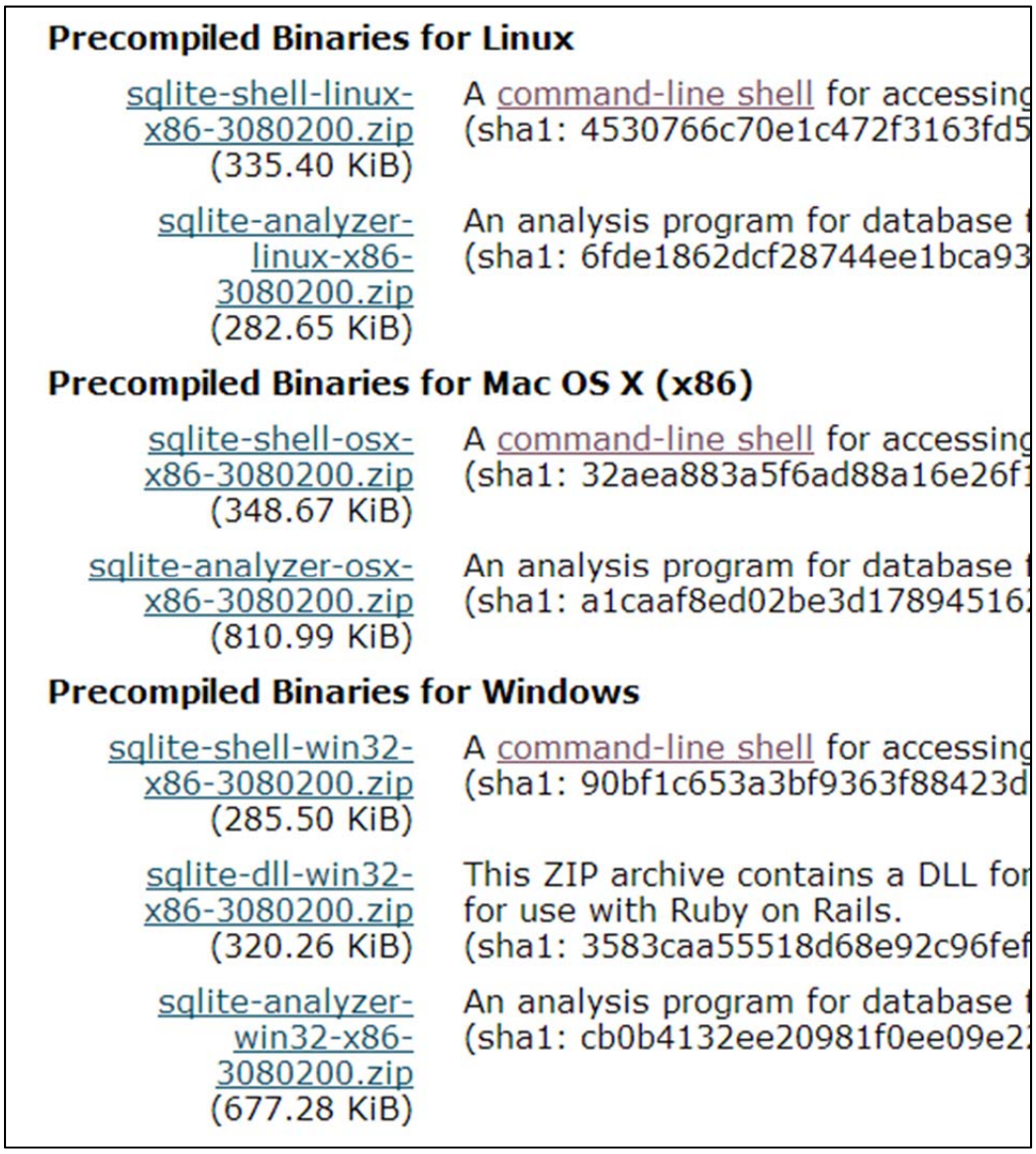
A Brief Manual for SQLite

Download SQLite

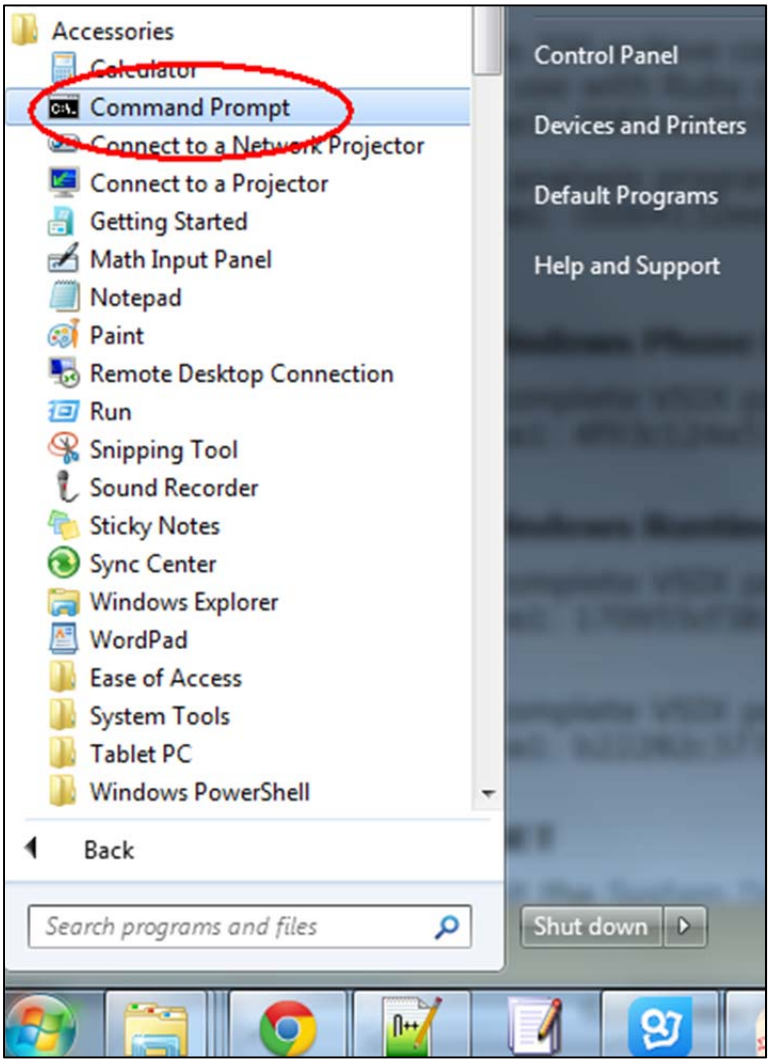
Link: http://www.sqlite.org/download.html

Download Precompiled Binaries for your OS (e.g., Windows) and unzip the package

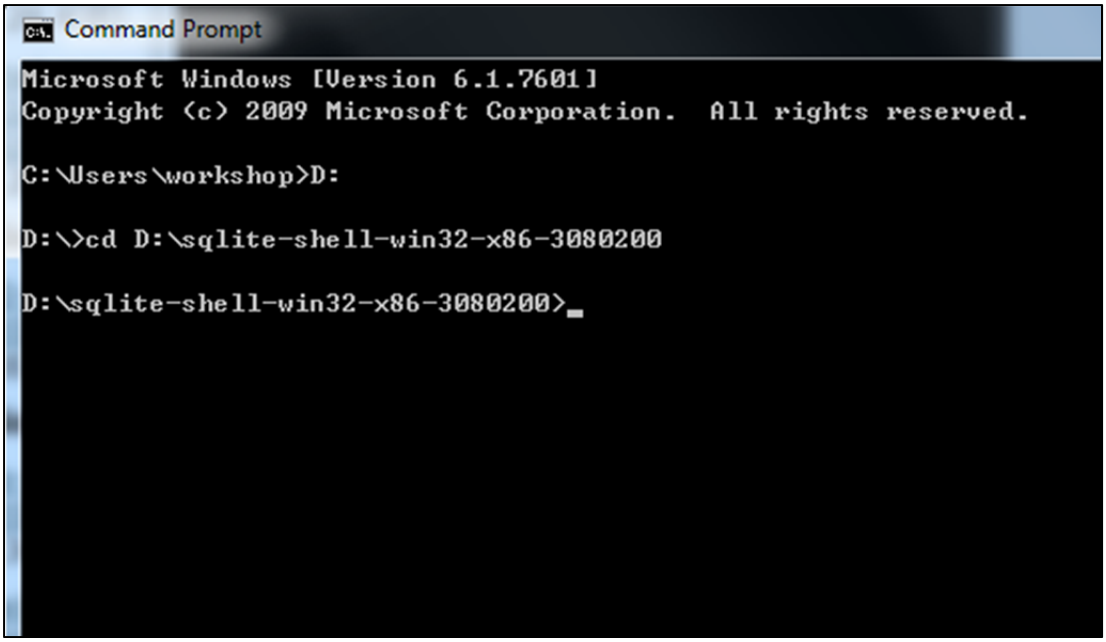


Create a database using SQLite

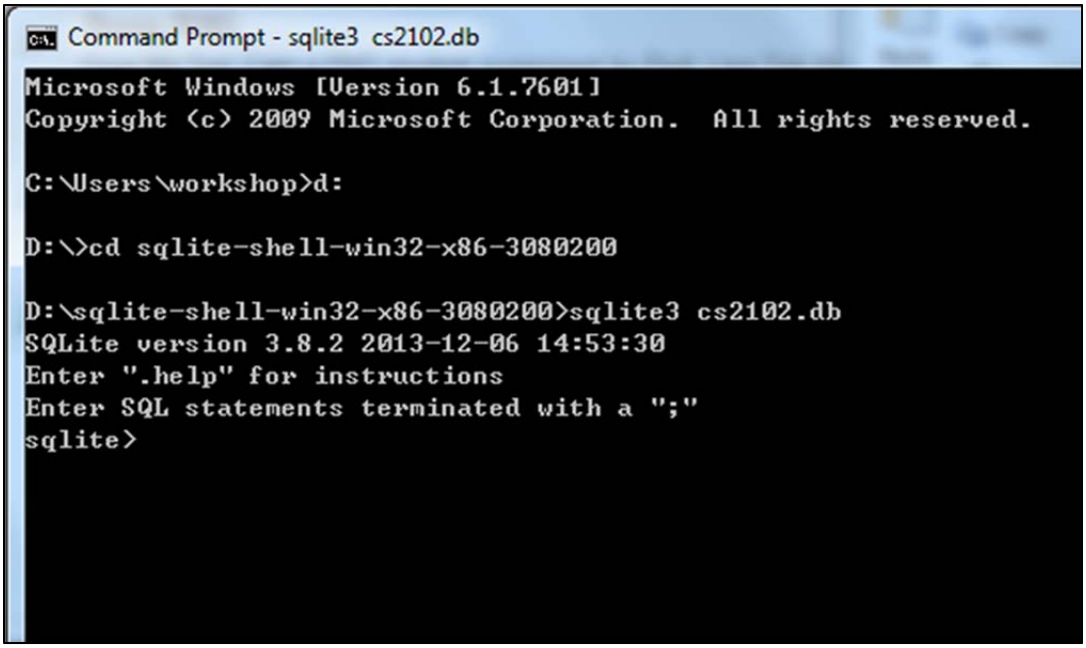
1. Open command line
   Start->Accessories->Command Prompt



2. Find the location of SQLite executable file
   Use disk label and ‘cd ’ command to get into the correct directory.
   (The snapshot shows that the SQLite file is located in directory sqlite-shell-win32-x86-3080200 of Disk d in this example)



3. Create a database named cs2102
   Command: sqlite3 yourdatabasename.db



Create tables

Similar to Oracle

```
D:\sqlite-shell-win32-x86-3080200>sqlite3 cs2102.db
SQLite version 3.8.2 2013-12-06 14:53:30
Enter ".help" for instructions
Enter SQL statements terminated with a ";"
sqlite> CREATE TABLE book (
   ...> title VARCHAR(256) NOT NULL,
   ...> format CHAR(9) CHECK(format = 'paperback' OR format='hardcover'),
   ...> pages INT,
   ...> language VARCHAR(32),
   ...> authors VARCHAR(256),
   ...> publisher VARCHAR(64),
   ...> year DATE,
   ...> ISBN10 CHAR(10) NOT NULL UNIQUE,
   ...> ISBN13 CHAR(14) PRIMARY KEY
   ...> );
sqlite>
```

```
   ...> );
sqlite> CREATE TABLE student (
   ...> name VARCHAR(32) NOT NULL,
   ...> email VARCHAR(256) PRIMARY KEY,
   ...> year DATE NOT NULL,
   ...> faculty VARCHAR(62) NOT NULL,
   ...> department VARCHAR(32) NOT NULL,
   ...> graduate DATE,
   ...> CHECK(graduate >= year)
   ...> );
sqlite>
```

Show created tables

Command: .tables

```
   ...> graduate DATE,
   ...> CHECK(graduate >= year)
   ...> );
sqlite>
sqlite>
sqlite> .tables
book     student
sqlite>
sqlite>
sqlite>
sqlite>
```

Show table definition

Command: .schema table name

```
sqlite>
sqlite> .schema copy
CREATE TABLE copy (
owner VARCHAR(256) REFERENCES student(email) ON DELETE CASCADE,
book CHAR(14) REFERENCES book(ISBN13),
copy INT CHECK(copy>0),
available VARCHAR(6) CHECK(available = 'TRUE' OR available='FALSE'),
PRIMARY KEY (owner, book, copy)
);
sqlite>
```

Insert data into tables

Similar to Oracle

```
sqlite>
sqlite>
sqlite> Insert into BOOK (TITLE,FORMAT,PAGES,LANGUAGE,AUTHORS,PUBLISHER,YEAR,ISB
N10,ISBN13) values ('The Digital Photography Book','paperback',219,'English','Sc
ott Kelby','Peachpit Press','2006-01-01','032147404X','978-0321474049');
sqlite>
```

```
sqlite>
sqlite> Insert into STUDENT (NAME,EMAIL,YEAR,FACULTY,DEPARTMENT,GRADUATE) values
 ('HUANG ZHANPENG','huangzhanpeng1992@msn.com','2010-08-01','Faculty of Arts and
 Social Science','Geography',null);
sqlite> Insert into STUDENT (NAME,EMAIL,YEAR,FACULTY,DEPARTMENT,GRADUATE) values
 ('ZHENG ZHEMIN','zhengzhemin1991@yahoo.com','2008-08-01','Faculty of Arts and S
ocial Science','History',null);
sqlite>
sqlite>
```

Select information from tables

Similar to Oracle

```
sqlite>
sqlite>
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
HUANG ZHANPENG|huangzhanpeng1992@msn.com|2010-08-01
ZHENG ZHEMIN|zhengzhemin1991@yahoo.com|2008-08-01
sqlite>
sqlite>
```

Change output format

Command:

.mode column shows the column output mode

.headers on show column headers

```
sqlite>
sqlite> .mode column
sqlite> .headers on
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
name            email                       year
--------------  --------------------------  ----------
HUANG ZHANPENG  huangzhanpeng1992@msn.com   2010-08-01
ZHENG ZHEMIN    zhengzhemin1991@yahoo.com   2008-08-01
sqlite>
```

Delete tuples in tables

Similar to Oracle

```
sqlite>
sqlite> DELETE from STUDENT WHERE NAME='ZHENG ZHEMIN';
sqlite>
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
HUANG ZHANPENG|huangzhanpeng1992@msn.com|2010-08-01
sqlite>
sqlite>
sqlite>
```

Update values in tuples

Similar to Oracle

```
sqlite>
sqlite>
sqlite>
sqlite> UPDATE STUDENT SET YEAR='2010-01-08'WHERE NAME='HUANG ZHANPENG';
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
HUANG ZHANPENG|huangzhanpeng1992@msn.com|2010-01-08
sqlite>
```

Enable Foreign Key constraint

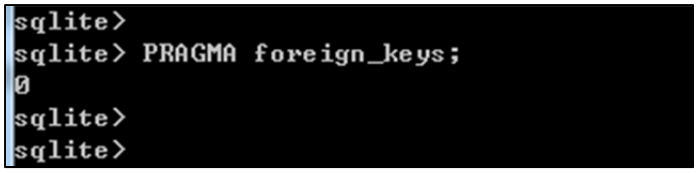
In SQLite, foreign key constraints are disabled by default. To enable it, use the following command:

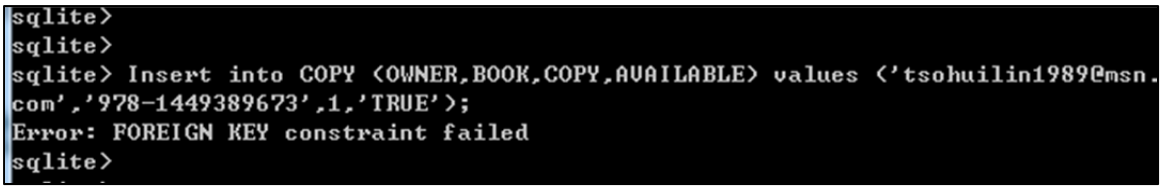
PRAGMA foreign_keys = ON;

To know whether the foreign key constraint is enabled or not, use command:

PRAGMA foreign_keys;

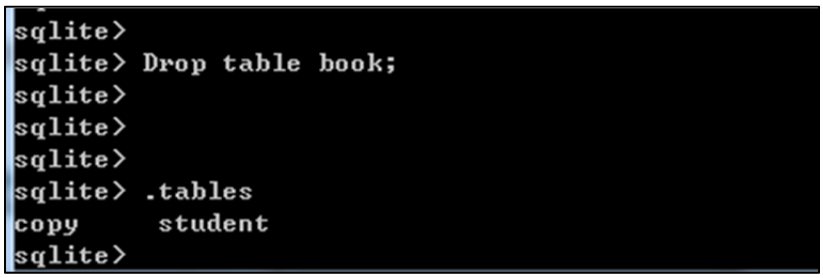
Value 0 represents disabled; value 1 represents enabled





Drop tables

Similar to Oracle



Close database

Command: .exit