

Simple XML DBMS

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Description of the design:

We have 5 packages:-

- 1 –first package is used for xml parsing methods for putting and retrieving data from xml files.
- 2 – Second one is used for validating SQL statements syntax.
- 3 - Third one is used for extracting information of valid SQL statements.
- 4 – Fourth one is used for connecting the xml parsing with SQL parsing.
- 5 – Fifth one contains main method.
- 6 – last one is used for and, or and not;

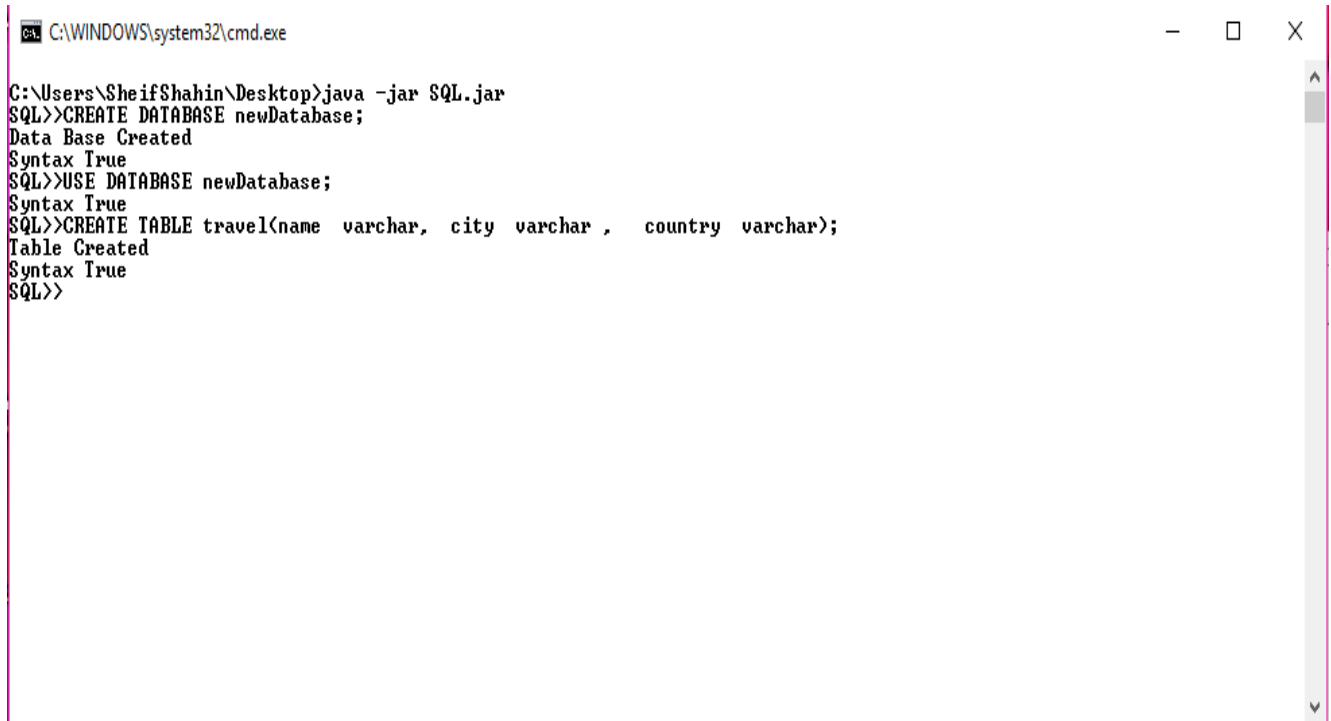
Used design patterns:-

- 1 - Factory design pattern.
- 2 - Adaptor design pattern.
- 3 – Delegation.

Simple user guide:-

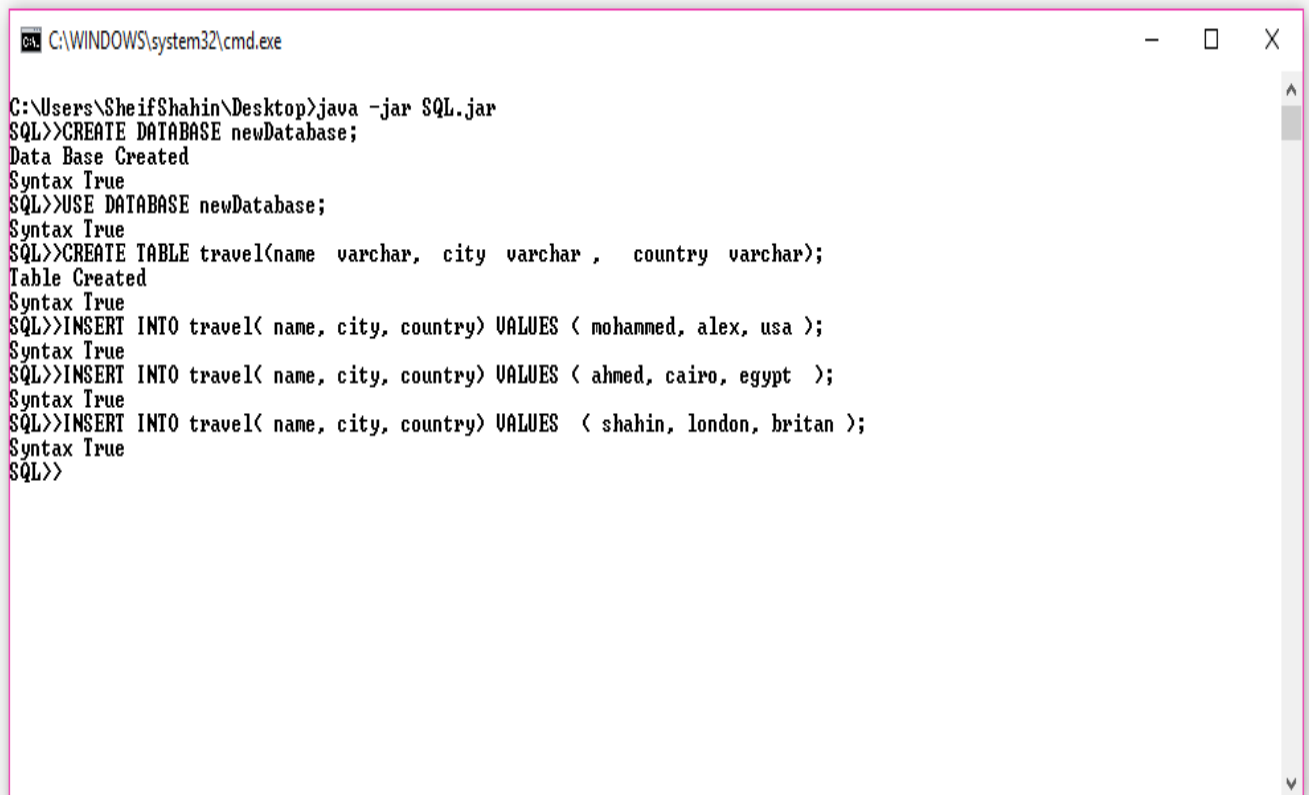
- 1 – To know the syntax of SQL you need to visit our page <http://www.w3schools.com/sql/>.
- 2 – User enters an SQL statement in a command line and output will appear at once if it is valid.
- 3 - The output should be shown in the console (outputs may vary from simple statement like “database created” to viewing information of some table).

Photos of program



```
C:\WINDOWS\system32\cmd.exe

C:\Users\SheifShahin\Desktop>java -jar SQL.jar
SQL>>CREATE DATABASE newDatabase;
Data Base Created
Syntax True
SQL>>USE DATABASE newDatabase;
Syntax True
SQL>>CREATE TABLE travel(name varchar, city varchar , country varchar);
Table Created
Syntax True
SQL>>
```



```
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C:\Users\SheifShahin\Desktop>java -jar SQL.jar
SQL>>CREATE DATABASE newDatabase;
Data Base Created
Syntax True
SQL>>USE DATABASE newDatabase;
Syntax True
SQL>>CREATE TABLE travel(name varchar, city varchar , country varchar);
Table Created
Syntax True
SQL>>INSERT INTO travel( name, city, country) VALUES ( mohammed, alex, usa );
Syntax True
SQL>>INSERT INTO travel( name, city, country) VALUES ( ahmed, cairo, egypt );
Syntax True
SQL>>INSERT INTO travel( name, city, country) VALUES ( shahin, london, britan );
Syntax True
SQL>>
```

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C:\Users\SheifShahin\Desktop>java -jar SQL.jar
SQL>>CREATE DATABASE newDatabase;
Data Base Created
Syntax True
SQL>>USE DATABASE newDatabase;
Syntax True
SQL>>CREATE TABLE travel(name varchar, city varchar , country varchar);
Table Created
Syntax True
SQL>>INSERT INTO travel( name, city, country) VALUES ( mohammed, alex, usa );
Syntax True
SQL>>INSERT INTO travel( name, city, country) VALUES ( ahmed, cairo, egypt );
Syntax True
SQL>>INSERT INTO travel( name, city, country) VALUES ( shahin, london, britan );
Syntax True
SQL>>SELECT * FROM travel;
+-----+-----+-----+
| name | city | country |
+-----+-----+-----+
| mohammed | alex | usa |
| ahmed | cairo | egypt |
| shahin | london | britan |
+-----+-----+-----+
Syntax True
SQL>>
```

```
C:\WINDOWS\system32\cmd.exe

+-----+-----+-----+
| name | city | country |
+-----+-----+-----+
| mohammed | alex | usa |
| ahmed | cairo | egypt |
| shahin | london | britan |
+-----+-----+-----+
Syntax True
SQL>>INSERT INTO travel( name, city, country) VALUES ( sherif, alex, egypt );
Syntax True
SQL>>SELECT * FROM travel;
+-----+-----+-----+
| name | city | country |
+-----+-----+-----+
| mohammed | alex | usa |
| ahmed | cairo | egypt |
| shahin | london | britan |
| sherif | alex | egypt |
+-----+-----+-----+
Syntax True
SQL>>SELECT name FROM travel;
+-----+
| name |
+-----+
| mohammed |
| ahmed |
| shahin |
| sherif |
+-----+
Syntax True
SQL>>
```

```
C:\WINDOWS\system32\cmd.exe

Syntax True
SQL>>SELECT * FROM travel;
+-----+-----+-----+
| name   | city  | country |
+-----+-----+-----+
| mohammed | alex  | usa     |
| ahmed    | cairo | egypt   |
| shahin   | london | britan  |
| sherif   | alex  | egypt   |
+-----+-----+-----+

Syntax True
SQL>>SELECT name FROM travel;
+-----+
| name |
+-----+
| mohammed |
| ahmed    |
| shahin   |
| sherif   |
+-----+

Syntax True
SQL>>SELECT name, country FROM travel WHERE country='egypt';
+-----+-----+
| name   | country |
+-----+-----+
| ahmed  | egypt   |
| sherif | egypt   |
+-----+-----+

Syntax True
SQL>>
```

```
C:\WINDOWS\system32\cmd.exe

+-----+
| name |
+-----+
| mohammed |
| ahmed    |
| shahin   |
| sherif   |
+-----+

Syntax True
SQL>>SELECT name, country FROM travel WHERE country='egypt';
+-----+-----+
| name   | country |
+-----+-----+
| ahmed  | egypt   |
| sherif | egypt   |
+-----+-----+

Syntax True
SQL>>UPDATE travel SET name=Omar_Ahmed ,country=Brazil WHERE city='alex';
Syntax True
SQL>>SELECT * FROM travel;
+-----+-----+-----+
| name       | city  | country |
+-----+-----+-----+
| Omar Ahmed | alex  | Brazil  |
| ahmed      | cairo | egypt   |
| shahin     | london | britan  |
| Omar Ahmed | alex  | Brazil  |
+-----+-----+-----+

Syntax True
SQL>>
```

```
C:\WINDOWS\system32\cmd.exe

+-----+
| name   | country |
+-----+
| ahmed  | egypt   |
| sherif | egypt   |
+-----+

Syntax True
SQL>>UPDATE travel SET name=Omar_Ahmed ,country=Brazil WHERE city='alex';
Syntax True
SQL>>SELECT * FROM travel;
+-----+
| name       | city   | country |
+-----+
| Omar Ahmed | alex   | Brazil  |
| ahmed      | cairo  | egypt   |
| shahin     | london | britan  |
| Omar Ahmed | alex   | Brazil  |
+-----+

Syntax True
SQL>>DELETE FROM travel WHERE city = 'cairo';
Syntax True
SQL>>SELECT * FROM travel;
+-----+
| name       | city   | country |
+-----+
| Omar Ahmed | alex   | Brazil  |
| shahin     | london | britan  |
| Omar Ahmed | alex   | Brazil  |
+-----+

Syntax True
SQL>>
```

```
C:\WINDOWS\system32\cmd.exe

+-----+
Syntax True
SQL>>UPDATE travel SET name=Omar_Ahmed ,country=Brazil WHERE city='alex';
Syntax True
SQL>>SELECT * FROM travel;
+-----+
| name       | city   | country |
+-----+
| Omar Ahmed | alex   | Brazil  |
| ahmed      | cairo  | egypt   |
| shahin     | london | britan  |
| Omar Ahmed | alex   | Brazil  |
+-----+

Syntax True
SQL>>DELETE FROM travel WHERE city = 'cairo';
Syntax True
SQL>>SELECT * FROM travel;
+-----+
| name       | city   | country |
+-----+
| Omar Ahmed | alex   | Brazil  |
| shahin     | london | britan  |
| Omar Ahmed | alex   | Brazil  |
+-----+

Syntax True
SQL>>DROP TABLE travel;
Syntax True
SQL>>DROP DATABASE newDatabase;
Syntax True
SQL>>
```

name	city	country
shanan	alex	Bambozia
shanan	alex	Bambozia
ahmed	cairo	egypt
shahin	london	britan
ahmed	omar	null

Syntax is valid

```
SQL>>select * from travel where city=alex OR city=cairo;
select * from travel where city=alexORcity=cairo ;
```

name	city	country
ahmed	cairo	egypt
shanan	alex	Bambozia
shanan	alex	Bambozia

UML class diagram:

