HOTEL MANAGEMENT DATABASE

1. Introduction

A hotel management database is a crucial tool for the efficient and organized operation of a hotel or hospitality business. It serves as a central repository for storing, retrieving, and managing various types of data related to the hotel's day-to-day operations and guest services. In this project we will look into the main aspects of a hotel management database.

This Hotel Management Database includes:
The "Guests" table is where guest information is stored. It includes details about individuals who have stayed at the hotel.
The "Rooms" table tracks information about the various rooms available in the hotel, including room types and pricing.
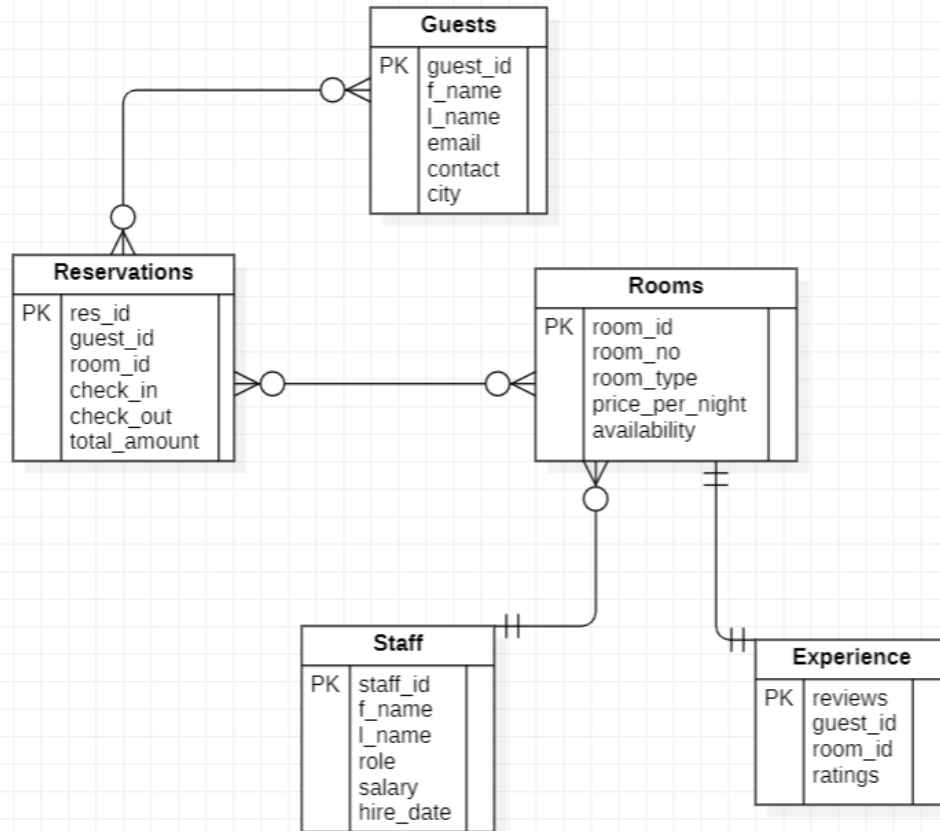The "Reservations" table manages information about guest reservations, including check-in and check-out dates.
The "Staff" table manages information about the hotel's employees, including their roles and responsibilities.
The "Experience" table manages information about the experience of the guest with reviews,ratings according to their comfort and stay at the hotel.

A well-designed hotel management database can streamline various aspects of hotel operations, such as guest check-in/check-out, reservations, room availability, staff management, billing, and service requests. It plays a pivotal role in providing better guest experiences, optimizing resource allocation, and ultimately contributing to the success of the hotel.

2.ER Diagram

Guests

PK	guest_id
	f_name
	l_name
	email
	contact
	city

Reservations

PK	res_id
	guest_id
	room_id
	check_in
	check_out
	total_amount

Rooms

PK	room_id
	room_no
	room_type
	price_per_night
	availability

Staff

PK	staff_id
	f_name
	l_name
	role
	salary
	hire_date

Experience

PK	reviews
	guest_id
	room_id
	ratings

3. Database Design

Database: Hotel Management

Tables:
- Guests
- Rooms
- Reservations
- Staff
- Experience

4. DDL(Data Definition Language)
Creation of tables

- Guests

```
MariaDB [project]> create table customer(cust_id int primary key,f_name char(15),l_name char(15),email varchar
(50) not null,contact bigint unique,city varchar(30));
Query OK, 0 rows affected (0.076 sec)

MariaDB [project]> desc customer;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| cust_id | int(11)     | NO   | PRI | NULL    |       |
| f_name  | char(15)    | YES  |     | NULL    |       |
| l_name  | char(15)    | YES  |     | NULL    |       |
| email   | varchar(50) | NO   |     | NULL    |       |
| contact | bigint(20)  | YES  | UNI | NULL    |       |
| city    | varchar(30) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
6 rows in set (0.058 sec)
```

- Rooms

```
MariaDB [project]> create table rooms(room_id int primary key,room_no int not null,room_type char(15),
price_per_night int,availability char(15));
Query OK, 0 rows affected (0.056 sec)

MariaDB [project]> desc rooms;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| room_id         | int(11)  | NO   | PRI | NULL    |       |
| room_no         | int(11)  | NO   |     | NULL    |       |
| room_type       | char(15) | YES  |     | NULL    |       |
| price_per_night | int(11)  | YES  |     | NULL    |       |
| availability    | char(15) | YES  |     | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
5 rows in set (0.058 sec)
```

- ## Reservations

```
MariaDB [project]> create table reservations(res_id int primary key,guest_id int,room_id int,check_in datetime,check_out
datetime,total_amount int,foreign key(guest_id) references guests(guest_id),foreign key(room_id) references rooms(room_id
));
Query OK, 0 rows affected (0.096 sec)

MariaDB [project]> desc reservations;
+--------------+----------+------+-----+---------+-------+
| Field        | Type     | Null | Key | Default | Extra |
+--------------+----------+------+-----+---------+-------+
| res_id       | int(11)  | NO   | PRI | NULL    |       |
| guest_id     | int(11)  | YES  | MUL | NULL    |       |
| room_id      | int(11)  | YES  | MUL | NULL    |       |
| check_in     | datetime | YES  |     | NULL    |       |
| check_out    | datetime | YES  |     | NULL    |       |
| total_amount | int(11)  | YES  |     | NULL    |       |
+--------------+----------+------+-----+---------+-------+
6 rows in set (0.059 sec)
```

- ## Staff

```
MariaDB [project]> create table staff(staff_id int primary key,f_name char(15),
l_name char(15),role char(20),salary int not null,hire_date date);
Query OK, 0 rows affected (0.053 sec)

MariaDB [project]> desc staff;
+-----------+-----------+------+-----+---------+-------+
| Field     | Type      | Null | Key | Default | Extra |
+-----------+-----------+------+-----+---------+-------+
| staff_id  | int(11)   | NO   | PRI | NULL    |       |
| f_name    | char(15)  | YES  |     | NULL    |       |
| l_name    | char(15)  | YES  |     | NULL    |       |
| role      | char(20)  | YES  |     | NULL    |       |
| salary    | int(11)   | NO   |     | NULL    |       |
| hire_date | date      | YES  |     | NULL    |       |
+-----------+-----------+------+-----+---------+-------+
6 rows in set (0.062 sec)
```

- ## Experience

```
MariaDB [project]> create table experience(reviews varchar(100) primary key,guest_id int,room_id int,foreign key
(guest_id) references guests(guest_id),foreign key(room_id) references rooms(room_id));
Query OK, 0 rows affected (0.045 sec)

MariaDB [project]> desc experience;
+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| reviews  | varchar(100) | NO   | PRI | NULL    |       |
| guest_id | int(11)      | YES  | MUL | NULL    |       |
| room_id  | int(11)      | YES  | MUL | NULL    |       |
+----------+--------------+------+-----+---------+-------+
3 rows in set (0.063 sec)
```

- Services

```
MariaDB [project]> create table services(service_id int primary key,service_name
 varchar(20),price int);
Query OK, 0 rows affected (0.021 sec)

MariaDB [project]> desc services;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| service_id   | int(11)     | NO   | PRI | NULL    |       |
| service_name | varchar(20) | YES  |     | NULL    |       |
| price        | int(11)     | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.059 sec)
```

- Tables in use

```
MariaDB [project]> show tables;
+-------------------+
| Tables_in_project |
+-------------------+
| experience        |
| guests            |
| reservations      |
| rooms             |
| staff             |
+-------------------+
5 rows in set (0.001 sec)
```

Alter query to change table name and column name

```
MariaDB [project]> alter table customer rename to guests;
Query OK, 0 rows affected (0.128 sec)

MariaDB [project]> alter table guests change cust_id guest_id int;
Query OK, 0 rows affected (0.085 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [project]> desc guests;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| guest_id | int(11)     | NO   | PRI | NULL    |       |
| f_name   | char(15)    | YES  |     | NULL    |       |
| l_name   | char(15)    | YES  |     | NULL    |       |
| email    | varchar(50) | NO   |     | NULL    |       |
| contact  | bigint(20)  | YES  | UNI | NULL    |       |
| city     | varchar(30) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
6 rows in set (0.059 sec)
```

Alter query to change datatype

```
MariaDB [project]> alter table rooms modify room_no varchar(15);
Query OK, 0 rows affected (0.069 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [project]> desc rooms;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| room_id        | int(11)     | NO   | PRI | NULL    |       |
| room_no        | varchar(15) | YES  |     | NULL    |       |
| room_type      | char(15)    | YES  |     | NULL    |       |
| price_per_night| int(11)     | YES  |     | NULL    |       |
| availability   | char(15)    | YES  |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
5 rows in set (0.062 sec)
```

Alter query to drop table

```
MariaDB [project]> drop table services;
Query OK, 0 rows affected (0.049 sec)
```

Alter query to add column name

```
MariaDB [project]> alter table experience add ratings int;
Query OK, 0 rows affected (0.058 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [project]> desc experience;
+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| reviews  | varchar(100) | NO   | PRI | NULL    |       |
| guest_id | int(11)      | YES  | MUL | NULL    |       |
| room_id  | int(11)      | YES  | MUL | NULL    |       |
| ratings  | int(11)      | YES  |     | NULL    |       |
+----------+--------------+------+-----+---------+-------+
4 rows in set (0.057 sec)
```

5. DML(Data Manipulation Language)
Inserting values in tables

- Guests

```
MariaDB [project]> insert into guests values(9876,'Shriya','Tambekar','shriyat@gmail.com',9876543210,'Thane'),(9875,
'Charmi','Patil','charmip@gmail.com',9876543219,'Thane'),(9874,'Ayush','Shah','ayushs@gmail.com',9876543218,'Mulund'
),(9873,'Vidhi','Jain','vidhij@yahoo.com',9876543217,'Panvel'),(9872,'Naman','Bhandari','namanb@reddit.com',98765432
16,'Ghatkopar');
Query OK, 5 rows affected (0.004 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [project]> insert into guests values(9871,'Dewang','Bhagwat','dewangb@gmail.com',9876543215,'Kalyan'),(9870,
'Atharva','Bagul','atharvab@yahoo.com',9876543214,'Pune'),(9801,'Sayli','Shetty','saylis@reddit.com',9876543213,'Che
nnai'),(9802,'Kahira','Kalbhor','kahirak@yahoo.com',9876543212,'Pune'),(9803,'Manjeet','Thakoor','manjeett@gmail.com
',9876543211,'Ghatkopar');
Query OK, 5 rows affected (0.004 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [project]> select * from guests;
+----------+---------+----------+--------------------+------------+-----------+
| guest_id | f_name  | l_name   | email              | contact    | city      |
+----------+---------+----------+--------------------+------------+-----------+
|     9801 | Sayli   | Shetty   | saylis@reddit.com  | 9876543213 | Chennai   |
|     9802 | Kahira  | Kalbhor  | kahirak@yahoo.com  | 9876543212 | Pune      |
|     9803 | Manjeet | Thakoor  | manjeett@gmail.com | 9876543211 | Ghatkopar |
|     9870 | Atharva | Bagul    | atharvab@yahoo.com | 9876543214 | Pune      |
|     9871 | Dewang  | Bhagwat  | dewangb@gmail.com  | 9876543215 | Kalyan    |
|     9872 | Naman   | Bhandari | namanb@reddit.com  | 9876543216 | Ghatkopar |
|     9873 | Vidhi   | Jain     | vidhij@yahoo.com   | 9876543217 | Panvel    |
|     9874 | Ayush   | Shah     | ayushs@gmail.com   | 9876543218 | Mulund    |
|     9875 | Charmi  | Patil    | charmip@gmail.com  | 9876543219 | Thane     |
|     9876 | Shriya  | Tambekar | shriyat@gmail.com  | 9876543210 | Thane     |
+----------+---------+----------+--------------------+------------+-----------+
10 rows in set (0.000 sec)
```

Rooms

```
MariaDB [project]> insert into rooms values(1001,'A001','Deluxe',8100,'Booked');
Query OK, 1 row affected (0.006 sec)

MariaDB [project]> insert into rooms values(1002,'B002','Standard',2200,'Not Booked'),(1003,'C003','Standard'
,2300,'Booked'),(1004,'D004','Suite',5400,'Not Booked'),(1005,'E005','Deluxe',8500,'Booked');
Query OK, 4 rows affected (0.002 sec)
Records: 4  Duplicates: 0  Warnings: 0

MariaDB [project]> insert into rooms values(1006,'A006','Suite',5600,'Booked'),(1007,'B007','Standard',2700,'
Booked'),(1008,'C008','Deluxe',8800,'Booked'),(1009,'D009','Suite',5900,'Not Booked'),(1010,'E010','Standard'
,2110,'Booked');
Query OK, 5 rows affected (0.002 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [project]> select * from rooms;
+---------+---------+-----------+-----------------+--------------+
| room_id | room_no | room_type | price_per_night | availability |
+---------+---------+-----------+-----------------+--------------+
|    1001 | A001    | Deluxe    |            8100 | Booked       |
|    1002 | B002    | Standard  |            2200 | Not Booked   |
|    1003 | C003    | Standard  |            2300 | Booked       |
|    1004 | D004    | Suite     |            5400 | Not Booked   |
|    1005 | E005    | Deluxe    |            8500 | Booked       |
|    1006 | A006    | Suite     |            5600 | Booked       |
|    1007 | B007    | Standard  |            2700 | Booked       |
|    1008 | C008    | Deluxe    |            8800 | Booked       |
|    1009 | D009    | Suite     |            5900 | Not Booked   |
|    1010 | E010    | Standard  |            2110 | Booked       |
+---------+---------+-----------+-----------------+--------------+
10 rows in set (0.000 sec)
```

Reservations

```
MariaDB [project]> insert into reservations values(001,9801,1001,'2023-10-15','2023-10-16',11500);
Query OK, 1 row affected (0.045 sec)

MariaDB [project]> insert into reservations values(002,9802,1002,'2023-05-07','2023-05-07',3000),(003,9803,1003,'
2023-03-24','2023-03-26',7000),(004,9870,1004,'2023-08-30','2023-09-01',16200),(005,9871,1005,'2023-07-01','2023-
07-02',17000),(006,9872,1006,'2023-05-17','2023-05-18',11200),(007,9873,1007,'2023-08-22','2023-08-25',13500),(00
8,9874,1008,'2023-03-16','2023-03-16',9000),(009,9875,1009,'2023-06-19','2023-06-22',12000),(010,9876,1010,'2023-
10-18','2023-10-22',11000);
Query OK, 9 rows affected (0.042 sec)
Records: 9  Duplicates: 0  Warnings: 0

MariaDB [project]> select * from reservations;
+--------+----------+---------+------------+------------+--------------+
| res_id | guest_id | room_id | check_in   | check_out  | total_amount |
+--------+----------+---------+------------+------------+--------------+
|      1 |     9801 |    1001 | 2023-10-15 | 2023-10-16 |        11500 |
|      2 |     9802 |    1002 | 2023-05-07 | 2023-05-07 |         3000 |
|      3 |     9803 |    1003 | 2023-03-24 | 2023-03-26 |         7000 |
|      4 |     9870 |    1004 | 2023-08-30 | 2023-09-01 |        16200 |
|      5 |     9871 |    1005 | 2023-07-01 | 2023-07-02 |        17000 |
|      6 |     9872 |    1006 | 2023-05-17 | 2023-05-18 |        11200 |
|      7 |     9873 |    1007 | 2023-08-22 | 2023-08-25 |        13500 |
|      8 |     9874 |    1008 | 2023-03-16 | 2023-03-16 |         9000 |
|      9 |     9875 |    1009 | 2023-06-19 | 2023-06-22 |        12000 |
|     10 |     9876 |    1010 | 2023-10-18 | 2023-10-22 |        11000 |
+--------+----------+---------+------------+------------+--------------+
10 rows in set (0.001 sec)
```

- Staff

```
MariaDB [project]> insert into staff values(801,'Anuradha','Karandikar','Manager',80000,'2020-10-21');
Query OK, 1 row affected (0.057 sec)

MariaDB [project]> insert into staff values(802,'Keyur','Doshi','Assistant Manager',65000,'2023-09-27'),(803,'Sanika'
,'Shinde','Cleaning',15000,'2018-11-12'),(804,'Anushka','Deshpande','Service',17500,'2021-09-10'),(805,'Hansini','Bha
lekar','Receptionist',34000,'2020-07-17'),(806,'Neeraj','Bhoir','Sales',40000,'2021-04-16'),(807,'Om','Plande','Event
s',45000,'2023-09-13'),(808,'Shivani','Joshi','Security',12000,'2023-09-30'),(809,'Vrushabh','Jain','Events',50000,'2
022-07-19'),(810,'Kshama','Shukla','Sales',35000,'2022-07-20');
Query OK, 9 rows affected (0.044 sec)
Records: 9  Duplicates: 0  Warnings: 0

MariaDB [project]> select * from staff;
+----------+----------+------------+-------------------+--------+------------+
| staff_id | f_name   | l_name     | role              | salary | hire_date  |
+----------+----------+------------+-------------------+--------+------------+
|      801 | Anuradha | Karandikar | Manager           |  80000 | 2020-10-21 |
|      802 | Keyur    | Doshi      | Assistant Manager |  65000 | 2023-09-27 |
|      803 | Sanika   | Shinde     | Cleaning          |  15000 | 2018-11-12 |
|      804 | Anushka  | Deshpande  | Service           |  17500 | 2021-09-10 |
|      805 | Hansini  | Bhalekar   | Receptionist      |  34000 | 2020-07-17 |
|      806 | Neeraj   | Bhoir      | Sales             |  40000 | 2021-04-16 |
|      807 | Om       | Plande     | Events            |  45000 | 2023-09-13 |
|      808 | Shivani  | Joshi      | Security          |  12000 | 2023-09-30 |
|      809 | Vrushabh | Jain       | Events            |  50000 | 2022-07-19 |
|      810 | Kshama   | Shukla     | Sales             |  35000 | 2022-07-20 |
+----------+----------+------------+-------------------+--------+------------+
10 rows in set (0.001 sec)
```

- Experience

```
MariaDB [project]> insert into experience values('Best Service and Well Maintained Hotel',9801,1001,10);
Query OK, 1 row affected (0.041 sec)

MariaDB [project]> insert into experience values('Enjoyed our stay at the hotel',9802,1002,8),('Exquisite Management',9803
,1003,9),('Decent Hotel Scope for Improvement',9870,1004,7),('Loved the Food and Nice Events Hosted',9871,1005,9),('Loved
the Interior and the Hotel',9872,1006,6),('Staff was very kind',9873,1007,8),('Could have done a better job at the cleanin
g part',9874,1008,4),('Was expecting something Grand from the hotel',9875,1009,5),('The Manager is very sweet and complete
ly enjoyed our stay',9876,1010,10);
Query OK, 9 rows affected (0.047 sec)
Records: 9  Duplicates: 0  Warnings: 0

MariaDB [project]> select * from experience;
+--------------------------------------------------------+----------+---------+---------+
| reviews                                                | guest_id | room_id | ratings |
+--------------------------------------------------------+----------+---------+---------+
| Best Service and Well Maintained Hotel                 |     9801 |    1001 |      10 |
| Could have done a better job at the cleaning part      |     9874 |    1008 |       4 |
| Decent Hotel Scope for Improvement                     |     9870 |    1004 |       7 |
| Enjoyed our stay at the hotel                          |     9802 |    1002 |       8 |
| Exquisite Management                                   |     9803 |    1003 |       9 |
| Loved the Food and Nice Events Hosted                  |     9871 |    1005 |       9 |
| Loved the Interior and the Hotel                       |     9872 |    1006 |       6 |
| Staff was very kind                                    |     9873 |    1007 |       8 |
| The Manager is very sweet and completely enjoyed our stay |  9876 |    1010 |      10 |
| Was expecting something Grand from the hotel           |     9875 |    1009 |       5 |
+--------------------------------------------------------+----------+---------+---------+
10 rows in set (0.001 sec)
```

Updating values in table

```
MariaDB [project]> update staff set l_name='Palande' where staff_id=807;
Query OK, 1 row affected (0.041 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

Delete values from table

```
MariaDB [project]> delete from rooms where room_id=1011;
Query OK, 1 row affected (0.044 sec)
```

6. DQL(Data Query Language)

Select query

```
MariaDB [project]> select * from rooms;
+---------+---------+-----------+-----------------+-------------+
| room_id | room_no | room_type | price_per_night | availability |
+---------+---------+-----------+-----------------+-------------+
|    1001 | A001    | Deluxe    |            8100 | Booked      |
|    1002 | B002    | Standard  |            2200 | Not Booked  |
|    1003 | C003    | Standard  |            2300 | Booked      |
|    1004 | D004    | Suite     |            5400 | Not Booked  |
|    1005 | E005    | Deluxe    |            8500 | Booked      |
|    1006 | A006    | Suite     |            5600 | Booked      |
|    1007 | B007    | Standard  |            2700 | Booked      |
|    1008 | C008    | Deluxe    |            8800 | Booked      |
|    1009 | D009    | Suite     |            5900 | Not Booked  |
|    1010 | E010    | Standard  |            2110 | Booked      |
+---------+---------+-----------+-----------------+-------------+
```

Order by query asc and desc

```
MariaDB [project]> select * from staff order by salary asc;
+----------+----------+-----------+-------------------+--------+------------+
| staff_id | f_name   | l_name    | role              | salary | hire_date  |
+----------+----------+-----------+-------------------+--------+------------+
|      808 | Shivani  | Joshi     | Security          |  12000 | 2023-09-30 |
|      803 | Sanika   | Shinde    | Cleaning          |  15000 | 2018-11-12 |
|      804 | Anushka  | Deshpande | Service           |  17500 | 2021-09-10 |
|      805 | Hansini  | Bhalekar  | Receptionist      |  34000 | 2020-07-17 |
|      810 | Kshama   | Shukla    | Sales             |  35000 | 2022-07-20 |
|      806 | Neeraj   | Bhoir     | Sales             |  40000 | 2021-04-16 |
|      807 | Om       | Palande   | Events            |  45000 | 2023-09-13 |
|      809 | Vrushabh | Jain      | Events            |  50000 | 2022-07-19 |
|      802 | Keyur    | Doshi     | Assistant Manager |  65000 | 2023-09-27 |
|      801 | Anuradha | Karandikar| Manager           |  80000 | 2020-10-21 |
+----------+----------+-----------+-------------------+--------+------------+
10 rows in set (0.001 sec)
```

```
MariaDB [project]> select * from experience order by ratings desc;
+---------------------------------------------------+----------+---------+---------+
| reviews                                           | guest_id | room_id | ratings |
+---------------------------------------------------+----------+---------+---------+
| Best Service and Well Maintained Hotel            |     9801 |    1001 |      10 |
| The Manager is very sweet and completely enjoyed our stay | 9876 | 1010 |      10 |
| Loved the Food and Nice Events Hosted             |     9871 |    1005 |       9 |
| Exquisite Management                              |     9803 |    1003 |       9 |
| Enjoyed our stay at the hotel                     |     9802 |    1002 |       8 |
| Staff was very kind                               |     9873 |    1007 |       8 |
| Decent Hotel Scope for Improvement                |     9870 |    1004 |       7 |
| Loved the Interior and the Hotel                  |     9872 |    1006 |       6 |
| Was expecting something Grand from the hotel      |     9875 |    1009 |       5 |
| Could have done a better job at the cleaning part |     9874 |    1008 |       4 |
+---------------------------------------------------+----------+---------+---------+
10 rows in set (0.001 sec)
```

Order by query column

```
MariaDB [project]> select * from staff order by f_name,salary;
+----------+----------+-----------+-------------------+--------+------------+
| staff_id | f_name   | l_name    | role              | salary | hire_date  |
+----------+----------+-----------+-------------------+--------+------------+
|      801 | Anuradha | Karandikar| Manager           |  80000 | 2020-10-21 |
|      804 | Anushka  | Deshpande | Service           |  17500 | 2021-09-10 |
|      805 | Hansini  | Bhalekar  | Receptionist      |  34000 | 2020-07-17 |
|      802 | Keyur    | Doshi     | Assistant Manager |  65000 | 2023-09-27 |
|      810 | Kshama   | Shukla    | Sales             |  35000 | 2022-07-20 |
|      806 | Neeraj   | Bhoir     | Sales             |  40000 | 2021-04-16 |
|      807 | Om       | Palande   | Events            |  45000 | 2023-09-13 |
|      803 | Sanika   | Shinde    | Cleaning          |  15000 | 2018-11-12 |
|      808 | Shivani  | Joshi     | Security          |  12000 | 2023-09-30 |
|      809 | Vrushabh | Jain      | Events            |  50000 | 2022-07-19 |
+----------+----------+-----------+-------------------+--------+------------+
10 rows in set (0.001 sec)
```

Limit Query

```
MariaDB [project]> select * from guests limit 6;
+----------+---------+----------+-------------------+------------+-----------+
| guest_id | f_name  | l_name   | email             | contact    | city      |
+----------+---------+----------+-------------------+------------+-----------+
|     9801 | Sayli   | Shetty   | saylis@reddit.com | 9876543213 | Chennai   |
|     9802 | Kahira  | Kalbhor  | kahirak@yahoo.com | 9876543212 | Pune      |
|     9803 | Manjeet | Thakoor  | manjeett@gmail.com| 9876543211 | Ghatkopar |
|     9870 | Atharva | Bagul    | atharvab@yahoo.com| 9876543214 | Pune      |
|     9871 | Dewang  | Bhagwat  | dewangb@gmail.com | 9876543215 | Kalyan    |
|     9872 | Naman   | Bhandari | namanb@reddit.com | 9876543216 | Ghatkopar |
+----------+---------+----------+-------------------+------------+-----------+
6 rows in set (0.001 sec)
```

Select query with specific column

```
MariaDB [project]> select check_in,check_out,total_amount from reservations;
+------------+------------+--------------+
| check_in   | check_out  | total_amount |
+------------+------------+--------------+
| 2023-10-15 | 2023-10-16 |        11500 |
| 2023-05-07 | 2023-05-07 |         3000 |
| 2023-03-24 | 2023-03-26 |         7000 |
| 2023-08-30 | 2023-09-01 |        16200 |
| 2023-07-01 | 2023-07-02 |        17000 |
| 2023-05-17 | 2023-05-18 |        11200 |
| 2023-08-22 | 2023-08-25 |        13500 |
| 2023-03-16 | 2023-03-16 |         9000 |
| 2023-06-19 | 2023-06-22 |        12000 |
| 2023-10-18 | 2023-10-22 |        11000 |
+------------+------------+--------------+
10 rows in set (0.001 sec)
```

Distinct query

```
MariaDB [project]> select distinct(availability) from rooms;
+--------------+
| availability |
+--------------+
| Booked       |
| Not Booked   |
+--------------+
2 rows in set (0.001 sec)
```

- Using where clause with comparison operator

```
MariaDB [project]> select * from rooms where availability='Not booked';
+---------+---------+-----------+----------------+--------------+
| room_id | room_no | room_type | price_per_night | availability |
+---------+---------+-----------+----------------+--------------+
|    1002 | B002    | Standard  |           2200 | Not Booked   |
|    1004 | D004    | Suite     |           5400 | Not Booked   |
|    1009 | D009    | Suite     |           5900 | Not Booked   |
+---------+---------+-----------+----------------+--------------+
3 rows in set (0.001 sec)
```

```
MariaDB [project]> select reviews,ratings from experience where ratings >=6;
+--------------------------------------------------------+---------+
| reviews                                                | ratings |
+--------------------------------------------------------+---------+
| Best Service and Well Maintained Hotel                 |      10 |
| Decent Hotel Scope for Improvement                     |       7 |
| Enjoyed our stay at the hotel                          |       8 |
| Exquisite Management                                   |       9 |
| Loved the Food and Nice Events Hosted                  |       9 |
| Loved the Interior and the Hotel                       |       6 |
| Staff was very kind                                    |       8 |
| The Manager is very sweet and completely enjoyed our stay |   10 |
+--------------------------------------------------------+---------+
8 rows in set (0.001 sec)
```

7. Using Logical operator
   a. And

```
MariaDB [project]> select * from staff where salary>=35000 and role='Sales';
+----------+--------+--------+-------+--------+------------+
| staff_id | f_name | l_name | role  | salary | hire_date  |
+----------+--------+--------+-------+--------+------------+
|      806 | Neeraj | Bhoir  | Sales |  40000 | 2021-04-16 |
|      810 | Kshama | Shukla | Sales |  35000 | 2022-07-20 |
+----------+--------+--------+-------+--------+------------+
2 rows in set (0.001 sec)
```

b. And/Or

```
MariaDB [project]> select * from staff where (hire_date>='2023-01-01' and role='Events') or salary<=50000;
+----------+----------+-----------+-------------+--------+------------+
| staff_id | f_name   | l_name    | role        | salary | hire_date  |
+----------+----------+-----------+-------------+--------+------------+
|      803 | Sanika   | Shinde    | Cleaning    |  15000 | 2018-11-12 |
|      804 | Anushka  | Deshpande | Service     |  17500 | 2021-09-10 |
|      805 | Hansini  | Bhalekar  | Receptionist|  34000 | 2020-07-17 |
|      806 | Neeraj   | Bhoir     | Sales       |  40000 | 2021-04-16 |
|      807 | Om       | Palande   | Events      |  45000 | 2023-09-13 |
|      808 | Shivani  | Joshi     | Security    |  12000 | 2023-09-30 |
|      809 | Vrushabh | Jain      | Events      |  50000 | 2022-07-19 |
|      810 | Kshama   | Shukla    | Sales       |  35000 | 2022-07-20 |
+----------+----------+-----------+-------------+--------+------------+
8 rows in set (0.001 sec)
```

c. In clause

```
MariaDB [project]> select * from guests where f_name in('Vidhi','Shriya','Charmi');
+----------+--------+----------+-------------------+------------+--------+
| guest_id | f_name | l_name   | email             | contact    | city   |
+----------+--------+----------+-------------------+------------+--------+
|     9873 | Vidhi  | Jain     | vidhij@yahoo.com  | 9876543217 | Panvel |
|     9875 | Charmi | Patil    | charmip@gmail.com | 9876543219 | Thane  |
|     9876 | Shriya | Tambekar | shriyat@gmail.com | 9876543210 | Thane  |
+----------+--------+----------+-------------------+------------+--------+
3 rows in set (0.001 sec)
```

8. Aggregate Function
a. Count

```
MariaDB [project]> select count(ratings) 'Ratings' from experience;
+---------+
| Ratings |
+---------+
|      10 |
+---------+
1 row in set (0.001 sec)
```

b. Average

```
MariaDB [project]> select avg(salary) 'Average Salary' from staff;
+----------------+
| Average Salary |
+----------------+
|     39350.0000 |
+----------------+
1 row in set (0.001 sec)
```

9. String Function
   ## a. Concat

```
MariaDB [project]> select concat(f_name,' ',l_name) 'Full Name' from staff;
+--------------------+
| Full Name          |
+--------------------+
| Anuradha Karandikar |
| Keyur Doshi        |
| Sanika Shinde      |
| Anushka Deshpande  |
| Hansini Bhalekar   |
| Neeraj Bhoir       |
| Om Palande         |
| Shivani Joshi      |
| Vrushabh Jain      |
| Kshama Shukla      |
+--------------------+
10 rows in set (0.001 sec)
```

B. Upper, Lower

```
MariaDB [project]> select upper(reviews) 'Upper Case' from experience;
+-----------------------------------------------------------------+
| Upper Case                                                      |
+-----------------------------------------------------------------+
| BEST SERVICE AND WELL MAINTAINED HOTEL                          |
| ENJOYED OUR STAY AT THE HOTEL                                   |
| EXQUISITE MANAGEMENT                                            |
| DECENT HOTEL SCOPE FOR IMPROVEMENT                              |
| LOVED THE FOOD AND NICE EVENTS HOSTED                           |
| LOVED THE INTERIOR AND THE HOTEL                                |
| STAFF WAS VERY KIND                                             |
| COULD HAVE DONE A BETTER JOB AT THE CLEANING PART               |
| WAS EXPECTING SOMETHING GRAND FROM THE HOTEL                    |
| THE MANAGER IS VERY SWEET AND COMPLETELY ENJOYED OUR STAY       |
+-----------------------------------------------------------------+
10 rows in set (0.001 sec)
```

```
MariaDB [project]> select lower(city) 'Lower Case' from guests;
+------------+
| Lower Case |
+------------+
| chennai    |
| pune       |
| ghatkopar  |
| pune       |
| kalyan     |
| ghatkopar  |
| panvel     |
| mulund     |
| thane      |
| thane      |
+------------+
10 rows in set (0.001 sec)
```

10. Like operator

```
MariaDB [project]> select * from guests where city like '%e%';
+----------+---------+----------+---------------------+------------+---------+
| guest_id | f_name  | l_name   | email               | contact    | city    |
+----------+---------+----------+---------------------+------------+---------+
|     9801 | Sayli   | Shetty   | saylis@reddit.com   | 9876543213 | Chennai |
|     9802 | Kahira  | Kalbhor  | kahirak@yahoo.com   | 9876543212 | Pune    |
|     9870 | Atharva | Bagul    | atharvab@yahoo.com  | 9876543214 | Pune    |
|     9873 | Vidhi   | Jain     | vidhij@yahoo.com    | 9876543217 | Panvel  |
|     9875 | Charmi  | Patil    | charmip@gmail.com   | 9876543219 | Thane   |
|     9876 | Shriya  | Tambekar | shriyat@gmail.com   | 9876543210 | Thane   |
+----------+---------+----------+---------------------+------------+---------+
6 rows in set (0.001 sec)
```

```
MariaDB [project]> select * from guests where f_name like '_a%';
+----------+---------+----------+---------------------+------------+-----------+
| guest_id | f_name  | l_name   | email               | contact    | city      |
+----------+---------+----------+---------------------+------------+-----------+
|     9801 | Sayli   | Shetty   | saylis@reddit.com   | 9876543213 | Chennai   |
|     9802 | Kahira  | Kalbhor  | kahirak@yahoo.com   | 9876543212 | Pune      |
|     9803 | Manjeet | Thakoor  | manjeett@gmail.com  | 9876543211 | Ghatkopar |
|     9872 | Naman   | Bhandari | namanb@reddit.com   | 9876543216 | Ghatkopar |
+----------+---------+----------+---------------------+------------+-----------+
4 rows in set (0.001 sec)
```

11. Union

```
MariaDB [project]> select guests.f_name 'Stay Amount' from guests union select reservations.total_amount
from reservations;
+--------------+
| Stay Amount  |
+--------------+
| Sayli        |
| Kahira       |
| Manjeet      |
| Atharva      |
| Dewang       |
| Naman        |
| Vidhi        |
| Ayush        |
| Charmi       |
| Shriya       |
| 11500        |
| 3000         |
| 7000         |
| 16200        |
| 17000        |
| 11200        |
| 13500        |
| 9000         |
| 12000        |
| 11000        |
+--------------+
20 rows in set (0.001 sec)
```

12. Group by having

```
MariaDB [project]> select f_name,sum(salary) 'Total Salary' from staff group by f_name having sum(salary)
>50000;
+----------+--------------+
| f_name   | Total Salary |
+----------+--------------+
| Anuradha |        80000 |
| Keyur    |        65000 |
+----------+--------------+
2 rows in set (0.001 sec)
```

13. Joins

```
MariaDB [project]> select g.guest_id,f_name,total_amount from guests g join reservations r on g.guest_id=
r.guest_id order by g.guest_id;
+----------+---------+--------------+
| guest_id | f_name  | total_amount |
+----------+---------+--------------+
|     9801 | Sayli   |        11500 |
|     9802 | Kahira  |         3000 |
|     9803 | Manjeet |         7000 |
|     9870 | Atharva |        16200 |
|     9871 | Dewang  |        17000 |
|     9872 | Naman   |        11200 |
|     9873 | Vidhi   |        13500 |
|     9874 | Ayush   |         9000 |
|     9875 | Charmi  |        12000 |
|     9876 | Shriya  |        11000 |
+----------+---------+--------------+
10 rows in set (0.001 sec)
```

```
MariaDB [project]> select g.guest_id,f_name,total_amount from guests g right outer join reservations r on
 g.guest_id=r.guest_id order by g.guest_id;
+----------+---------+--------------+
| guest_id | f_name  | total_amount |
+----------+---------+--------------+
|     9801 | Sayli   |        11500 |
|     9802 | Kahira  |         3000 |
|     9803 | Manjeet |         7000 |
|     9870 | Atharva |        16200 |
|     9871 | Dewang  |        17000 |
|     9872 | Naman   |        11200 |
|     9873 | Vidhi   |        13500 |
|     9874 | Ayush   |         9000 |
|     9875 | Charmi  |        12000 |
|     9876 | Shriya  |        11000 |
+----------+---------+--------------+
10 rows in set (0.001 sec)
```

```
MariaDB [project]> select g.guest_id,f_name,total_amount,city,reviews from guests g left outer join reservations
r on g.guest_id=r.guest_id right outer join experience e on g.guest_id=e.guest_id;
+----------+---------+--------------+-----------+--------------------------------------------------------+
| guest_id | f_name  | total_amount | city      | reviews                                                |
+----------+---------+--------------+-----------+--------------------------------------------------------+
|     9801 | Sayli   |        11500 | Chennai   | Best Service and Well Maintained Hotel                 |
|     9802 | Kahira  |         3000 | Pune      | Enjoyed our stay at the hotel                          |
|     9803 | Manjeet |         7000 | Ghatkopar | Exquisite Management                                   |
|     9870 | Atharva |        16200 | Pune      | Decent Hotel Scope for Improvement                     |
|     9871 | Dewang  |        17000 | Kalyan    | Loved the Food and Nice Events Hosted                  |
|     9872 | Naman   |        11200 | Ghatkopar | Loved the Interior and the Hotel                       |
|     9873 | Vidhi   |        13500 | Panvel    | Staff was very kind                                    |
|     9874 | Ayush   |         9000 | Mulund    | Could have done a better job at the cleaning part      |
|     9875 | Charmi  |        12000 | Thane     | Was expecting something Grand from the hotel           |
|     9876 | Shriya  |        11000 | Thane     | The Manager is very sweet and completely enjoyed our stay |
+----------+---------+--------------+-----------+--------------------------------------------------------+
10 rows in set (0.001 sec)
```

14. Subqueries

```
MariaDB [project]> select * from staff where role=(select role from staff where f_name='Neeraj');
+----------+--------+--------+-------+--------+------------+
| staff_id | f_name | l_name | role  | salary | hire_date  |
+----------+--------+--------+-------+--------+------------+
|      806 | Neeraj | Bhoir  | Sales |  40000 | 2021-04-16 |
|      810 | Kshama | Shukla | Sales |  35000 | 2022-07-20 |
+----------+--------+--------+-------+--------+------------+
2 rows in set (0.001 sec)
```

```
MariaDB [project]> select * from staff where salary<(select min(salary) from staff where role='manager');
+----------+----------+-----------+-------------------+--------+------------+
| staff_id | f_name   | l_name    | role              | salary | hire_date  |
+----------+----------+-----------+-------------------+--------+------------+
|      802 | Keyur    | Doshi     | Assistant Manager |  65000 | 2023-09-27 |
|      803 | Sanika   | Shinde    | Cleaning          |  15000 | 2018-11-12 |
|      804 | Anushka  | Deshpande | Service           |  17500 | 2021-09-10 |
|      805 | Hansini  | Bhalekar  | Receptionist      |  34000 | 2020-07-17 |
|      806 | Neeraj   | Bhoir     | Sales             |  40000 | 2021-04-16 |
|      807 | Om       | Palande   | Events            |  45000 | 2023-09-13 |
|      808 | Shivani  | Joshi     | Security          |  12000 | 2023-09-30 |
|      809 | Vrushabh | Jain      | Events            |  50000 | 2022-07-19 |
|      810 | Kshama   | Shukla    | Sales             |  35000 | 2022-07-20 |
+----------+----------+-----------+-------------------+--------+------------+
9 rows in set (0.001 sec)
```

15. Views

```
MariaDB [project]> create view view_imp as select guest_id,f_name,city from guests;
Query OK, 0 rows affected (0.042 sec)

MariaDB [project]> select * from view_imp;
+----------+---------+-----------+
| guest_id | f_name  | city      |
+----------+---------+-----------+
|     9801 | Sayli   | Chennai   |
|     9802 | Kahira  | Pune      |
|     9803 | Manjeet | Ghatkopar |
|     9870 | Atharva | Pune      |
|     9871 | Dewang  | Kalyan    |
|     9872 | Naman   | Ghatkopar |
|     9873 | Vidhi   | Panvel    |
|     9874 | Ayush   | Mulund    |
|     9875 | Charmi  | Thane     |
|     9876 | Shriya  | Thane     |
+----------+---------+-----------+
10 rows in set (0.002 sec)
```

```
MariaDB [project]> create view full_view as select g.guest_id,f_name,city,reviews from guests g join exp
erience e on g.guest_id=e.guest_id;
Query OK, 0 rows affected (0.043 sec)

MariaDB [project]> select * from full_view;
+----------+---------+-----------+----------------------------------------------------+
| guest_id | f_name  | city      | reviews                                            |
+----------+---------+-----------+----------------------------------------------------+
|     9801 | Sayli   | Chennai   | Best Service and Well Maintained Hotel             |
|     9802 | Kahira  | Pune      | Enjoyed our stay at the hotel                      |
|     9803 | Manjeet | Ghatkopar | Exquisite Management                               |
|     9870 | Atharva | Pune      | Decent Hotel Scope for Improvement                 |
|     9871 | Dewang  | Kalyan    | Loved the Food and Nice Events Hosted              |
|     9872 | Naman   | Ghatkopar | Loved the Interior and the Hotel                   |
|     9873 | Vidhi   | Panvel    | Staff was very kind                                |
|     9874 | Ayush   | Mulund    | Could have done a better job at the cleaning part  |
|     9875 | Charmi  | Thane     | Was expecting something Grand from the hotel       |
|     9876 | Shriya  | Thane     | The Manager is very sweet and completely enjoyed our stay |
+----------+---------+-----------+----------------------------------------------------+
10 rows in set (0.001 sec)
```

```
MariaDB [project]> create view damn_view as select * from staff where salary >any(select salary from sta
ff where role='Events');
Query OK, 0 rows affected (0.003 sec)

MariaDB [project]> select damn_view;
ERROR 1054 (42S22): Unknown column 'damn_view' in 'field list'
MariaDB [project]> select * from damn_view;
+----------+----------+-----------+-------------------+--------+------------+
| staff_id | f_name   | l_name    | role              | salary | hire_date  |
+----------+----------+-----------+-------------------+--------+------------+
|      801 | Anuradha | Karandikar| Manager           |  80000 | 2020-10-21 |
|      802 | Keyur    | Doshi     | Assistant Manager |  65000 | 2023-09-27 |
|      809 | Vrushabh | Jain      | Events            |  50000 | 2022-07-19 |
+----------+----------+-----------+-------------------+--------+------------+
3 rows in set (0.001 sec)
```

a. View using alter query

```
MariaDB [project]> create view new_view as select * from staff where role='Events';
Query OK, 0 rows affected (0.004 sec)

MariaDB [project]> select * from new_view;
+----------+----------+---------+--------+--------+------------+
| staff_id | f_name   | l_name  | role   | salary | hire_date  |
+----------+----------+---------+--------+--------+------------+
|      807 | Om       | Palande | Events |  45000 | 2023-09-13 |
|      809 | Vrushabh | Jain    | Events |  50000 | 2022-07-19 |
+----------+----------+---------+--------+--------+------------+
2 rows in set (0.001 sec)

MariaDB [project]> alter view new_view as select f_name,salary,role from staff where role in('Manager','
Events','Assistant Manager','Kitchen');
Query OK, 0 rows affected (0.004 sec)

MariaDB [project]> select * from new_view;
+----------+--------+-------------------+
| f_name   | salary | role              |
+----------+--------+-------------------+
| Anuradha |  80000 | Manager           |
| Keyur    |  65000 | Assistant Manager |
| Om       |  45000 | Events            |
| Vrushabh |  50000 | Events            |
+----------+--------+-------------------+
4 rows in set (0.001 sec)
```

All tables

```
MariaDB [project]> show tables;
+-------------------+
| Tables_in_project |
+-------------------+
| damn_view         |
| experience        |
| full_view         |
| guests            |
| new_view          |
| reservations      |
| rooms             |
| staff             |
| view_imp          |
+-------------------+
9 rows in set (0.001 sec)
```