Changing data

SQL UPDATE

Recap L03

Create database from command line (if the database doesn't exist):

```
$ sqlite3 database_name
```

Start sqlite3 with a database that exists:

```
$ sqlite3 database_name
```

Run commands from a file without starting the interactive shell:

```
$ sqlite3 database_name < file_with_commands
OR:
$ cat file_with_commands | sqlite3 database_name
```

Recap L03 SELECT

```
SELECT <column>[,<column>]* FROM <table> [WHERE <condition>];
```

For instance:

```
SELECT author, title FROM books WHERE title = 'Cars';
```

The condition can be complex, e.g.

```
title='Cars' AND publisher='Bonnier';
```

Data changes

Data often changes so we have to have a way to update the data in our database.

This lecture will guide you through the basics of the UPDATE statement in SQL.

Let’s look at a table of cars

```
sqlite> .schema cars
CREATE TABLE cars (make TEXT, color TEXT, licensenumber TEXT PRIMARY KEY);

sqlite> select * from cars;
make        color       license
----------  ----------  -------
Volvo       Green       ABC 123
Honda       Blue        ABC 124
Porsche     Green       BBC 666
Ferrari     Red         FST 667
```

If you want your own cars database, here's how

Put the following in a file called cars.sql

```
PRAGMA foreign_keys=OFF;
BEGIN TRANSACTION;
CREATE TABLE cars (make TEXT, color TEXT, licensenumber TEXT PRIMARY KEY);
INSERT INTO "cars" VALUES('Volvo','Green','ABC 123');
INSERT INTO "cars" VALUES('Honda','Blue','ABC 124');
INSERT INTO "cars" VALUES('Porsche','Green','BBC 666');
INSERT INTO "cars" VALUES('Ferrari','Red','FST 667');
COMMIT;
```

Then execute the following command in the same directory as the file:

```
sqlite3 my_cars < cars.sql
```

Open the database with `sqlite3 my_cars`

The UPDATE statement

The basic form of the UPDATE SQL statement is:

```
UPDATE <table> SET <col>=<value>[,<col>=<value>]* WHERE <criteria>;
```

The WHERE clause is fairly important. If we leave it out, all rows will be changed!

Let’s change the color of the Porsche to Yellow:

```
UPDATE cars SET color='Yellow' WHERE licensenumber='BBC 666';
```

Confirm:

```
sqlite> SELECT * FROM cars WHERE licensenumber='BBC 666';
Porsche     Yellow      BBC 666
```

Updating more than one column

You can update more than one column:

```
UPDATE cars SET color='Grey', licensenumber='AAA 111'

   WHERE licensenumber='ABC 123';
```

(Change both color and license number of the Volvo)

```
sqlite> select * from cars;
Volvo       Grey        AAA 111
Honda       Blue        ABC 124
Porsche     Yellow      BBC 666
Ferrari     Red         FST 667
```

Read

http://www.w3schools.com/sql/sql_update.asp

http://zetcode.com/db/sqlite/datamanipulation/

What's next?

Next, we will look at how we would DELETE data from a table.