
LAB 04

CSE 4308

Database Management Systems Lab

Hasin Mahtab Alvee
210042174
Department of CSE
B.Sc in Software Engineering
September 8, 2023

Contents

1 Task 01	1
1.1 Difficulties	1
2 Task 02	2
2.1 Difficulties	2
3 Task 03	2
3.1 Difficulties	3
4 Task 04	3
4.1 Difficulties	3
5 Task 05	3
5.1 Difficulties	4
6 Task 06	4
6.1 Difficulties	4
7 Task 07	4
7.1 Difficulties	5
8 Task 08	5
8.1 Difficulties	6
9 Task 09	6
9.1 Difficulties	6
10 Task 10	7
10.1 Difficulties	8
11 Task 11	8
11.1 Difficulties	8
12 Task 12	8
12.1 Difficulties	9
13 Task 13	9
13.1 Difficulties	10

Introduction

In DBMS lab 04, we were tasked to manipulate data using different queries and sub-queries. A movies.sql is given that creates all the necessary tables and inserts all the data in them. We only need to write queries to output the tables.

1 Task 01

For task 1 we need to find the names of actors that are also directors. We have to do it with and without using the set operators. I used the First name and last names for both actor and director from both tables to match them.

As for using the set operators, I used the INTERSECT function to find the common names in both Actor and Director tables.

```
-- TASK 1 WITHOUT SET OPERATORS
SELECT
    ACT_FIRSTNAME, DIR_FIRSTNAME, ACT_LASTNAME, DIR_LASTNAME
FROM
    ACTOR, DIRECTOR
WHERE
    ACT_FIRSTNAME = DIR_FIRSTNAME
    AND ACT_LASTNAME = DIR_LASTNAME;

-- TASK 1 WITH SET OPERATORS
SELECT
    ACT_FIRSTNAME, DIR_FIRSTNAME
FROM
    ACTOR, DIRECTOR
WHERE
    ACT_FIRSTNAME = DIR_FIRSTNAME INTERSECT
    SELECT
        ACT_LASTNAME, DIR_LASTNAME
    FROM
        ACTOR, DIRECTOR
    WHERE
        ACT_LASTNAME = DIR_LASTNAME;
```

1.1 Difficulties

While creating the user, some minor inconvenience were faced, such as -

- While using the set operator it was confusing whether to use INTERSECT OR UNION.

2 Task 02

In the second task, we need to find the actresses with the same first name. So I used to a count variable to count the names that reoccur only for those who are female.

```
-- TASK 2
SELECT
  ACT_FIRSTNAME, COUNT(*) AS ACTRESSES
FROM
  ACTOR
WHERE
  ACT_GENDER = 'F'
GROUP BY
  ACT_FIRSTNAME
HAVING
  COUNT(*) > 1;
```

2.1 Difficulties

While creating the table structure, some minor inconvenience were faced, such as -

- Using the count function was difficult in this scenario.

3 Task 03

We need to find the list of all the full names sorted in the tables. I simply took all the names from the actors and directors tables.

```
-- TASK 3
SELECT
  ACT_FIRSTNAME, ACT_LASTNAME
FROM
  ACTOR UNION
SELECT
  DIR_FIRSTNAME, DIR_LASTNAME
FROM
  DIRECTOR;
```

3.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

4 Task 04

We need to find movie titles that did not receive any ratings. I used a sub-querie here to only get the movies which do not have their movie id in the rating table.

```
-- TASK 4
SELECT
    MOV_TITLE
FROM
    MOVIE
WHERE
    MOV_ID NOT IN (
        SELECT
            MOV_ID
        FROM
            RATING
    );
```

4.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

5 Task 05

We need to find the average ratings of all the movies. I used the Avg function to find the average of all movies from the ratings table.

```
-- TASK 5
SELECT
    AVG(REV_STARS)
FROM
    RATING;
```

5.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

6 Task 06

We need to find the minimum ratings for each movie and display them in descending order. I compare the Minimum rating using the MIN function on the ratings table, then we check for the ID in Movies and Ratings table and we print them in a Descending order.

```
-- TASK 6
SELECT
    MOV_TITLE, MIN(REV_STARS) AS MIN_RATING
FROM
    MOVIE, RATING
WHERE
    MOVIE.MOV_ID = RATING.MOV_ID
GROUP BY
    MOV_TITLE
ORDER BY
    MIN_RATING DESC;
```

6.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- Comparing the ID was difficult.

7 Task 07

We need to find the movies with a higher average rating than the average rating of all the movies in the DB. For that I try to find the Movie name by searching the Movie ID that matches both the Movies table and the ratings table. Then we compare the average rating of individual movies with the average rating of all the movies to print.

```
-- TASK 7
SELECT
    MOV_TITLE
FROM
```

```

MOVIE
WHERE
  MOV_ID IN (
    SELECT
      MOV_ID
    FROM
      RATING
    GROUP BY
      MOV_ID
    HAVING
      AVG(REV_STARS) > (
        SELECT
          AVG(REV_STARS)
        FROM
          RATING
      )
  );

```

7.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- Sub query was quite difficult with the tables being different.

8 Task 08

We need to find the name of actors and the number of ratings received by the movies they played a role in. For this I matched ID from actor and Casts table and then Movie Id from ratings and movies table.

```

-- TASK 8
SELECT
  ACT_FIRSTNAME, ACT_LASTNAME,
  COUNT(*) AS RATINGS
FROM
  ACTOR, CASTS, RATING
WHERE
  ACTOR.ACT_ID = CASTS.ACT_ID
  AND CASTS.MOV_ID = RATING.MOV_ID
GROUP BY
  ACT_FIRSTNAME, ACT_LASTNAME
ORDER BY
  RATINGS DESC;

```

8.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

9 Task 09

We need to find the name of director having the highest average review stats.

```
-- TASK 9
SELECT
    DIR_FIRSTNAME, DIR_LASTNAME
FROM
    DIRECTOR
WHERE
    DIR_ID IN (
        SELECT
            DIR_ID
        FROM
            MOVIE
        WHERE
            MOV_ID IN (
                SELECT
                    MOV_ID
                FROM
                    RATING
                GROUP BY
                    MOV_ID
                HAVING
                    AVG(REV_STARS) = (
                        SELECT
                            MAX(AVG(REV_STARS))
                        FROM
                            RATING
                        GROUP BY
                            MOV_ID
                    )
            )
    );
```

9.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

10 Task 10

We need to find all the movie related information directed and acted by the same person.

```
-- TASK 10
SELECT
    MOV_TITLE, MOV_YEAR, MOV_LANGUAGE, MOV_RELEASEDATE, MOV_COUNTRY
FROM
    MOVIE
WHERE
    MOV_ID IN (
        SELECT
            MOV_ID
        FROM
            CASTS
        WHERE
            ACT_ID IN (
                SELECT
                    ACT_ID
                FROM
                    ACTOR
                WHERE
                    ACT_FIRSTNAME = (
                        SELECT
                            DIR_FIRSTNAME
                        FROM
                            DIRECTOR
                        WHERE
                            DIR_FIRSTNAME = ACT_FIRSTNAME AND DIR_LASTNAME = ACT_LASTNAME
                    )
                AND ACT_LASTNAME = (
                    SELECT
                        DIR_LASTNAME
                    FROM
                        DIRECTOR
                    WHERE
                        DIR_FIRSTNAME = ACT_FIRSTNAME AND DIR_LASTNAME = ACT_LASTNAME
                )
            )
    );
```

10.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

11 Task 11

We need to find all the movie title and the rating of the movies having an average rating higher than 7.

```
-- TASK 11
SELECT
    MOV_TITLE, AVG(REV_STARS) AS AVG_RATING
FROM
    MOVIE, RATING
WHERE
    MOVIE.MOV_ID = RATING.MOV_ID
GROUP BY
    MOV_TITLE
HAVING
    AVG(REV_STARS) > 7;
```

11.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

12 Task 12

We need to find the reviewer who gives the highest number of lowest reviews.

```
-- TASK 12
SELECT
    REV_ID, REV_NAME
FROM
    REVIEWER
WHERE
    REVIEWER.REV_ID IN (
        SELECT
            REV_ID
        FROM
```

```

        RATING
WHERE
    REV_STARS = (
        SELECT
            MIN(REV_STARS)
        FROM
            RATING
    )
);

```

12.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I faced no difficulties while doing this task.

13 Task 13

We need to name of different movies of different actors but not including the actors who worked with James Cameron.

```

-- TASK 13

SELECT
    MOV_TITLE
FROM
    MOVIE
WHERE
    MOV_ID IN (
        SELECT
            MOV_ID
        FROM
            CASTS
        WHERE
            ACT_ID NOT IN (
                SELECT
                    ACT_ID
                FROM
                    CASTS
                WHERE
                    MOV_ID IN (
                        SELECT
                            MOV_ID
                        FROM

```

```

REV_ID REV_NAME
-----
9016 Scott LeBrun

MOV_TITLE
-----
Amadeus
The Shawshank Redemption
Boogie Nights
Annie Hall
Princess Mononoke
American Beauty
Deliverance
The Prestige
Aliens
The Shining
Vertigo

MOV_TITLE
-----
The Usual Suspects
Chinatown
Good Will Hunting
The Innocents
Titanic
Trainspotting
Donnie Darko
Citizen Kane
Lawrence of Arabia
Blade Runner
Eyes Wide Shut

MOV_TITLE
-----
Slumdog Millionaire
The Theory of Everything
To All the Boys I've Loved Before

```

Figure 1:

```

CASTS
WHERE
  ACT_ID IN (
    SELECT
      ACT_ID
    FROM
      ACTOR
    WHERE
      ACT_FIRSTNAME = 'James'
      AND ACT_LASTNAME = 'Cameron'
  )
);

```

13.1 Difficulties

While inserting the data, some minor inconvenience were faced, such as -

- I could not figure out the runtime for the movies.

MOV_TITLE	MOV_YEAR	
Beyond the Sea	26-NOV-04	UK
English		
American Beauty		1999
English	UK	
Citizen Kane		1941
English	05-SEP-41	USA
MOV_TITLE	MOV_YEAR	
Annie Hall	28-APR-77	USA
English		
MOV_TITLE	AVG_RATING	
Eyes Wide Shut	7.15384615	
Deliverance	7.27272727	
The Shawshank Redemption	8.23876923	
Good Will Hunting	7.42857143	
Braveheart	7.54545455	
Avatar	7.42857143	
Chinatown	7.4	
The Shining	8.4	

8 rows selected.

Figure 2:

DIR_FIRSTNAME	DIR_LASTNAME
Alfred	Hitchcock
Jack	Clayton
David	Lean
Michael	Cimino
Milos	Forman
Ridley	Scott
Stanley	Kubrick
Bryan	Singer
Roman	Polanski
Paul	Thomas Anderson
Woody	Allen
DIR_FIRSTNAME	DIR_LASTNAME
Hayao	Miyazaki
Frank	Darabont
Sam	Mendes
James	Cameron
Gus	Van Sant
John	Boorman
Danny	Boyle
Christopher	Nolan
Richard	Kelly
Kevin	Spacey
Andrei	Tarkovsky
DIR_FIRSTNAME	DIR_LASTNAME
Peter	Jackson
James	Marsh
Raoul	Walsh
Susan	Johnson
Orson	Welles

27 rows selected.

Figure 3:

MOV_TITLE		
Avatar		
Braveheart		
13 rows selected.		
ACT_FIRSTNAME	ACT_LASTNAME	RATINGS
Kevin	Spacey	20
Sigourney	Weaver	16
Ewan	McGregor	16
Robin	Williams	15
Kate	Winslet	15
Maggie	Gyllenhaal	14
Woody	Allen	14
Tim	Robbins	13
Nicole	Kidman	13
Harrison	Ford	13
Stephen	Baldwin	13
ACT_FIRSTNAME	ACT_LASTNAME	RATINGS
F. Murray	Abraham	13
Deborah	Kerr	13
Peter	OToole	12
Mark	Wahlberg	12
Jack	Nicholson	11
Jon	Voight	11
Dev	Patel	10
Claire	Danes	10
Robert	De Niro	10
Shelley	Duvall	10
Christian	Bale	9
ACT_FIRSTNAME	ACT_LASTNAME	RATINGS
James	Stewart	9

Figure 4:

ACT_FIRSTNAME	DIR_FIRSTNAME	ACT_LASTNAME
Woody	Woody	Allen
Allen		
Kevin	Kevin	Spacey
Spacey		
Orson	Orson	Welles
Welles		
no rows selected		
ACT_FIRSTNAME	ACTRESSES	
Kate	2	
Jennifer	2	
ACT_FIRSTNAME	ACT_LASTNAME	
Al	Pacino	
Alfred	Hitchcock	
Ali	Astin	
Andrei	Tarkovsky	
Bryan	Singer	
Christian	Bale	

Figure 5: