CSE 111 – DATABASE SYSTEMS
Lab 3

In this lab session you have to write 15 SQL queries for the TPCH database created and populated in the previous labs. The queries are the following (1 point per query):

1. Find the number of line items that have `l_shipdate` smaller than `l_commitdate`.

2. What is the minimum, maximum, and total account balance among the customers in the "`FURNITURE`" market segment?

3. What is the address, phone number, and account balance of "`Customer#000000227`"?

4. What is the name of the suppliers with an account balance larger than `$8,000`?

5. Find all the items with the returnflag not set to "`Y`" on the receipt date of `September 22, 1995`. Print `l_receiptdate`, `l_returnflag`, `l_extendedprice`, and `l_tax` for every line item.

6. Find the total account balance of the suppliers from every nation. Print the nation name and the total account balance.

7. Find the total price `o_totalprice` of orders made by customers from `AMERICA` in 1995.

8. What are the nations of the customers that made orders in `December 1994`? Print every nation only once and sort them in alphabetical order.

9. How many line items ordered by `Customer#000000227` were received every month? Print the number of ordered line items corresponding to every (year, month) pair from `l_receiptdate`.

10. Find the name of the suppliers from `ASIA` who have more than `$5,000` on account balance. Print the supplier name and their account balance.

11. Find how many `1-URGENT` priority orders have been posted by customers from `ROMANIA` between 1993 and 1997, combined.

12. Find the total number of line items on orders with priority `3-MEDIUM` supplied by suppliers from `ARGENTINA` and `BRAZIL`. Group these line items based on the year of the order from `o_orderdate`. Print the year and the count. Check the `substr` function in `SQLite`.

13. Find the number of suppliers that provided a discount of `10%` for one of their line items. For every such supplier, print its name and the number of such discounted line items.

14. Find the number of orders having status `F`. Group these orders based on the region of the customer who posted the order. Print the region name and the number of status `F` orders.

15. Find the total account balance of all the customers from `AMERICA` in the `FURNITURE` market segment.

In order to complete the lab you have to perform the following tasks:

1. Write the `SQL` statement corresponding to every query in the file `test/x.sql`, where `x` is the number of the query above. Every query goes into its separate file. These are the only files you have to modify and submit in this assignment.

2. The format of the expected output for every query is available in `output/x.out`. The included results are only samples. They are not the correct results. So, make sure you match the format, not the exact results.

3. The submission consists of a compressed `zip` file that contains the files in the `test` folder. The name of the file has to be `lab-3.zip`. When you create the file, include the folder `test` into the compression, not every file `test/x.sql` separately.