2
```

Show no of accounts by account type

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Print Statistics
8] Import
9] Export
10] Delete Account
11] Exit
Enter your choice: 7
Banking App Statistics:
1. No of accounts which has balance more than 1 lac
2. Show no of account by account type
3. Show no of accounts by account type with sorting
4. Show avg balance by account type
5. List account ids whose account name contains given name
2
 Show no of account by account type:
SAVING: 4
CURRENT: 2
```

Show no of accounts by account type with sorting

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Print Statistics
8] Import
9] Export
10] Delete Account
11] Exit
Enter your choice: 7
Banking App Statistics:
1. No of accounts which has balance more than 1 lac
2. Show no of account by account type
3. Show no of accounts by account type with sorting
4. Show avg balance by account type
5. List account ids whose account name contains given name
3
Number of accounts by account type with sorting
Account Type: CURRENT, Count: 2
Account Type: SAVING, Count: 4
```

Show avg balance by account type

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Print Statistics
8] Import
9] Export
10] Delete Account
11] Exit
Enter your choice: 7
Banking App Statistics:
1. No of accounts which has balance more than 1 lac
2. Show no of account by account type
3. Show no of accounts by account type with sorting
4. Show avg balance by account type
5. List account ids whose account name contains given name
4
Average balance by account type:
Account Type: SAVING, Avg Balance: 252775.0
Account Type: CURRENT, Avg Balance: 550000.0
```

List account ids whose account name contains given name

```
1] Add Account
2] View All Accounts
3] View Account
4] Update Account
5] Deposit Amount
6] Withdraw Amount
7] Print Statistics
8] Import
9] Export
10] Delete Account
11] Exit
Enter your choice: 7
Banking App Statistics:
1. No of accounts which has balance more than 1 lac
2. Show no of account by account type
3. Show no of accounts by account type with sorting
4. Show avg balance by account type
5. List account ids whose account name contains given name
5
Enter account name to search:
vijay
Account IDs with account name containing "vijay":
101
102
106
```

Delete Account

```
Enter your choice: 10
Enter account number to delete: 101
Account deleted successfully.
```

In DB

#	accountId	accountName	balance	accType
1	102	shemu	100000	CURRENT
2	103	arjun rao	1000000	CURRENT
3	106	vijay	1000000	SAVING
4	109	anantha lakshmi	10000	SAVING
5	110	shemu	100000	CURRENT
6	111	shemu	100000	CURRENT
7	112	anantha lakshmi	10000	SAVING
*	NULL	NULL	NULL	NULL