Databases and information systems laboratory CS313

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Handout 1
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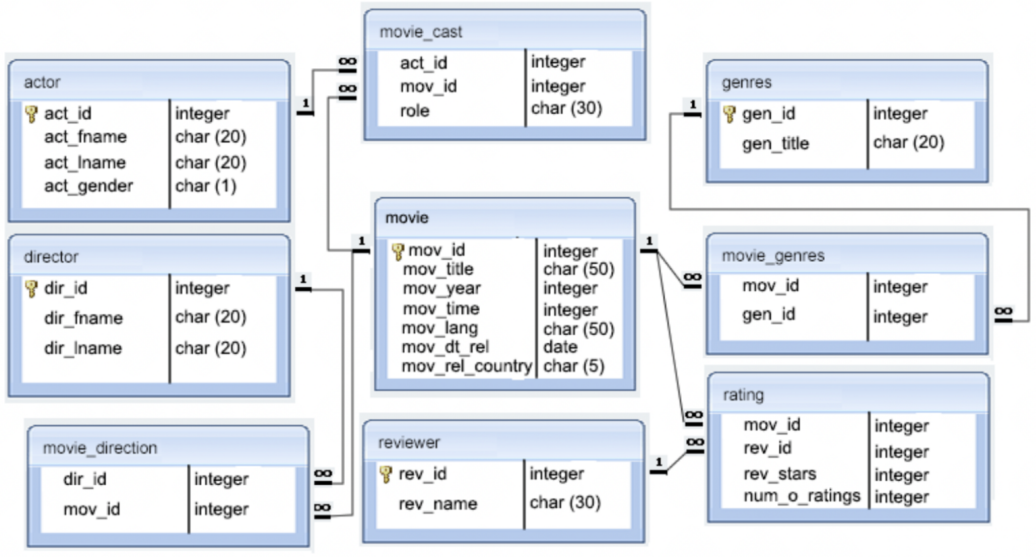
1. Consider the following tables in a database:



   (a) Create a database called moviedb using the command `createdb moviedb`

   (b) Quit psql with the command `\q`

   (c) Enter the moviedb using the command `psql moviedb`

   (d) Use[1] `create-moviedb-tables.sql` file to create the tables described in the requirements.

[1]If the packages psycopg2 is not installed, use the command `pip install psycopg2` if this throws an error, first execute `apt-get install libpq-dev`

(e) Execute `populate-moviedb-data.py` file which uses the corresponding `csv` files to insert values into the tables.

2. Go through the `create-movie-tables.sql` and `populate-moviedb.data.py` files in detail to understand how the tables are created; how python code connets to the database; reads the csv file and inserts the tuples to the database etc.

3. Use the command `psql moviedb` to enter the movie database on the terminal

4. Check the contents of the table *actor*.

5. Try out other simple queries that we have discussed in the class.

6. Consider a College database with the following schema (the primary keys are denoted by bold font):

   - `student (`**`sid`**`, sname, gender, gpa)`
     (Here `sid` refers to student id and `sname` refers to student name)
   - `department (`**`dname`**`, numphds)`
     (Here `dname` refers to department name and `numphds` refer to the number of Phd students enrolled in the department)
   - `professor (`**`pname`**`, dname)`
     (Here `pname` refers to professor name and `dname` is a Foreign Key that refers to `dname` in `department` table)
   - `course (`**`cno, dname,`** `cname)`
     (Here `cno` refers to course number, `cname` refers to course name and `dname` is a Foreign Key that refers to `dname` in `department` table. Note that in this table `cno, dname` together form the primary key)
   - `major (`**`dname, sid`**`)`
     (Here `dname` is a Foreign Key that refers to `dname` in `department` table and `sid` is a Foreign Key that refers to `id` in `student` table)
   - `enroll (`**`sid`**`, grade, dname, cno)`
     (Here `sid` is a Foreign Key that refers to `id` in `student` table, `dname, cno` are Foreign Keys that refer to `dname, cno` in `course` table)

   Now do the following:

   (a) Create a database called `collegedb`.

(b) Start using the database, write the file `create-collegedb-tables.sql` and execute it to create the tables of `collegedb` as specified in the requirements.

(c) Write a python file `populate-college-data.py` which uses the corresponding `csv` files to insert values into the tables.