JDBC

OBJECT ORIENTED PROGRAMMING

Neveen Samir | ID : 58
Merna Mustafa | ID : 54
Menna Osman | ID : 52
Febronia Ashraf | ID : 29

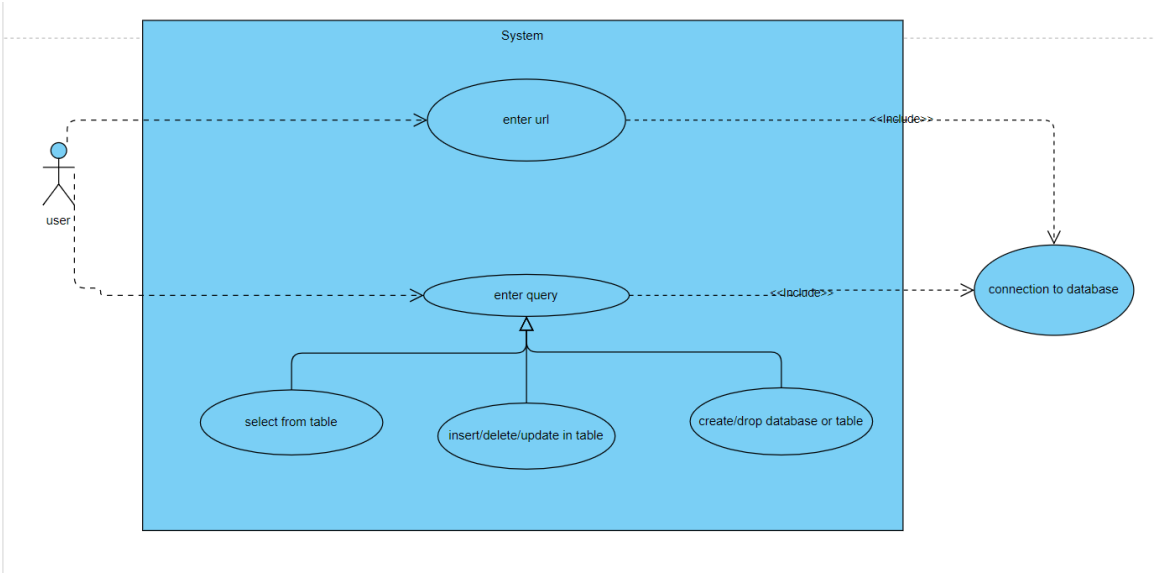
Introduction

Java database connectivity (JDBC) provides java developers with a standard API that is used to access databases, regardless of the driver and database product.

JDBC presents a uniform interface to databases-changes vendors and our application only need to change their driver.

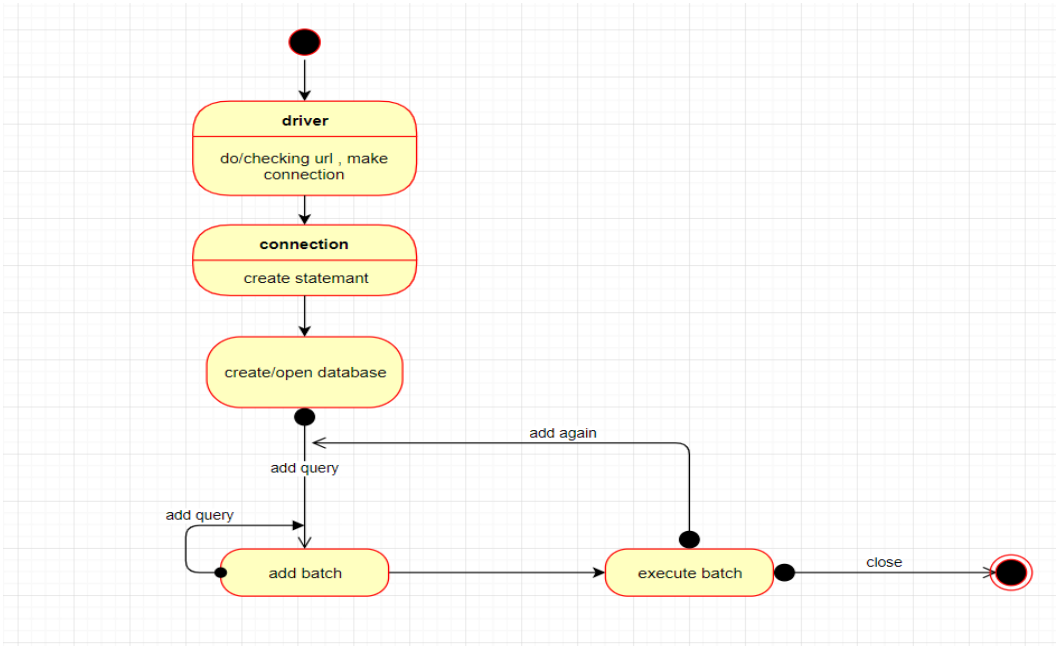
UML

1- Use Case :

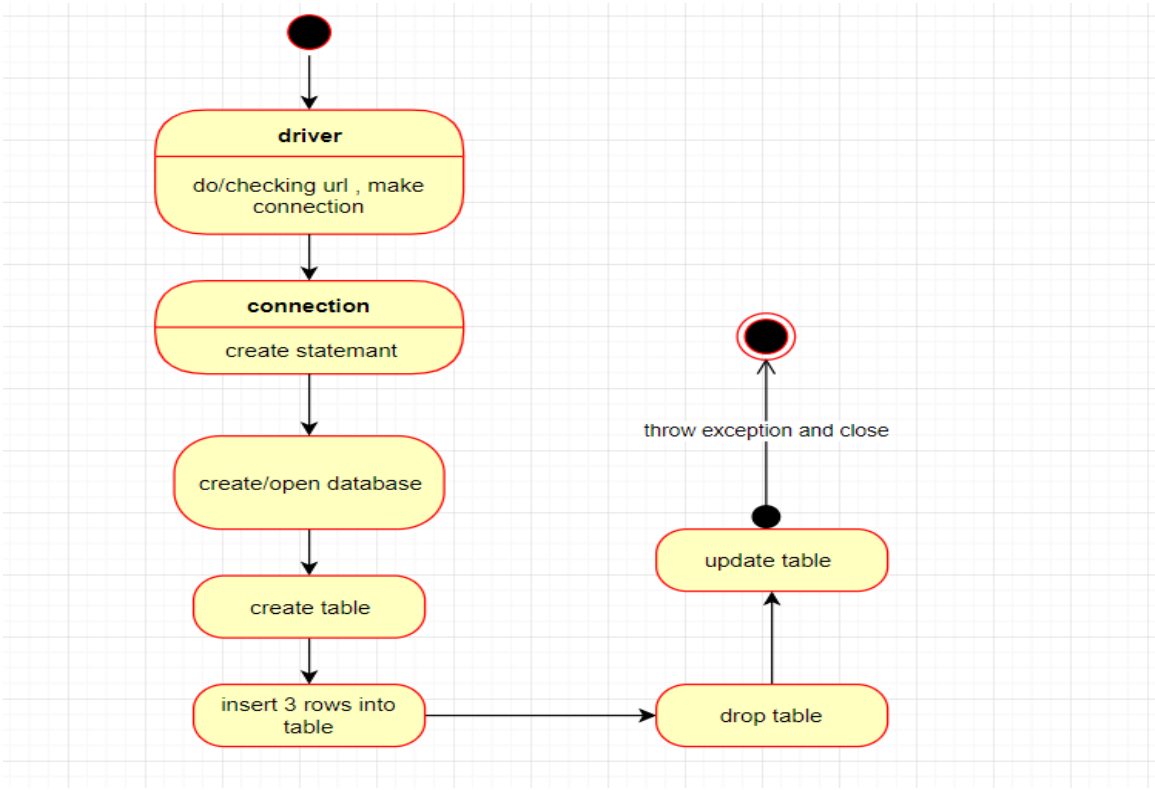


2- State Diagram :

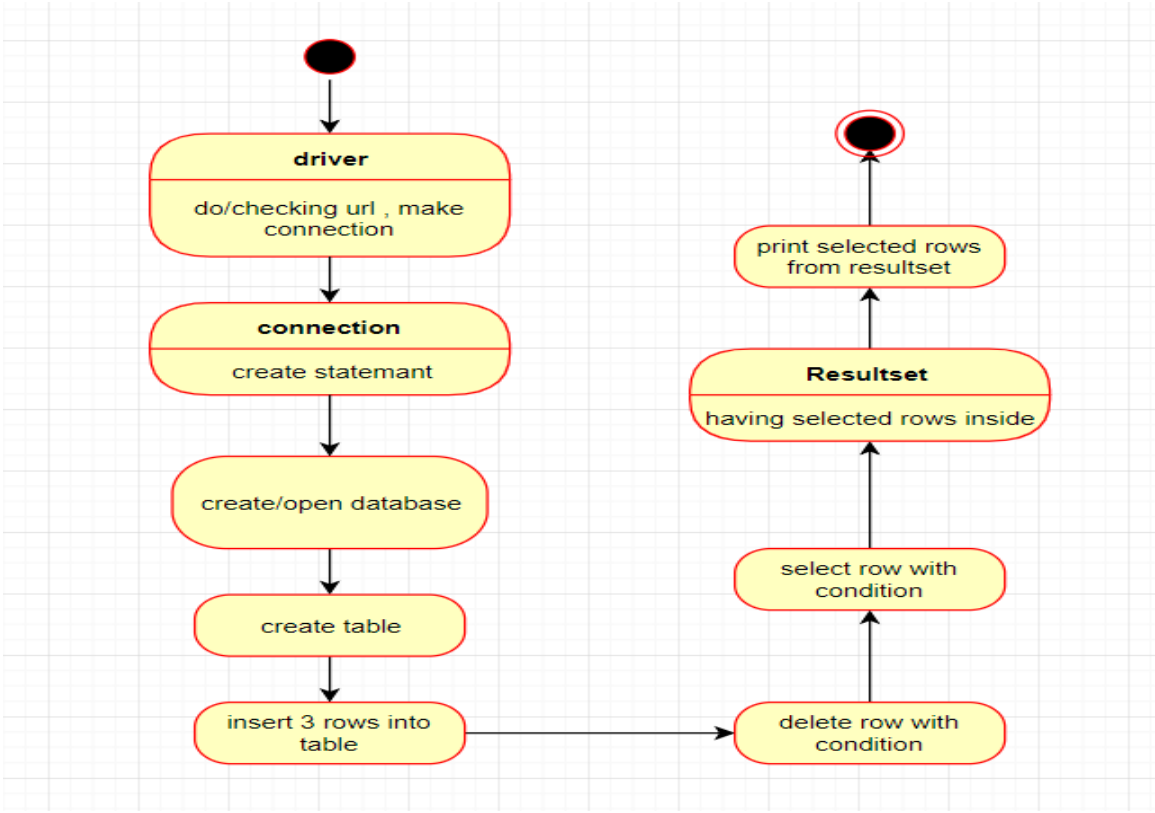
a- Scenario 1 :



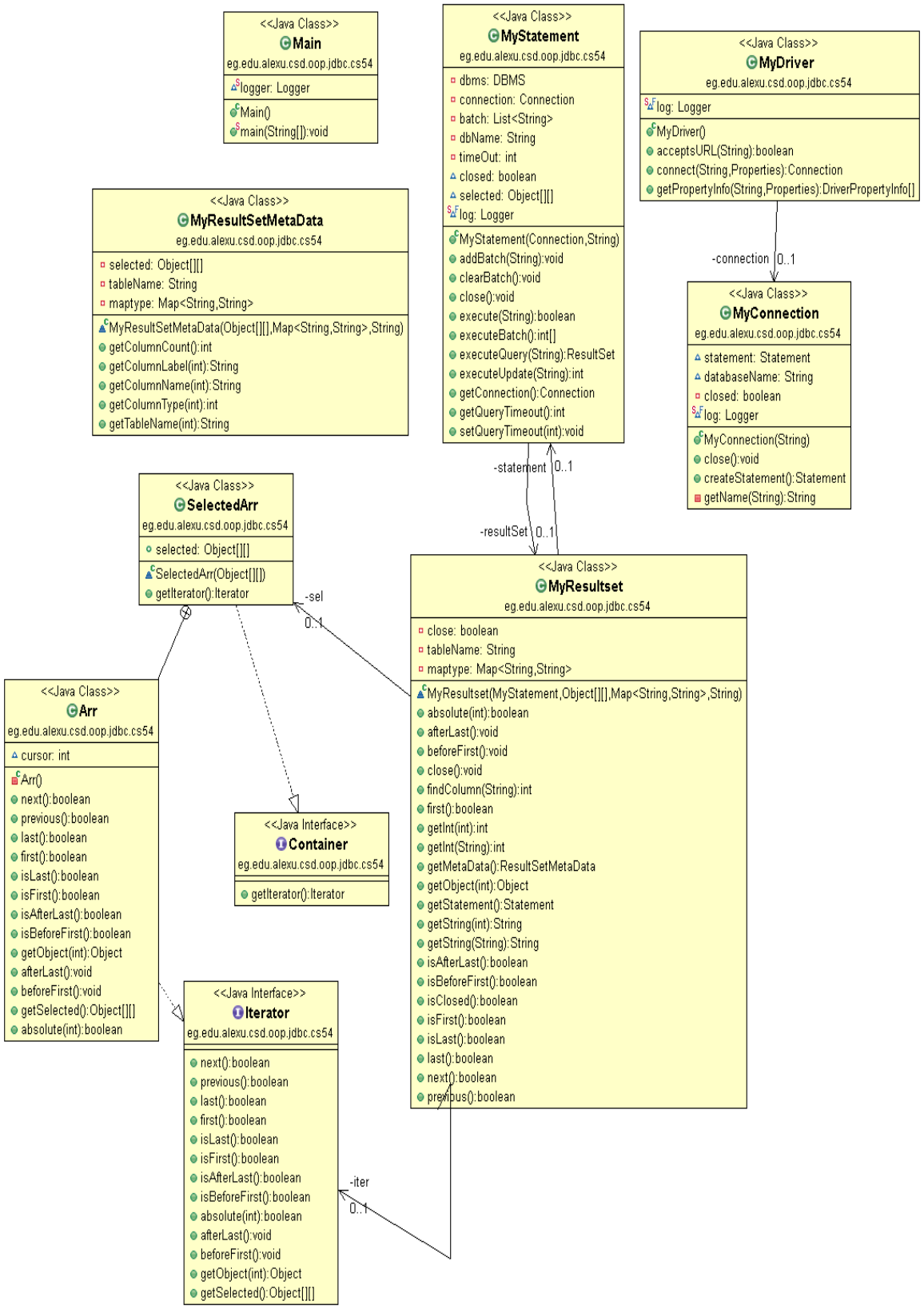
b- Scenario 2 :



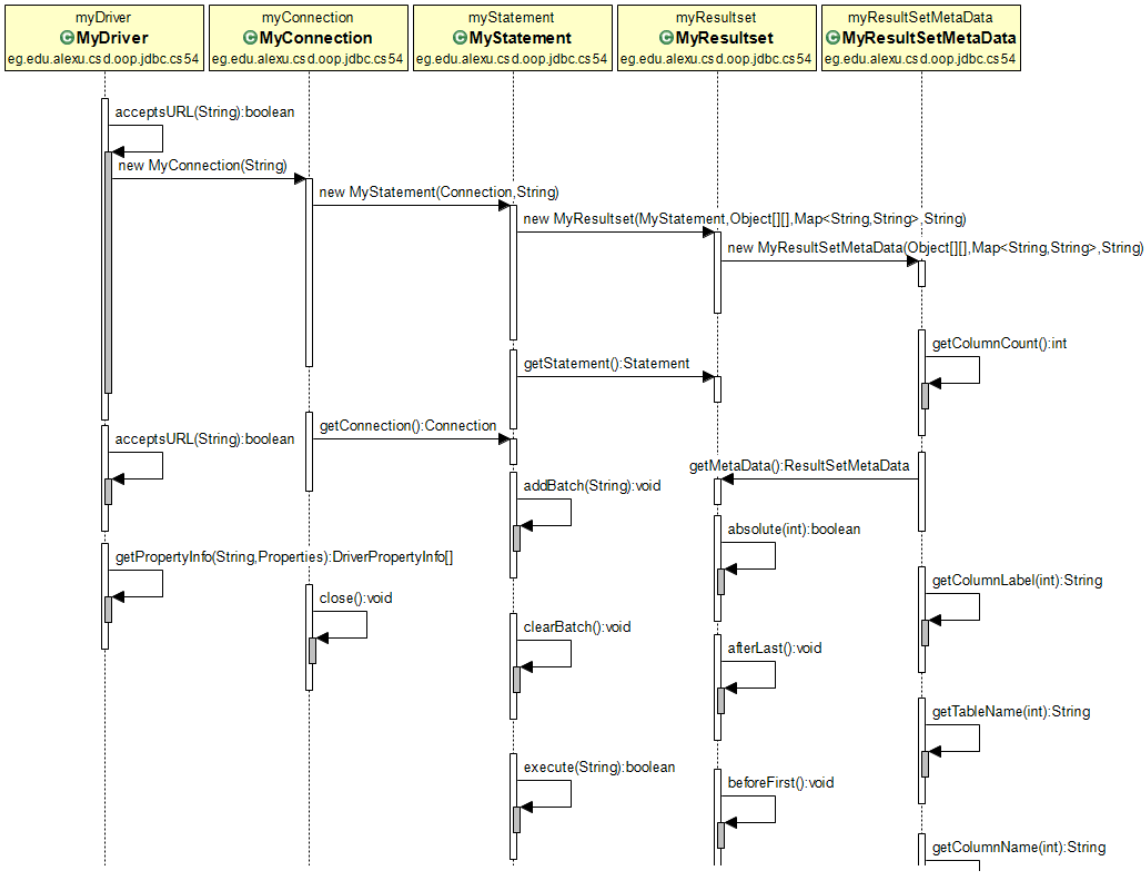
c- Scenario 3 :



3- Detailed Class Diagram :



4- Sequence Diagram :



SNAPSHOTS OF UI

```
enter URL:
jdbc:xmldb://localhost
0 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - Checking URL for validity....
0 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - URL is valid
you should open\create database first
CREATE DATABASE Test
15467 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - Connecting to database ....
15467 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - Connection is successful
15472 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyConnection  - Creating Statement ...
15472 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyConnection  - Statement is created successfully
15704 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
1)enter query:
2)add batch
3)excute batch
1
CREATE TABLE table_name_test(column_name1 varchar, column_name2 int, column_name3 varchar)
88752 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
1)enter query:
2)add batch
3)excute batch
enter URL:
jdbc:xmldb://localhost
0 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - Checking URL for validity....
0 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - URL is valid
you should open\create database first
CREATE DATABASE Test
19141 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - Connecting to database ....
19141 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyDriver  - Connection is successful
19141 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyConnection  - Creating Statement ...
19141 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyConnection  - Statement is created successfully
19163 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
1)enter query:
2)add batch
3)excute batch
1
INSERT INTO table_name_test
35325 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
35325 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing Update query ...
35329 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - bad query
35330 [main] ERROR eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - bad query
1)enter query:
2)add batch
3)excute batch
1
UPDATE table_name_test SET
58723 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
58723 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing Update query ...
58729 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - bad query
58729 [main] ERROR eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - bad query
1)enter query:
2)add batch
3)excute batch
```

```
CREATE TABLE table1(column_name1 varchar, column_name2 int, column_name3 varchar)
34958 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
1)enter query:
2)add batch
3)excute batch
1
INSERT INTO table1(column_NAME1, COLUMN_name3, column_name2) VALUES ('value1', 'value3', 4)
50869 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
50869 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing Update query ...
50911 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Table updated successfully
1)enter query:
2)add batch
3)excute batch
1
SELECT * From table1
67620 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing query ...
67629 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Select is successful
'value1' 4 'value3' 1)enter query:
2)add batch
3)excute batch

2
enter query:
INSERT INTO table(column_NAME1, COLUMN_name3, column_name2) VALUES ('value1', 'value3', 4)
51192 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Adding Batch ....
51192 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Batch added Successfully
1)enter query:
2)add batch
3)excute batch
2
enter query:
INSERT INTO table(column_NAME1, COLUMN_name3, column_name2) VALUES ('value1', 'value3', 5)
81576 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Adding Batch ....
81576 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Batch added Successfully
1)enter query:
2)add batch
3)excute batch
2
enter query:
SELECT * From table
112630 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Adding Batch ....
112630 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Batch added Successfully
1)enter query:
2)add batch
3)excute batch
3
115032 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing batch...
115032 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
115035 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing Update query ...
115053 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Table updated successfully
115053 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
115053 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing Update query ...
115084 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Table updated successfully
115084 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Executing SQL Query ....
115100 [main] INFO eg.edu.alexu.csd.oop.jdbc.cs54.MyStatement  - Batch executed successfully
```

USER GUIDE

In the beginning , you should enter URL as (**JDBC:XMLDB://LOCALIHOST**).

Then The application asks the user to create database or open the data if it is created before.

Then the user should choose from three options: (execute Query, AddBatch, Execute Batch), then the application executes the operation that the user entered.

DIVISION OF LABOR AMONG GROUP MEMBERS

Implementation of Driver and Connection are coded by Menna.

Implementation of Statement and Log4j are coded by Febronia.

Implementation of UI is coded by Febronia and Menna.

Implementation of Design Pattern (Iterator, pool) is coded by Merna.

Implementation of ResultSet, ResultSetMetaData are coded by Neveen.

modification of previous project (DBMS) is coded by Merna and Neveen.

All the members wrote the Report.