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)		✓				

2. Modify the ***movies*** table to create a foreign key constraint that refers to table ***directors***. (10%)
3. Modify the ***movies*** table to create a new constraint so the uniqueness of the movie title is guaranteed. (10%)
4. 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

5. 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*** of type character to store up to 40 characters 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%)