INFS1200/7900 Information Systems

Assignment - Part 2 (15% of Final Grade)

Part 2 Due: 23 October 2019 @ 5.00 PM

In Part 2 of the assignment, a schema is provided to be implemented in MySQL. The implementation will include creating tables, defining constraints, uploading or entering sample data and writing SQL queries.

This part is done individually by all students.

1. Part 2: Implementation

The following describes the scope and requirements of the implementation in PHPMyAdmin. The schema to be implemented will be provided after the submission of the design part.

Tables and Constraints

Create a database in PHPMyAdmin called HOMECINEMA. You need to implement the schema provided by creating the tables and constraints. Your database should enforce basic constraints, such as:

- *Referential integrity*. Multiple referential integrity constraints can be extracted from the specification.
- *Domain*. Attribute values are restricted to the allowed data types.
- *Key* and *Entity* integrity constraints.
- *Semantic* constraints if any/as given in the Universe of Discourse.

Sample Data

Populate the database with enough meaningful sample data (**at least 5 tuples per table**) to allow us to test the functionality offered by your information system. This data can be made up or sourced from any websites you choose.

Views

Write the following queries in SQL in your HOMECINEMA database:

1. Find all movies with the tag '*Action*'

2. Find all accounts registered between January 1st, 2014 and January 1st, 2016 inclusive

3. Find the product(s), which has casted '*Brad Pitt*', that has been watched the most times

4. Find all cast members who have acted in a TV show episode, but have not acted in a movie

5. Find the TV show(s) with the longest cumulative runtime

6. Find all accounts where the owner is older than 21 years old. (Note: This need to be correct at the time the query is run)

7. Find all playlists that do not contain a product that aired after January 1st, 2012

8. Find all movies that are the third move in their franchise. (i.e. the sequel of a sequel)
9. Find all playlists which contain a movie that the account owner has not watched

10. Find which account(s) have watched at least all the products that '*Idris Elba*' has been cast in

2. Assessment

Each part of the assignment is allocated 100 points which will be converted into 15 course marks.

Part 2 Implementation

Basic Implementation (Tables, Data Types, Primary Keys, Sufficient Data) 30 points
Foreign Keys   20 points
Queries (5 Marks Each)   50 points

This assignment targets the following assessment criteria of this course:
1. Analyse, extract and structure information system requirements from a variety of organizational contexts
2. Express queries using the SQL language to provide correct and secure retrieval of data from relational databases
3. Construct a small-scale information system in a relational database management system
4. Perform information systems analysis

3. Submission

Submissions will be done via Blackboard. Marking will be done through an electronic marking tool called Gradescope, which will also be used for providing feedback.

Note: You will need to submit the following two items to blackboard separately:
1) Your completed submission template (As a PDF file)
   - Name your submission PDF as: **xxxxxxxx-yyyyyyyy-A2.pdf**, and replace **xxxxxxxx** with your student ID, and **yyyyyyyy** with the course code (infs1200 or infs7900) e.g. *12345678-infs1200-A2.pdf*
2) An export of your HOMECINEMA database (As a .SQL file)
   - Name your .SQL file submission as: **xxxxxxxx-yyyyyyyy-A2.sql**, and replace **xxxxxxxx** with your student ID and **yyyyyyyy** with the course code (infs1200 or infs7900) e.g. *12345678-infs1200-A2.sql*

<u>**Please use the supplied answer template for all answers. Your work must fit in the predefined sections or it cannot be marked**</u>

Submit your assignment electronically via the provided links on Blackboard under the Assessment folder. For Part 2 Implementation, a second file containing your implementation export from PHPMyAdmin is also required. Use the export function in PHPMyAdmin to create a .SQL file of your database. Submit this file via the "SQL File Submission" link on Blackboard.

4. Collaboration and Plagiarism

Note that Part 2 of the assignment is done <u>**individually**</u>. If we suspect collaboration between students has occurred or we see this occur during class, an investigation may be conducted.

No collaboration with peers is needed for this assignment! Please see either the lecturer or your tutor for guidance if you are struggling or have questions. Remember that ignorance is not a defence!

The University has strict policies with regard to collusion and plagiarism. Penalties for engaging in unacceptable behaviour can range from cash fines or loss of grades in a course, through to expulsion from the University. You are required to read and understand the policies on academic integrity and plagiarism in the course profile and uq.edu.au/integrity. Note: Any posts on Piazza containing assignment specific solutions/hints **will** be reported to the school.

5. Late Submissions

Late submissions will not be accepted at all, or if accepted, will incur a penalty of 20% reduction each date late. Students who believe they have sound reasons for late submission should refer to the course profile (section 5.3 on Late Submissions).