CSE 111 – DATABASE SYSTEMS
Lab 1

In this lab session you are required to get familiar with the software we will use throughout the semester: SQLite database and its corresponding front-end SQLiteStudio.

1. Download and install SQLite on your machine (http://www.sqlite.org/). Test that it works fine by using the instructions in the manual.
2. Download and install SQLiteStudio on your computer (http://sqlitestudio.pl/index.rvt). Test the main functionality of the GUI.
3. These packages are already installed on the machines in the lab. SQLiteStudio is available through the Applications tab, while SQLite is available through the command line shell (`sqlite3`). Execute the first two steps on your machines only.
4. Read the online documentation for both these packages in order to figure out how to use them.

In order to get a PASS for this assignment, you need to execute the following tasks:

1. Create a database named TPCH.
2. Create the following tables with their corresponding schemas:
   (a) **nation** (
   - n_nationkey decimal(3,0) not null,
   - n_name char(25) not null,
   - n_regionkey decimal(2,0) not null,
   - n_comment varchar(152)

)
   (b) **region** (
   - r_regionkey decimal(2,0) not null,
   - r_name char(25) not null,
   - r_comment varchar(152)

)
   (c) **part** (
   - p_partkey decimal(10,0) not null,
   - p_name varchar(55) not null,
   - p_mfgr char(25) not null,
   - p_brand char(10) not null,
   - p_type varchar(25) not null,
   - p_size decimal(2,0) not null,
   - p_container char(10) not null,
   - p_retailprice decimal(6,2) not null,
   - p_comment varchar(23) not null

)
   (d) **supplier** (
   - s_suppkey decimal(8,0) not null,
   - s_name char(25) not null,

- s_address varchar(40) not null,
- s_nationkey decimal(3,0) not null,
- s_phone char(15) not null,
- s_acctbal decimal(7,2) not null,
- s_comment varchar(101) not null

)

(e) **partsupp** (

- ps_partkey decimal(10,0) not null,
- ps_suppkey decimal(8,0) not null,
- ps_availqty decimal(5,0) not null,
- ps_supplycost decimal(6,2) not null,
- ps_comment varchar(199) not null

)

(f) **customer** (

- c_custkey decimal(9,0) not null,
- c_name varchar(25) not null,
- c_address varchar(40) not null,
- c_nationkey decimal(3,0) not null,
- c_phone char(15) not null,
- c_acctbal decimal(7,2) not null,
- c_mktsegment char(10) not null,
- c_comment varchar(117) not null

)

(g) **orders** (

- o_orderkey decimal(12,0) not null,
- o_custkey decimal(9,0) not null,
- o_orderstatus char(1) not null,
- o_totalprice decimal(8,2) not null,
- o_orderdate date not null,
- o_orderpriority char(15) not null,
- o_clerk char(15) not null,
- o_shippriority decimal(1,0) not null,
- o_comment varchar(79) not null

)

(h) **lineitem** (

- l_orderkey decimal(12,0) not null,
- l_partkey decimal(10,0) not null,
- l_suppkey decimal(8,0) not null,
- l_linenumber decimal(1,0) not null,
- l_quantity decimal(2,0) not null,
- l_extendedprice decimal(8,2) not null,
- l_discount decimal(3,2) not null,
- l_tax decimal(3,2) not null,

- l_returnflag char(1) not null,
- l_linestatus char(1) not null,
- l_shipdate date not null,
- l_commitdate date not null,
- l_receiptdate date not null,
- l_shipinstruct char(25) not null,
- l_shipmode char(10) not null,
- l_comment varchar(44) not null

)

3. Insert data into each of the tables using the features provided by SQLiteStudio.

At the end, you are required to show the TA that the tables contain some data and to provide a script with the SQL commands that create the TPCH database and its tables.