CSE 111 – DATABASE SYSTEMS
Lab 10

In this lab, you will learn how to work with triggers in SQLite. In order to complete the requirements, you have to implement the following tasks:

1. Create a trigger `t1` that for every new `order` entry automatically fills the `o_orderdate` attribute with the date `2025-12-01`. Insert into `orders` all the orders from `December 1995`, paying close attention on how the `o_orderkey` attribute is set. Write a query that returns the number of orders from `2025`. Put all the three SQL statements in a file `1.sql`.

2. Create a trigger `t2` that sets a warning `Negative balance!!!` in the comment attribute of the `customer` table every time `c_acctbal` is updated to a negative value from a positive one. Write a SQL statement that sets the balance to `-100` for all the customers in `AFRICA`. Write a query that returns the number of customers with negative balance from `EGYPT`. Put all the SQL statements in a file `2.sql`.

3. Create a trigger `t3` that resets the comment to `Positive balance` if the balance goes back positive from negative. Write a SQL statement that sets the balance to `100` for all the customers in `MOZAMBIQUE`. Write a query that returns the number of customers with negative balance from `AFRICA`. Put all the SQL statements in a file `3.sql`.

4. Create triggers that update the attribute `o_orderpriority` to `HIGH` every time a new `lineitem` tuple is added to or deleted from that order. Delete all the line items corresponding to orders from `December 1995`. Write a query that returns the number of `HIGH` priority orders in the interval `September - December 1995`. Put all the SQL statements in a file `4.sql`.

5. Create a trigger `t5` that removes all the tuples from `partsupp` and `lineitem` corresponding to a part being deleted. Delete all the parts supplied by suppliers from `KENYA` or `MOROCCO`. Write a query that returns the number of parts supplied by every supplier in `AFRICA` grouped by their country in increasing order. Put all the SQL statements in a file `5.sql`.

In order to complete the lab you have to demo and explain your code to the TA in the lab.