SVKM's NMIMS
School of Technology Management & Engineering, Chandigarh
A.Y. 2023 - 24
Course: Database Management Systems

Project Report

Program	MBA(Tech) CE	
Semester	Sem 4	
Name of the Project:	Movie Management System	
Details of Project Members		
Batch	Roll No.	Name
D2	N051	Priyal Kadam
D2	N052	Akshay Patil
D2	N054	Atharva Kolhe
Date of Submission: 18/03/2024		

Contribution of each project Members:

Roll No.	Name:	Contribution
N051	Priyal Kadam	Queries/PPT
N052	Akshay Patil	Normalization/Report/PPT
N054	Atharva Kolhe	Queries/Normalisation

Github link of your project:

https://github.com/Akkpatil/Movie-Management-System

Note:

1. Create a readme file if you have multiple files
2. All files must be properly named (Example:R004_DBMSProject)
3. Submit all relevant files of your work (Report, all SQL files, Any other files)
4. **Plagiarism is highly discouraged (Your report will be checked for plagiarism)**

Rubrics for the Project evaluation:

First phase of evaluation: Innovative Ideas (5 Marks) Design and Partial implementation (5 Marks)	10 marks
Final phase of evaluation Implementation, presentation and viva, Self-Learning and Learning Beyond classroom	10 marks

A Report on
Database Management System
in Movie Management

Submitted By:

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ABSTRACT

Movie Ticket Booking System is a computerized solution for theatre setups, which will automate the process of Ticket Sale and Customer Bookings. This application will allow users to browse movies filtering them based on location, price, rating, genre, timing and age. The home page will display movies based on filters selected by the user.

Once a movie is selected, the users will be redirected to a page dedicated to the selected movie where booking details, timings, movie rating and locations will be displayed. On selecting booking options, the user will be directed to a booking page. Users can choose their preferred seats and show based on availability and preference and make reservations by submitting a form.

Once a user has watched a movie, he/she can mark it as completed, rate the movie based on his/her experience and give feedback. This feedback will be reflected in the rating of the respective movie. Users must login to the application after creating an account for themselves in order to make a booking.

Each user profile will maintain a history of all previous bookings of the user logged in. Also, this application will allow admins to have a separate login through which they will be able to add, modify and delete movies from the application.

Users will be able to change passwords based on their need and also reset it in case it is forgotten. Through this project we aim at implementing various Database Management System concepts like transaction management and Database security while improving our software development skills.

INTRODUCTION

In the realm of entertainment, the film industry stands as a beacon of cultural significance and leisure. With the advent of technology, the process of accessing and enjoying movies has evolved, giving rise to sophisticated systems for movie ticket booking and management. Our project delves into the domain of movie ticket booking, offering a comprehensive solution for users to seamlessly navigate through the cinematic landscape.

The Movie Ticket Booking System encapsulates the essence of convenience and efficiency, catering to the diverse needs of movie enthusiasts while streamlining the administrative tasks associated with cinema management. Through the amalgamation of database technologies and user-centric design principles, our system endeavors to redefine the movie-going experience, ensuring unparalleled accessibility and satisfaction for patrons and administrators alike.

This report elucidates the architecture, functionality, and significance of the Movie Ticket Booking System, highlighting its pivotal role in revolutionizing the way audiences engage with cinematic content. From database schema to user interfaces, each aspect of the system has been meticulously crafted to foster a harmonious synergy between technological prowess and user experience. Let us embark on a journey through the intricacies of our Movie Ticket Booking System, exploring its features, capabilities, and impact on the ever-evolving landscape of entertainment consumption.

Components Of Database Design

1. MOVIE:
- Movie_id
- Title
- Descript
- Language
- Release_date
- Genre
- Pg_rating
- Duration
- Author

2. USER:
- User_id
- Username
- Email
- Password

3. BOOKING:
- Booking_id
- Number_of_seats
- Users_id
- City_id

4. CITY:
- city_id
- name
- state
- zipcode

5. FEEDBACK:
- Feedback_id
- User_id
- Feedback
- Date

6. SHOW SEAT:
- Show_seat_id
- Price
- Cinema_seat_id
- Show_id
- Booking_id

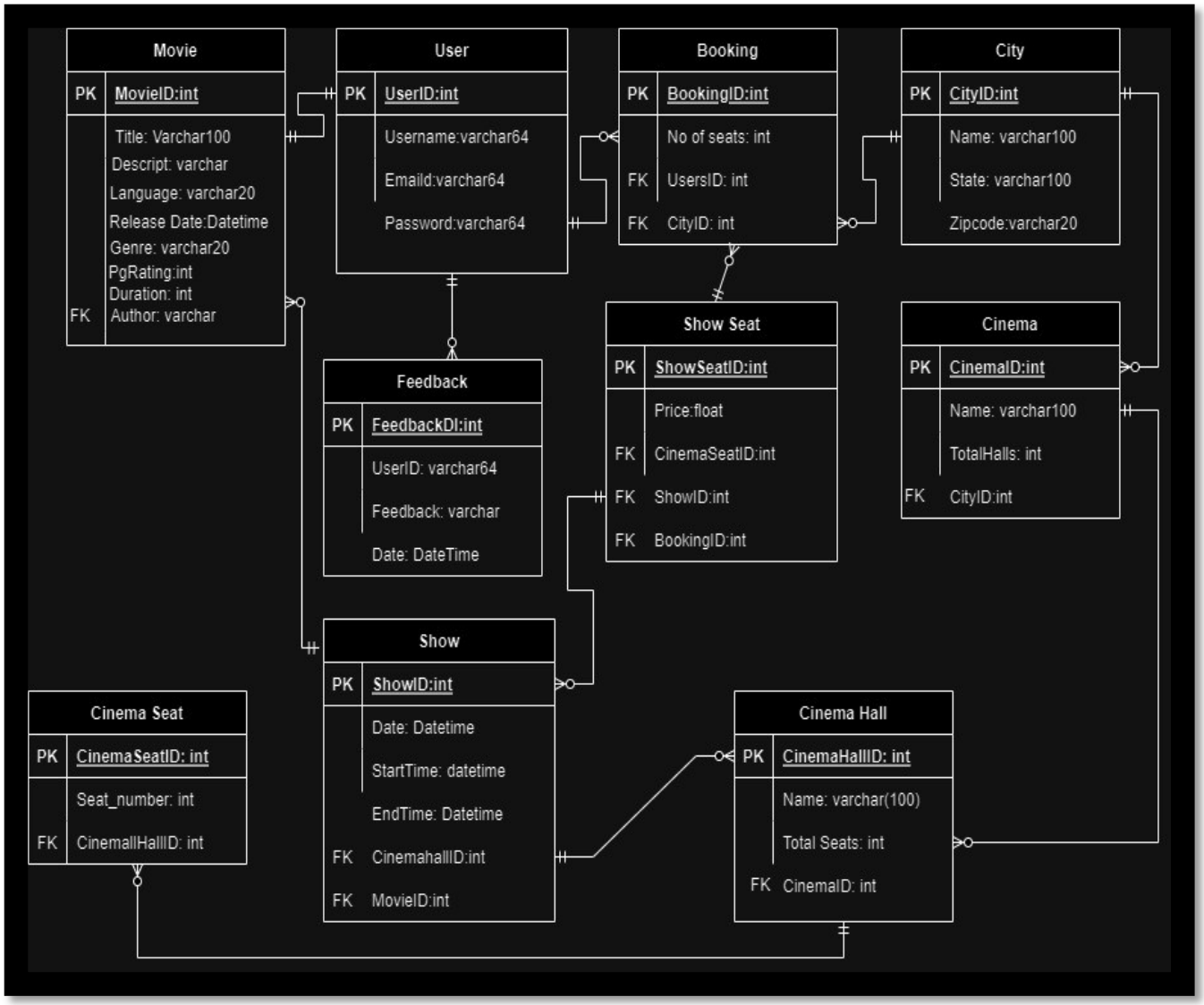
7. CINEMA:
- Cinema_id
- Name
- Total_halls
- City_id

8. CINEMA HALL:
- Cinema_hall_id
- Name
- Total_seats
- Cinema_id

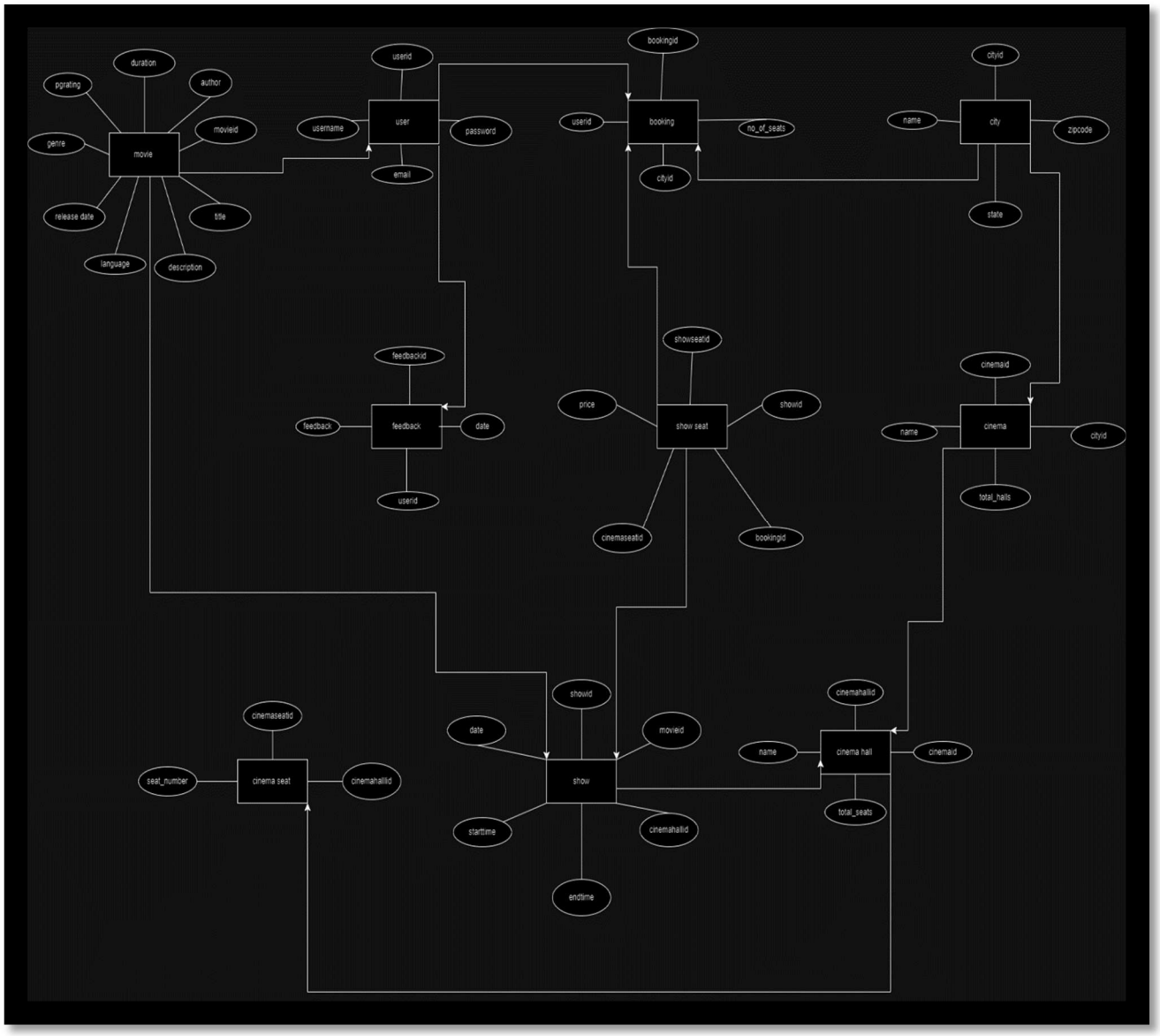
9. SHOW:
- Show_id
- Date
- Start_time
- End_time
- Cinema_hall_id
- Movie_id

10. CINEMA SEAT:
- Cinema_Seat_id
- Seat_number
- Cinema_hall_id

RELATIONAL MODEL



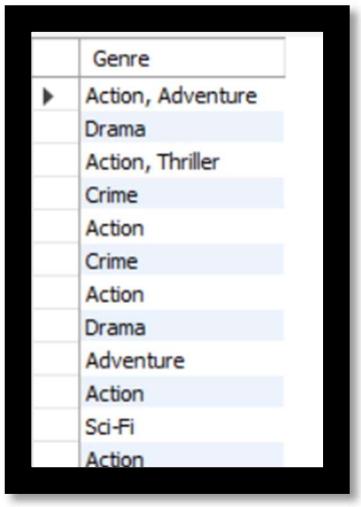
ENTITY RELATIONSHIP DIAGRAM



NORMALIZATION

If we consider the Genre Column, we can see that it is a multivalued attribute. That is there can be more than one genre for each movie. To convert this into 1NF, you'd need to split this into separate rows or a separate table.

SELECT Genre from Movie;

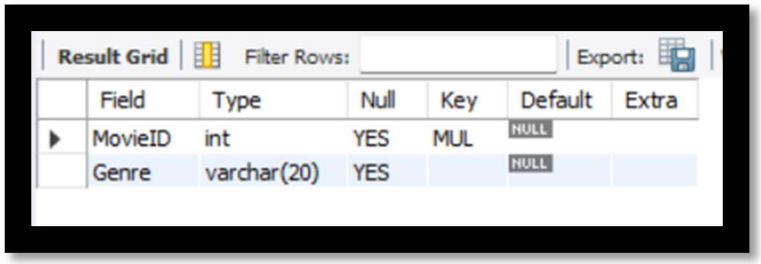


Genre
Action, Adventure
Drama
Action, Thriller
Crime
Action
Crime
Action
Drama
Adventure
Action
Sci-Fi
Action

Here we can see that there are 2 cases of multiple genre.
So we can tackle this by creating another row.

Also by creating another table ,

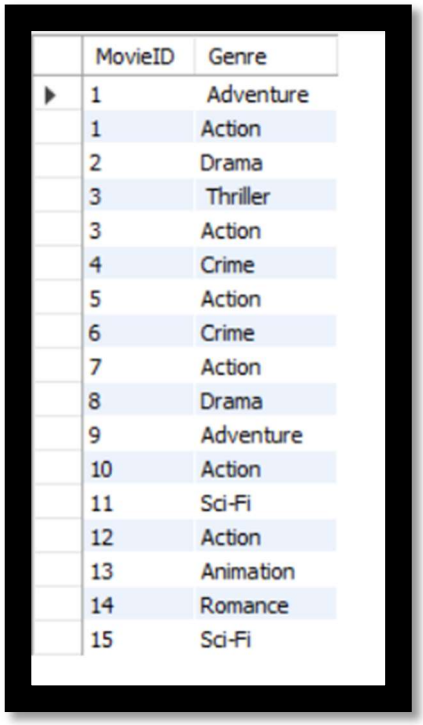
```
CREATE TABLE MovieGenre (
    MovieID INT,
    Genre VARCHAR(20),
    FOREIGN KEY (MovieID) REFERENCES Movie(MovieID)
);
DESC MovieGenre;
```



Result Grid | Filter Rows: | Export:

Field	Type	Null	Key	Default	Extra
MovieID	int	YES	MUL	NULL	
Genre	varchar(20)	YES		NULL	

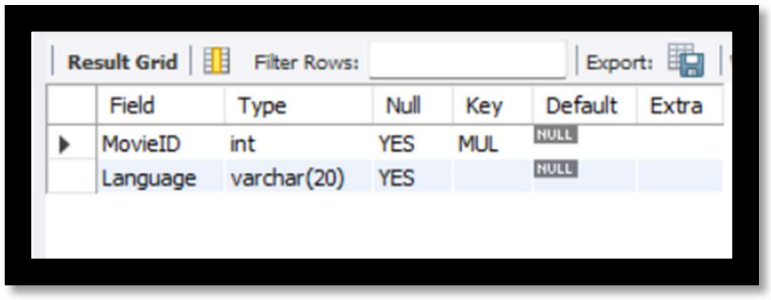
Then, we'll need to migrate the data from the Movie table into the MovieGenre table, ensuring each genre is represented in a separate row for each movie.
After making these changes, it will be in 1NF.



MovieID	Genre
1	Adventure
1	Action
2	Drama
3	Thriller
3	Action
4	Crime
5	Action
6	Crime
7	Action
8	Drama
9	Adventure
10	Action
11	Sci-Fi
12	Action
13	Animation
14	Romance
15	Sci-Fi

Likewise, if we consider the "Language" attribute in the "Movie" table. Currently, it's a single value representing the language of the movie. However, if a movie can be released in multiple languages, it could potentially be considered a multivalued attribute.
To convert this into 1NF, we can create a separate table to store the languages for each movie.

```
CREATE TABLE MovieLanguage (
    MovieID INT,
    Language VARCHAR(20),
    FOREIGN KEY (MovieID) REFERENCES Movie(MovieID)
);
DESC MovieLanguage;
```



Now, we need to migrate the data from the "Language" column in the "Movie" table into the "MovieLanguage" table, ensuring each language is represented in a separate row for each movie.

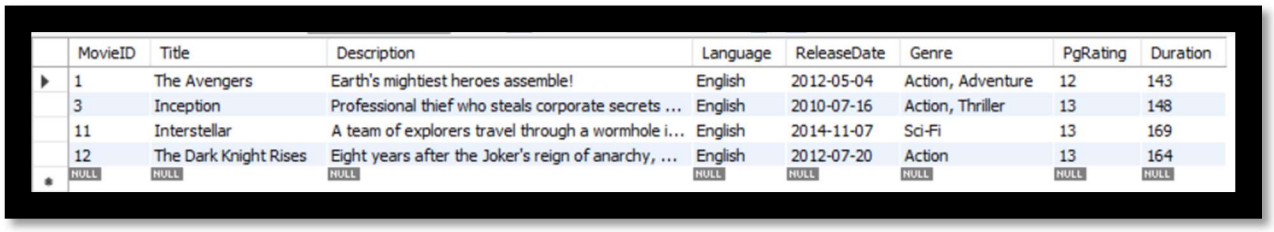
```
INSERT INTO MovieLanguage (MovieID, Language)
SELECT MovieID, Language FROM Movie;
```

QUERIES

1] Retrieve all movies released after 2010

CODE:
```
SELECT * FROM Movie WHERE ReleaseDate > '2010-01-01';
```

OUTPUT:

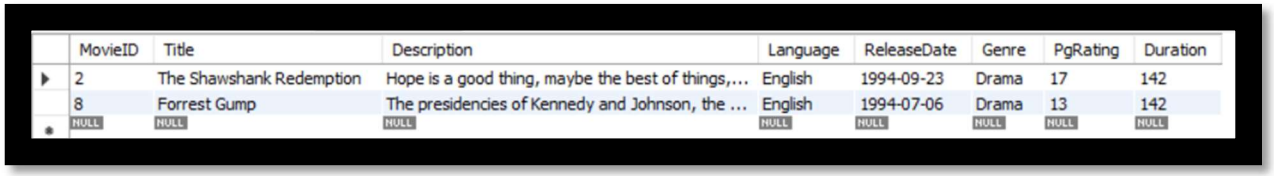


MovieID	Title	Description	Language	ReleaseDate	Genre	PgRating	Duration
1	The Avengers	Earth's mightiest heroes assemble!	English	2012-05-04	Action, Adventure	12	143
3	Inception	Professional thief who steals corporate secrets ...	English	2010-07-16	Action, Thriller	13	148
11	Interstellar	A team of explorers travel through a wormhole i...	English	2014-11-07	Sci-Fi	13	169
12	The Dark Knight Rises	Eight years after the Joker's reign of anarchy, ...	English	2012-07-20	Action	13	164
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

2] Retrieve all movies in the Drama genre

CODE:
```
SELECT * FROM Movie WHERE Genre = 'Drama';
```

OUTPUT:

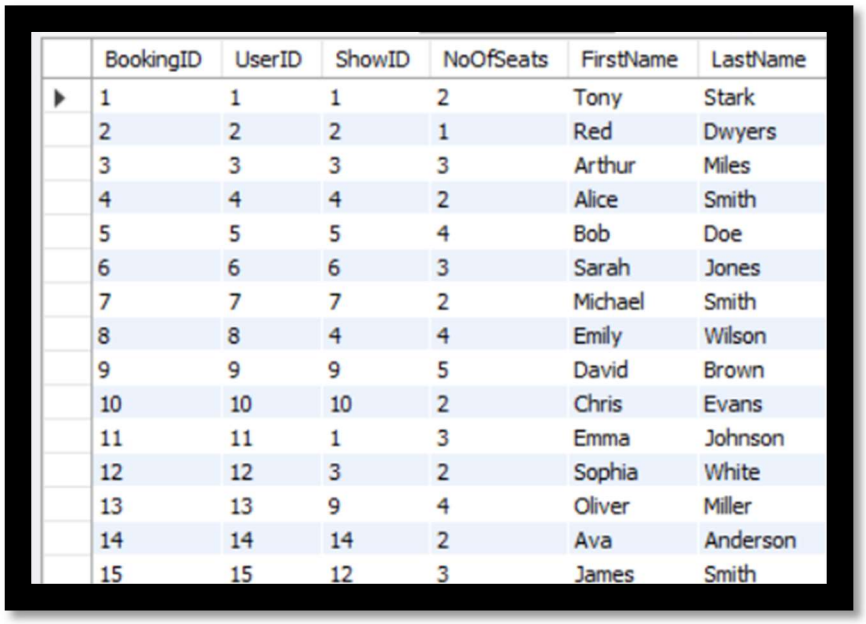


MovieID	Title	Description	Language	ReleaseDate	Genre	PgRating	Duration
2	The Shawshank Redemption	Hope is a good thing, maybe the best of things,...	English	1994-09-23	Drama	17	142
8	Forrest Gump	The presidencies of Kennedy and Johnson, the ...	English	1994-07-06	Drama	13	142
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

3] Retrieve all bookings with corresponding user details

CODE:
SELECT Booking.*, User.FirstName, User.LastName FROM Booking INNER JOIN User ON Booking.UserID = User.UserID;

OUTPUT:

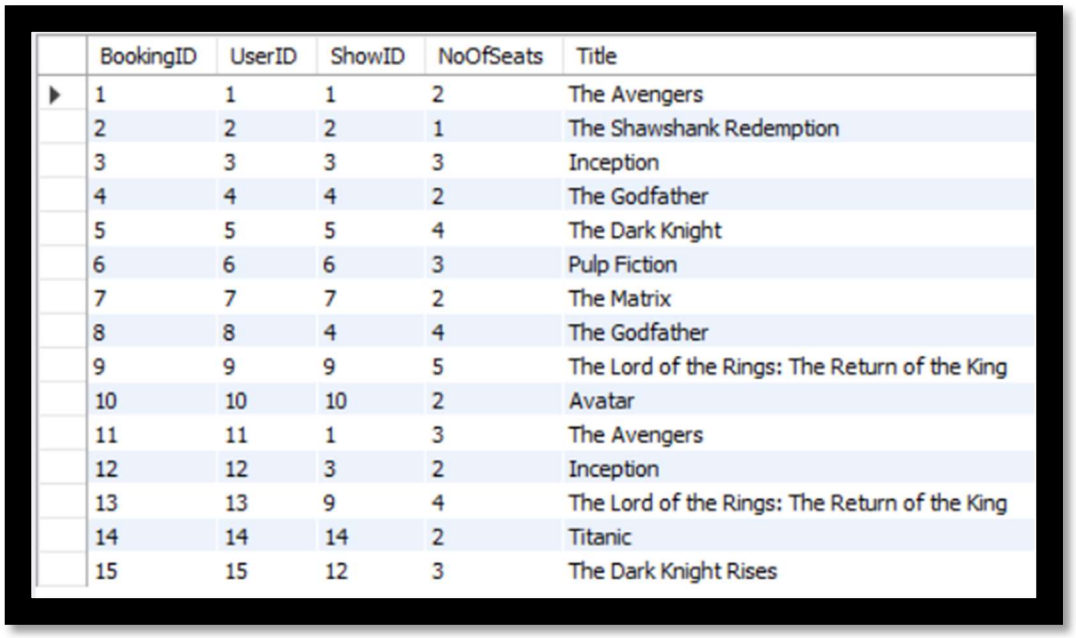


BookingID	UserID	ShowID	NoOfSeats	FirstName	LastName
1	1	1	2	Tony	Stark
2	2	2	1	Red	Dwyers
3	3	3	3	Arthur	Miles
4	4	4	2	Alice	Smith
5	5	5	4	Bob	Doe
6	6	6	3	Sarah	Jones
7	7	7	2	Michael	Smith
8	8	4	4	Emily	Wilson
9	9	9	5	David	Brown
10	10	10	2	Chris	Evans
11	11	1	3	Emma	Johnson
12	12	3	2	Sophia	White
13	13	9	4	Oliver	Miller
14	14	14	2	Ava	Anderson
15	15	12	3	James	Smith

4] Retrieve all bookings with corresponding movie details

CODE:
SELECT Booking.*, Movie.Title FROM Booking INNER JOIN Show_ ON Booking.ShowID = Show_.ShowID INNER JOIN Movie ON Show_.MovieID = Movie.MovieID;

OUTPUT:

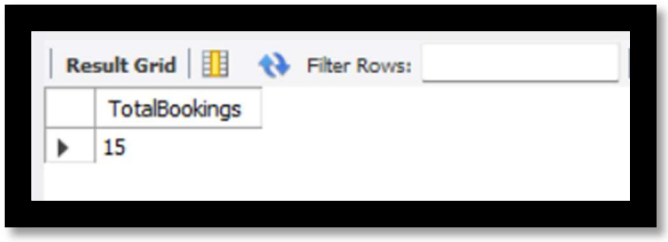


BookingID	UserID	ShowID	NoOfSeats	Title
1	1	1	2	The Avengers
2	2	2	1	The Shawshank Redemption
3	3	3	3	Inception
4	4	4	2	The Godfather
5	5	5	4	The Dark Knight
6	6	6	3	Pulp Fiction
7	7	7	2	The Matrix
8	8	4	4	The Godfather
9	9	9	5	The Lord of the Rings: The Return of the King
10	10	10	2	Avatar
11	11	1	3	The Avengers
12	12	3	2	Inception
13	13	9	4	The Lord of the Rings: The Return of the King
14	14	14	2	Titanic
15	15	12	3	The Dark Knight Rises

5]Count the total number of bookings made

CODE:
SELECT COUNT(*) AS TotalBookings FROM Booking;

OUTPUT:

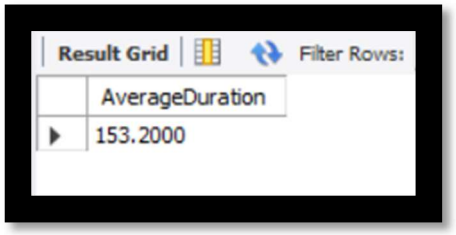


TotalBookings
15

6] Calculate the average duration of movies

CODE:
```
SELECT AVG(Duration) AS AverageDuration FROM Movie;
```

OUTPUT:



7] Retrieve all users who made a booking for a movie with a PgRating of 13

CODE:
```
SELECT * FROM User WHERE UserID IN (
   SELECT DISTINCT Booking.UserID
   FROM Booking
   INNER JOIN Show_ ON Booking.ShowID = Show_.ShowID
   INNER JOIN Movie ON Show_.MovieID = Movie.MovieID
   WHERE Movie.PgRating = 13
);
```

OUTPUT:

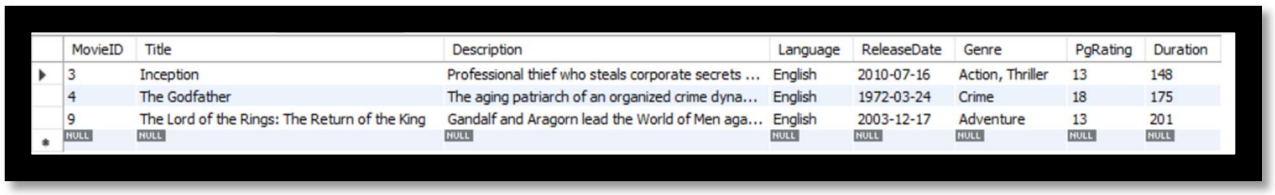
UserID	Username	Email	Password	FirstName	LastName	MobileNumber
3	arthur	arthur.miles@inception.com	dreamcatcher	Arthur	Miles	+1987654321
12	sophia_white	sophia@example.com	securepassword	Sophia	White	+1987654321
5	bob_doe	bob@example.com	securepassword	Bob	Doe	+1987654321
9	david_brown	david@example.com	securepassword	David	Brown	+1987654321
13	oliver_miller	oliver@example.com	password123	Oliver	Miller	+1234567890
10	chris_evans	chris@example.com	password123	Chris	Evans	+1234567890
15	james_smith	james@example.com	password123	James	Smith	+1234567890
14	ava_anderson	ava@example.com	securepassword	Ava	Anderson	+1987654321
NULL	NULL	NULL	NULL	NULL	NULL	NULL

8] Retrieve all movies with more than 1 feedbacks

CODE:

```
SELECT * FROM Movie WHERE MovieID IN (
   SELECT DISTINCT Show_.MovieID
   FROM Show_
   INNER JOIN Feedback ON Show_.ShowID = Feedback.ShowID
   GROUP BY Show_.MovieID
   HAVING COUNT(*) > 1
);
```

OUTPUT:



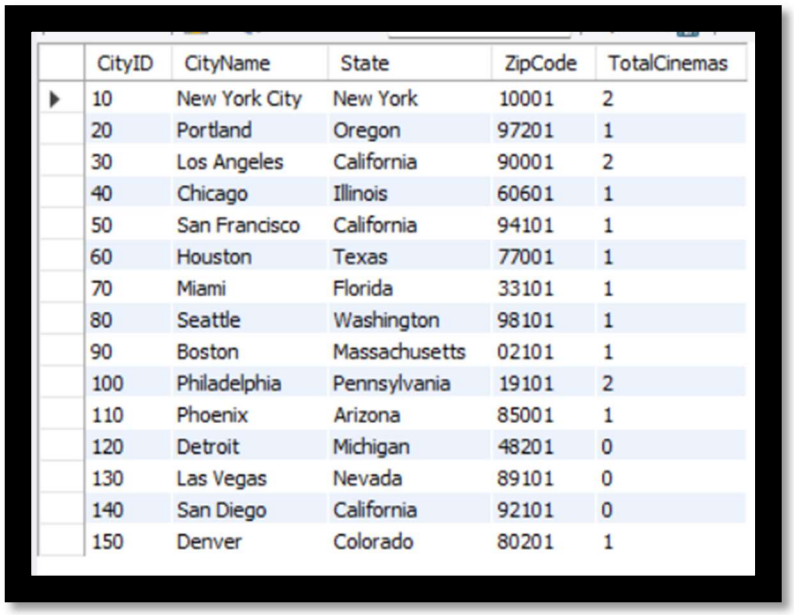
MovieID	Title	Description	Language	ReleaseDate	Genre	PgRating	Duration
3	Inception	Professional thief who steals corporate secrets ...	English	2010-07-16	Action, Thriller	13	148
4	The Godfather	The aging patriarch of an organized crime dyna...	English	1972-03-24	Crime	18	175
9	The Lord of the Rings: The Return of the King	Gandalf and Aragorn lead the World of Men aga...	English	2003-12-17	Adventure	13	201
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

9] Retrieve all cities with their respective cinemas

CODE:

```
SELECT City.*, COUNT(Cinema.CinemaID) AS TotalCinemas FROM City LEFT
JOIN Cinema ON City.CityID = Cinema.CityID GROUP BY City.CityID;
```

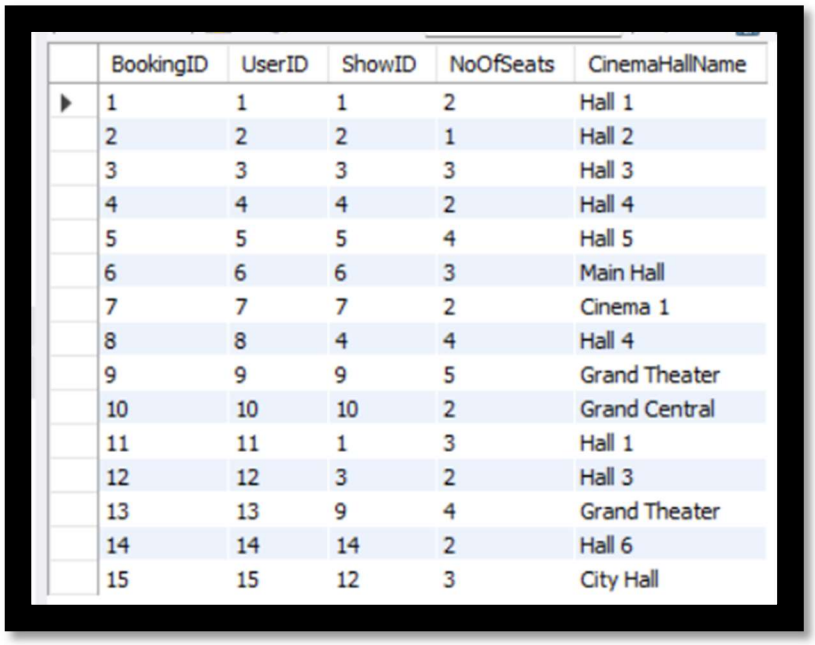
OUTPUT:



CityID	CityName	State	ZipCode	TotalCinemas
10	New York City	New York	10001	2
20	Portland	Oregon	97201	1
30	Los Angeles	California	90001	2
40	Chicago	Illinois	60601	1
50	San Francisco	California	94101	1
60	Houston	Texas	77001	1
70	Miami	Florida	33101	1
80	Seattle	Washington	98101	1
90	Boston	Massachusetts	02101	1
100	Philadelphia	Pennsylvania	19101	2
110	Phoenix	Arizona	85001	1
120	Detroit	Michigan	48201	0
130	Las Vegas	Nevada	89101	0
140	San Diego	California	92101	0
150	Denver	Colorado	80201	1

10] Retrieve all bookings with corresponding cinema hall details
CODE:
SELECT Booking.*, CinemaHall.CinemaHallName FROM Booking INNER JOIN Show_ ON Booking.ShowID = Show_.ShowID INNER JOIN CinemaHall ON Show_.CinemaHallID = CinemaHall.CinemaHallID;

OUTPUT:

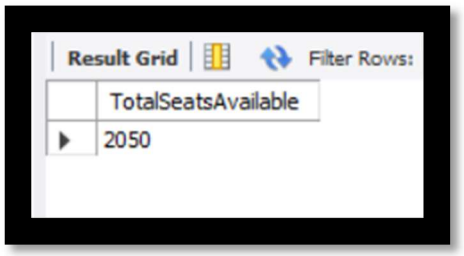


BookingID	UserID	ShowID	NoOfSeats	CinemaHallName
1	1	1	2	Hall 1
2	2	2	1	Hall 2
3	3	3	3	Hall 3
4	4	4	2	Hall 4
5	5	5	4	Hall 5
6	6	6	3	Main Hall
7	7	7	2	Cinema 1
8	8	4	4	Hall 4
9	9	9	5	Grand Theater
10	10	10	2	Grand Central
11	11	1	3	Hall 1
12	12	3	2	Hall 3
13	13	9	4	Grand Theater
14	14	14	2	Hall 6
15	15	12	3	City Hall

11] Calculate the total number of seats available in all cinema halls

CODE:
SELECT SUM(TotalSeats) AS TotalSeatsAvailable FROM CinemaHall;

OUTPUT:

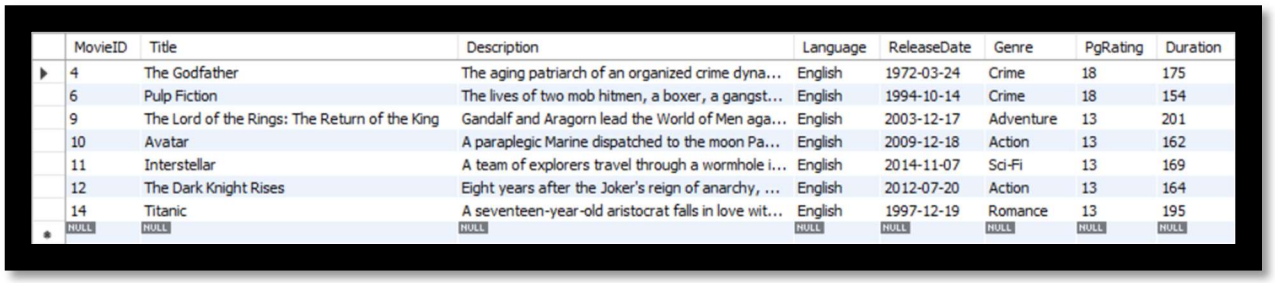


12] Retrieve all movies with a duration longer than the average duration of movies

CODE:

```
SELECT * FROM Movie WHERE Duration > (
   SELECT AVG(Duration) FROM Movie
);
```

OUTPUT:



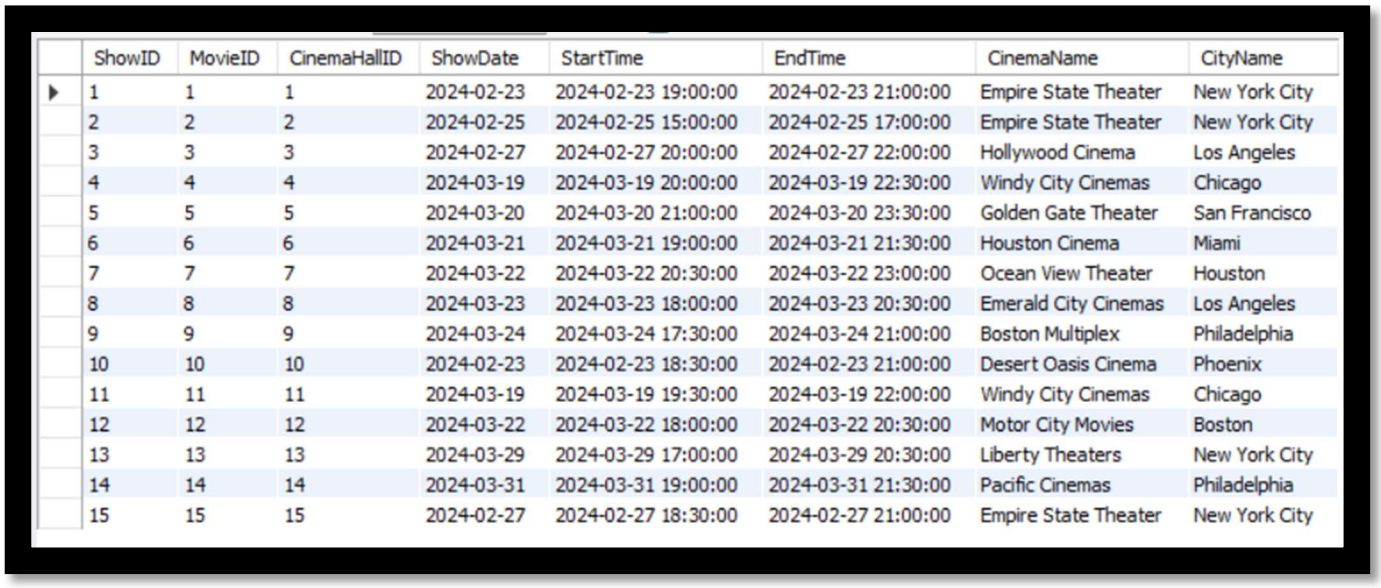
MovieID	Title	Description	Language	ReleaseDate	Genre	PgRating	Duration
4	The Godfather	The aging patriarch of an organized crime dyna...	English	1972-03-24	Crime	18	175
6	Pulp Fiction	The lives of two mob hitmen, a boxer, a gangst...	English	1994-10-14	Crime	18	154
9	The Lord of the Rings: The Return of the King	Gandalf and Aragorn lead the World of Men aga...	English	2003-12-17	Adventure	13	201
10	Avatar	A paraplegic Marine dispatched to the moon Pa...	English	2009-12-18	Action	13	162
11	Interstellar	A team of explorers travel through a wormhole i...	English	2014-11-07	Sci-Fi	13	169
12	The Dark Knight Rises	Eight years after the Joker's reign of anarchy, ...	English	2012-07-20	Action	13	164
14	Titanic	A seventeen-year-old aristocrat falls in love wit...	English	1997-12-19	Romance	13	195
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

13] Retrieve all shows with corresponding cinema and city details

CODE:

```
SELECT Show_.*, Cinema.CinemaName, City.CityName FROM Show_ INNER
JOIN CinemaHall ON Show_.CinemaHallID = CinemaHall.CinemaHallID INNER
JOIN Cinema ON CinemaHall.CinemaID = Cinema.CinemaID INNER JOIN City ON
Cinema.CityID = City.CityID;
```

OUTPUT:

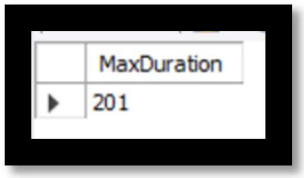


ShowID	MovieID	CinemaHallID	ShowDate	StartTime	EndTime	CinemaName	CityName
1	1	1	2024-02-23	2024-02-23 19:00:00	2024-02-23 21:00:00	Empire State Theater	New York City
2	2	2	2024-02-25	2024-02-25 15:00:00	2024-02-25 17:00:00	Empire State Theater	New York City
3	3	3	2024-02-27	2024-02-27 20:00:00	2024-02-27 22:00:00	Hollywood Cinema	Los Angeles
4	4	4	2024-03-19	2024-03-19 20:00:00	2024-03-19 22:30:00	Windy City Cinemas	Chicago
5	5	5	2024-03-20	2024-03-20 21:00:00	2024-03-20 23:30:00	Golden Gate Theater	San Francisco
6	6	6	2024-03-21	2024-03-21 19:00:00	2024-03-21 21:30:00	Houston Cinema	Miami
7	7	7	2024-03-22	2024-03-22 20:30:00	2024-03-22 23:00:00	Ocean View Theater	Houston
8	8	8	2024-03-23	2024-03-23 18:00:00	2024-03-23 20:30:00	Emerald City Cinemas	Los Angeles
9	9	9	2024-03-24	2024-03-24 17:30:00	2024-03-24 21:00:00	Boston Multiplex	Philadelphia
10	10	10	2024-02-23	2024-02-23 18:30:00	2024-02-23 21:00:00	Desert Oasis Cinema	Phoenix
11	11	11	2024-03-19	2024-03-19 19:30:00	2024-03-19 22:00:00	Windy City Cinemas	Chicago
12	12	12	2024-03-22	2024-03-22 18:00:00	2024-03-22 20:30:00	Motor City Movies	Boston
13	13	13	2024-03-29	2024-03-29 17:00:00	2024-03-29 20:30:00	Liberty Theaters	New York City
14	14	14	2024-03-31	2024-03-31 19:00:00	2024-03-31 21:30:00	Pacific Cinemas	Philadelphia
15	15	15	2024-02-27	2024-02-27 18:30:00	2024-02-27 21:00:00	Empire State Theater	New York City

14] Find the maximum duration among all movies

CODE:
SELECT MAX(Duration) AS MaxDuration FROM Movie;

OUTPUT:



MaxDuration
201

15] Retrieve all feedbacks with corresponding user and movie details

CODE:
SELECT Feedback.*, User.FirstName, User.LastName, Movie.Title FROM Feedback INNER JOIN User ON Feedback.UserID = User.UserID INNER JOIN Show_ ON Feedback.ShowID = Show_.ShowID INNER JOIN Movie ON Show_.MovieID = Movie.MovieID;

OUTPUT:

FeedbackID	UserID	ShowID	Feedback	FeedbackDate	FirstName	LastName	Title
1	1	1	Great movie!	2024-02-24 00:00:00	Tony	Stark	The Avengers
2	2	2	A classic that never gets old.	2024-02-26 00:00:00	Red	Dwyers	The Shawshank Redemption
3	3	3	Mind-blowing experience!	2024-02-28 00:00:00	Arthur	Miles	Inception
4	4	4	Fantastic performance!	2024-03-19 23:00:00	Alice	Smith	The Godfather
5	5	5	The best movie ever!	2024-03-20 23:30:00	Bob	Doe	The Dark Knight
6	6	6	Mind-blowing experience!	2024-03-22 23:30:00	Sarah	Jones	Pulp Fiction
7	7	7	Forrest Gump is a classic!	2024-03-23 20:30:00	Michael	Smith	The Matrix
8	8	4	The performances, the dialogue, and the cinem...	2024-03-21 21:00:00	Emily	Wilson	The Godfather
9	9	9	Enjoyed it with friends!	2024-03-25 21:30:00	David	Brown	The Lord of the Rings: The Return of the King
10	10	10	Avatar was visually stunning!	2024-03-26 22:00:00	Chris	Evans	Avatar
11	11	11	Interstellar blew my mind!	2024-03-27 22:30:00	Emma	Johnson	Interstellar
12	12	3	The end was much of a thriller and nail biting.	2024-02-29 20:30:00	Sophia	White	Inception
13	13	9	Amazing story!	2024-03-24 23:30:00	Oliver	Miller	The Lord of the Rings: The Return of the King
14	14	14	Titanic was a beautiful love story!	2024-03-31 22:30:00	Ava	Anderson	Titanic
15	15	12	The Dark Knight Rises was an epic conclusion!	2024-03-23 22:00:00	James	Smith	The Dark Knight Rises

16] Retrieve all movies along with the corresponding city names where they are being screened.

CODE:
```
SELECT Movie.Title, City.CityName
FROM Movie
INNER JOIN Show_ ON Movie.MovieID = Show_.MovieID
INNER JOIN CinemaHall ON Show_.CinemaHallID = CinemaHall.CinemaHallID
INNER JOIN Cinema ON CinemaHall.CinemaID = Cinema.CinemaID
INNER JOIN City ON Cinema.CityID = City.CityID;
```

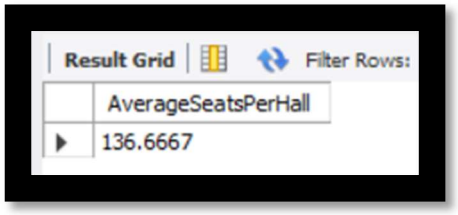
OUTPUT:

Title	CityName
The Avengers	New York City
The Shawshank Redemption	New York City
Inception	Los Angeles
The Godfather	Chicago
The Dark Knight	San Francisco
Pulp Fiction	Miami
The Matrix	Houston
Forrest Gump	Los Angeles
The Lord of the Rings: The Return of the King	Philadelphia
Avatar	Phoenix
Interstellar	Chicago
The Dark Knight Rises	Boston
The Lion King	New York City
Titanic	Philadelphia
Jurassic Park	New York City

17] Calculate the average number of seats per cinema hall

CODE:
```
SELECT AVG(TotalSeats) AS AverageSeatsPerHall FROM CinemaHall;
```

OUTPUT:



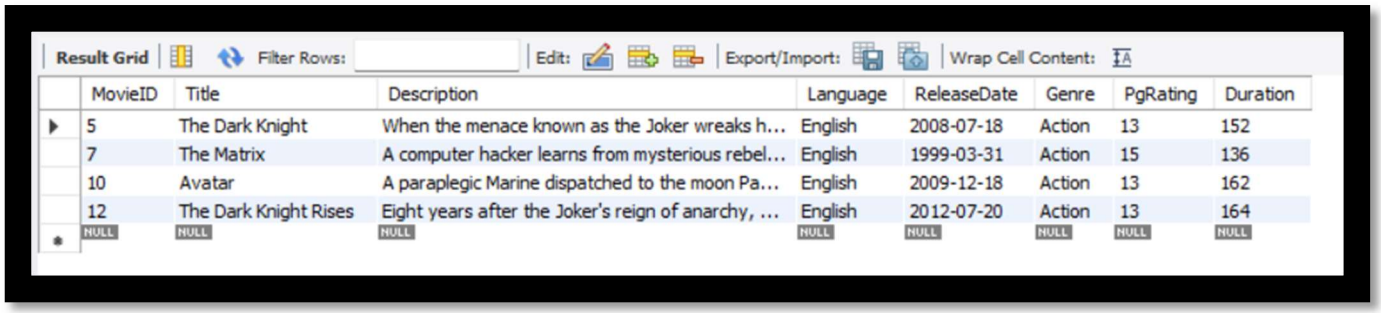
Result Grid | Filter Rows:

AverageSeatsPerHall
136.6667

18] Retrieve all movies with a genre that matches the most common genre among movies

CODE:
```
SELECT *
FROM Movie
WHERE Genre = (SELECT Genre FROM Movie GROUP BY Genre ORDER BY COUNT(*) DESC LIMIT 1);
```

OUTPUT:


Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

MovieID	Title	Description	Language	ReleaseDate	Genre	PgRating	Duration
5	The Dark Knight	When the menace known as the Joker wreaks h...	English	2008-07-18	Action	13	152
7	The Matrix	A computer hacker learns from mysterious rebel...	English	1999-03-31	Action	15	136
10	Avatar	A paraplegic Marine dispatched to the moon Pa...	English	2009-12-18	Action	13	162
12	The Dark Knight Rises	Eight years after the Joker's reign of anarchy, ...	English	2012-07-20	Action	13	164
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

19] Find the minimum PgRating among all movies

CODE:
```
SELECT MIN(PgRating) AS MinPgRating FROM Movie;
```

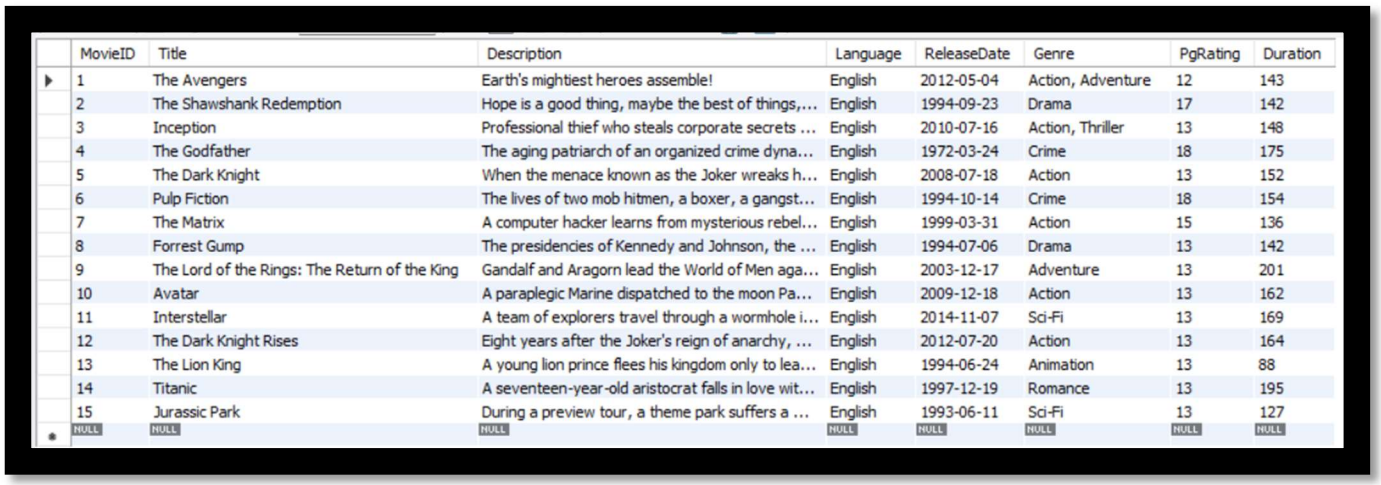
OUTPUT:


Result Grid | Filter Rows:

MinPgRating
12

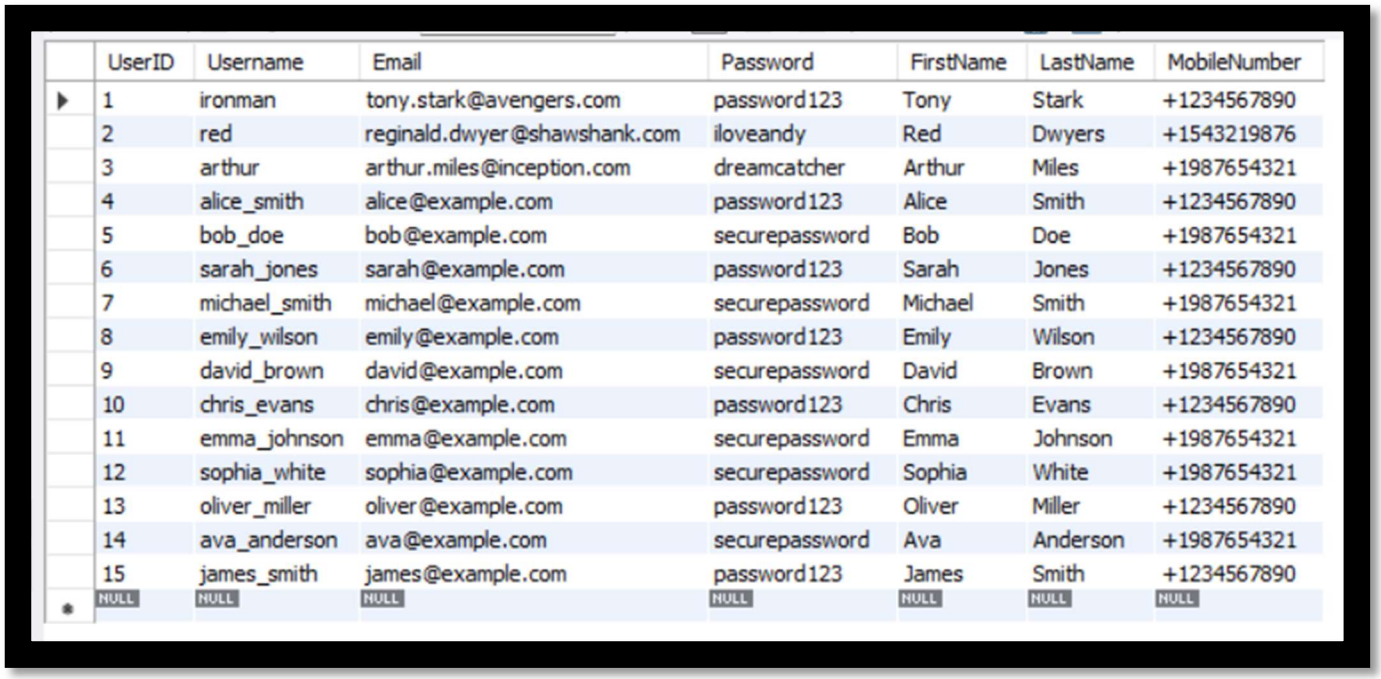
PROJECT DEMONSTRATION

select * from Movie;



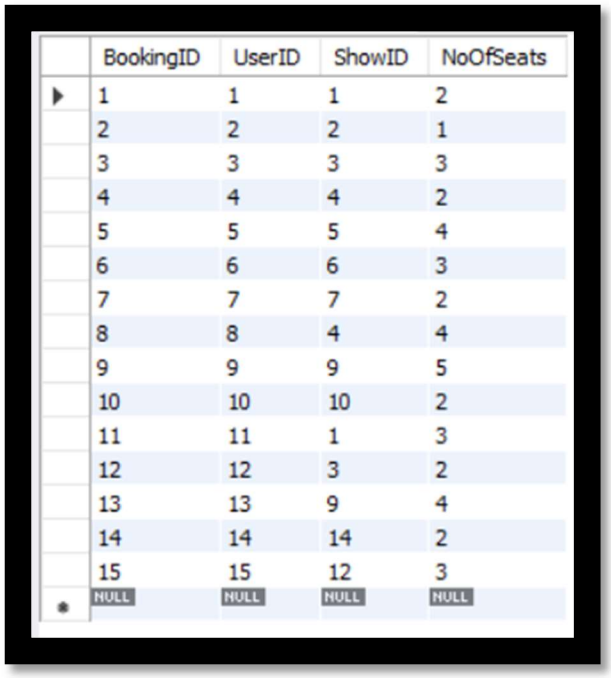
MovieID	Title	Description	Language	ReleaseDate	Genre	PgRating	Duration
1	The Avengers	Earth's mightiest heroes assemble!	English	2012-05-04	Action, Adventure	12	143
2	The Shawshank Redemption	Hope is a good thing, maybe the best of things,...	English	1994-09-23	Drama	17	142
3	Inception	Professional thief who steals corporate secrets ...	English	2010-07-16	Action, Thriller	13	148
4	The Godfather	The aging patriarch of an organized crime dyna...	English	1972-03-24	Crime	18	175
5	The Dark Knight	When the menace known as the Joker wreaks h...	English	2008-07-18	Action	13	152
6	Pulp Fiction	The lives of two mob hitmen, a boxer, a gangst...	English	1994-10-14	Crime	18	154
7	The Matrix	A computer hacker learns from mysterious rebel...	English	1999-03-31	Action	15	136
8	Forrest Gump	The presidencies of Kennedy and Johnson, the ...	English	1994-07-06	Drama	13	142
9	The Lord of the Rings: The Return of the King	Gandalf and Aragorn lead the World of Men aga...	English	2003-12-17	Adventure	13	201
10	Avatar	A paraplegic Marine dispatched to the moon Pa...	English	2009-12-18	Action	13	162
11	Interstellar	A team of explorers travel through a wormhole i...	English	2014-11-07	Sci-Fi	13	169
12	The Dark Knight Rises	Eight years after the Joker's reign of anarchy, ...	English	2012-07-20	Action	13	164
13	The Lion King	A young lion prince flees his kingdom only to lea...	English	1994-06-24	Animation	13	88
14	Titanic	A seventeen-year-old aristocrat falls in love wit...	English	1997-12-19	Romance	13	195
15	Jurassic Park	During a preview tour, a theme park suffers a ...	English	1993-06-11	Sci-Fi	13	127
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

select * from User;



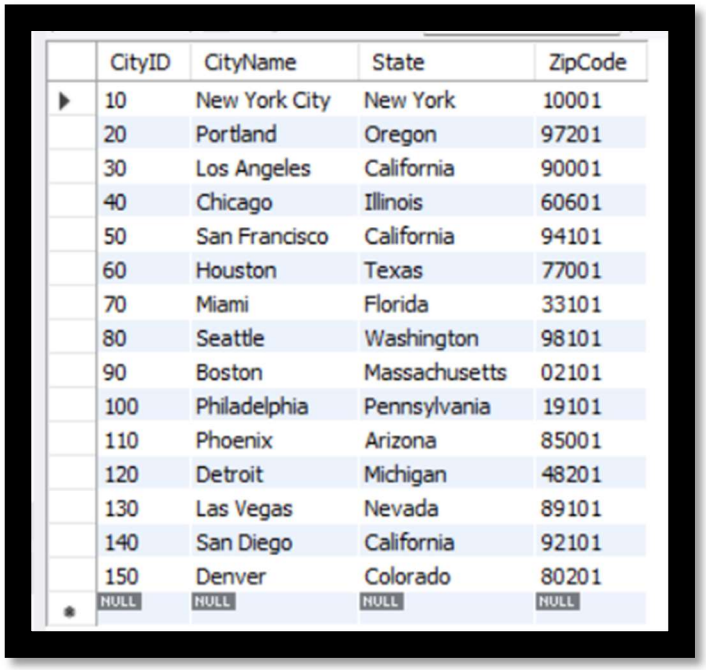
UserID	Username	Email	Password	FirstName	LastName	MobileNumber
1	ironman	tony.stark@avengers.com	password123	Tony	Stark	+1234567890
2	red	reginald.dwyer@shawshank.com	iloveandy	Red	Dwyers	+1543219876
3	arthur	arthur.miles@inception.com	dreamcatcher	Arthur	Miles	+1987654321
4	alice_smith	alice@example.com	password123	Alice	Smith	+1234567890
5	bob_doe	bob@example.com	securepassword	Bob	Doe	+1987654321
6	sarah_jones	sarah@example.com	password123	Sarah	Jones	+1234567890
7	michael_smith	michael@example.com	securepassword	Michael	Smith	+1987654321
8	emily_wilson	emily@example.com	password123	Emily	Wilson	+1234567890
9	david_brown	david@example.com	securepassword	David	Brown	+1987654321
10	chris_evans	chris@example.com	password123	Chris	Evans	+1234567890
11	emma_johnson	emma@example.com	securepassword	Emma	Johnson	+1987654321
12	sophia_white	sophia@example.com	securepassword	Sophia	White	+1987654321
13	oliver_miller	oliver@example.com	password123	Oliver	Miller	+1234567890
14	ava_anderson	ava@example.com	securepassword	Ava	Anderson	+1987654321
15	james_smith	james@example.com	password123	James	Smith	+1234567890
NULL	NULL	NULL	NULL	NULL	NULL	NULL

select * from Booking;



BookingID	UserID	ShowID	NoOfSeats
1	1	1	2
2	2	2	1
3	3	3	3
4	4	4	2
5	5	5	4
6	6	6	3
7	7	7	2
8	8	4	4
9	9	9	5
10	10	10	2
11	11	1	3
12	12	3	2
13	13	9	4
14	14	14	2
15	15	12	3
NULL	NULL	NULL	NULL

select * from City;



CityID	CityName	State	ZipCode
10	New York City	New York	10001
20	Portland	Oregon	97201
30	Los Angeles	California	90001
40	Chicago	Illinois	60601
50	San Francisco	California	94101
60	Houston	Texas	77001
70	Miami	Florida	33101
80	Seattle	Washington	98101
90	Boston	Massachusetts	02101
100	Philadelphia	Pennsylvania	19101
110	Phoenix	Arizona	85001
120	Detroit	Michigan	48201
130	Las Vegas	Nevada	89101
140	San Diego	California	92101
150	Denver	Colorado	80201
NULL	NULL	NULL	NULL

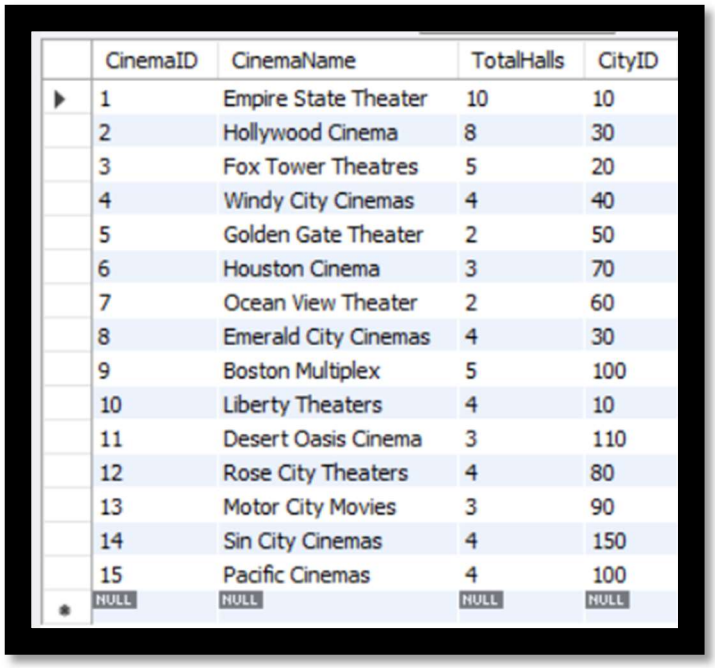
select * from Feedback;

FeedbackID	UserID	ShowID	Feedback	FeedbackDate
1	1	1	Great movie!	2024-02-24 00:00:00
2	2	2	A classic that never gets old.	2024-02-26 00:00:00
3	3	3	Mind-blowing experience!	2024-02-28 00:00:00
4	4	4	Fantastic performance!	2024-03-19 23:00:00
5	5	5	The best movie ever!	2024-03-20 23:30:00
6	6	6	Mind-blowing experience!	2024-03-22 23:30:00
7	7	7	Forrest Gump is a classic!	2024-03-23 20:30:00
8	8	4	The performances, the dialogue, and the cinem...	2024-03-21 21:00:00
9	9	9	Enjoyed it with friends!	2024-03-25 21:30:00
10	10	10	Avatar was visually stunning!	2024-03-26 22:00:00
11	11	11	Interstellar blew my mind!	2024-03-27 22:30:00
12	12	3	The end was much of a thriller and nail biting.	2024-02-29 20:30:00
13	13	9	Amazing story!	2024-03-24 23:30:00
14	14	14	Titanic was a beautiful love story!	2024-03-31 22:30:00
15	15	12	The Dark Knight Rises was an epic conclusion!	2024-03-23 22:00:00
NULL	NULL	NULL	NULL	NULL

select * from ShowSeat;

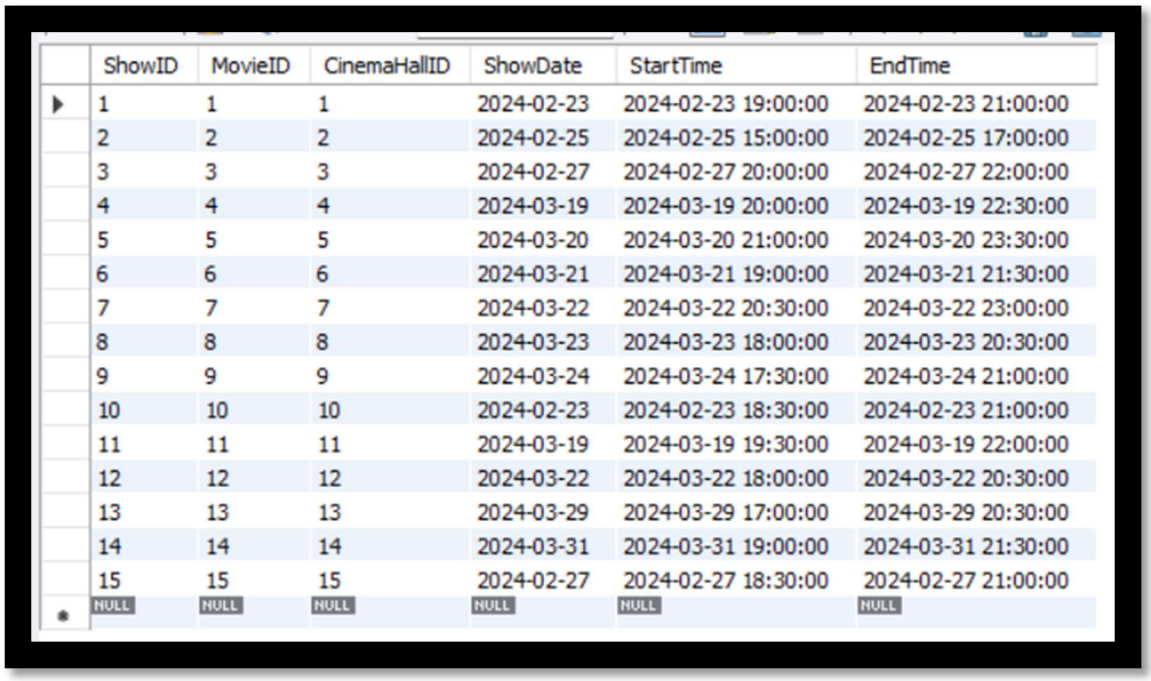
ShowSeatID	ShowID	CinemaSeatID	BookingID
1	1	1	1
2	2	3	2
3	2	2	1
4	4	5	4
5	5	6	5
6	5	6	5
7	6	7	6
8	6	8	6
9	7	9	7
10	10	10	10
11	10	11	10
12	11	12	11
13	11	13	11
14	12	14	12
15	12	15	12
NULL	NULL	NULL	NULL

select * from Cinema;



CinemaID	CinemaName	TotalHalls	CityID
1	Empire State Theater	10	10
2	Hollywood Cinema	8	30
3	Fox Tower Theatres	5	20
4	Windy City Cinemas	4	40
5	Golden Gate Theater	2	50
6	Houston Cinema	3	70
7	Ocean View Theater	2	60
8	Emerald City Cinemas	4	30
9	Boston Multiplex	5	100
10	Liberty Theaters	4	10
11	Desert Oasis Cinema	3	110
12	Rose City Theaters	4	80
13	Motor City Movies	3	90
14	Sin City Cinemas	4	150
15	Pacific Cinemas	4	100
NULL	NULL	NULL	NULL

select * from Show_;



ShowID	MovieID	CinemaHallID	ShowDate	StartTime	EndTime
1	1	1	2024-02-23	2024-02-23 19:00:00	2024-02-23 21:00:00
2	2	2	2024-02-25	2024-02-25 15:00:00	2024-02-25 17:00:00
3	3	3	2024-02-27	2024-02-27 20:00:00	2024-02-27 22:00:00
4	4	4	2024-03-19	2024-03-19 20:00:00	2024-03-19 22:30:00
5	5	5	2024-03-20	2024-03-20 21:00:00	2024-03-20 23:30:00
6	6	6	2024-03-21	2024-03-21 19:00:00	2024-03-21 21:30:00
7	7	7	2024-03-22	2024-03-22 20:30:00	2024-03-22 23:00:00
8	8	8	2024-03-23	2024-03-23 18:00:00	2024-03-23 20:30:00
9	9	9	2024-03-24	2024-03-24 17:30:00	2024-03-24 21:00:00
10	10	10	2024-02-23	2024-02-23 18:30:00	2024-02-23 21:00:00
11	11	11	2024-03-19	2024-03-19 19:30:00	2024-03-19 22:00:00
12	12	12	2024-03-22	2024-03-22 18:00:00	2024-03-22 20:30:00
13	13	13	2024-03-29	2024-03-29 17:00:00	2024-03-29 20:30:00
14	14	14	2024-03-31	2024-03-31 19:00:00	2024-03-31 21:30:00
15	15	15	2024-02-27	2024-02-27 18:30:00	2024-02-27 21:00:00
NULL	NULL	NULL	NULL	NULL	NULL

select * from CinemaSeat;

CinemaSeatID	SeatNumber	CinemaHallID
1	A1	1
2	A2	1
3	B1	2
4	B2	2
5	A1	3
6	A2	4
7	C4	5
8	A1	5
9	A2	5
10	B3	6
11	C2	6
12	A1	10
13	A5	10
14	B2	8
15	C1	15
16	C2	7
17	A1	4
NULL	NULL	NULL

SELF LEARNING BEYOND CLASSROOM

Through this project, we enhanced understanding of database management and SQL beyond the classroom. Key learnings included database design, SQL constraints, normalization techniques, data manipulation operations, transaction management, data integrity, and advanced SQL operations like joins and aggregates. These practical experiences equipped us with valuable skills for real-world database development and administration tasks Self Learning:
Database Design: Knowing how to start from scratch and create a relational database schema that includes establishing relationships, building tables, and normalizing data to ensure data integrity.

Proficiency in writing SQL queries for insertion, retrieval, updating, and deletion of data is a prerequisite for developing SQL skills. This includes aggregating data for analysis, filtering data according to particular standards, and querying data from many tables via joins.

Project Collaboration: Mastering the skills of working in a team environment, such as allocating responsibilities, communicating clearly, and organizing activities to accomplish project objectives

Problem-Solving: Dealing with issues that arise in the real world when handling comments, managing seat allocations, maintaining user accounts, and making reservations for tickets. This calls for the application of critical thinking and problem-solving techniques to overcome obstacles and maximize system performance.

Learning about data management techniques, such as applying data validation guidelines, guaranteeing data consistency, and preserving data integrity by using relationships and restrictions.

Project management is the ability to successfully complete project milestones within the allotted timeframe by recognizing the significance of project planning, time management, and work prioritization.

Adopting an attitude of constant learning and development through asking for feedback, thinking back on lessons discovered, and pinpointing areas that still need work in order to be improved in upcoming projects or revisions of the current project.

LEARNING FROM THE PROJECT

A significant learning from the project was the practical application of normalization techniques in database design. Understanding how to structure databases efficiently to minimize data redundancy and maintain data integrity is crucial for optimizing database performance and ensuring scalability in real-world applications.

We worked together to develop and build a relational database schema for a movie ticket booking system in this group project. Our group made tables, added data to them, and used foreign keys to make relationships. To reduce duplication and improve data integrity, we used data normalization concepts. We dealt with a variety of real-world situations during the project, including maintaining user accounts, purchasing performance tickets, gathering movie reviews, and linking reservations to seats. Through this project, we gained invaluable practical experience with SQL queries, database administration, and the challenges of developing a functional application.