**REPORT**

Cover Page

Database and Systems Final Assignment

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Introduction

I have created a database called fest\_21540095, which stores my information on the film festivals, people in them, the films, awards, and the award categories. I started with creating an er modelling diagram and relationship tables. I then created tables and inserted the information into my database. Then, I had created Queries based on my tables and later added triggers and procedures to my information. Later on I needed to connect my database to python and do operations with python.

Design of Database

Explanation:

I had chosen 5 different entities. My entity Award is meant to display the winner for every oscar year from 2000 to 2023, the entity is connected to the next entity fesitval. The festival shows the location of the different film festivals and where they are being held. The Festival entity is linked to the entity titled film. Film shows the top 3 nominees of the 3 events (Cannes Film Festival, Toronto Film Festival, Oscars) for the past 5 years. The entity Award is also linked to the entity person because it is the person who wins the award, this includes the persons job and jobID. Award category is another entity of mine which displays the types of awards at each event and what they could win. The data types were chosen based on the nature of information given. For example for the entity of Film contained the attribute of filmName, and that would be a VARCHAR(100) since it contains characters. I only used the data types VARCHAR(100) and INT due to the fact that there was no need for any other ones. The only other one I had was VARCHAR(255) and that was because I needed to add more characters for the description attribute in the Award Category entity. The primary key for every entity was just their ID, and this was to keep them unique from any other data.

Assumptions:

* The naming conventions used for tables and attributes follow a consistent pattern for clarity and ease of understanding.
* Primary key attributes are consistently named with a suffix of "ID", making it clear that they uniquely identify each record in their respective tables.
* Foreign key attributes maintain consistency by referencing the primary keys of their related tables.

Implementation of Database

I had implemented this database by first designing my er diagram and making the entity tables and relational schema. After doing all of that, I had created my tables in mysql for each entity and added the data type and the NULL and NOT NULL. I created all of my tables using CREATE TABLES, like this code:

CREATE TABLE AwardCategory (

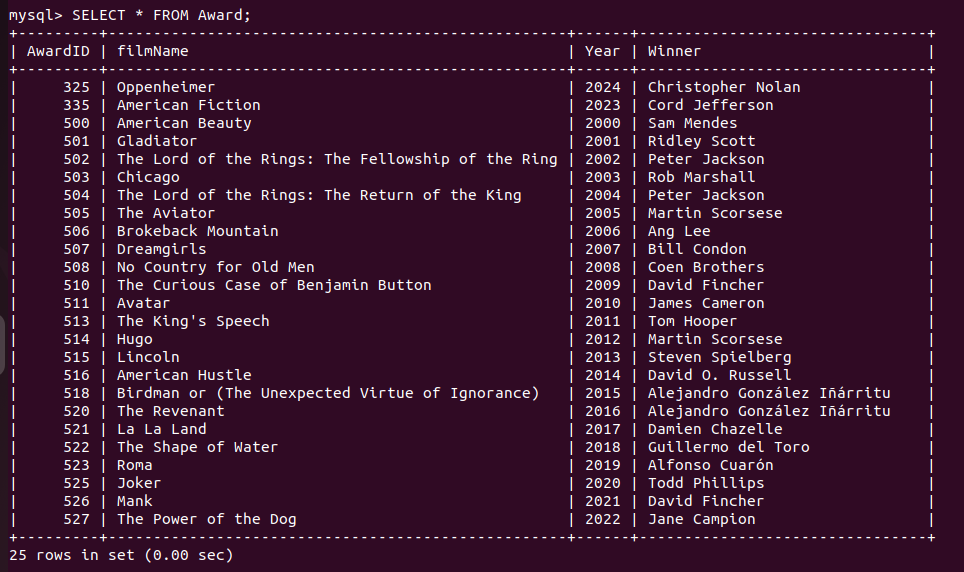
categoryID INT NOT NULL PRIMARY KEY,

categoryName VARCHAR(100) NOT NULL,

Description VARCHAR(255)

);

After doing that for all of my entities, I had to insert values into these tables. For my Award table, I input all the winners and director names for the best picture from the year 2000- 2024 and did the same for all the other entities.



Use of Database

These were my questions:  
**What are the names of the directors in the awards?**

SELECT name

FROM Person

WHERE Job = ‘director’

I had chosen this question to find out which person was a director out of the actors and directors.

**Find the location of the Oscars**

SELECT Location

FROM Festival

WHERE festivalName = ‘Oscars’

This was to find out the location of where the oscars were being held, but if I needed to find out about the other festivals and where they are held I could just change the name from oscars to the other festival names.

**What movies are in the released after the year 2020?**

SELECT filmName

FROM Film

WHERE Year > 2020;

This is to find out the movies released after the year 2020 to differentiate between the older movies.

**What are the names of movies that start with an ‘C’**

SELECT Director

FROM Film

WHERE Director LIKE ‘C%’

This is to retrieve movies that start with the letter ‘c’.

**Use INNER JOIN to retrieve the filmname from Award and display the festival name and director from film table**

SELECT Award.filmName, Film.festivalName, Film.Director

FROM Award INNER JOIN Film ON

Award.filmName = film.filmName

This is using INNER JOIN operation where I can fetch the film name from the Award table along with the corresponding festival name and director from the Film table.

**How many films are nominated?**

SELECT Film.FestivalName, COUNT(\*) AS NumberOfFilmsNominated

FROM FIlm

INNER JOIN Festival ON FIlm.FestivalName = Festival.festivalName

GROUP BY FIlm.FestivalName

ORDER BY NumberOfFilmsNominated DESC;

This is using an aggregate function as well as group by and order by to organize the data after its output

Advanced Features:

GetFilmsByDirector - This procedure allows retrieving films based on the director's name. By passing the director's name as an input parameter, I can easily fetch all films directed by a particular director without manually constructing the SQL query each time.

GetFilmsByYear - Similarly, this procedure retrieves films based on the release year. I can input a specific year, and the procedure will return all films released in that year. It provides a convenient way to query films based on release year without duplicating code.

BeforeInsertFilms Trigger - This is a trigger that ensures that any movie year that is input before 1929 is automatically set to 1929, due to the oscars only starting in 1929.

PersonalDetailsView - This is created to simply display the persons details such as their id, job and name to make it easier to access the peoples information.

Python:

I was unsuccessful in trying to connect my sql database to python. I tried different ways by changing the username but ultimately failed in trying to fix the issue. However, this is my code.

import mysql.connector

# Connect to MySQL

connection = mysql.connector.connect(

host="localhost",

user="me",

password="your\_password", # Replace with your actual password

database="fest\_21540095"

)

# Create a cursor object

cursor = connection.cursor()

# Executing SQL queries...

# Close the cursor and connection

cursor.close()

connection.close()

The implementation involves, importing the sql connector, creating a cursor object to execute the sql queries, processing the query results and closing the cursor and database connection.

Discussion

Challenges:

So i created a table for each of my values and ran into an issue. My issue was that i needed to be more specific and add another column in my film table. I altered my table by using the alter method. I used ALTER TABLE Film to update my table.

Another issue I faced while inserting values into the table was that i had made the value of the description in award category is too low for the amount written in it. I used alter table to change the amount I can write into the description category.

My main issue came in part 5 when I spent hours trying to connect my sql database to my program, and it did not connect. However, I have still submitted the code that was meant to execute my sql queries.

Reflection and Limitations:

My disadvantage was my time management which I could have worked better on the lead up to the submission, but due to other factors, I was unable to have enough time to fic my issues, such as the connectivity with the database.

To briefly sum it up, I feel that I had done well in the first 4 parts of the assignment, and did the best I was able to do with the task. I was able to create queries and make ways to solve the queries.