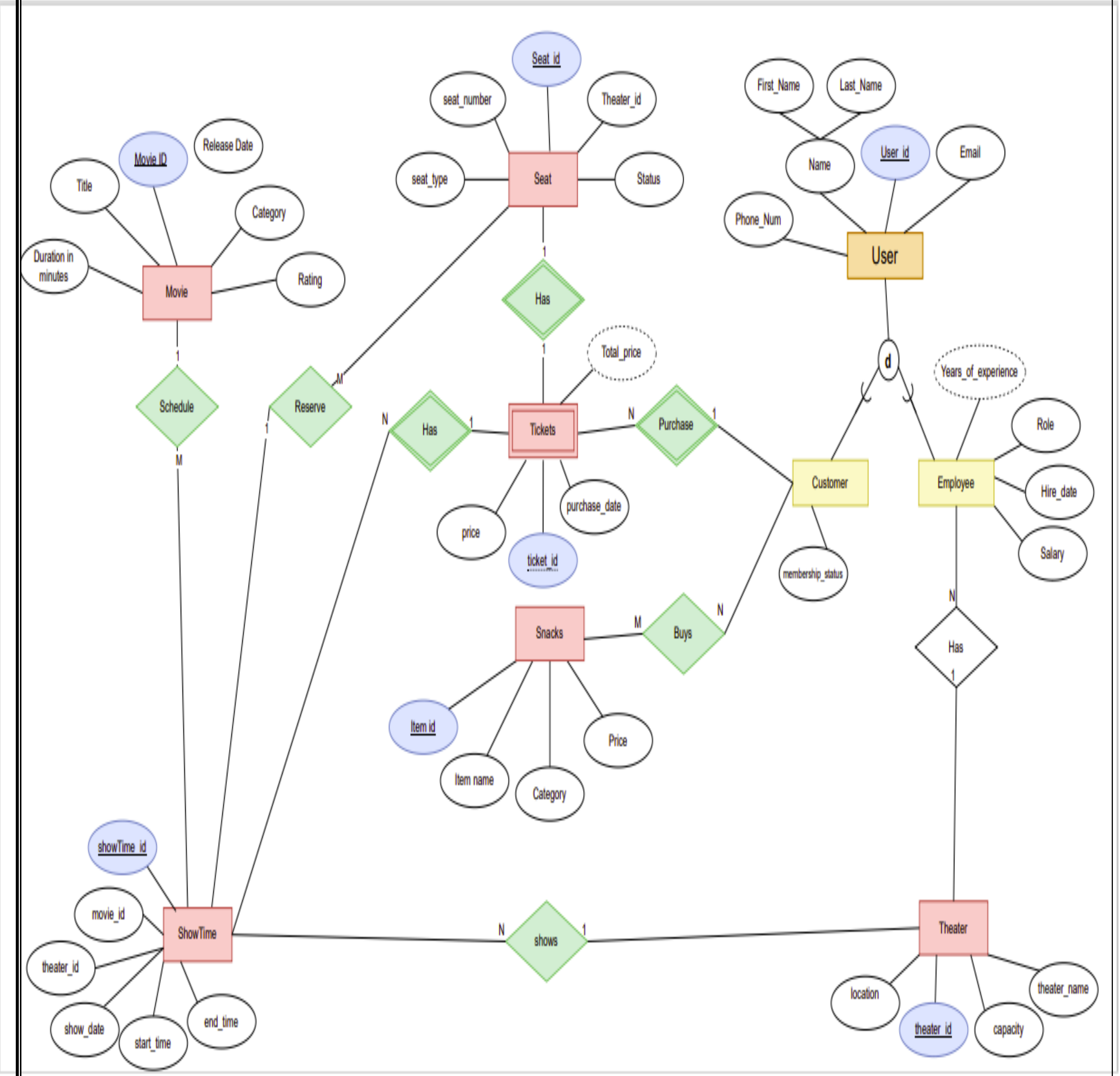
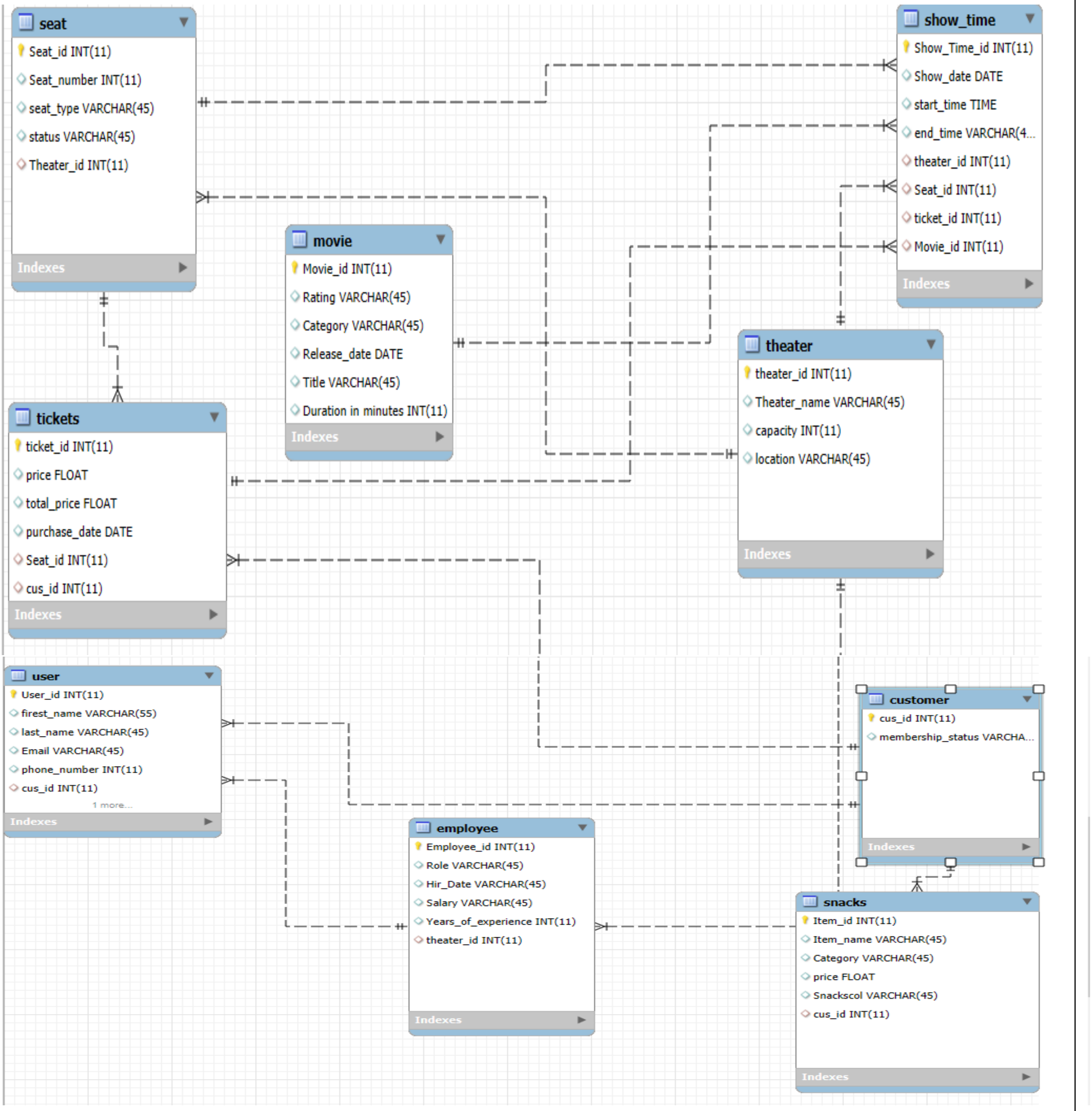
- Design an ER model



- DATABASE DIAGRAM:



seat
Seat_id INT(11)
Seat_number INT(11)
seat_type VARCHAR(45)
status VARCHAR(45)
Theater_id INT(11)
Indexes

show_time
Show_Time_id INT(11)
Show_date DATE
start_time TIME
end_time VARCHAR(4...
theater_id INT(11)
Seat_id INT(11)
ticket_id INT(11)
Movie_id INT(11)
Indexes

movie
Movie_id INT(11)
Rating VARCHAR(45)
Category VARCHAR(45)
Release_date DATE
Title VARCHAR(45)
Duration in minutes INT(11)
Indexes

theater
theater_id INT(11)
Theater_name VARCHAR(45)
capacity INT(11)
location VARCHAR(45)
Indexes

tickets
ticket_id INT(11)
price FLOAT
total_price FLOAT
purchase_date DATE
Seat_id INT(11)
cus_id INT(11)
Indexes

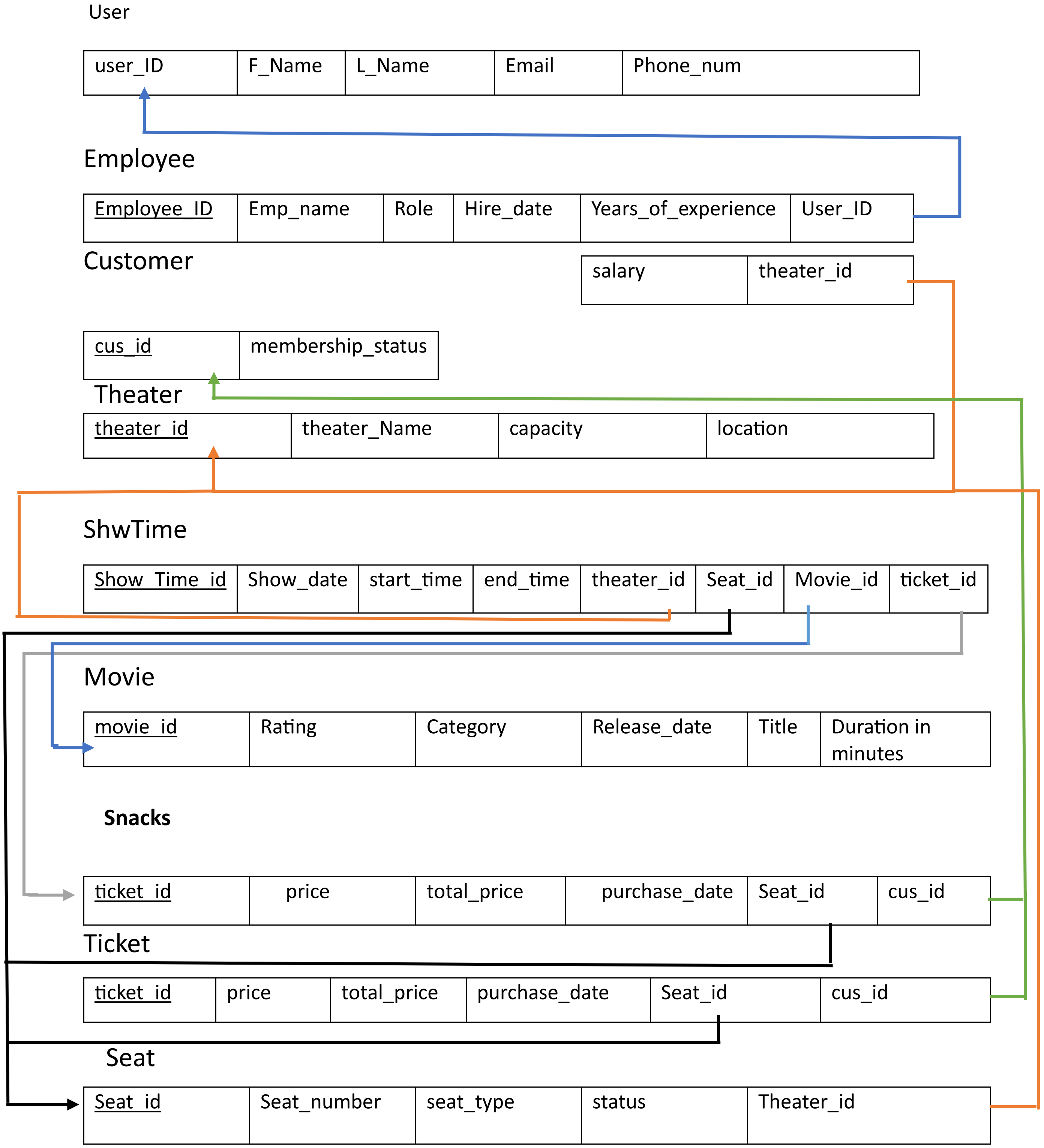
user
User_id INT(11)
firest_name VARCHAR(55)
last_name VARCHAR(45)
Email VARCHAR(45)
phone_number INT(11)
cus_id INT(11)
1 more...
Indexes

customer
cus_id INT(11)
membership_status VARCHA...
Indexes

employee
Employee_id INT(11)
Role VARCHAR(45)
Hir_Date VARCHAR(45)
Salary VARCHAR(45)
Years_of_experience INT(11)
theater_id INT(11)
Indexes

snacks
Item_id INT(11)
Item_name VARCHAR(45)
Category VARCHAR(45)
price FLOAT
Snackscol VARCHAR(45)
cus_id INT(11)
Indexes

- ## DATABASE SCHEMA:



User

user_ID	F_Name	L_Name	Email	Phone_num

Employee

Employee_ID	Emp_name	Role	Hire_date	Years_of_experience	User_ID	salary	theater_id

Customer

cus_id	membership_status

Theater

theater_id	theater_Name	capacity	location

ShwTime

Show_Time_id	Show_date	start_time	end_time	theater_id	Seat_id	Movie_id	ticket_id

Movie

movie_id	Rating	Category	Release_date	Title	Duration in minutes

Snacks

ticket_id	price	total_price	purchase_date	Seat_id	cus_id

Ticket

ticket_id	price	total_price	purchase_date	Seat_id	cus_id

Seat

Seat_id	Seat_number	seat_type	status	Theater_id

- Tables with full specification of data types for all fields constrains and keys

1. Table Employee

(Employee_id, Emp_name, Role, hire_date, Years_of_experience, theater_id , Salary)

- Data Type:

Employee_ID (int,PK), Emp_name (String), Role (String), hire_date (Date) Years_of_experience (int), theater_id (int,fk), salary (float)

2. Table customer

(cus_id , membership_status)

- Data Type:

(cus_id (int,pk), membership_status (String))

3. User:

(User_id, firest_name, last_name, Email, phone_number, cus_id, employee_id)

- Data Type:

User_id (int, pk), firest_name (String), last_name (String), Email(srring), phone_number(number), cus_id (int,fk), employee_id (int,fk)

4. Table Movie:

(Movie_id, Rating, Category, Release_date , Title , Duration in minutes)

- Data Type:

Movie_id (int, pk), Rating (String), Category (String), Release_date (date), Title(string), Duration in minutes(number)

5. Table seat:

(Seat_id , Seat_number , seat_type , status , Theater_id)

- Data Type:
  (Seat_id (int,pk), Seat_number (number), status (string), Theater_id (int, fk))

6. Table ShowTime:
(Show_Time_id, Show_date, start_time, end_time, theater_id , Seat_id, ticket_id, Movie_id)

- Data TypeL:

  (Show_Time_id (int, pk), Show_date (date), start_time (time),), end_time (time) theater_id (int,fk), Seat_id (int ,fk), ticket_id (int,fk), Movie_id (int,fk)

7. Table : snacks
(Item_id, Item_name, Category, price, cus_id)

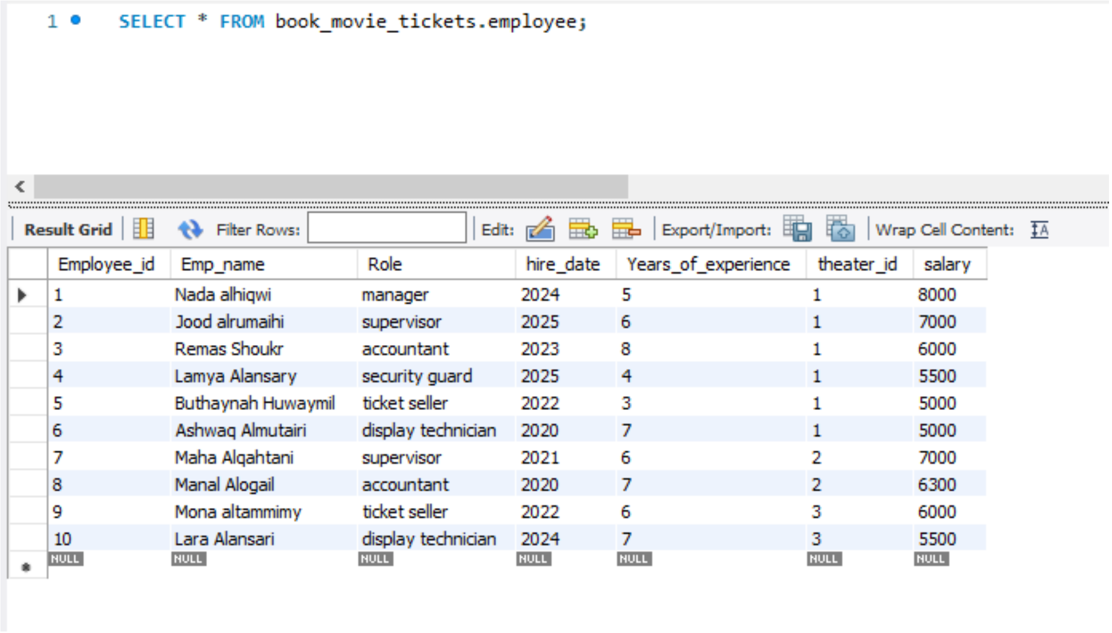
8. Table : theater
(theater_id, Theater_name, capacity, location)

- Data TypeL:
  (theater_id, (int, pk), Theater_name (string), capacity (int), location (string))

9. Table : tickets
(ticket_id, price, total_price, purchase_date , Seat_id , cus_id)

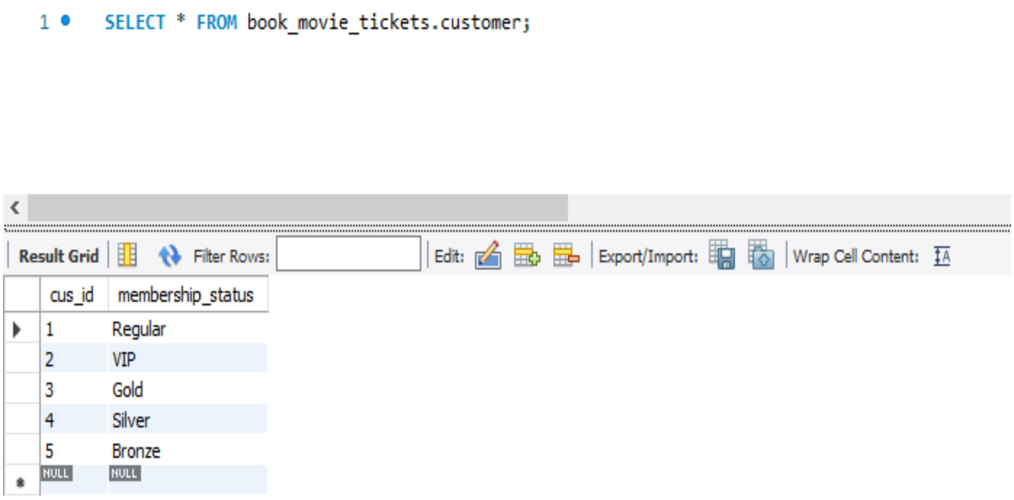
- Data TypeL:
  (ticket_id, (int, pk), price (decimal), total_price (decimal), purchase_date (date) , Seat_id(int , fk) , cus_id(int , fk))

- Fill Tables with 10 records:



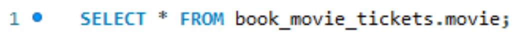
```
SELECT * FROM book_movie_tickets.employee;
```

Employee_id	Emp_name	Role	hire_date	Years_of_experience	theater_id	salary
1	Nada alhiqwi	manager	2024	5	1	8000
2	Jood alrumaihi	supervisor	2025	6	1	7000
3	Remas Shoukr	accountant	2023	8	1	6000
4	Lamya Alansary	security guard	2025	4	1	5500
5	Buthaynah Huwaymil	ticket seller	2022	3	1	5000
6	Ashwaq Almutairi	display technician	2020	7	1	5000
7	Maha Alqahtani	supervisor	2021	6	2	7000
8	Manal Alogail	accountant	2020	7	2	6300
9	Mona altammimy	ticket seller	2022	6	3	6000
10	Lara Alansari	display technician	2024	7	3	5500
NULL	NULL	NULL	NULL	NULL	NULL	NULL

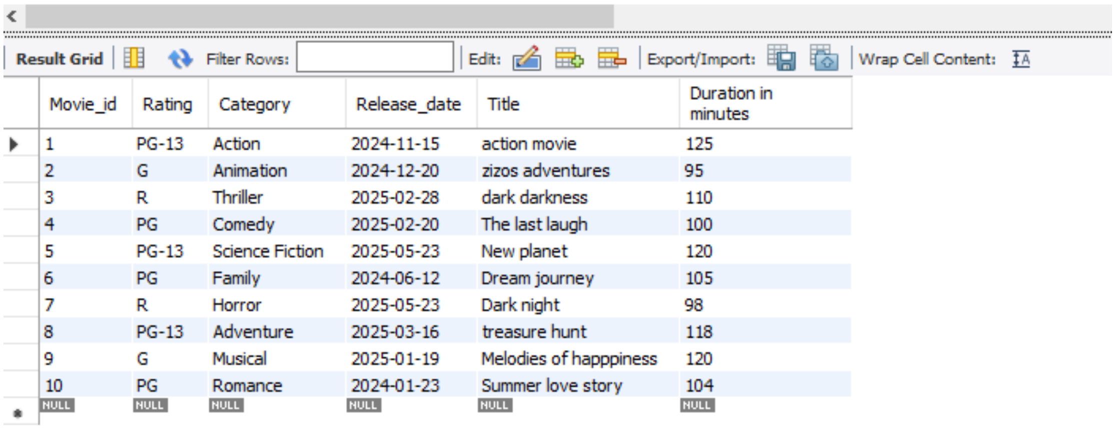


```
SELECT * FROM book_movie_tickets.customer;
```

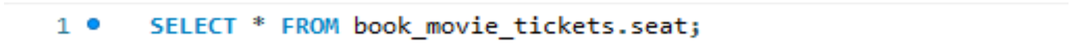
cus_id	membership_status
1	Regular
2	VIP
3	Gold
4	Silver
5	Bronze
NULL	NULL



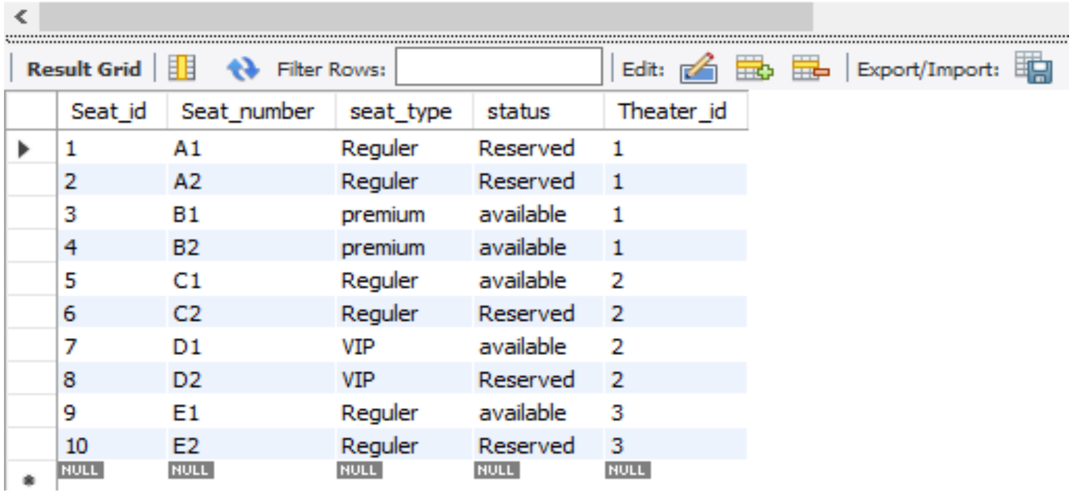
```sql
SELECT * FROM book_movie_tickets.movie;
```



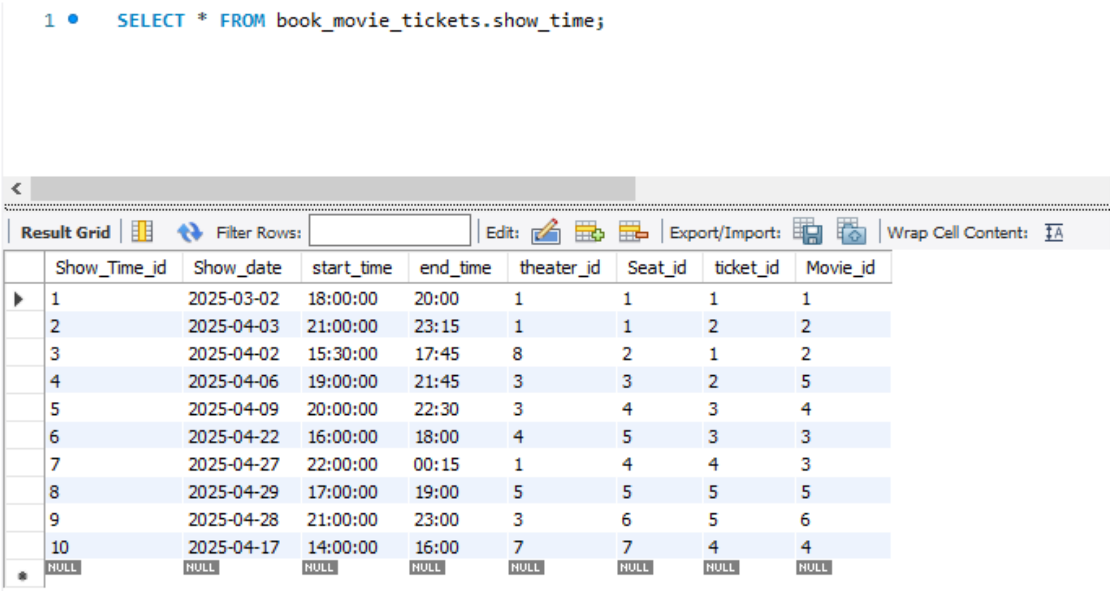
Movie_id	Rating	Category	Release_date	Title	Duration in minutes
1	PG-13	Action	2024-11-15	action movie	125
2	G	Animation	2024-12-20	zizos adventures	95
3	R	Thriller	2025-02-28	dark darkness	110
4	PG	Comedy	2025-02-20	The last laugh	100
5	PG-13	Science Fiction	2025-05-23	New planet	120
6	PG	Family	2024-06-12	Dream journey	105
7	R	Horror	2025-05-23	Dark night	98
8	PG-13	Adventure	2025-03-16	treasure hunt	118
9	G	Musical	2025-01-19	Melodies of happpiness	120
10	PG	Romance	2024-01-23	Summer love story	104
NULL	NULL	NULL	NULL	NULL	NULL



```sql
SELECT * FROM book_movie_tickets.seat;
```

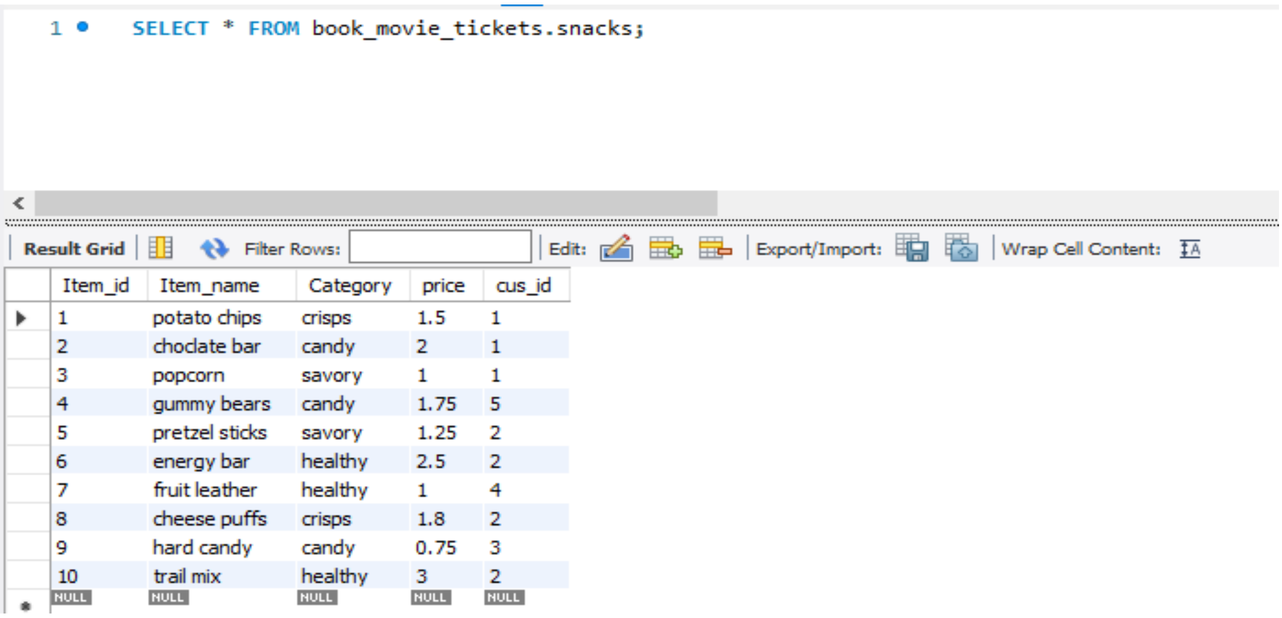


Seat_id	Seat_number	seat_type	status	Theater_id
1	A1	Reguler	Reserved	1
2	A2	Reguler	Reserved	1
3	B1	premium	available	1
4	B2	premium	available	1
5	C1	Reguler	available	2
6	C2	Reguler	Reserved	2
7	D1	VIP	available	2
8	D2	VIP	Reserved	2
9	E1	Reguler	available	3
10	E2	Reguler	Reserved	3
NULL	NULL	NULL	NULL	NULL



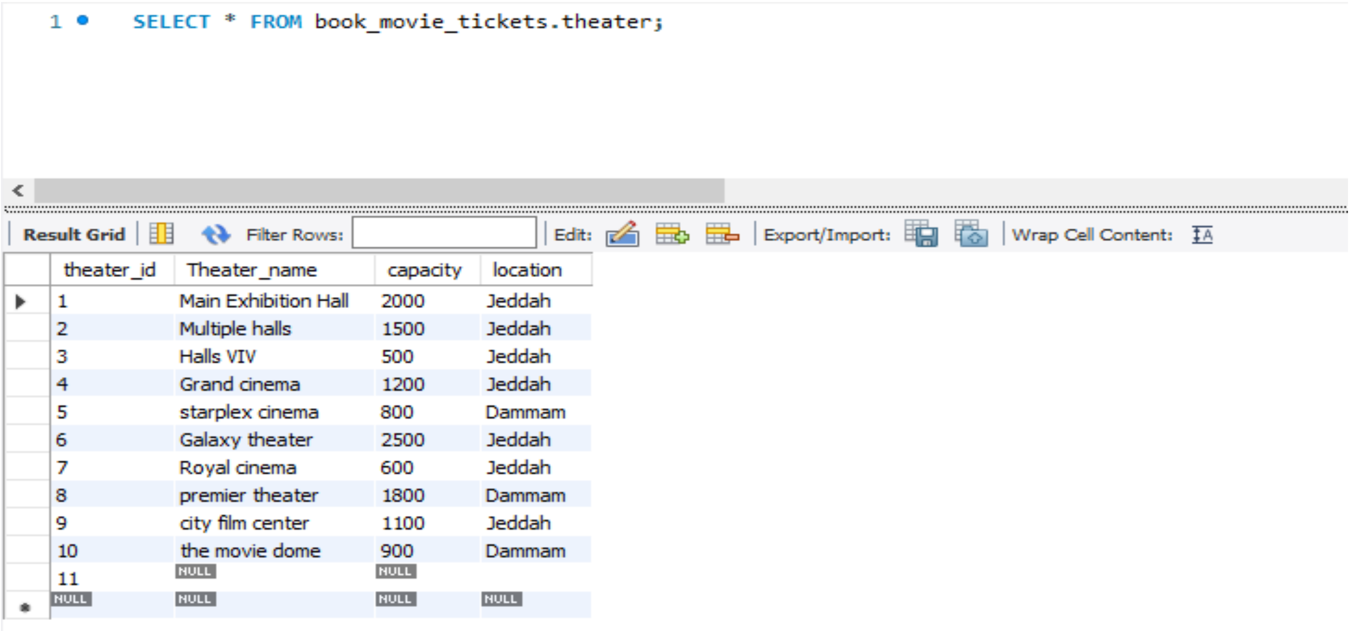
```
SELECT * FROM book_movie_tickets.show_time;
```

Show_Time_id	Show_date	start_time	end_time	theater_id	Seat_id	ticket_id	Movie_id
1	2025-03-02	18:00:00	20:00	1	1	1	1
2	2025-04-03	21:00:00	23:15	1	1	2	2
3	2025-04-02	15:30:00	17:45	8	2	1	2
4	2025-04-06	19:00:00	21:45	3	3	2	5
5	2025-04-09	20:00:00	22:30	3	4	3	4
6	2025-04-22	16:00:00	18:00	4	5	3	3
7	2025-04-27	22:00:00	00:15	1	4	4	3
8	2025-04-29	17:00:00	19:00	5	5	5	5
9	2025-04-28	21:00:00	23:00	3	6	5	6
10	2025-04-17	14:00:00	16:00	7	7	4	4
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL



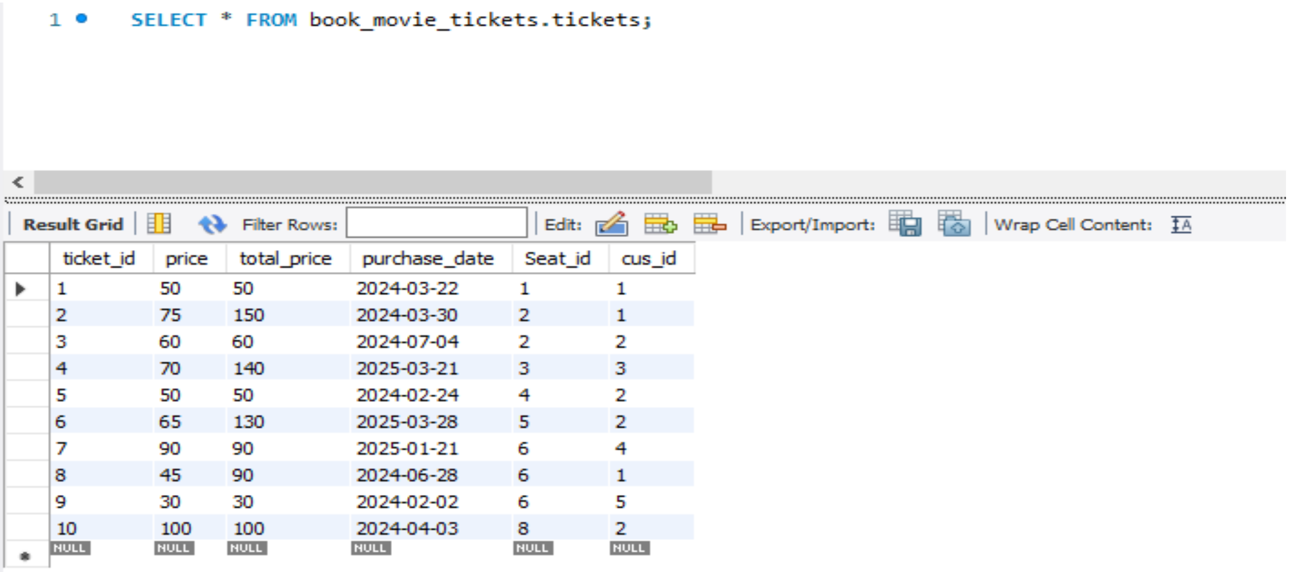
```
SELECT * FROM book_movie_tickets.snacks;
```

Item_id	Item_name	Category	price	cus_id
1	potato chips	crisps	1.5	1
2	choclate bar	candy	2	1
3	popcorn	savory	1	1
4	gummy bears	candy	1.75	5
5	pretzel sticks	savory	1.25	2
6	energy bar	healthy	2.5	2
7	fruit leather	healthy	1	4
8	cheese puffs	crisps	1.8	2
9	hard candy	candy	0.75	3
10	trail mix	healthy	3	2
NULL	NULL	NULL	NULL	NULL



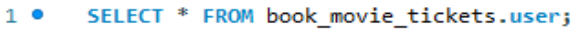
```
SELECT * FROM book_movie_tickets.theater;
```

theater_id	Theater_name	capacity	location
1	Main Exhibition Hall	2000	Jeddah
2	Multiple halls	1500	Jeddah
3	Halls VIV	500	Jeddah
4	Grand cinema	1200	Jeddah
5	starplex cinema	800	Dammam
6	Galaxy theater	2500	Jeddah
7	Royal cinema	600	Jeddah
8	premier theater	1800	Dammam
9	city film center	1100	Jeddah
10	the movie dome	900	Dammam
11	NULL	NULL	
NULL	NULL	NULL	NULL

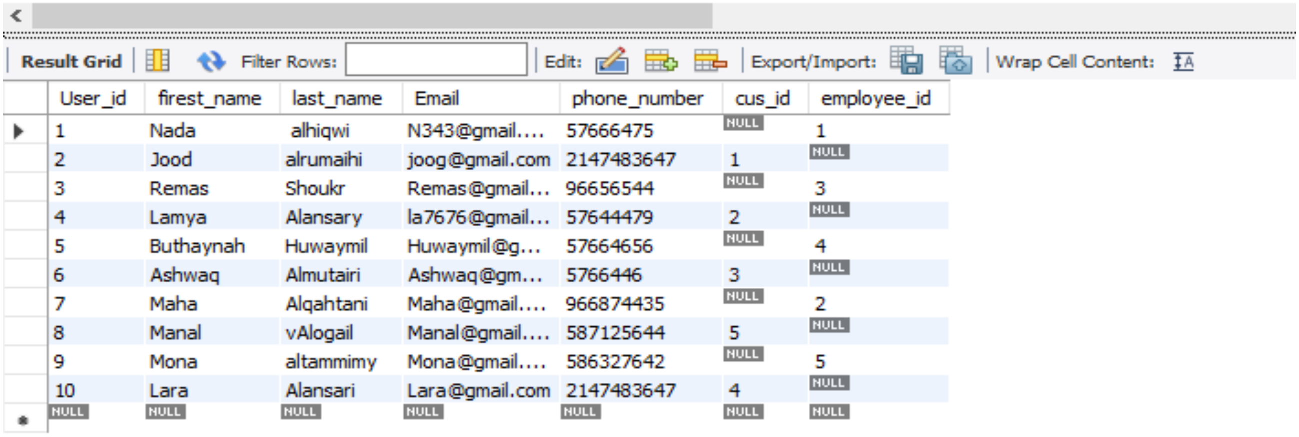


```
SELECT * FROM book_movie_tickets.tickets;
```

ticket_id	price	total_price	purchase_date	Seat_id	cus_id
1	50	50	2024-03-22	1	1
2	75	150	2024-03-30	2	1
3	60	60	2024-07-04	2	2
4	70	140	2025-03-21	3	3
5	50	50	2024-02-24	4	2
6	65	130	2025-03-28	5	2
7	90	90	2025-01-21	6	4
8	45	90	2024-06-28	6	1
9	30	30	2024-02-02	6	5
10	100	100	2024-04-03	8	2
NULL	NULL	NULL	NULL	NULL	NULL



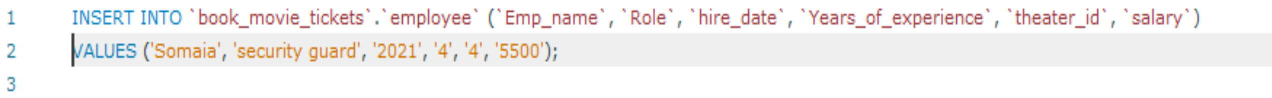
```
SELECT * FROM book_movie_tickets.user;
```



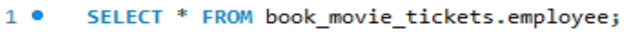
User_id	firest_name	last_name	Email	phone_number	cus_id	employee_id
1	Nada	alhiqwi	N343@gmail....	57666475	NULL	1
2	Jood	alrumaihi	joog@gmail.com	2147483647	1	NULL
3	Remas	Shoukr	Remas@gmail...	96656544	NULL	3
4	Lamya	Alansary	la7676@gmail...	57644479	2	NULL
5	Buthaynah	Huwaymil	Huwaymil@g...	57664656	NULL	4
6	Ashwaq	Almutairi	Ashwaq@gm...	5766446	3	NULL
7	Maha	Alqahtani	Maha@gmail....	966874435	NULL	2
8	Manal	vAlogail	Manal@gmail....	587125644	5	NULL
9	Mona	altammimy	Mona@gmail....	586327642	NULL	5
10	Lara	Alansari	Lara@gmail.com	2147483647	4	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Write all SQL Queries required in your system to achieve all requirements (screenshot the result for each query)

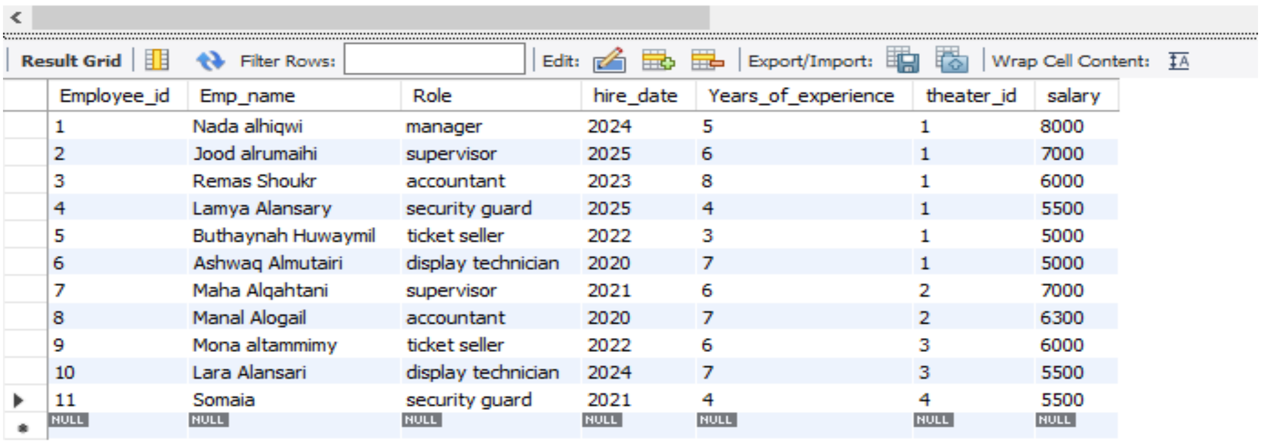
SIMPLE QUERY (INSER):



```
INSERT INTO `book_movie_tickets`.`employee` (`Emp_name`, `Role`, `hire_date`, `Years_of_experience`, `theater_id`, `salary`)
VALUES ('Somaia', 'security guard', '2021', '4', '4', '5500');
```

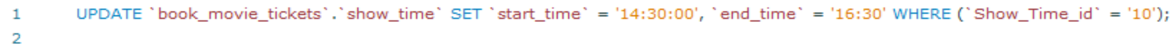


```
SELECT * FROM book_movie_tickets.employee;
```

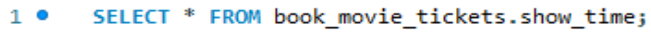


Employee_id	Emp_name	Role	hire_date	Years_of_experience	theater_id	salary
1	Nada alhiqwi	manager	2024	5	1	8000
2	Jood alrumaihi	supervisor	2025	6	1	7000
3	Remas Shoukr	accountant	2023	8	1	6000
4	Lamya Alansary	security guard	2025	4	1	5500
5	Buthaynah Huwaymil	ticket seller	2022	3	1	5000
6	Ashwaq Almutairi	display technician	2020	7	1	5000
7	Maha Alqahtani	supervisor	2021	6	2	7000
8	Manal Alogail	accountant	2020	7	2	6300
9	Mona altammimy	ticket seller	2022	6	3	6000
10	Lara Alansari	display technician	2024	7	3	5500
11	Somaia	security guard	2021	4	4	5500
NULL	NULL	NULL	NULL	NULL	NULL	NULL

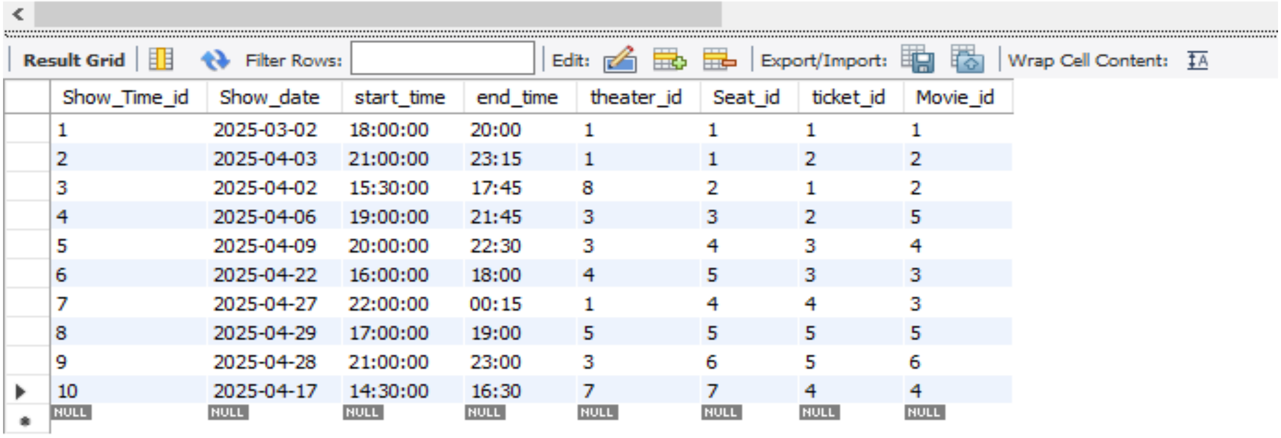
SIMPLE QUERY(UPDATE):



```sql
UPDATE `book_movie_tickets`.`show_time` SET `start_time` = '14:30:00', `end_time` = '16:30' WHERE (`Show_Time_id` = '10');
```

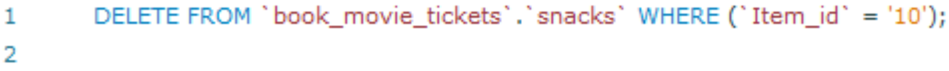


```sql
SELECT * FROM book_movie_tickets.show_time;
```

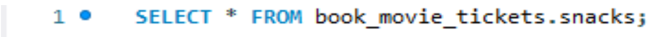


Show_Time_id	Show_date	start_time	end_time	theater_id	Seat_id	ticket_id	Movie_id
1	2025-03-02	18:00:00	20:00	1	1	1	1
2	2025-04-03	21:00:00	23:15	1	1	2	2
3	2025-04-02	15:30:00	17:45	8	2	1	2
4	2025-04-06	19:00:00	21:45	3	3	2	5
5	2025-04-09	20:00:00	22:30	3	4	3	4
6	2025-04-22	16:00:00	18:00	4	5	3	3
7	2025-04-27	22:00:00	00:15	1	4	4	3
8	2025-04-29	17:00:00	19:00	5	5	5	5
9	2025-04-28	21:00:00	23:00	3	6	5	6
10	2025-04-17	14:30:00	16:30	7	7	4	4
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

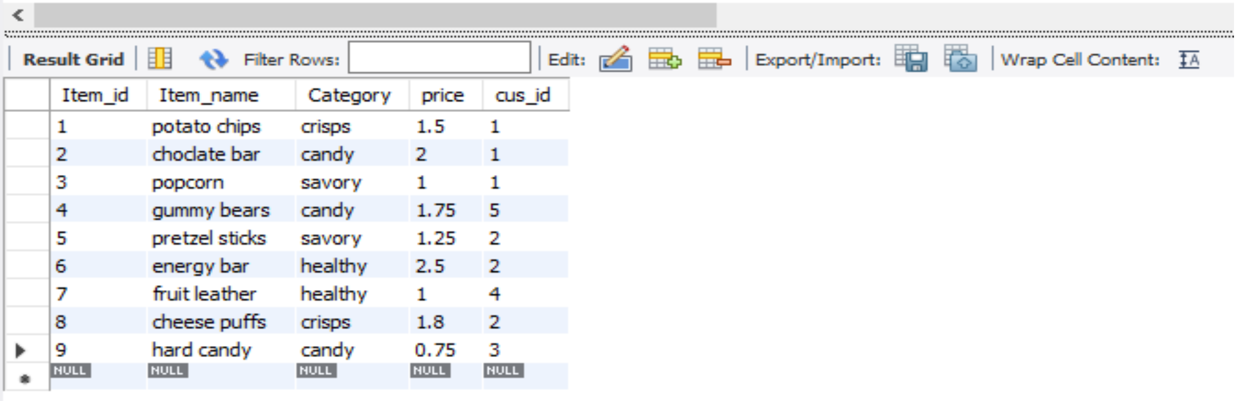
SIMPLE QUERY (DELET):



```sql
DELETE FROM `book_movie_tickets`.`snacks` WHERE (`Item_id` = '10');
```

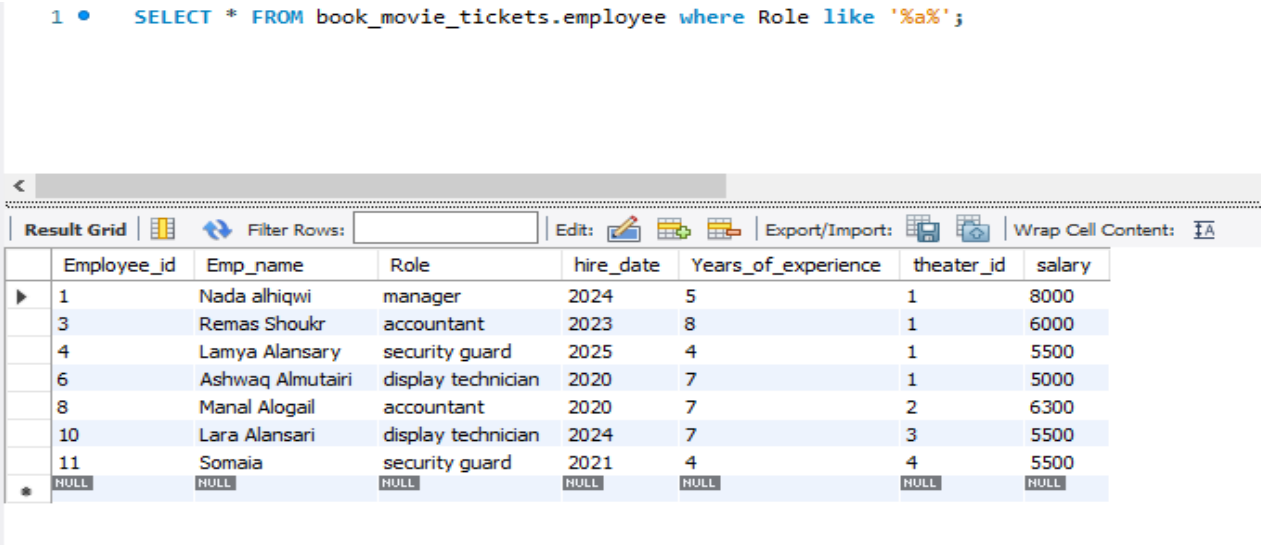


```sql
SELECT * FROM book_movie_tickets.snacks;
```



Item_id	Item_name	Category	price	cus_id
1	potato chips	crisps	1.5	1
2	choclate bar	candy	2	1
3	popcorn	savory	1	1
4	gummy bears	candy	1.75	5
5	pretzel sticks	savory	1.25	2
6	energy bar	healthy	2.5	2
7	fruit leather	healthy	1	4
8	cheese puffs	crisps	1.8	2
9	hard candy	candy	0.75	3
NULL	NULL	NULL	NULL	NULL

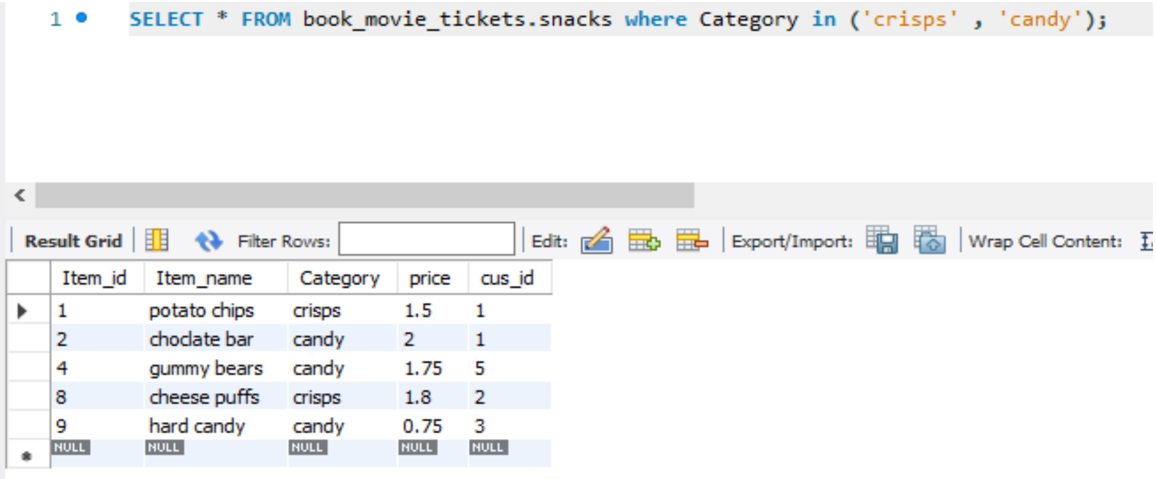
SIMPLE QUERY (LIKE):



```
SELECT * FROM book_movie_tickets.employee where Role like '%a%';
```

Employee_id	Emp_name	Role	hire_date	Years_of_experience	theater_id	salary
1	Nada alhiqwi	manager	2024	5	1	8000
3	Remas Shoukr	accountant	2023	8	1	6000
4	Lamya Alansary	security guard	2025	4	1	5500
6	Ashwaq Almutairi	display technician	2020	7	1	5000
8	Manal Alogail	accountant	2020	7	2	6300
10	Lara Alansari	display technician	2024	7	3	5500
11	Somaia	security guard	2021	4	4	5500
NULL	NULL	NULL	NULL	NULL	NULL	NULL

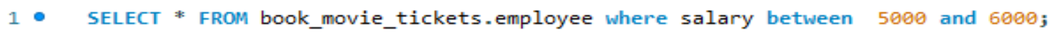
SIMPLE QUERY (IN):



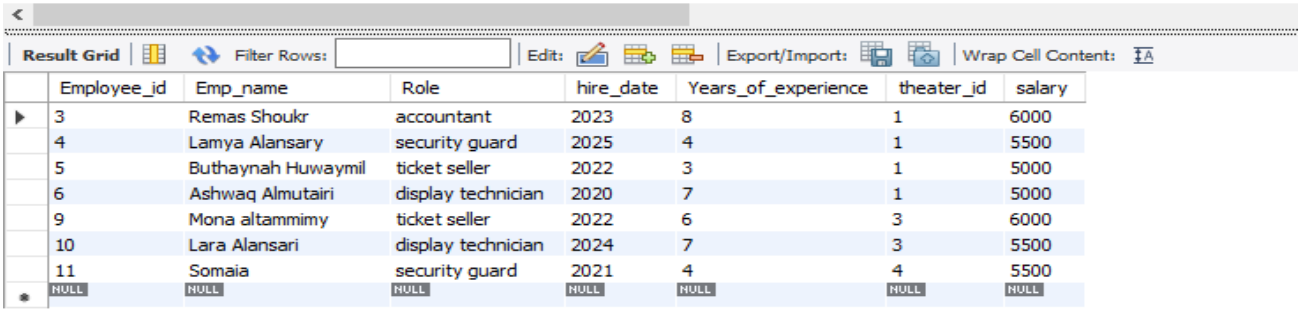
```
SELECT * FROM book_movie_tickets.snacks where Category in ('crisps' , 'candy');
```

Item_id	Item_name	Category	price	cus_id
1	potato chips	crisps	1.5	1
2	choclate bar	candy	2	1
4	gummy bears	candy	1.75	5
8	cheese puffs	crisps	1.8	2
9	hard candy	candy	0.75	3
NULL	NULL	NULL	NULL	NULL

SIMPLE QUERY (BETWEEN):

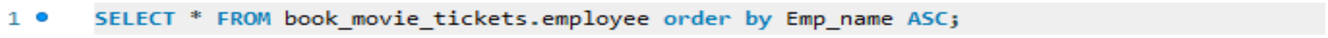


```sql
SELECT * FROM book_movie_tickets.employee where salary between  5000 and 6000;
```

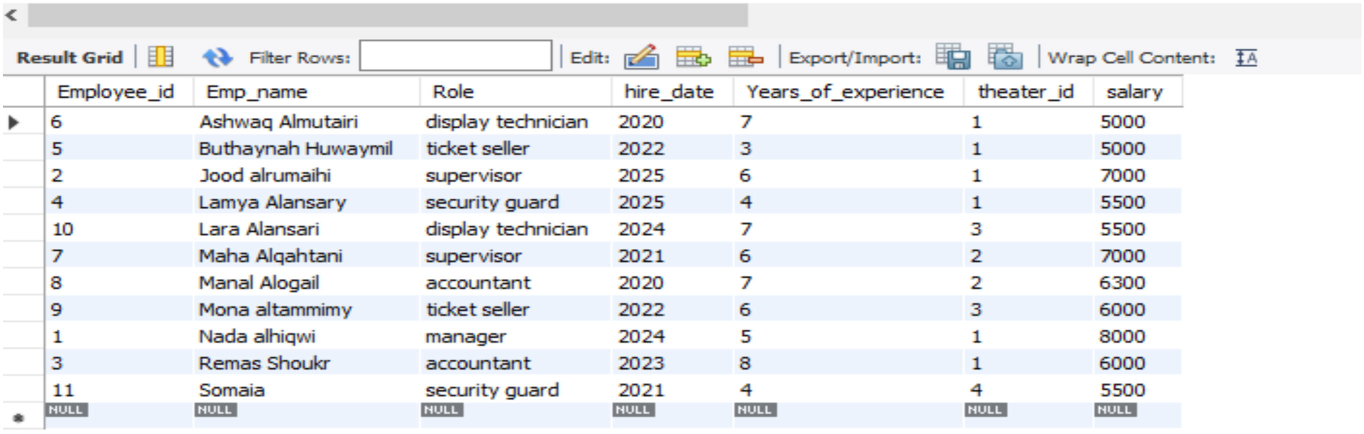


Employee_id	Emp_name	Role	hire_date	Years_of_experience	theater_id	salary
3	Remas Shoukr	accountant	2023	8	1	6000
4	Lamya Alansary	security guard	2025	4	1	5500
5	Buthaynah Huwaymil	ticket seller	2022	3	1	5000
6	Ashwaq Almutairi	display technician	2020	7	1	5000
9	Mona altammimy	ticket seller	2022	6	3	6000
10	Lara Alansari	display technician	2024	7	3	5500
11	Somaia	security guard	2021	4	4	5500
NULL	NULL	NULL	NULL	NULL	NULL	NULL

SIMPLE QUERY (ORDERED BY):

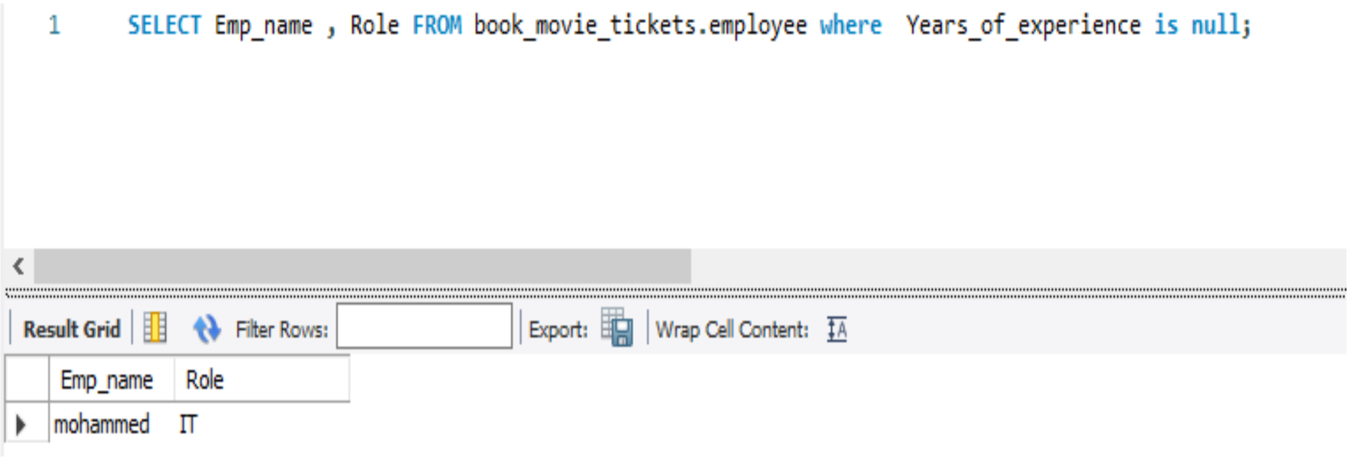


```sql
SELECT * FROM book_movie_tickets.employee order by Emp_name ASC;
```



Employee_id	Emp_name	Role	hire_date	Years_of_experience	theater_id	salary
6	Ashwaq Almutairi	display technician	2020	7	1	5000
5	Buthaynah Huwaymil	ticket seller	2022	3	1	5000
2	Jood alrumaihi	supervisor	2025	6	1	7000
4	Lamya Alansary	security guard	2025	4	1	5500
10	Lara Alansari	display technician	2024	7	3	5500
7	Maha Alqahtani	supervisor	2021	6	2	7000
8	Manal Alogail	accountant	2020	7	2	6300
9	Mona altammimy	ticket seller	2022	6	3	6000
1	Nada alhiqwi	manager	2024	5	1	8000
3	Remas Shoukr	accountant	2023	8	1	6000
11	Somaia	security guard	2021	4	4	5500
NULL	NULL	NULL	NULL	NULL	NULL	NULL

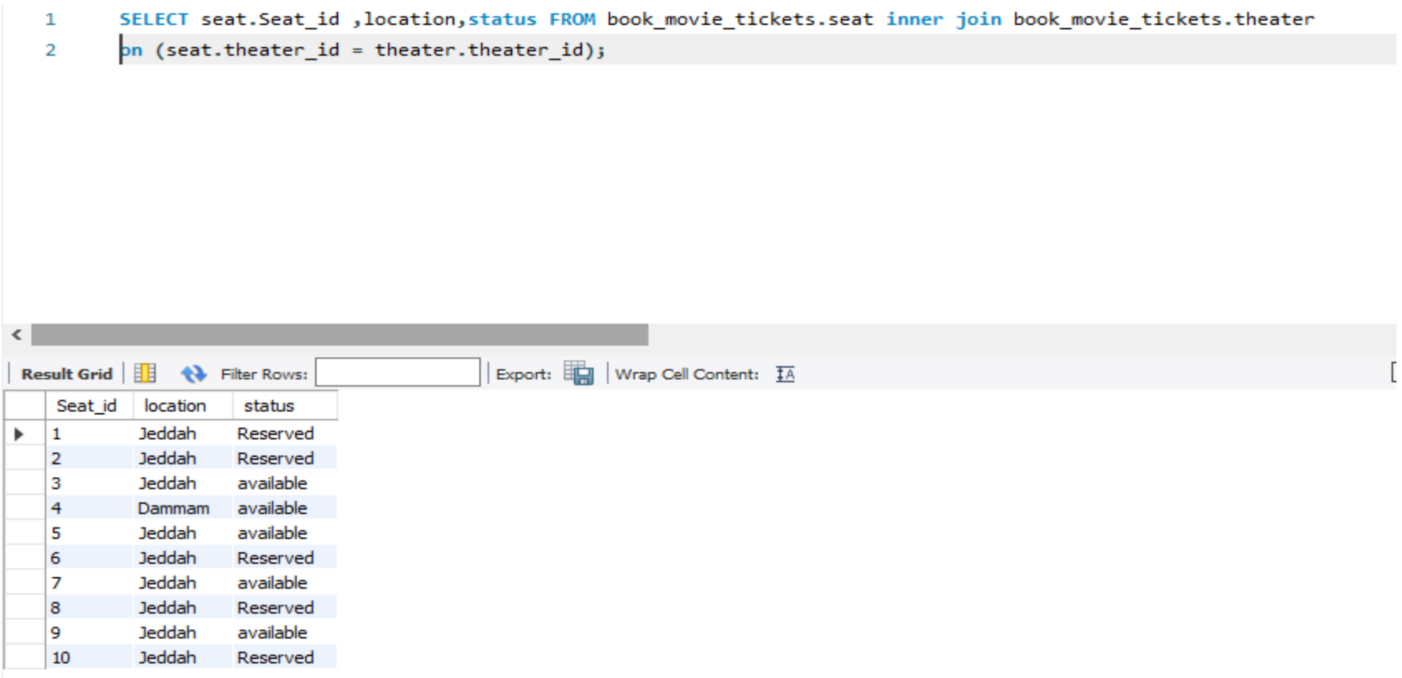
COMPLEX QUERY (IS NULL)



```sql
SELECT Emp_name , Role FROM book_movie_tickets.employee where  Years_of_experience is null;
```

Emp_name	Role
mohammed	IT

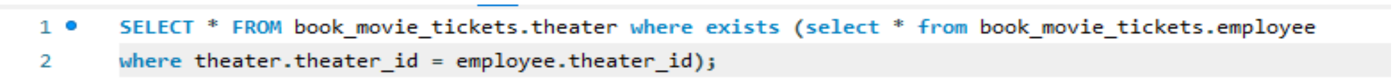
COMPLEX QUERY (INNER JOIN THAT IS SIMILAR TO INTERSECT)



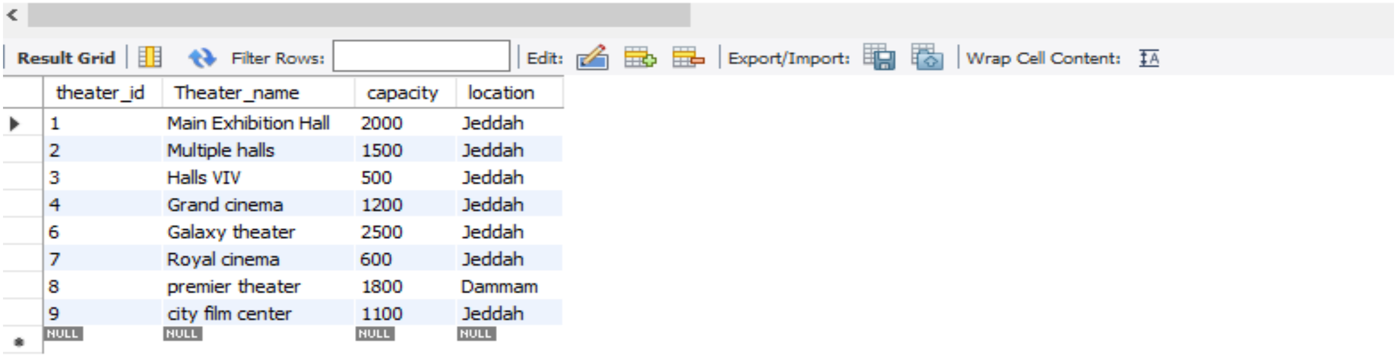
```sql
SELECT seat.Seat_id ,location,status FROM book_movie_tickets.seat inner join book_movie_tickets.theater
on (seat.theater_id = theater.theater_id);
```

Seat_id	location	status
1	Jeddah	Reserved
2	Jeddah	Reserved
3	Jeddah	available
4	Dammam	available
5	Jeddah	available
6	Jeddah	Reserved
7	Jeddah	available
8	Jeddah	Reserved
9	Jeddah	available
10	Jeddah	Reserved

COMPLEX QUERY (EXCEPT)

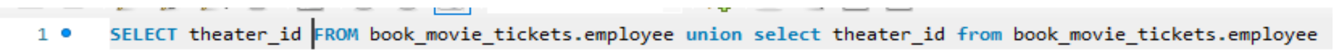


```
SELECT * FROM book_movie_tickets.theater where exists (select * from book_movie_tickets.employee
where theater.theater_id = employee.theater_id);
```

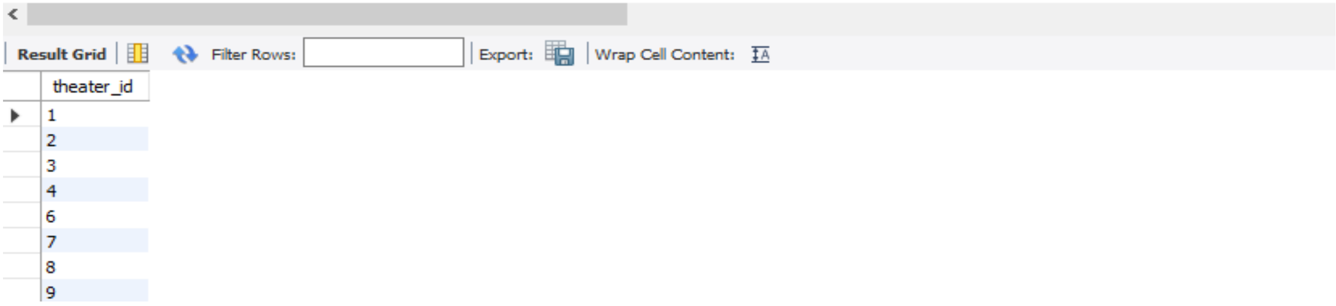


theater_id	Theater_name	capacity	location
1	Main Exhibition Hall	2000	Jeddah
2	Multiple halls	1500	Jeddah
3	Halls VIV	500	Jeddah
4	Grand cinema	1200	Jeddah
6	Galaxy theater	2500	Jeddah
7	Royal cinema	600	Jeddah
8	premier theater	1800	Dammam
9	city film center	1100	Jeddah
NULL	NULL	NULL	NULL

COMPLEX QUERY (UNION)

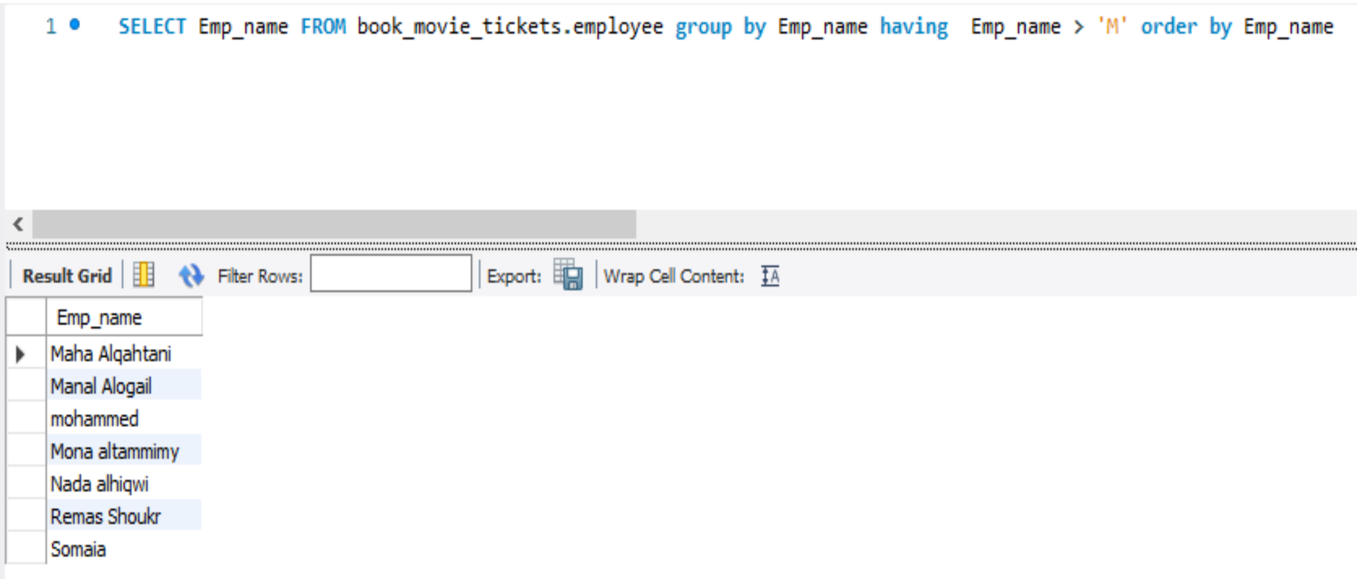


```
SELECT theater_id FROM book_movie_tickets.employee union select theater_id from book_movie_tickets.employee
```



theater_id
1
2
3
4
6
7
8
9

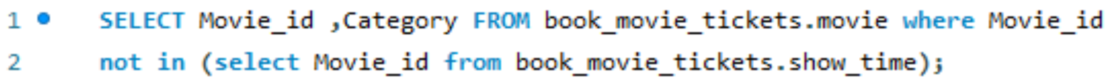
COMPLEX QUERY (HAVING)



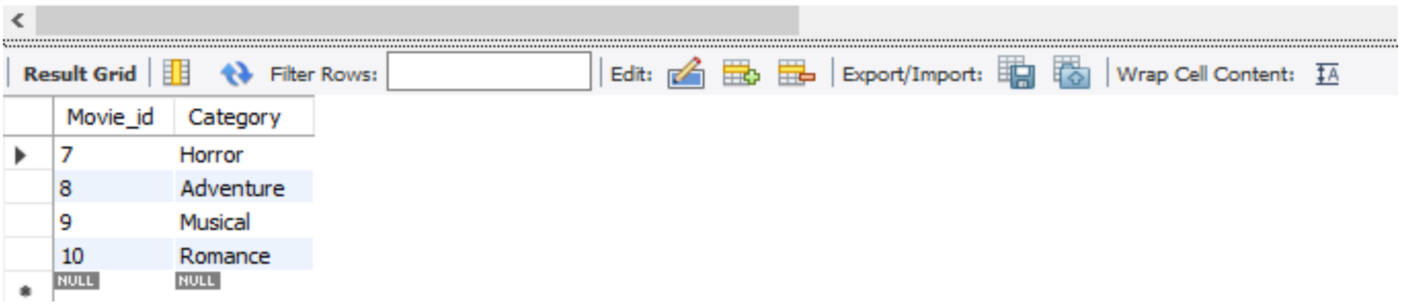
```
SELECT Emp_name FROM book_movie_tickets.employee group by Emp_name having  Emp_name > 'M' order by Emp_name
```

Emp_name
Maha Alqahtani
Manal Alogail
mohammed
Mona altammimy
Nada alhiqwi
Remas Shoukr
Somaia

COMPLEX QUERY (EXIST)

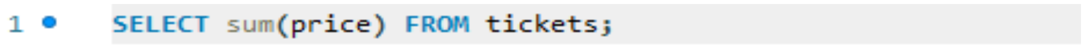


```
SELECT Movie_id ,Category FROM book_movie_tickets.movie where Movie_id
not in (select Movie_id from book_movie_tickets.show_time);
```

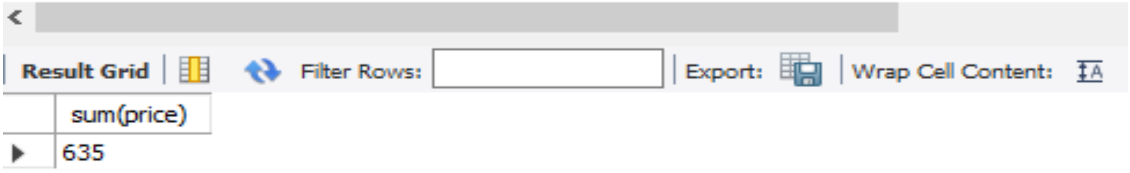


Movie_id	Category
7	Horror
8	Adventure
9	Musical
10	Romance
NULL	NULL

COMPLEX QUERY (AGGRAGATION)

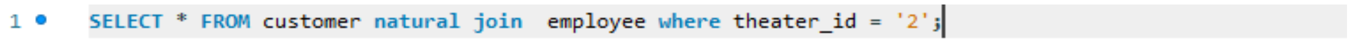


```sql
SELECT sum(price) FROM tickets;
```

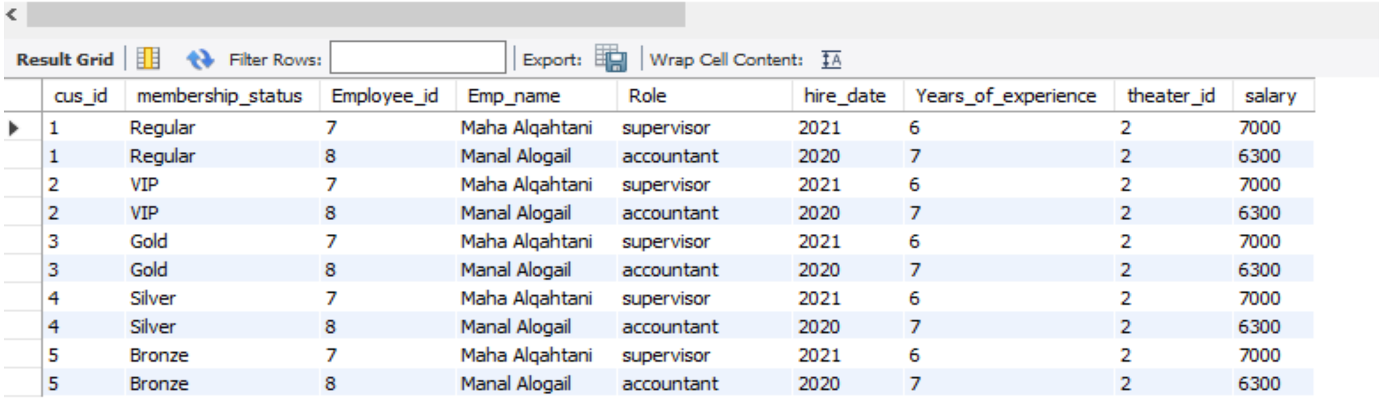


sum(price)
635

COMPLEX QUERY (JOIN)

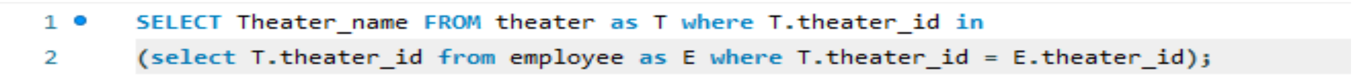


```sql
SELECT * FROM customer natural join  employee where theater_id = '2';
```

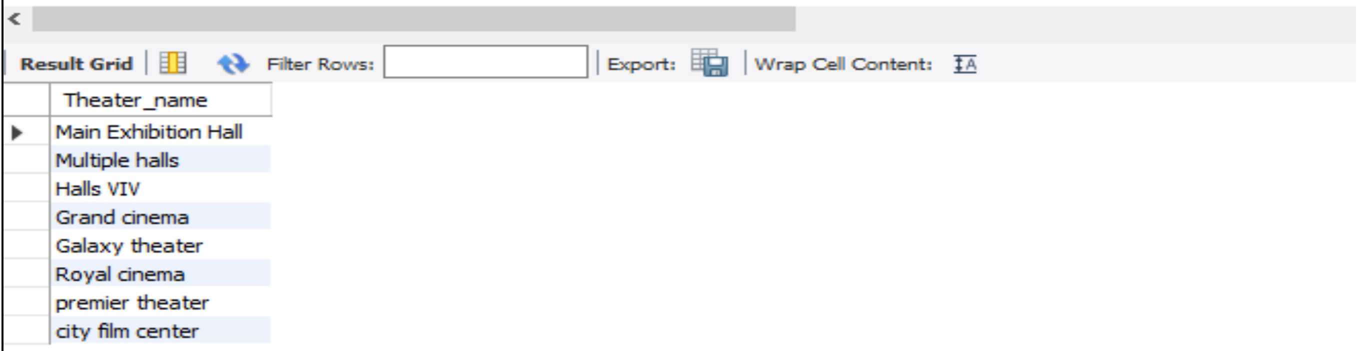


cus_id	membership_status	Employee_id	Emp_name	Role	hire_date	Years_of_experience	theater_id	salary
1	Regular	7	Maha Alqahtani	supervisor	2021	6	2	7000
1	Regular	8	Manal Alogail	accountant	2020	7	2	6300
2	VIP	7	Maha Alqahtani	supervisor	2021	6	2	7000
2	VIP	8	Manal Alogail	accountant	2020	7	2	6300
3	Gold	7	Maha Alqahtani	supervisor	2021	6	2	7000
3	Gold	8	Manal Alogail	accountant	2020	7	2	6300
4	Silver	7	Maha Alqahtani	supervisor	2021	6	2	7000
4	Silver	8	Manal Alogail	accountant	2020	7	2	6300
5	Bronze	7	Maha Alqahtani	supervisor	2021	6	2	7000
5	Bronze	8	Manal Alogail	accountant	2020	7	2	6300

COMPLEX QUERY (NESTED QUERY)

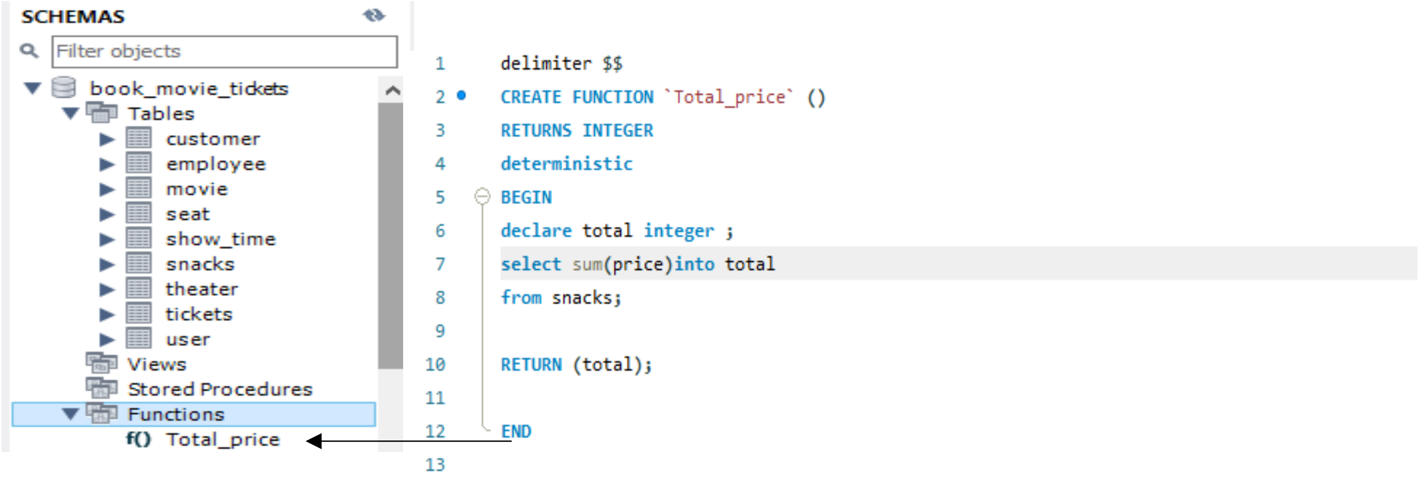


```sql
SELECT Theater_name FROM theater as T where T.theater_id in
(select T.theater_id from employee as E where T.theater_id = E.theater_id);
```



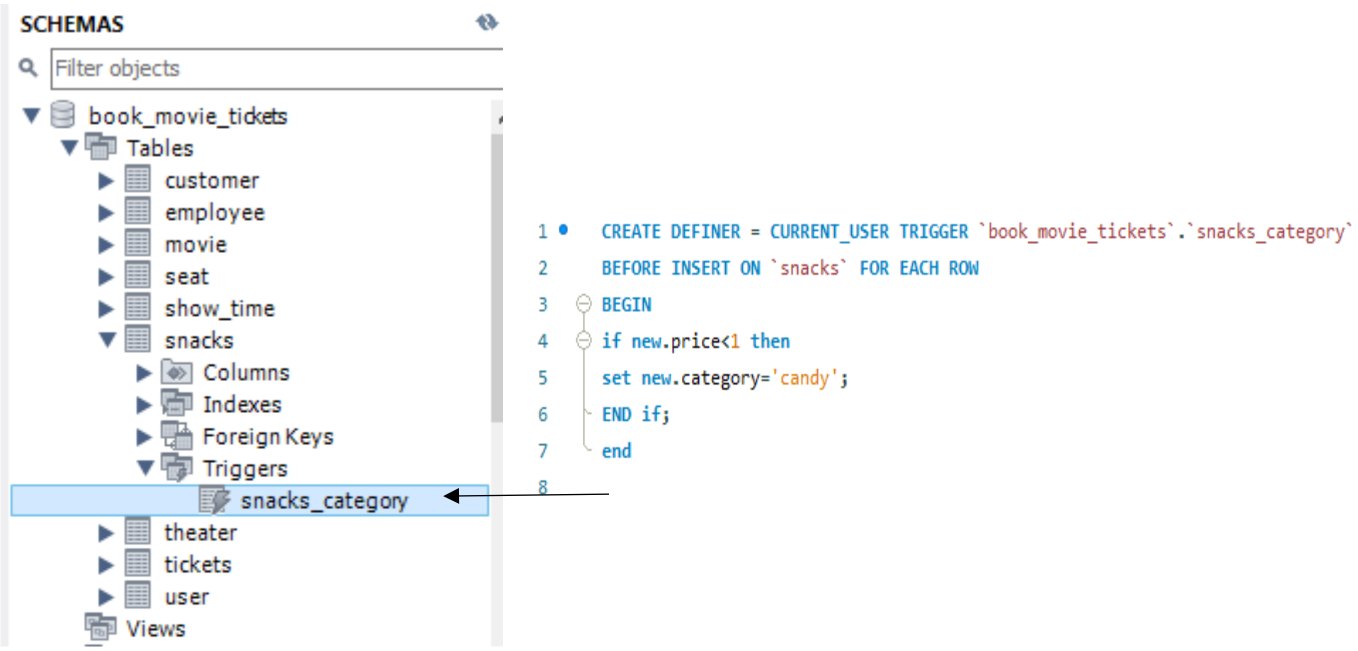
Theater_name
Main Exhibition Hall
Multiple halls
Halls VIV
Grand cinema
Galaxy theater
Royal cinema
premier theater
city film center

COMPLEX QUERY (NESTED QUERY)



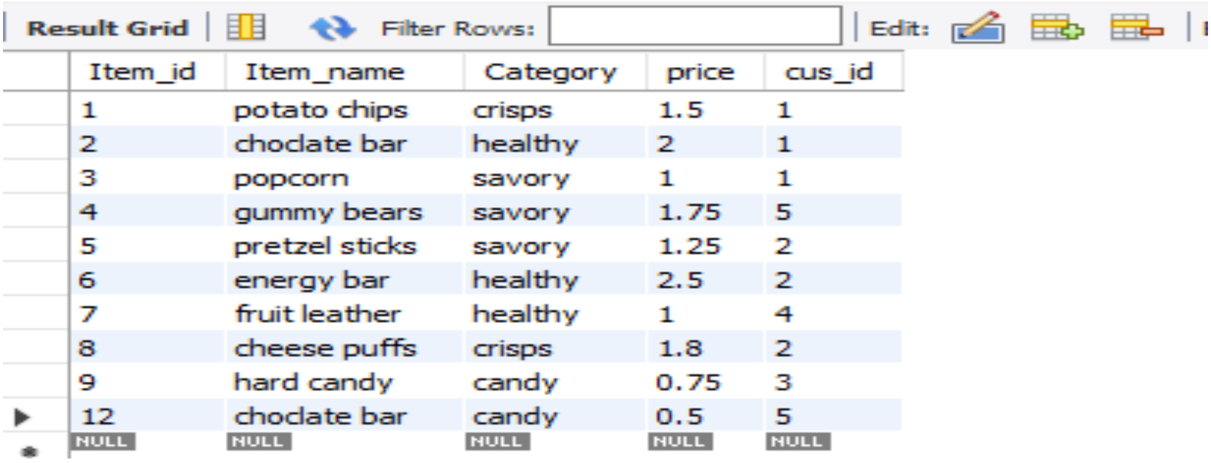
```sql
delimiter $$
CREATE FUNCTION `Total_price` ()
RETURNS INTEGER
deterministic
BEGIN
declare total integer ;
select sum(price)into total
from snacks;

RETURN (total);

END

```

COMPLEX QUERY (TRIGGER)



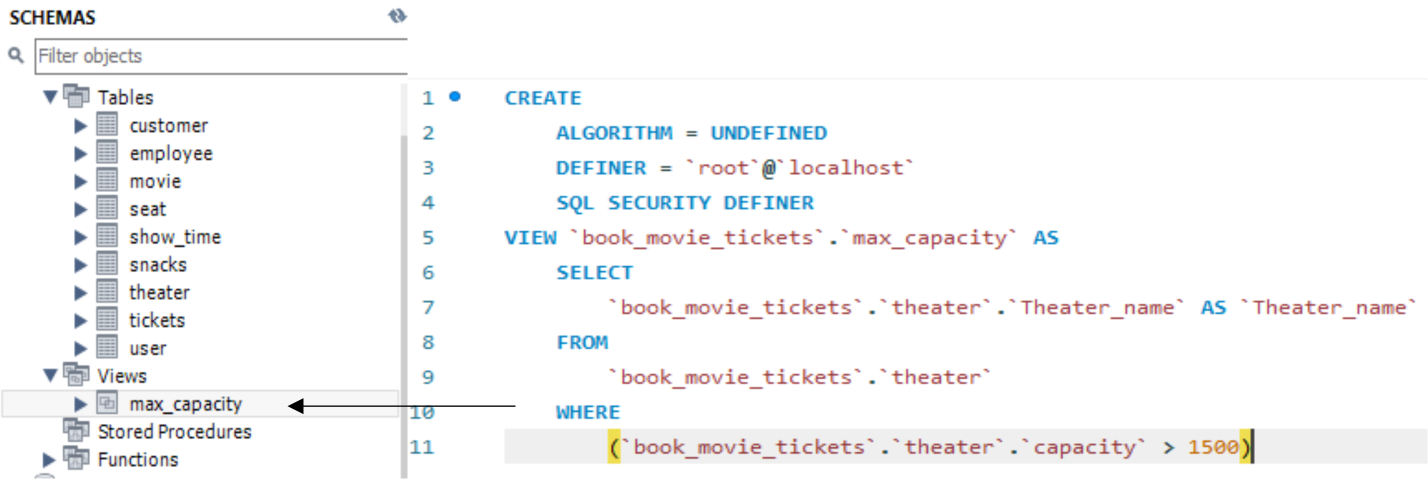
```
CREATE DEFINER = CURRENT_USER TRIGGER `book_movie_tickets`.`snacks_category`
BEFORE INSERT ON `snacks` FOR EACH ROW
BEGIN
if new.price<1 then
set new.category='candy';
END if;
end
```

COMPLEX QUERY (Test TRIGGER)



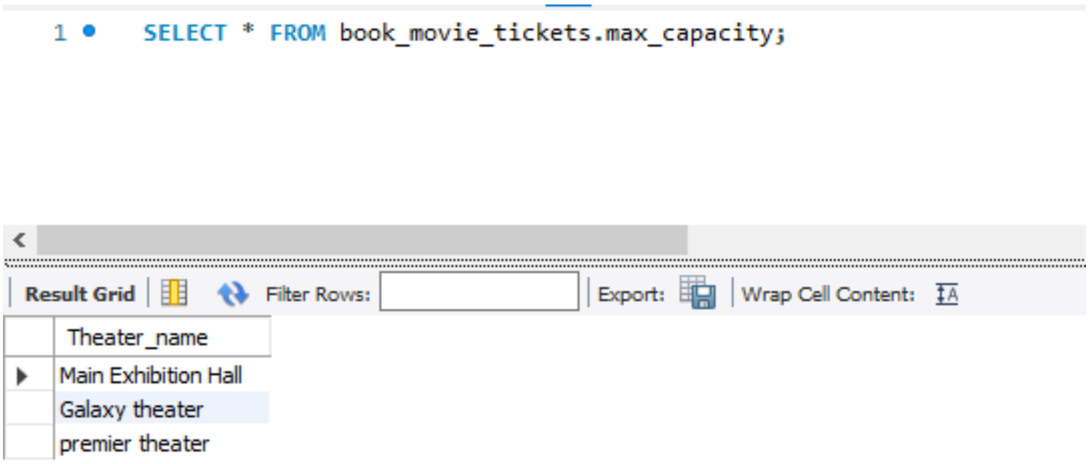
Item_id	Item_name	Category	price	cus_id
1	potato chips	crisps	1.5	1
2	choclate bar	healthy	2	1
3	popcorn	savory	1	1
4	gummy bears	savory	1.75	5
5	pretzel sticks	savory	1.25	2
6	energy bar	healthy	2.5	2
7	fruit leather	healthy	1	4
8	cheese puffs	crisps	1.8	2
9	hard candy	candy	0.75	3
12	choclate bar	candy	0.5	5
NULL	NULL	NULL	NULL	NULL

COMPLEX QUERY (View)



```sql
CREATE
    ALGORITHM = UNDEFINED
    DEFINER = `root`@`localhost`
    SQL SECURITY DEFINER
VIEW `book_movie_tickets`.`max_capacity` AS
    SELECT
        `book_movie_tickets`.`theater`.`Theater_name` AS `Theater_name`
    FROM
        `book_movie_tickets`.`theater`
    WHERE
        (`book_movie_tickets`.`theater`.`capacity` > 1500)
```

COMPLEX QUERY (Select View)



```sql
SELECT * FROM book_movie_tickets.max_capacity;
```

Theater_name
Main Exhibition Hall
Galaxy theater
premier theater