Department of Computer Engineering

University of Peradeniya

CO226-Database Systems

Lab Sheet Number : 06
Topic : Writing SQL Queries - Part II
Lab Date : 05th January 2022 from 3:00 PM to 5:00 PM
Due Date : 24th January 2022 before 11:55 PM

Submission:
Submit the queries and results of the lab task in a pdf file named E18XXXLab06.pdf

Lab Task:

MOVIE

Movie ID	Title	Year	Director
101	Gone with the Wind	1939	Victor Fleming
102	Star Wars	1977	George Lucas
103	The Sound of Music	1965	Robert Wise
104	E.T.	1982	Steven Spielberg
105	Titanic	1997	James Cameron
106	Snow White	1937	NULL
107	Avatar	2009	James Cameron
108	Raiders of the Lost Ark	1981	Steven Spielberg

REVIEWER

Reviewer ID	Reviewer Name
201	Sarah Martinez
202	Daniel Lewis
203	Brittany Harris
204	Mike Anderson
205	Chris Jackson
206	Elizabeth Thomas
207	James Cameron
208	Ashley White

RATING

Reviewer ID	Movie ID	Stars	Rating Date
201	101	2	2011-01-22
201	101	4	2011-01-27
202	106	4	null
203	103	2	2011-01-20
203	108	4	2011-01-12
203	108	2	2011-01-30
204	101	3	2011-01-09
205	103	3	2011-01-27
205	104	2	2011-01-22
205	108	4	null
206	107	3	2011-01-15
206	106	5	2011-01-19
207	107	5	2011-01-20
208	104	3	2011-01-02

Figure 01: An instance of 'Movie Rating' database

Write the following SQL queries using MySQL, to retrieve the data from the database, you created in the previous lab.

1. Write a nested query to list the details of the movies directed by a director,
    A. who is also a reviewer. (1 mark)
    B. who is not a reviewer. (1 mark)

2. Write a nested query to list the details of the movie ratings,
    A. reviewed by the reviewer 'Sarah Martinez'. (1 mark)
    B. not reviewed by the reviewer 'Sarah Martinez'. (1 mark)

3. Write a nested query to list the **movie id**s where each movie has some rating,
    A. less than to any of the ratings received by the movie which has a **movie id** equal to **103**. (1 mark)
    B. less than or equal to any of the ratings received by the movie which has a **movie id** equal to **103**. (1 mark)
    C. equal to any of the ratings received by the movie which has a **movie id** equal to **103**. (1 mark)
    D. greater than to any of the ratings received by the movie which has a **movie id** equal to **103**. (1 mark)
    E. greater than or equal to any of the ratings received by the movie which has a **movie id** equal to **103**. (1 mark)
    F. not equal to any of the ratings received by the movie which has a **movie id** equal to **103**. (1 mark)

4. Write a nested query to list the **reviewer id**s who has the same (**movie id, stars**) combination on some movie which has a rating date equal to **2011-01-12**. (5 marks)

5. Find all the years that have a movie that received a rating of 4 or 5 and sort them in increasing order of the year. Write,
    A. a non-nested query. (5 marks)
    B. a non-correlated nested query. (5 marks)

6. Find the **titles** of all movies that have no ratings. Write,
    A. non-correlated nested query. (5 marks)
    B. a correlated nested query. (5 marks)

7. Some reviewers did not provide a date with their rating. Find the names of all reviewers who have a NULL value for the date. Write,
    A. a non-nested query. (5 marks)
    B. a non-correlated nested query. (5 marks)
    C. a correlated nested query. (5 marks)

8. For each movie that has some rating, find
    A. the highest **stars** value received. (2 marks)
    B. the least **stars** value received. (2 marks)
    C. the average value of **stars** received. (2 marks)
    D. the sum of all the **stars** received. (2 marks)
    E. the number of times each movie was rated. (2marks)

    In each of the above cases, return the **movie title** and asked **stars** value. Sort the results by movie **title**.

9. Find the names of all the reviewers who have contributed three or more ratings. Write,
    A. a non-nested query. (5 marks)
    B. a non-correlated nested query. (5 marks)
    C. a correlated nested query. (5 marks)

10. List the **movie title**s and average **ratings**, from the highest-rated to lowest-rated. If two or more movies have the same average rating, list them in alphabetical order. (5 marks)

11. Remove all ratings where the movie's year is before 1970 or after 2000. (5 marks)

12. Remove all ratings where the rating date is NULL. (5 marks)

13. Insert 5-star ratings by James Cameron for all movies in the database. Leave the review date as NULL. (5 marks)

14. For all movies that have an average rating of 4 stars or higher, add 25 to the release year. (Update the existing tuples. Do not insert new tuples). (5 marks)