CSIT115 Database Management and Security
Laboratory 4

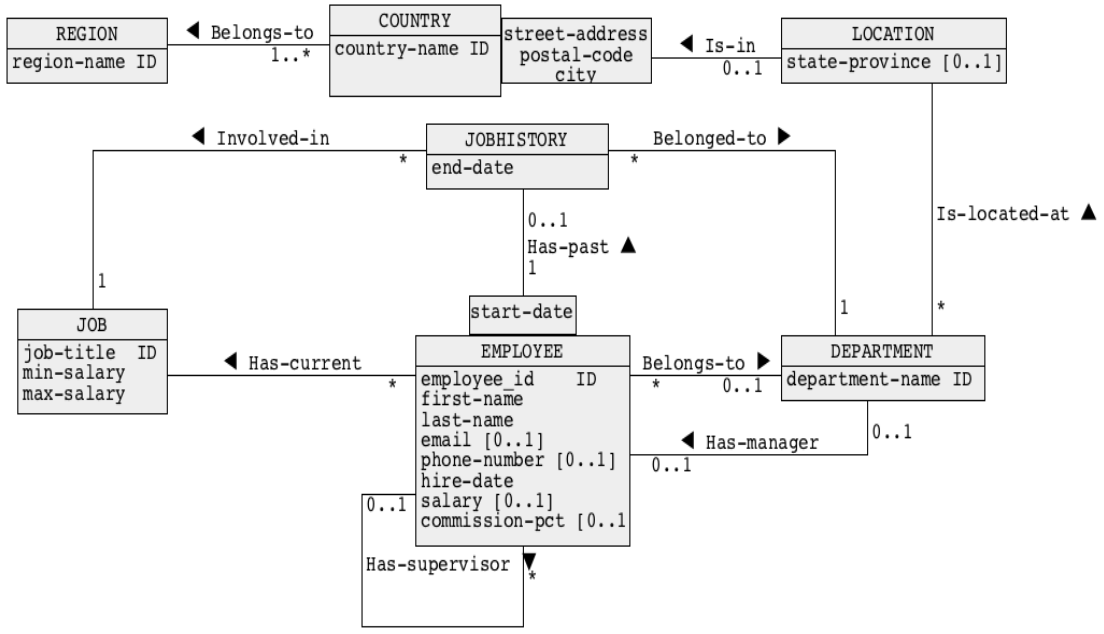
Scope

This laboratory includes the following:

- tasks related to the applications of `CREATE DATABASE`, `CREATE USER`, and `GRANT` statements of SQL
- tasks related to granting access right to the subsets of relational tables and verifying consistency constraints in the relational tables

Task 1

(1) Create a database with the name: lab4 (or any name of your choice) and execute the script files: dbcreate.sql and dbload.sql to create the necessary tables and records as follows.



(2) Create three users with the following usernames: *user1*, *user2* and *user3*. Choose a password (any password) for each of the users.

(3) Use GRANT statement(s) to grant read privilege on the entire database (lab4) to *user1*. The privilege must be granted such that *user1* is not allowed to grant the same privilege to another user.

(4) Grant write privilege on table `Employee` to user2. The privilege must be granted such that a *user2* is able to grant the same privileges to the other users.

(5) Grant the privilege to create tables in the database (lab4) to *user3*. The privilege must be granted such that *user3* is not allowed to grant the same privilege to another user.

(6) Grant the privilege to read the columns: `department_name, street_address, city and country_name` in the `Department` table to user3. The privilege must be granted such that *user3* is not able to grant the same privilege to another user.

(7) Use SELECT statements to retrieve and display the privileges granted to the users from the database views: `mysql.user`, `mysql.db`, `mysql.tables_priv` and `mysql.columns_priv` maintained by the DBMS.

Task 2

The management wants to streamline the reporting structure of the company with the following business rule (constraint): an employee and his/her supervisor must belong to the same department.

Use SELECT statement to retrieve records that violate the constraint. For each record, display the following columns:

- `employee_id` and `department_name` of the employee.
- `employee_id`, `department_name` and `job_title` of the supervisor.

.