

CSE 111 – DATABASE SYSTEMS

Lab 9

In this Lab session you will learn how to work with SQL views. You will create views based on queries from Lab 4 and rewrite the same queries with the views.

1. Create a view Q1 that appends the country and region name to each customer. The schema of Q1 is:

- c_custkey decimal(9,0) not null,
- c_name varchar(25) not null,
- c_address varchar(40) 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,
- c_nation char(25) not null,
- c_region char(25) not null

Rewrite Q1 from Lab 4 with view Q1.

2. Create a view Q2 that appends the country and region name to each supplier. The schema of Q2 is:

- s_suppkey decimal(8,0) not null,
- s_name char(25) not null,
- s_address varchar(40) not null,
- s_phone char(15) not null,
- s_acctbal decimal(7,2) not null,
- s_comment varchar(101) not null,
- s_nation char(25) not null,
- s_region char(25) not null

Rewrite Q2 from Lab 4 with view Q2.

3. Rewrite Q3 from Lab 4 with view Q1.

4. Rewrite Q4 from Lab 4 with view Q2.

5. Create a view Q5 that replaces o_orderdate with the year o_orderyear and contains all the other attributes in orders. The schema of Q5 is:

- 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_orderyear integer 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

Rewrite Q5 from Lab 4 with views Q1 and Q5.

- Rewrite Q6 from Lab 4 with view Q5.
- Rewrite Q7 from Lab 4 with views Q1 and Q5.
- Rewrite Q8 from Lab 4 with views Q2 and Q5.
- Rewrite Q9 from Lab 4 with views Q2 and Q5.
- Create a view Q10 that computes the maximum discount for each type of part. The schema of Q10 is:
 - p_type varchar(25) not null,
 - max_discount decimal(3,2) not null

Rewrite Q10 from Lab 4 with view Q10.

- Rewrite Q11 from Lab 4 with view Q2.
- Rewrite Q12 from Lab 4 with view Q2.
- Rewrite Q13 from Lab 4 with views Q1 and Q2.
- Rewrite Q14 from Lab 4 with views Q1 and Q2.
- Create two views Q151 and Q152. Q151 contains the customers with negative balance and has the schema:
 - c_custkey decimal(9,0) not null,
 - c_name varchar(25) not null,
 - c_nationkey decimal(3,0) not null,
 - c_acctbal decimal(7,2) not null,

Q152 contains the suppliers with negative balance and has the schema:

- s_suppkey decimal(8,0) not null,
- s_name char(25) not null,
- s_nationkey decimal(3,0) not null,
- s_acctbal decimal(7,2) not null,

Rewrite Q15 from Lab 4 with views Q151 and Q152.

Instructions. You are required to execute the queries on the TPCB database you populated in Lab 2. We provide you the correct answers for this database. We will check the correctness of your queries on a different database. Folder **Lab9** under **Lab** contains an archive **lab9-results.zip** with the correct answers. There is a file for each query, e.g., **1.out** for query 1, **2.out** for query 2, etc. You are required to turn in an archive containing a file with the SQL statement for every query—only the query statement with the view, no view definition or anything else. The names of the files have to be **1.sql** for query 1, **2.sql** for query 2, and so on. There should be exactly 15 files in the archive file. The name of the archive file has to be **firstname-lastname-lab9.zip** where **firstname** and **lastname** are your first and last names, respectively. The type of the archive file has to be **zip**.