

## CSE 111 – DATABASE SYSTEMS

### Lab 1

In this lab session you are required to create the schema for the TPC-H database you will build throughout the semester. This is the first step in working with any relational database.

In order to complete the lab you have to create the following tables with their corresponding schema in the database file `tpch.sqlite`. All the SQL statements have to be written in the file `create-schema-tpch.sql`.

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

- **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
- )
- **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
- )
- **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
- )
- **lineitem** (
  - l\_orderkey decimal(12,0) not null,
  - l\_partkey decimal(10,0) not null,
  - l\_suppkey decimal(8,0) not null,
  - l\_linenum 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

)

Make sure you keep the database `tpch.sqlite` and the SQL file `create-schema-tpch.sql` for future labs.  
You have to present the created database with all the tables to the TA.