**Lab 04 - DDL & DML**

**DDL (Create, Alter, Drop)**

**DML (Insert, Delete, Update)**

**Objective:**

* Students practice creating, modifying, and removing tables.
* Students practice inserting new data into tables, update data in tables, and delete data from tables.
* Students will create a table using an existing table.
* Students will learn how import data into a table from other tables.

**Submission:**

***Your submission will be a single text-based SQL file with the solutions provided.***

Create a new SQL tab in the MySQL workbench. Save the script as L04\_ID\_LASTNAME.sql

Your submission needs to be commented and include the question and the solutions. Make sure every SQL statement terminates with a semicolon.

**Tasks:**

Consider the following table specification:

Part A (DDL) (55%):

1. Create table the following tables and their given constraints: (20%)

**MOVIES** (id:int, title:varchar(35), year:int, director:int,score:decimal(3,2))

Movies

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Column  Name | Column  DataType | PK | Not  Null | Unique | FK | Default  Value | Validation |
| id | Int | ✓ |  |  |  |  |  |
| title | Varchar(35) |  | ✓ |  |  |  |  |
| year | Int |  | ✓ |  |  |  |  |
| Director | Int |  | ✓ |  |  |  |  |
| score | Decimal(3,2) |  |  |  |  |  | < 5 and > 0 |

**ACTORS** (id:int, name:varchar(20), lastname:varchar(30))

**Actors**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Column  Name | Column  DataType | PK | Not  Null | Unique | FK | Default  Value | Validation |
| id | Int | ✓ |  |  |  |  |  |
| name | Varchar(20) |  | ✓ |  |  |  |  |
| Lastname | Varchar(30) |  | ✓ |  |  |  |  |

**CASTINGS** (movieid:int, actorid:int)

**Castings**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Column  Name | Column  DataType | PK | Not  Null | Unique | FK | Default  Value | Validation |
| movieid | Int | ✓ |  |  | ✓  (movies) |  |  |
| actorid | int | ✓ |  |  | ✓  (actors) |  |  |

**DIRECTORS**(id:int, name:varchar(20), lastname:varchar(30))

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Column  Name | Column  DataType | PK | Not  Null | Unique | FK | Default  Value | Validation |
| id | Int | ✓ |  |  |  |  |  |
| name | Varchar(20) |  | ✓ |  |  |  |  |
| Lastname | Varchar(30) |  | ✓ |  |  |  |  |

1. Modify the ***movies*** table to create a foreign key constraint that refers to table ***directors***. (10%)
2. Modify the ***movies*** table to create a new constraint so the uniqueness of the movie title is guaranteed. (10%)
3. Write insert statements to add the following data to table ***directors*** and ***movies***. (10%)

**Director**

|  |  |  |
| --- | --- | --- |
| id | name | lastname |
| 1010 | Rob | Minkoff |
| 1020 | Bill | Condon |
| 1050 | Josh | Cooley |
| 2010 | Brad | Bird |
| 3020 | Lake | Bell |

**Movies**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| id | title | year | director | score |
| 100 | The Lion King | 2019 | 3020 | 3.50 |
| 200 | Beauty and the Beast | 2017 | 1050 | 4.20 |
| 300 | Toy Story 4 | 2019 | 1020 | 4.50 |
| 400 | Mission Impossible | 2018 | 2010 | 5.00 |
| 500 | The Secret Life of Pets | 2016 | 1010 | 3.90 |

1. Write a SQL statement to remove all above tables. Is the order of tables important when removing? Why? (5%)

Part B (More DML) (45%):

1. Create a new empty table ***employee2*** exactly the same as table ***employees***. (5%)
2. Modify table ***employee2*** and add a new column ***username*** to this table. The value of this column is not required and does not have to be unique. (10%)
3. Insert all student data from the ***employees*** table into your new table ***employee2***. (5%)
4. In table ***employee2***, write a SQL statement to change the first name and the last name of employee with ID ***1002*** to your name. (5%)
5. In table ***employee2***, generate the email address for column ***username*** for each student by concatenating the first character of employee’s first name and the employee’s last name. For instance, the username of employee Peter Stone will be ***pstone***. (10%)
6. In table ***employee2***, remove all employees with office code 4. (5%)
7. Drop table ***employee2***. (5%)