**CSE3207 Project #1**

**Implementation of a simple database application**

* Assignment Date: April 5, 2021
* Due Date: April 30, 2021
* TA: 김성웅, Seong-Woong Kim (wauri6@gmail.com)
* Weight: 15% of the course grade.
* Please read this description carefully.

**I. Relational tables**

The following relational tables show information about a movie, an actor, a director, an award, and a customer. The underlined attributes are the primary key of a table. In the movie table, a value of ‘avgRate’ column should be automatically calculated when a customer gives a rate.

director(directorID, directorName, dateOfBirth, dateOfDeath)

actor(actorID, actorName, dateOfBirth, dateOfDeath, gender)

movie(movieID, movieName, releaseYear, releaseMonth, releaseDate, publisherName, avgRate)

award(awardID, awardName)

genre(genreName)

movieGenre(movieID, genreName)

movieObtain(movieID, awardID, year)

actorObtain(actorID, awardID, year)

directorObtain(directorID, awardID, year)

cast(movieID, actorID, role)

make(movieID, directorID)

customerRate(customerID, movieID, rate)

customer(customerID, customerName, dateOfBirth, gender)

**II. Queries**

Translate the following statements into SQL and process the query using an application.

After processing the each statement, you should show the results for inserts/deletes/updates queries and the updated tables.

1. Create the tables and insert the proper data based on the provided data. You should make the movie, actor, director, and customer tables first and insert data into other related tables.

2. Insert the proper data from the following statements.

2.1. Winona Ryder won the “Best supporting actor” award in 1994

2.2. Tom Hardy won the “Best supporting actor” award in 2018

2.3. Heath Ledger won the “Best villain actor” award in 2009

2.4. Johnny Depp won the “Best main actor” award in 2011

2.5. Edward Scissorhands won the “Best fantasy movie” award in 1991

2.6. Alice In Wonderland won the “Best fantasy movie” award in 2011

2.7. The Dark Knight won the “Best picture” award in 2009

2.8. Christopher Nolan won the “Best director” award in 2018

3. Insert data to the proper tables based on the following statements and update avgRate if necessary.

3.1 Ethan rates 5 to “Dunkirk”.

3.2 Bell rates 5 to the movies whose director is “Tim Burton”.

3.3 Jill rates 4 to the movies whose main actor is female.

3.4 Hayden rates 4 to the fantasy movies.

3.5 John rates 5 to the movies whose director won the “Best director” award

4. Select the names of the movies whose actor are dead.

5. Select the names of the directors who cast the same actor more than once.

6. Select the names of the movies and the genres, where movies have the common genre.

7. Delete the movies whose director or actor did not get any award and delete data from related tables.

8. Delete all customers and delete data from related tables.

9. Delete all tables and data (make the database empty).

**III. Implementation environment**

Programming Languages: Java

DBMS: PostgreSQL (mandatory)

DBMS Connector: JDBC (Java)

**IV. Submission**

1. Files to submit:

A. Program source files

B. README.doc

- What you have implemented and what you have not

- Brief explanation of your implementation (less than 1 page)

- How to compile and run

- Display result for all queries

- Talk about your experience of doing this project

- Write your available contact information such as email address (just in case)

2. Due date: April 30, 2021t

3. Penalty: 20% per day

4. Score

A. Create table processing (20%)

B. Insert processing (20%)

C. Update processing (15%)

D. Query processing (15%)

E. Delete processing (15%)

F. README and comment (15%)

**V. Initial data**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Movie** | | | | | | |
| **Name** | **Director** | **Actor** | **Role** | **Genre** | **Publisher** | **Release date** |
| Edward Scissorhands | Tim Burton | Johnny Depp | Main actor | Fantasy, Romance | 20th Century Fox Presents | 1991.06.29 |
| Winona Ryder | Main actor |
| Alice In Wonderland | Tim Burton | Johnny Depp | Main actor | Fantasy, Adventure, Family | Korea Sony Pictures | 2010.03.04 |
|
| Mia  Wasikowska | Main actor |
| The Social Network | David Fincher | Jesse Eisenberg | Main actor | Drama | Korea Sony Pictures | 2010.11.18 |
| Justin  Timberlake | Supporting Actor |
| The Dark Knight | Christopher Nolan | Christian Bale | Main actor | Action, Drama, Mystery, Thriller | Warner Brothers Korea | 2008.08.06 |
|
| Heath Ledger | Main actor |
|
| Dunkirk | Christopher Nolan | Fionn Whitehead | Main actor | Action, Drama, Thriller, War | Warner Brothers Korea | 2017.07.13 |
| Tom Hardy | Supporting Actor |

|  |  |  |
| --- | --- | --- |
| **Director** | | |
| **Name** | **Date of birth** | **Date of death** |
| Tim Burton | 1958.8.25 |  |
| David Fincher | 1962.8.28 |  |
| Christopher Nolan | 1970.7.30 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Actor** | | | |
| **Name** | **Date of birth** | **Date of death** | **Gender** |
| Johnny Depp | 1963.6.9 |  | Male |
| Winona Ryder | 1971.10.29 |  | Female |
| Mia Wasikowska | 1989.10.14 |  | Female |
| Christian Bale | 1974.1.30 |  | Male |
| Heath Ledger | 1979.4.4 | 2008.1.22 | Male |
| Jesse Eisenberg | 1983.10.5 |  | Male |
| Justin Timberlake | 1981.1.31 |  | Male |
| Fionn Whitehead | 1997.7.18 |  | Male |
| Tom Hardy | 1977.9.15 |  | Male |

|  |  |  |
| --- | --- | --- |
| **Customer** | | |
| **Name** | **Date of birth** | **Gender** |
| Ethan | 1997.11.14 | Male |
| John | 1978.01.23 | Male |
| Hayden | 1980.05.04 | Female |
| Jill | 1981.04.17 | Female |
| Bell | 1990.05.14 | Female |