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A Report on

Movie Ticket Booking System

Course: DBMS

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Course: Database Management Systems

Project Report

Program:	B-Tech CE	
Semester:	IV	
Name of the Project:	Movie Ticket Booking System	
Details of Project Members:		
Batch	**Roll No.**	**Name**
B1	A175	Tanisha Shaha
B1	A180	Prapti Gupta
Date of Submission: 27/03/2024		

Contribution of each project Members:

Roll No.	**Name:**	**Contribution**
A175	Tanisha Shaha	Equal
A180	Prapti Gupta	Equal

GitHub Link: https://github.com/Prapti-gupta/movie-ticket-booking-db-queries

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I. Storyline

In a busy city, Max and his friends wanted to create a movie platform where booking tickets would be easy for everyone. So, they made Cinemania, a friendly place where movie lovers can easily book their favorite shows. Cinemania needed a solid foundation - a database to manage everything from user profiles to showtimes and payments. This includes storing user profiles, managing movie details like titles, genres, and showtimes, handling ticket bookings and reservations, processing payments securely, and providing administrative controls. This database would allow users to browse movies, choose showtimes, and book seats effortlessly, all while keeping their information safe and secure. With everything organized, Cinemania assured to make movies easy and reliable for everyone's enjoyment.

II. Components of Database Design

There are a total 10 entities in this database, listed as follows:

- **Users**:

Attributes: LoginID (Primary Key), Name, Age, Gender, Phone Number, Email, Ticket No. (Foreign Key)

Cardinality: One user can make many bookings. (one to many)

- **Bookings**:

Attributes: BookingID (Primary Key), Booking Date, Total Price, Number of People, Login ID (Foreign Key)

- **Movie**:

Attributes: Movie ID (Primary Key), Movie Name, Genre, Language, Movie rating
Cardinality: One movie can have many shows. (one to many)

- **Showtimes**:

Attributes: Show ID (Primary Key), Show Date, Show Time, Screen No, Movie ID (Foreign Key)

- **Manager**:

Attributes: M_Name, M_Age, M_Gender, Theater ID (Foreign Key)
Cardinality: One manager can manage many movie shows. (one to many)

- **Tickets**:

Attributes: Ticket No (Primary Key), Screen No, Movie Name, show Time, show date, Price, Seat ID(Foreign Key), Movie ID(Foreign Key)

- **Payments**:

Attributes: Payment Type, Amount, Login ID (Foreign Key)

- **Login**:

Attributes: Username, Password, Login ID (Foreign Key)

- **Seat**:

Attributes: Seat ID (Primary Key), Seat type, Row number, Theater ID (Foreign Key)

- **Theater:**

Attributes: Theater ID (Primary Key), Theater Name, Location, No. of screens

Relationships:

- **Users - Logins**:

Relationship: One-to-One
Description: Each user has one login, and each login is associated with only one user.

- **Movies - Shows:**

Relationship: One-to-Many
Description: Each movie can have multiple shows, but each show belongs to only one movie.

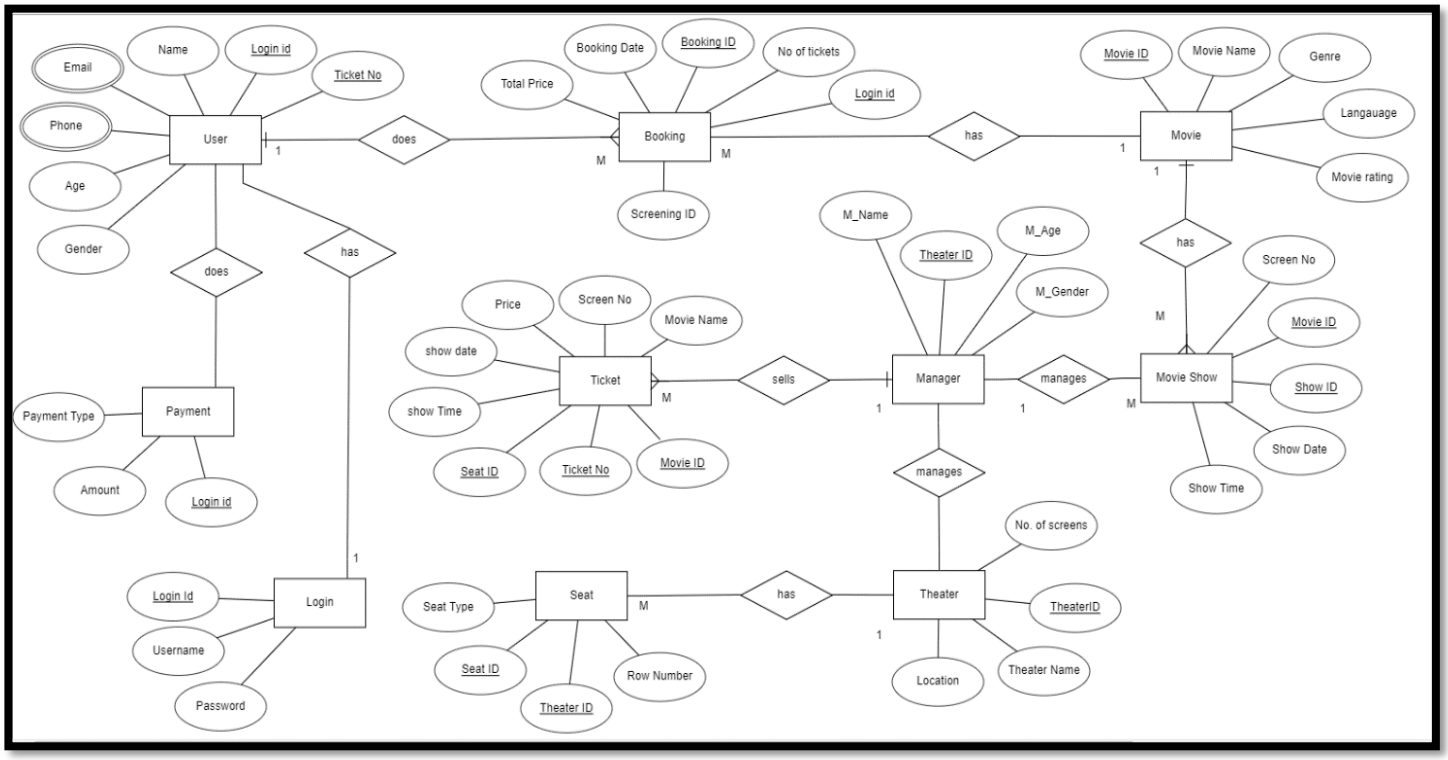
- **Bookings - Users:**

Relationship: Many-to-One
Description: Multiple bookings can be made by one user, but each booking is made by only one user.

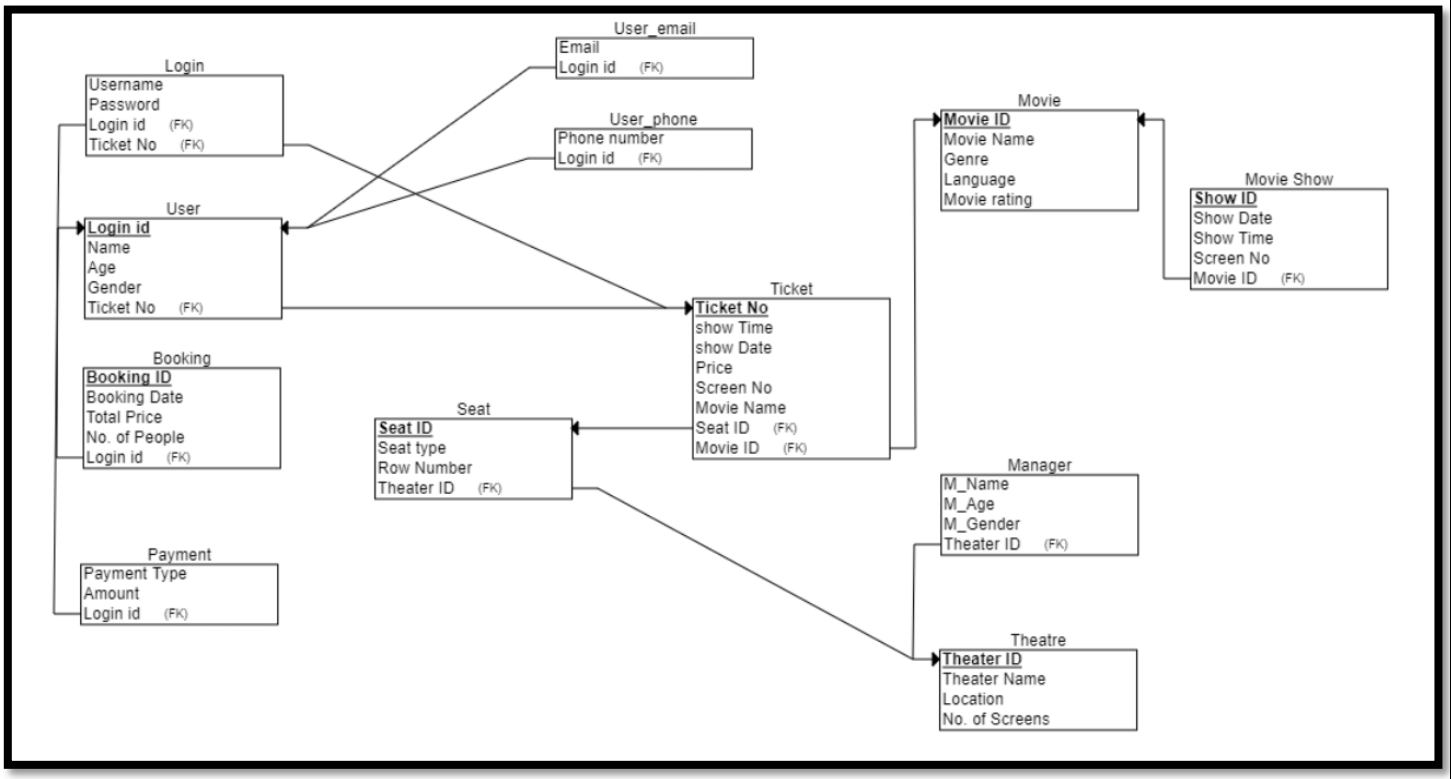
- **Manager – Movie Show:**

Relationship: One-to-Many
Description: Each admin can manage multiple movie shows, but each movie show can be managed by only one manager.

III. Entity Relationship Diagram



IV. Relational Model



V. Normalization

In this section, we have applied normalization to the Movie Ticket Booking System database to eliminate data redundancy and improve data integrity. We went through 1NF, 2NF, 3NF, and BCNF to ensure the Movie Ticket Booking System database was properly normalized.

First Normal Form (1NF):

Our current database is already in the First Normal Form (1NF) because it meets the requirements of having single values in each cell i.e. the property of Atomicity and avoiding repeated sets of columns.

Second Normal Form (2NF):

A relation is in 2NF if it is in 1NF and no partial dependency exists. On checking our existing tables we observe that all the non-key attributes are dependent on the entire primary key which indicates that our tables are already in 2NF.

Third Normal Form (3NF):

A relation is in 3NF if it is in 2NF and no transitive dependency exists which means that there should be no cases where a non-key attribute determines another non-key attribute only through another non-key attribute. After checking our tables, we find that transitive dependencies does not exist, which means our tables are already in 3NF.

BCNF (Boyce-Codd Normal Form):

A relation is in BCNF if no non-key attribute determines another non-key attribute. This means that every non-trivial functional dependency in the relation must have a superkey as its determinant. Since in our database every determinant is a candidate key and the table is in 3NF, our tables are already in BCNF.

VI. SQL Queries

- Table Creation and feeding meaningful data into it:

```
Create database Movie_Booking;

create table User (
Name varchar(30) not NULL,
Login_id numeric,
Password varchar(15),
Email varchar(30),
Phone_no numeric,
Gender char,
Age numeric,
Ticket_no numeric,
constraint pk_User primary key(Login_id)
);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Prapti Gupta',1,"abc123",'prapti@gmail.com',9876543210,'F',19,201);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Tanisha Shaha',2,"def456",'tanisha@gmail.com',0123456789,'F',19,202);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Mahek Makhija',3,"hello987",'mahek@gmail.com',8763425608,'F',22,203);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Agam Singh',4,"hi987",'agam@gmail.com',9871239747,'M',29,204);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Neelam Gupta',5,"xyz123",'neelam@gmail.com',8357290966,'F',47,205);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Krish Surti',6,"kkr143",'krish@gmail.com',9863638211,'M',36,206);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Aadit Khanolkar',7,"123pqr",'aadit@gmail.com',9820963210,'M',65,207);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Yash Malhotra',8,"a03a",'yash@gmail.com',9098763210,'M',19,208);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Vaishnavi
Awashti',9,"qwert87",'vaishnavi@gmail.com',1234509876,'F',32,209);
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Lokendra
Pandey',10,"lpr123",'lokendra@gmail.com',9877073518,'M',52,'210');
select*from User;


create table Login (
```

```
Login_id numeric,
username  varchar(30) Not Null,
password varchar(15),
constraint fk_Login foreign key(Login_id) references User(Login_id)
);
INSERT into Login(Login_id, username,password) values (1,"me_prapti","abc123");
INSERT into Login(Login_id, username,password) values (2,"me_tanisha","def456");
INSERT into Login(Login_id, username,password) values (3,"me_mahek","hello987");
INSERT into Login(Login_id, username,password) values (4,"me_agam","hi987");
INSERT into Login(Login_id, username,password) values (5,"me_neelam","xyz12");
INSERT into Login(Login_id, username,password) values (6,"me_krish","kkr143");
INSERT into Login(Login_id, username,password) values (7,"me_aadit","123pqr");
INSERT into Login(Login_id, username,password) values (8,"me_yash","a03a");
INSERT into Login(Login_id, username,password) values
(9,"me_vaishnavi","qwert87");
INSERT into Login(Login_id, username,password) values
(10,"me_lokendra","lpr123");
select*from Login;


create table Payment (
Login_id numeric,
Payment_Type  varchar(15) Not Null,
Amount numeric,
constraint fk_Payment foreign key(Login_id) references User(Login_id)
);
INSERT into Payment(Login_id,Payment_Type,Amount) values (1, "Credit Card",
350);
INSERT into Payment(Login_id,Payment_Type,Amount) values (2, "Net Banking",
700);
INSERT into Payment(Login_id,Payment_Type,Amount) values (3, "UPI", 1400);
INSERT into Payment(Login_id,Payment_Type,Amount) values (4, "Credit Card",
1050);
INSERT into Payment(Login_id,Payment_Type,Amount) values (5, "Credit Card",
350);
INSERT into Payment(Login_id,Payment_Type,Amount) values (6, "UPI", 350);
INSERT into Payment(Login_id,Payment_Type,Amount) values (7, "UPI", 1400);
INSERT into Payment(Login_id,Payment_Type,Amount) values (8, "Credit Card",
700);
INSERT into Payment(Login_id,Payment_Type,Amount) values (9, "Debit Card", 350);
INSERT into Payment(Login_id,Payment_Type,Amount) values (10, "Net Banking",
1050);
select*from Payment;


create table Booking (
Login_id numeric,
```

```
No_of_Tickets numeric,
Price numeric,
Booking_id varchar(10),
Booking_Date date,
constraint fk_Booking foreign key(Login_id) references User(Login_id)
);
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(1,1,350,"#1234","2024-03-26");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(2,2,700,"#5678","2024-03-21");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(3,4,1400,"#3746","2024-02-26");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(4,3,1050,"#2937","2024-03-30");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(5,1,350,"#9736","2024-03-31");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(6,1,350,"#0924","2024-03-5");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(7,4,1400,"#1952","2024-03-27");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(8,2,700,"#0176","2024-03-16");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(9,1,350,"#1298","2024-03-8");
INSERT into Booking(Login_id,No_of_Tickets,Price,Booking_id,Booking_Date)
values(10,3,1050,"#1271","2024-03-19");
select*from Booking;


create table Movie (
Movie_id numeric,
Movie_Name varchar(50),
Genre varchar(15),
Language varchar(15),
Movie_Rating decimal(10,1),
constraint pk_Movie primary key(Movie_id)
);
INSERT into Movie(Movie_id,Movie_Name,Genre,Language,Movie_Rating)
values(16, 'Dangal', 'Biography', 'Hindi',4.2),
    (17, 'Baahubali: The Beginning', 'Action', 'Telugu',4),
          (18, '3 Idiots', 'Comedy', 'Hindi',4.8),
    (19, 'Drishyam', 'Thriller', 'Malayalam',4.8),
    (20, 'PK', 'Comedy-Drama', 'Hindi',4.6),
    (21, 'Kabir Singh', 'Romance', 'Hindi',3.7),
    (22, 'Rang De Basanti', 'Drama', 'Hindi',3.2),
    (23, 'Queen', 'Drama-Comedy', 'Hindi',3.5),
    (24, 'Ustad Hotel', 'Drama', 'Malayalam',2.8),
```

```
    (25, 'Gully Boy', 'Drama', 'Hindi',3.0);
select*from Movie;


create table Movie_Show(
Movie_id numeric,
Show_id numeric,
Show_Date Date,
Show_Time time,
Screen numeric,
constraint fk_Show foreign key(Movie_id) references Movie(Movie_id)
);
INSERT INTO Movie_Show (Movie_id, Show_id, Show_Date, Show_Time,Screen)
VALUES
   (16, 1, '2024-03-27', '15:00',3),
   (17, 2, '2024-03-28', '18:30',6),
   (18, 3, '2024-03-29', '21:00',5),
   (19, 4, '2024-03-27', '17:30',4),
   (20, 5, '2024-03-28', '20:00',3),
   (21, 6, '2024-03-29', '13:00',4),
   (22, 7, '2024-03-27', '16:30',2),
   (23, 8, '2024-03-28', '19:45',5),
   (24, 9, '2024-03-29', '22:15',3),
   (25, 10, '2024-03-27', '14:00',4);
select*from Movie_Show;


create table Theater (
Theatre_id numeric,
Theatre_Name varchar(50),
Location varchar(15),
Screen numeric,
constraint pk_Theater primary key(Theatre_id)
);
INSERT INTO Theater (Theatre_id, Theatre_Name, Location, Screen)
VALUES
   (101, 'Regal Cinemas', 'Colaba', 3),
   (102, 'PVR Cinemas', 'Andheri', 6),
   (103, 'INOX Cinemas', 'Bandra', 5),
   (104, 'Cinepolis', 'Malad', 4),
   (105, 'Miraj Cinemas', 'Chembur', 3),
   (106, 'Carnival Cinemas', 'Borivali', 4),
   (107, 'Metro Cinema', 'Marine Lines', 2),
   (108, 'MAX Cinemas', 'Goregaon', 5),
   (109, 'Movietime Cinemas', 'Kandivali', 3),
   (110, 'Fame Cinemas', 'Vashi', 4);
select*from Theater;
```

```
create table Seat (
Seat_id numeric,
Seat_Type varchar(50),
Row_no  varchar(5),
constraint pk_Seat primary key(Seat_id)
);
INSERT INTO Seat (Seat_id, Seat_Type, Row_no)
VALUES
   (1, 'Standard', "J"),
   (2, 'Standard', "I"),
   (3, 'Standard', "H"),
   (4, 'Standard', "G"),
   (5, 'VIP', "D"),
   (6, 'VIP', "E"),
   (7, 'VIP', "F"),
   (8, 'Premium', "A"),
   (9, 'Premium', "B"),
   (10, 'Premium', "C");
select*from Seat;


create table Manager(
Theatre_id numeric,
M_Name varchar(20),
M_Gender char,
M_Age numeric,
constraint fk_Manager foreign key(Theatre_id) references Theater(Theatre_id)
);
INSERT INTO Manager (Theatre_id, M_Name, M_Gender, M_Age)
VALUES
   (101, 'Priya Sharma', 'F', 32),
   (102,'Rahul Desai', 'M', 29),
   (103,'Anjali Patel', 'F', 35),
   (104,'Amit Kumar', 'M', 40),
   (105, 'Neha Gupta', 'F', 28),
   (106,'Rajesh Singh', 'M', 45),
   (107,'Pooja Joshi', 'F', 33),
   (108,'Vikram Sharma', 'M', 38),
   (109,'Sunita Reddy', 'F', 30),
   (110,'Alok Verma', 'M', 42);
select*from Manager;

CREATE INDEX idx_show_time_date ON Movie_Show (Show_Time, Show_Date);

CREATE TABLE ticket (
```

```
    Movie_id numeric,
    Ticket_no numeric,
    Seat_id numeric,
    Show_Time time,
    Show_Date date,
    Price DECIMAL(10, 2),
    Screen VARCHAR(50),
    Movie_Name VARCHAR(100),
    FOREIGN KEY (Movie_id) REFERENCES Movie(Movie_id),
    FOREIGN KEY (Seat_id) REFERENCES Seat(Seat_id),
    FOREIGN KEY (Show_Time, Show_Date) REFERENCES Movie_Show(Show_Time,
Show_Date)
);

INSERT INTO ticket (Movie_id, Ticket_no, Seat_id, Show_Time, Show_Date, Price,
Screen, Movie_Name)
VALUES
    (16, 201, 1, '15:00', '2024-03-27', 300, 3, 'Dangal'),
    (17, 202, 2, '18:30', '2024-03-28', 700, 6, 'Baahubali: The Beginning'),
    (18, 203, 3, '21:00', '2024-03-29', 1400, 5, '3 Idioits'),
    (16, 204, 4, '15:00', '2024-03-27', 1050, 4, 'Dangal'),
    (25, 205, 5, '14:00', '2024-03-27', 700, 4, 'Gully Boy'),
    (22, 206, 6, '16:30:00', '2024-03-27', 350, 2, 'Rand De Basanti'),
    (19, 207, 7, '17:30', '2024-03-27', 350, 4, 'Drishyam'),
    (24, 208, 8, '22:15', '2024-03-29', 1050, 3, 'Ustad Hotel'),
    (23, 209, 9, '19:45', '2024-03-28', 1400, 5, 'Queen'),
    (25, 210, 10, '14:00', '2024-03-27', 700, 4, 'Gully Boy');
select*from Ticket;
```

Snapshots of Tables Created:

User:

Name	Login_id	Password	Email	Phone_no	Gender	Age	Ticket_no
Prapti Gupta	1	abc123	prapti@gmail.com	9876543210	F	19	201
Tanisha Shaha	2	def456	tanisha@gmail.com	123456789	F	19	202
Mahek Makhija	3	hello987	mahek@gmail.com	8763425608	F	22	203
Agam Singh	4	hi987	agam@gmail.com	9871239747	M	29	204
Neelam Gupta	5	xyz123	neelam@gmail.com	8357290966	F	47	205
Krish Surti	6	kkr143	krish@gmail.com	9863638211	M	36	206
Aadit Khanolkar	7	123pqr	aadit@gmail.com	9820963210	M	65	207
Yash Malhotra	8	a03a	yash@gmail.com	9098763210	M	19	208
Vaishnavi Awashti	9	qwert87	vaishnavi@gmail.com	1234509876	F	32	209
Lokendra Pandey	10	lpr123	lokendra@gmail.com	9877073518	M	52	210

Login:

	Login_id	username	password
▶	1	me_prapti	abc123
	2	me_tanisha	def456
	3	me_mahek	hello987
	4	me_agam	hi987
	5	me_neelam	xyz12
	6	me_krish	kkr143
	7	me_aadit	123pqr
	8	me_yash	a03a
	9	me_vaishnavi	qwert87
	10	me_lokendra	lpr123

Payment:

	Login_id	Payment_Type	Amount
▶	1	Credit Card	350
	2	Net Banking	700
	3	UPI	1400
	4	Credit Card	1050
	5	Credit Card	350
	6	UPI	350
	7	UPI	1400
	8	Credit Card	700
	9	Debit Card	350
	10	Net Banking	1050

Booking:

	Login_id	No_of_Tickets	Price	Booking_id	Booking_Date
▶	1	1	350	#1234	2024-03-26
	2	2	700	#5678	2024-03-21
	3	4	1400	#3746	2024-02-26
	4	3	1050	#2937	2024-03-30
	5	1	350	#9736	2024-03-31
	6	1	350	#0924	2024-03-05
	7	4	1400	#1952	2024-03-27
	8	2	700	#0176	2024-03-16
	9	1	350	#1298	2024-03-08
	10	3	1050	#1271	2024-03-19

Movie:

	Movie_id	Movie_Name	Genre	Language	Movie_Rating
▶	16	Dangal	Biography	Hindi	4.2
	17	Baahubali: The Beginning	Action	Telugu	4.0
	18	3 Idiots	Comedy	Hindi	4.8
	19	Drishyam	Thriller	Malayalam	4.8
	20	PK	Comedy-Drama	Hindi	4.6
	21	Kabir Singh	Romance	Hindi	3.7
	22	Rang De Basanti	Drama	Hindi	3.2
	23	Queen	Drama-Comedy	Hindi	3.5
	24	Ustad Hotel	Drama	Malayalam	2.8
	25	Gully Boy	Drama	Hindi	3.0
*	NULL	NULL	NULL	NULL	NULL

Movie_Show:

Movie_id	Show_id	Show_Date	Show_Time	Screen
16	1	2024-03-27	15:00:00	3
17	2	2024-03-28	18:30:00	6
18	3	2024-03-29	21:00:00	5
19	4	2024-03-27	17:30:00	4
20	5	2024-03-28	20:00:00	3
21	6	2024-03-29	13:00:00	4
22	7	2024-03-27	16:30:00	2
23	8	2024-03-28	19:45:00	5
24	9	2024-03-29	22:15:00	3
25	10	2024-03-27	14:00:00	4

Theater:

Theatre_id	Theatre_Name	Location	Screen
101	Regal Cinemas	Colaba	3
102	PVR Cinemas	Andheri	6
103	INOX Cinemas	Bandra	5
104	Cinepolis	Malad	4
105	Miraj Cinemas	Chembur	3
106	Carnival Cinemas	Borivali	4
107	Metro Cinema	Marine Lines	2
108	MAX Cinemas	Goregaon	5
109	Movietime Cinemas	Kandivali	3
110	Fame Cinemas	Vashi	4
NULL	NULL	NULL	NULL

Seat:

Seat_id	Seat_Type	Row_no
1	Standard	J
2	Standard	I
3	Standard	H
4	Standard	G
5	VIP	D
6	VIP	E
7	VIP	F
8	Premium	A
9	Premium	B
10	Premium	C
NULL	NULL	NULL

Manager:

	Theatre_id	M_Name	M_Gender	M_Age
▶	101	Priya Sharma	F	32
	102	Rahul Desai	M	29
	103	Anjali Patel	F	35
	104	Amit Kumar	M	40
	105	Neha Gupta	F	28
	106	Rajesh Singh	M	45
	107	Pooja Joshi	F	33
	108	Vikram Sharma	M	38
	109	Sunita Reddy	F	30
	110	Alok Verma	M	42

Ticket:

	Movie_id	Ticket_no	Seat_id	Show_Time	Show_Date	Price	Screen	Movie_Name
▶	16	201	1	15:00:00	2024-03-27	300.00	3	Dangal
	17	202	2	18:30:00	2024-03-28	700.00	6	Baahubali: The Beginning
	18	203	3	21:00:00	2024-03-29	1400.00	5	3 Idioits
	16	204	4	15:00:00	2024-03-27	1050.00	4	Dangal
	25	205	5	14:00:00	2024-03-27	700.00	4	Gully Boy
	22	206	6	16:30:00	2024-03-27	350.00	2	Rand De Basanti
	19	207	7	17:30:00	2024-03-27	350.00	4	Drishyam
	24	208	8	22:15:00	2024-03-29	1050.00	3	Ustad Hotel
	23	209	9	19:45:00	2024-03-28	1400.00	5	Queen
	25	210	10	14:00:00	2024-03-27	700.00	4	Gully Boy

Queries:

1) Add a user.

Ans:

```
INSERT into User(Name,Login_id,Password,Email,Phone_no,Gender,Age,Ticket_no)
values('Nisha Patel',11,"ohwg",'nisha@gmail.com',9839210210,'F',23,'211');
select*from User;
```

Output:

Name	Login_id	Password	Email	Phone_no	Gender	Age	Ticket_no
Prapti Gupta	1	abc123	prapti@gmail.com	9876543210	F	19	201
Tanisha Shaha	2	def456	tanisha@gmail.com	123456789	F	19	202
Mahek Makhija	3	hello987	mahek@gmail.com	8763425608	F	22	203
Agam Singh	4	hi987	agam@gmail.com	9871239747	M	29	204
Neelam Gupta	5	xyz123	neelam@gmail.com	8357290966	F	47	205
Krish Surti	6	kkr143	krish@gmail.com	9863638211	M	36	206
Aadit Khanolkar	7	123pqr	aadit@gmail.com	9820963210	M	65	207
Yash Malhotra	8	a03a	yash@gmail.com	9098763210	M	19	208
Vaishnavi Awashti	9	qwert87	vaishnavi@gmail.com	1234509876	F	32	209
Lokendra Pandey	10	lpr123	lokendra@gmail.com	9877073518	M	52	210
Nisha Patel	11	ohwg	nisha@gmail.com	9839210210	F	23	211
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

2) Update email id:

Ans:

```
UPDATE user set Email="Mahek123@gmail.com" where Login_id=3;
select*from User;
```

Output:

Name	Login_id	Password	Email	Phone_no	Gender	Age	Ticket_no
Prapti Gupta	1	abc123	prapti@gmail.com	9876543210	F	19	201
Tanisha Shaha	2	def456	tanisha@gmail.com	123456789	F	19	202
Mahek Makhija	3	hello987	Mahek123@gmail.com	8763425608	F	22	203
Agam Singh	4	hi987	agam@gmail.com	9871239747	M	29	204
Neelam Gupta	5	xyz123	neelam@gmail.com	8357290966	F	47	205
Krish Surti	6	kkr143	krish@gmail.com	9863638211	M	36	206
Aadit Khanolkar	7	123pqr	aadit@gmail.com	9820963210	M	65	207
Yash Malhotra	8	a03a	yash@gmail.com	9098763210	M	19	208
Vaishnavi Awashti	9	qwert87	vaishnavi@gmail.com	1234509876	F	32	209
Lokendra Pandey	10	lpr123	lokendra@gmail.com	9877073518	M	52	210
Nisha Patel	11	ohwg	nisha@gmail.com	9839210210	F	23	211
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

3) Update the amount in the payments table to add taxes.

Ans:

```
Update payment
SET amount= amount+(0.15*amount);
SELECT*from payment;
SELECT*from User;
```

Output:

Name	Login_id	Password	Email	Phone_no	Gender	Age	Ticket_no
Prapti Gupta	1	abc123	prapti@gmail.com	9876543210	F	19	201
Tanisha Shaha	2	def456	tanisha@gmail.com	123456789	F	19	202
Mahek Makhija	3	hello987	Mahek123@gmail.com	8763425608	F	22	203
Agam Singh	4	hi987	agam@gmail.com	9871239747	M	29	204
Neelam Gupta	5	xyz123	neelam@gmail.com	8357290966	F	47	205
Krish Surti	6	kkr143	krish@gmail.com	9863638211	M	36	206
Aadit Khanolkar	7	123pqr	aadit@gmail.com	9820963210	M	65	207
Yash Malhotra	8	a03a	yash@gmail.com	9098763210	M	19	208
Vaishnavi Awashti	9	qwert87	vaishnavi@gmail.com	1234509876	F	32	209
Lokendra Pandey	10	lpr123	lokendra@gmail.com	9877073518	M	52	210
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

4) Add 10% festive discount

Ans:

```
SELECT*price-(price*0.1) from Booking;
```

Output:

Login_id	No_of_Tickets	Price	Booking_id	Booking_Date	price-(price*0.1)
1	1	350	#1234	2024-03-26	315.0
2	2	700	#5678	2024-03-21	630.0
3	4	1400	#3746	2024-02-26	1260.0
4	3	1050	#2937	2024-03-30	945.0
5	1	350	#9736	2024-03-31	315.0
6	1	350	#0924	2024-03-05	315.0
7	4	1400	#1952	2024-03-27	1260.0
8	2	700	#0176	2024-03-16	630.0
9	1	350	#1298	2024-03-08	315.0
10	3	1050	#1271	2024-03-19	945.0

5) Query to find details of a customer whose name contains "Ag" string
Ans:

```
SELECT *FROM User WHERE Name LIKE '%Ag%';
```

Output:

	Name	Login_id	Password	Email	Phone_no	Gender	Age	Ticket_no
▶	Agam Singh	4	hi987	agam@gmail.com	9871239747	M	29	204
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

6) Query to calculate the total earning from the site (sum of Price)
Ans:

```
SELECT SUM(Price) AS Total_Earning FROM Booking;
```

Output:

	Total_Earning
▶	7700

7) Query to get the count of number of male and female managers
Ans:

```
SELECT M_Gender AS Gender,
COUNT(*) AS Total_Managers
FROM Manager GROUP BY M_Gender;
```

Output:

	Gender	Total_Managers
▶	F	5
	M	5

8) Query to order movies by ratings in descending order
Ans:

```
SELECT Movie_id,Movie_Name, Genre,Language,Movie_Rating FROM    Movie
ORDER BY Movie_Rating DESC;
```

Output:

Movie_id	Movie_Name	Genre	Language	Movie_Rating
18	3 Idiots	Comedy	Hindi	4.8
19	Drishyam	Thriller	Malayalam	4.8
20	PK	Comedy-Drama	Hindi	4.6
16	Dangal	Biography	Hindi	4.2
17	Baahubali: The Beginning	Action	Telugu	4.0
21	Kabir Singh	Romance	Hindi	3.7
23	Queen	Drama-Comedy	Hindi	3.5
22	Rang De Basanti	Drama	Hindi	3.2
25	Gully Boy	Drama	Hindi	3.0
24	Ustad Hotel	Drama	Malayalam	2.8
NULL	NULL	NULL	NULL	NULL

9) Query to delete an account (entry) from the User table

Ans:

```
DELETE FROM User WHERE Login_id = 11;
SELECT* from user;
```

Output:

Name	Login_id	Password	Email	Phone_no	Gender	Age	Ticket_no
Prapti Gupta	1	abc123	prapti@gmail.com	9876543210	F	19	201
Tanisha Shaha	2	def456	tanisha@gmail.com	123456789	F	19	202
Mahek Makhija	3	hello987	Mahek123@gmail.com	8763425608	F	22	203
Agam Singh	4	hi987	agam@gmail.com	9871239747	M	29	204
Neelam Gupta	5	xyz123	neelam@gmail.com	8357290966	F	47	205
Krish Surti	6	kkr143	krish@gmail.com	9863638211	M	36	206
Aadit Khanolkar	7	123pqr	aadit@gmail.com	9820963210	M	65	207
Yash Malhotra	8	a03a	yash@gmail.com	9098763210	M	19	208
Vaishnavi Awashti	9	qwert87	vaishnavi@gmail.com	1234509876	F	32	209
Lokendra Pandey	10	lpr123	lokendra@gmail.com	9877073518	M	52	210
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

10) Query to Search movie by movie by genre and language

Ans:

```
SELECT * FROM Movie WHERE Genre = 'Comedy' and language="Hindi";
```

Output:

Movie_id	Movie_Name	Genre	Language	Movie_Rating
18	3 Idiots	Comedy	Hindi	4.8
NULL	NULL	NULL	NULL	NULL

11) Query to display all the data about the movie with its show timings and other details.

Ans:

```
Select * from movie_Show NATURAL JOIN Movie;
```

Output:

Movie_id	Show_id	Show_Date	Show_Time	Screen	Movie_Name	Genre	Language	Movie_Rating
16	1	2024-03-27	15:00:00	3	Dangal	Biography	Hindi	4.2
17	2	2024-03-28	18:30:00	6	Baahubali: The Beginning	Action	Telugu	4.0
18	3	2024-03-29	21:00:00	5	3 Idiots	Comedy	Hindi	4.8
19	4	2024-03-27	17:30:00	4	Drishyam	Thriller	Malayalam	4.8
20	5	2024-03-28	20:00:00	3	PK	Comedy-Drama	Hindi	4.6
21	6	2024-03-29	13:00:00	4	Kabir Singh	Romance	Hindi	3.7
22	7	2024-03-27	16:30:00	2	Rang De Basanti	Drama	Hindi	3.2
23	8	2024-03-28	19:45:00	5	Queen	Drama-Comedy	Hindi	3.5
24	9	2024-03-29	22:15:00	3	Ustad Hotel	Drama	Malayalam	2.8
25	10	2024-03-27	14:00:00	4	Gully Boy	Drama	Hindi	3.0

12) Query to search for a manager working in the particular theater

Ans:

```
SELECT * FROM Manager WHERE Theatre_id = 101;
```

Output:

Theatre_id	M_Name	M_Gender	M_Age	Salary
101	Priya Sharma	F	32	50000.00

13) Query to get details about users under the age 30

Ans:

```
SELECT * from User where age>=30;
```

Output:

Name	Login_id	Password	Email	Phone_no	Gender	Age	Ticket_no
Neelam Gupta	5	xyz123	neelam@gmail.com	8357290966	F	47	205
Krish Surti	6	kkr143	krish@gmail.com	9863638211	M	36	206
Aadit Khanolkar	7	123pqr	aadit@gmail.com	9820963210	M	65	207
Vaishnavi Awashti	9	qwert87	vaishnavi@gmail.com	1234509876	F	32	209
Lokendra Pandey	10	lpr123	lokendra@gmail.com	9877073518	M	52	210
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

14) Count the total number of seats by seat type (Standard, VIP, Premium) and display them in a descending order based on the number of seats for each type:

Ans:

```
SELECT Seat.Seat_Type,
COUNT(*) as Seat_Count FROM Seat
GROUP BY Seat.Seat_Type
ORDER BY Seat_Count DESC;
```

Output:

Seat_Type	Seat_Count
Standard	4
VIP	3
Premium	3

15) Retrieve the names and ages of managers who oversee theaters with at least 5 screens..

Ans:

```
SELECT M_Name, M_Age
FROM Manager
WHERE Theatre_id IN (
 SELECT Theatre_id
FROM Theater
WHERE Screen >= 5);
```

Output:

M_Name	M_Age
Rahul Desai	29
Anjali Patel	35
Vikram Sharma	38

16) Retrieve Movie Names and Show Dates for Movies Scheduled on March 27, 2024:

Ans:

```
SELECT m.Movie_Name, ms.Show_Date
FROM Movie_Show ms
JOIN Movie m ON ms.Movie_id = m.Movie_id
WHERE ms.Show_Date = '2024-03-27';
```

Output:

Movie_Name	Show_Date
Dangal	2024-03-27
Drishyam	2024-03-27
Rang De Basanti	2024-03-27
Gully Boy	2024-03-27

17) Create a view to show total amount spent by each user

Ans:

```
CREATE VIEW TotalAmountSpent AS
SELECT Login_id, SUM(Price) AS Total_Amount_Spent FROM Booking
GROUP BY Login_id;
SELECT * FROM TotalAmountSpent;
```

Output:

Login_id	Total_Amount_Spent
1	350
2	700
3	1400
4	1050
5	350
6	350
7	1400
8	700
9	350
10	1050

18) Modifying table by adding a column Salary in the manager

Ans:

```
ALTER TABLE Manager
ADD COLUMN Salary numeric(10, 2);
UPDATE Manager SET Salary = 50000.00 WHERE Theatre_id = 101;
UPDATE Manager SET Salary = 60000.00 WHERE Theatre_id = 102;
UPDATE Manager SET Salary = 70000.00 WHERE Theatre_id = 103;
UPDATE Manager SET Salary = 80000.00 WHERE Theatre_id = 104;
UPDATE Manager SET Salary = 90000.00 WHERE Theatre_id = 105;
UPDATE Manager SET Salary = 100000.00 WHERE Theatre_id = 106;
UPDATE Manager SET Salary = 110000.00 WHERE Theatre_id = 107;
UPDATE Manager SET Salary = 120000.00 WHERE Theatre_id = 108;
UPDATE Manager SET Salary = 130000.00 WHERE Theatre_id = 109;
UPDATE Manager SET Salary = 140000.00 WHERE Theatre_id = 110;
select * from Manager;
```

Output:

Theatre_id	M_Name	M_Gender	M_Age	Salary
101	Priya Sharma	F	32	50000.00
102	Rahul Desai	M	29	60000.00
103	Anjali Patel	F	35	70000.00
104	Amit Kumar	M	40	80000.00
105	Neha Gupta	F	28	90000.00
106	Rajesh Singh	M	45	100000.00
107	Pooja Joshi	F	33	110000.00
108	Vikram Sharma	M	38	120000.00
109	Sunita Reddy	F	30	130000.00
110	Alok Verma	M	42	140000.00

19) Display the names of managers whose salray is between 50000 and 70000

Ans:

```
SELECT M_Name, Salary
FROM Manager
WHERE Salary BETWEEN 50000.00 AND 70000.00;
```

Output:

	M_Name	Salary
▶	Priya Sharma	50000.00
	Rahul Desai	60000.00
	Anjali Patel	70000.00

20) Providing special offers for female users on occasion of women's day

Ans:

```
 UPDATE Ticket
 Price = Price * 0.9
WHERE Show_Date = '2024-03-28' -- Women's Day
AND Ticket.Ticket_no IN (
SELECT User.Ticket_no
FROM User
WHERE User.Gender = 'F');
SELECT*from Ticket;
```

Output:

	Movie_id	Ticket_no	Seat_id	Show_Time	Show_Date	Price	Screen	Movie_Name
▶	16	201	1	15:00:00	2024-03-27	300.00	3	Dangal
	17	202	2	18:30:00	2024-03-28	630.00	6	Baahubali: The Beginning
	18	203	3	21:00:00	2024-03-29	1400.00	5	3 Idioits
	16	204	4	15:00:00	2024-03-27	1050.00	4	Dangal
	25	205	5	14:00:00	2024-03-27	700.00	4	Gully Boy
	22	206	6	16:30:00	2024-03-27	350.00	2	Rand De Basanti
	19	207	7	17:30:00	2024-03-27	350.00	4	Drishyam
	24	208	8	22:15:00	2024-03-29	1050.00	3	Ustad Hotel
	23	209	9	19:45:00	2024-03-28	1260.00	5	Queen
	25	210	10	14:00:00	2024-03-27	700.00	4	Gully Boy

VI. Project demonstration

For this project, the following tools are used:

- **MySQL Database Management System:** Used for storing and managing data related to users, movies, showtimes, bookings, and payments.

- **MySQL Workbench:** Used as the primary database management system.

- **ERD Plus:** Used to create Entity-relationship models and Relational Schema

VII. Self -Learning beyond classroom:

We discovered how to include multiple foreign keys in a table, each of which isn't the primary key of another table. To achieve this, we created an index, which helped organize and speed up the retrieval of data related to these foreign keys. This approach enabled us to create connections between various tables within the database.

VIII. Learning from the Project

This project helped us learn a lot about managing and designing databases using MySQL Workbench. We figured out how to organize data better. Learning things like normalization and indexing helped us understand databases even more.

Additionally, creating Entity-Relationship (ER) models and relational schemas improved our ability to organize data logically. Overall, this project helped us get better at writing SQL queries, managing databases, and organizing data. It gave us a good understanding of how to handle databases effectively.

IX. Challenges Faced

The main challenge we faced while working on this project was that in order to make our searches more effective and meaningful, we constantly had to introduce new attributes into our database tables. Each time we did this, we also had to adjust and update the Entity-Relationship (ER) model and relational schema accordingly.

X. Conclusion

We learned to effectively structure and optimize databases for better performance and data integrity.