Name: Aditya Kangune

Roll No: 23365

Class: SE-11

Batch: G-11

------------------------------------------------------------------------------------------------ **Assignment 3: Basic Sqlite Commands**

**AIM:**

Study the SQLite database and its uses and installation.

**PROBLEM STATEMENT / DEFINITION:**

1. Study the SQLite database and its uses.

2. Elaborate on building and installing of SQLite.

**OBJECTIVE:**

1. To study SQLite database and its uses.

2. To study installation & configuration of SQLite database.

**THEORY:**

SQLite:

SQLite is a self-contained, high-reliability, embedded, full-featured, public-domain,  SQL

database engine. SQLite is the most used database engine in the world.

SQLite is a relational database management system contained in a C programming library. In contrast to many other database management systems, SQLite is not a client– server database engine. Rather, it is embedded into the end program.

SQLite is ACID-compliant and implements most of the SQL standard, using a dynamically  and weakly typed SQL syntax that does not guarantee the domain

integrity.[5]

SQLite is a popular choice as embedded database software for local/client storage in application software such as web browsers. It is arguably the most widely deployed database engine, as it is used today by several widespread browsers, operating  systems,

and embedded systems (such as mobile phones), among others.[6] SQLite has bindings to many programming languages.

Installing SQLite:

1. type in the following command –

$ sudo apt-get install sqlite3 libsqlite3-dev

2. After installation check installation, sqlite terminal will give you a prompt and version info –

naved@neo:~$ sqlite3

SQLite version 3.8.2 2013-12-06 14:53:30

Enter &quot;. help&quot; for instructions

Enter SQL statements terminated with a &quot;;&quot;

sqlite&gt;

3. To quit –

sqlite&gt; .quit

4. Go to desired folder and create database –

naved@neo:~$ sqlite3 database\_name.db

It’ll create database\_name.db in the folder you’ve given the command.

5. To check whether the database has been created give the following command in  sqlite3

terminal –

sqlite&gt; .databases

Uses of SQLite:

SQLite is not directly comparable to client/server SQL database engines such as MySQL, Oracle, PostgreSQL, or SQL Server since SQLite is trying to solve a different  problem.

Client/server SQL database engines strive to implement a shared repository of  enterprise

data. They emphasis scalability, concurrency, centralization, and control. SQLite strives to provide local data storage for individual applications and devices. SQLite emphasizes economy, efficiency, reliability, independence, and simplicity. SQLite does not compete with client/server databases.

----------------------------------------------------- **Implementation:**

Aditya@Aditya-VirtualBox:~$ sqlite3

SQLite version 3.31.1 2020-01-27 19:55:54

Enter ".help" for usage hints.

Connected to a transient in-memory database.

Use ".open FILENAME" to reopen on a persistent  database. sqlite> .quit

Aditya@Aditya-VirtualBox:~$ sqlite3

SQLite version 3.31.1 2020-01-27 19:55:54

Enter ".help" for usage hints.

Connected to a transient in-memory database.

Use ".open FILENAME" to reopen on a persistent database. // Creating table to store data

// Creating table without parameters

sqlite> CREATE TABLE first\_table();

Error: near ")": syntax error

// Creating table with parameters first\_name and  last\_name sqlite> CREATE TABLE first\_table(first\_name  text, last\_name text);

// Inserting new records into table

sqlite> INSERT INTO first\_table VALUES("Aditya",  "Kangune");

sqlite> INSERT INTO first\_table

VALUES("Abc","Xyz");

sqlite> INSERT INTO first\_table

VALUES("Pqr","Lmn");

// Displaying created table

sqlite> SELECT \* FROM first\_table;

Aditya|Kangune

Abc|Xyz

Pqr|Lmn

// Selecting record using first\_name

sqlite> SELECT \* FROM first\_table WHERE first\_name  IS "Aditya"; Aditya|Kangune

// Selecting record using last\_name

sqlite> SELECT \* FROM first\_table WHERE last\_name  IS "Xyz"; Abc|Xyz

// Selecting only the first\_name from all  records sqlite> SELECT first\_name FROM

first\_table;

Aditya

Abc

Pqr

// Selecting only the last name from all records sqlite> SELECT last\_name FROM first\_table; Kangune

Xyz

Lmn

// Selecting row ids from table

sqlite> SELECT rowid FROM first\_table;

1

2

3

// Inserting new record into table

sqlite> INSERT INTO first\_table VALUES("Tom","Smith");

sqlite> SELECT rowid FROM first\_table;

1

2

3

4

sqlite> SELECT \* FROM first\_table;

Aditya|Kangune

Abc|Xyz

Pqr|Lmn

Tom|Smith

// Selecting particular fields for all records from  table sqlite> SELECT rowid, first\_name, last\_name  FROM first\_table;

1|Aditya|Kangune

2|Abc|Xyz

3|Pqr|Lmn

4|Tom|Smith

// Selecting particular record by row id sqlite> DELETE FROM first\_table WHERE rowid = 3; sqlite> SELECT \* FROM first\_table;

Aditya|Kangune

Abc|Xyz

Tom|Smith

// Inserting new records in table

sqlite> INSERT INTO first\_table

VALUES("Max","Jane"); sqlite> INSERT INTO  first\_table VALUES("Tom","Jerry"); sqlite>  SELECT \* FROM first\_table;

Aditya|Kangune

Abc|Xyz

Tom|Smith

Max|Jane

Tom|Jerry

sqlite> SELECT rowid, first\_name, last\_name FROM  first\_table;

1|Aditya|Kangune

2|Abc|Xyz

4|Tom|Smith

5|Max|Jane

6|Tom|Jerry

// Adding new column to table

sqlite> ALTER TABLE first\_table ADD COLUMN country  text; sqlite> SELECT rowid, first\_name, last\_name,  country FROM first\_table; 1|Aditya|Kangune| 2|Abc|Xyz|

4|Tom|Smith|

5|Max|Jane|

6|Tom|Jerry|

// Updating information for a record

sqlite> UPDATE first\_table SET country = "India" WHERE  rowid = 1; sqlite> SELECT rowid, first\_name, last\_name,  country FROM first\_table;

1|Aditya|Kangune|India

2|Abc|Xyz|

4|Tom|Smith|

5|Max|Jane|

6|Tom|Jerry|

// Filling values for remaining entries

sqlite> UPDATE first\_table SET country = "Germany" WHERE  rowid = 2; sqlite> UPDATE first\_table SET country =  "Italy" WHERE rowid = 3; sqlite> UPDATE first\_table SET  country = "USA" WHERE rowid = 4; sqlite> UPDATE  first\_table SET country = "Canada" WHERE rowid = 5;  sqlite> UPDATE first\_table SET country = "Russia" WHERE  rowid = 6; sqlite> SELECT rowid, first\_name, last\_name,  country FROM first\_table;

1|Aditya|Kangune|India

2|Abc|Xyz|Germany

4|Tom|Smith|USA

5|Max|Jane|Canada

6|Tom|Jerry|Russia

// Applying same value to all records

sqlite> UPDATE first\_table SET country = "India"; sqlite> SELECT rowid, first\_name, last\_name, country FROM  first\_table;

1|Aditya|Kangune|India

2|Abc|Xyz|India

4|Tom|Smith|India

5|Max|Jane|India

6|Tom|Jerry|India

------------------------------------------------------ **Conclusion:**

1. Study of installation steps of SQLite database.

2. Study of configuration of SQLite database.

3. To understand various uses of SQLite database.