Faculty of Computing

Year 2 Semester 1 (2025)

IT2140- Database Design and Development Lab Sheet 07

Lab Sheet 07: SQL Procedures and Triggers

Objective

At the end of this lab session, students should be able to create SQL procedures and triggers to perform calculations on movie database tables.

Consider the following relations in a movie database.

Movie (title:char(25), year:int, length:float, language:char(15), type:char(1), directorName: char(30))

MovieStar (name: char (15), country:varchar(40), gender:char(1), birthdate: date)

StarsIn (movieTitle:char(25), movieYear:int, starname:char(15), role:varchar(15))

Theater (theaterName: char (20), country: varchar (40), city: varchar (20), capacity: int)

Show (showId: int, movieTitle: char (25), theaterName: char (20), Date: datetime, ticketPrice: real, spectators: int)

Booking (showId: int, custName: Char (50), numTickets: int)

Exercises 1

Answer the following— **see MovieScript2.sql for reference**

(a) Create a stored procedure which can insert a booking to the booking table. The procedure should accept the show id, customer name and number of tickets as parameters and it should update the number of spectators on the show table.

(b) Create a trigger to ensure that the number of spectators on the show table does not exceed the capacity of the theater it's shown in.

Exercises 2

Answer the following— **see MovieScript2.sql for reference**

(a) Assume that each movie star is assigned with a rank based on the number of lead roles he/she has played. Create a procedure to update a rank attribute added to the MovieStar table for each movie star.

(b) Assuming that the Movie Star table already stores the rank of each movie star based on the criteria in **Exercise 2-a**, write a trigger to update the rank when the movie star appears in a new movie.

Submission Requirement:

Complete **Exercises 2** of this lab sheet and upload your SQL query answers to the **Git repository** provided by your instructor **before end of the day.**

File Naming Guidelines:

- Name your submission file as:
  Lab_7_Exercises_2.sql

Additional Instructions:

- Ensure your SQL queries are well-formatted and include comments where necessary.
- Test your queries before uploading to confirm they run without errors.
- Commit and push your file to the correct Git repository and branch as instructed.