



Alexandria University

Faculty of Engineering

Computer and Systems Engineering Dept. CS:

PROGRAMMING 2

Assignment 3: Database Management System

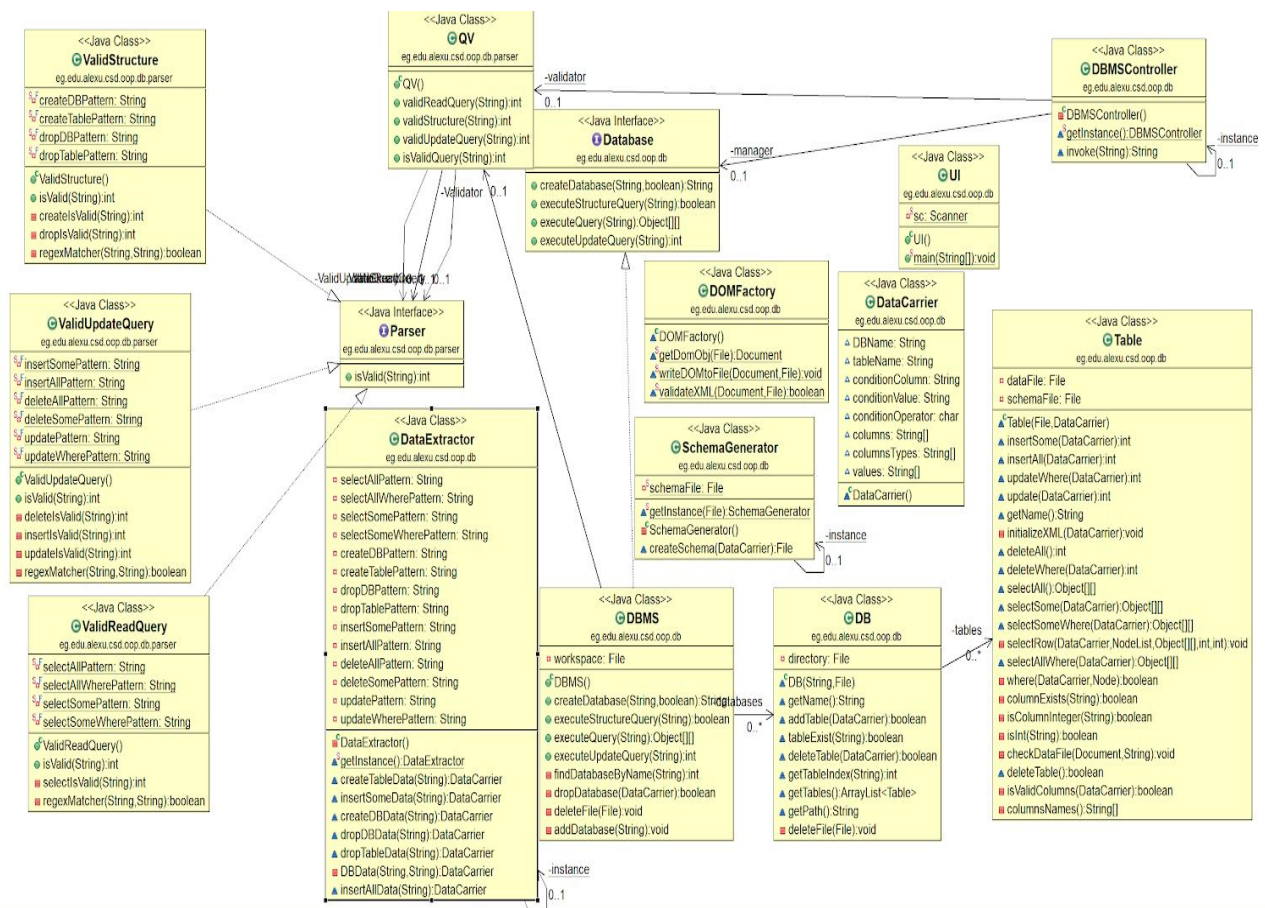
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Description :

A *Console app* that enables you to store, modify, and extract information from a database. Queries are entered in SQL syntax.

UML Diagram :



Design decisions and Assumptions:

- DataCarrier class
Holds data that was sent by DataExtractor class Which follows singleton design pattern.
- DOMFactory class
sends empty Dom object to the Table class.
- Data Objects:
DB class
Is responsible for modelling Database as object and it uses Tables.
Table class
Is responsible for modeling Table as an object ,writes data to XML file in the Dom object and sends data to SchemaGenerator class to write it as an XSD file.
- QV class
Which follows facade design pattern, Is responsible for Parsing the query ,validating it and sending it to the DBMS class which then do the required task.

Snapshots :

```
Command Prompt - java -jar C:\Users\DELL\Downloads\DBMS-master\DBMS.jar
Microsoft Windows [Version 10.0.18362.476]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\DELL>java -jar C:\Users\DELL\Downloads\DBMS-master\DBMS.jar
SQL >>
create database db
Database created successfully.
SQL >>
create table table1 (col1 int , col2 varchar)
Table created successfully.
SQL >>
insert into table1 values (38666 , 'funny')
1 rows has been Updated.
SQL >>
select* from table1
38666 funny

SQL >>
select col1 from table1
38666

SQL >>
select gg from tabel1
Table tabel1 does not exists in db
SQL >>
```

```
Command Prompt - java -jar C:\Users\DELL\Downloads\DBMS-master\DBMS.jar
Microsoft Windows [Version 10.0.18362.476]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\DELL>java -jar C:\Users\DELL\Downloads\DBMS-master\DBMS.jar
SQL >>
create database kk
Database created successfully.
SQL >>
create table jj (col1 varchar ,col2 int)
Table created successfully.
SQL >>
insert into jj values ('kjh','464')
Not a valid SQL query!
SQL >>
insert into jj values ('kjh','464')
1 rows has been Updated.
SQL >>
insert into jj values ('ftgy','4956')
1 rows has been Updated.
SQL >>
select * from jj
kjh 464
ftgy 4956

SQL >>
select col2 from jj
464
4956
```

```
Command Prompt - java -jar C:\Users\DELL\Downloads\DBMS-master\DBMS.jar
Microsoft Windows [Version 10.0.18362.476]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\DELL>java -jar C:\Users\DELL\Downloads\DBMS-master\DBMS.jar
SQL >>
Create DAtabase lelo
Database created successfully.
SQL >>
create table table( colk varchar , col int , col varchar )
Invalid Name
SQL >>
create table table1( colk varchar , col int , col varchar )
Table created successfully.
SQL >>
insert into table1('kk',546,'845')
Not a valid SQL query!
SQL >>
insert into table1('kk',546,'jjj')
Not a valid SQL query!
```

```
Command Prompt - java -jar C:\Users\DELL\Downloads\DBMS-master\DBMS.jar
SQL >>
create database pp
Database created successfully.
SQL >>
create table jj (col1 varchar ,col2 int)
Table created successfully.
SQL >>
insert into jj values ('ftgy','4956')
1 rows has been Updated.
SQL >>
select * from jj where col2<1
SQL >>
insert into jj values ('ftgy','0')
1 rows has been Updated.
SQL >>
select * from jj where col2<1
ftgy 0
SQL >>
```

User Guide :

Running the application :

- It is a console application.
- In the cmd, type this command: Java -jar (path of the jar file).
- The application should run inside your cmd and you will see “SQL >> ”.
- Then type any of the supported SQL queries.

Supported SQL Queries :

1. Create database
2. Create table
3. Insert into table
4. Delete from table
5. Drop database
6. Drop table
7. Select from table
8. Update table

SQL Queries References :

1. W3 Schools: <https://www.w3schools.com/sql/>