



*Mini project report on*

## **Disaster Data Management System**

*Submitted in partial fulfilment of the requirements for the award of degree of  
Bachelor of Technology*

**in**

**Computer Science & Engineering**

**UE23CS351A – DBMS Project**

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under the guidance of

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**AUG - DEC 2025**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**FACULTY OF ENGINEERING**

**PES UNIVERSITY**

(Established under Karnataka Act No. 16 of 2013)

Electronic City, Hosur Road, Bengaluru – 560 100, Karnataka, India



## PES UNIVERSITY

(Established under Karnataka Act No. 16 of 2013)  
Electronic City, Hosur Road, Bengaluru – 560 100, Karnataka, India

## CERTIFICATE

*This is to certify that the mini project entitled*

### HOTEL RESERVATION SYSTEM

*is a bonafide work carried out by*

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In partial fulfilment for the completion of fifth semester DBMS Project (UE20CSS301) in the Program of Study -Bachelor of Technology in Computer Science and Engineering under rules and regulations of PES University, Bengaluru during the period AUG. 2022 – DEC. 2022. It is certified that all corrections / suggestions indicated for internal assessment have been incorporated in the report. The project has been approved as it satisfies the 5<sup>th</sup> semester academic requirements in respect of project work.

Signature  
Prof. Nivedita  
Assistant Professor

## **DECLARATION**

We hereby declare that the DBMS Project entitled **HOTEL RESERVATION SYSTEM** has been carried out by us under the guidance of **Prof. Nivedita, Assistant Professor** and submitted in partial fulfilment of the course requirements for the award of degree of **Bachelor of Technology in Computer Science and Engineering of PES University, Bengaluru** during the academic semester AUG – DEC 2023.

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## **ABSTRACT**

The Hotel Reservation System is a database-driven application designed to streamline hotel booking, room allocation, and guest management processes. The system provides a centralized platform that eliminates the inefficiencies of manual reservation handling, reduces booking conflicts, and ensures data accuracy. Developed using MySQL as the database backend and Streamlit for the user interface, the system incorporates essential DBMS concepts including relational schema, ER modeling, triggers, functions, and stored procedures. It supports multiple hotels, room types, and guests, and enables administrators to manage reservations in real time. Features such as automated room status updates, secure admin login, and payment logging improve operational efficiency and maintain data integrity. Overall, this project demonstrates a comprehensive and scalable approach to hotel management automation, highlighting effective utilization of database technologies and modern UI integration.

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# 1. INTRODUCTION

This project presents a **Hotel Reservation System** designed using **MySQL** as the backend database and **Python Flask along with HTML** as the user interface.

The system automates:

- Room booking
- Guest management
- Reservation tracking
- Payment logging
- Room status updates

This project demonstrates DBMS concepts such as:

- ER Diagrams
- Relational schema
- Triggers
- Stored procedures
- Functions
- Transactions
- Front-end integration

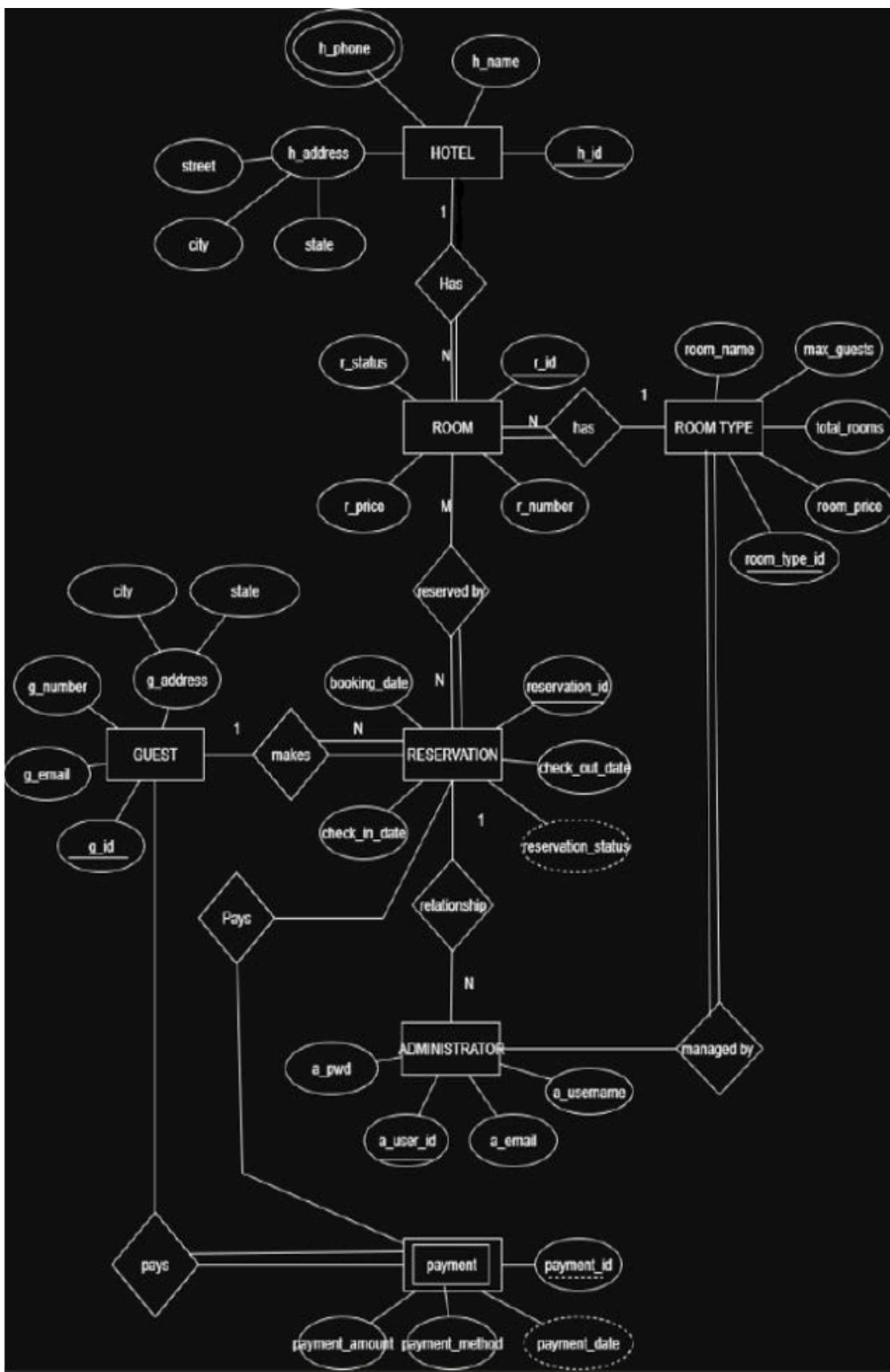
## **2. PROBLEM DEFINITION**

Manual hotel reservation systems often suffer from:

- Double booking
- Data duplication
- Difficulty in tracking room availability
- No centralized control
- Human errors

The goal of this project is to build a centralized and automated reservation system that provides accurate, real-time updates and supports hotel administrators in managing bookings efficiently.

### 3. ER MODEL

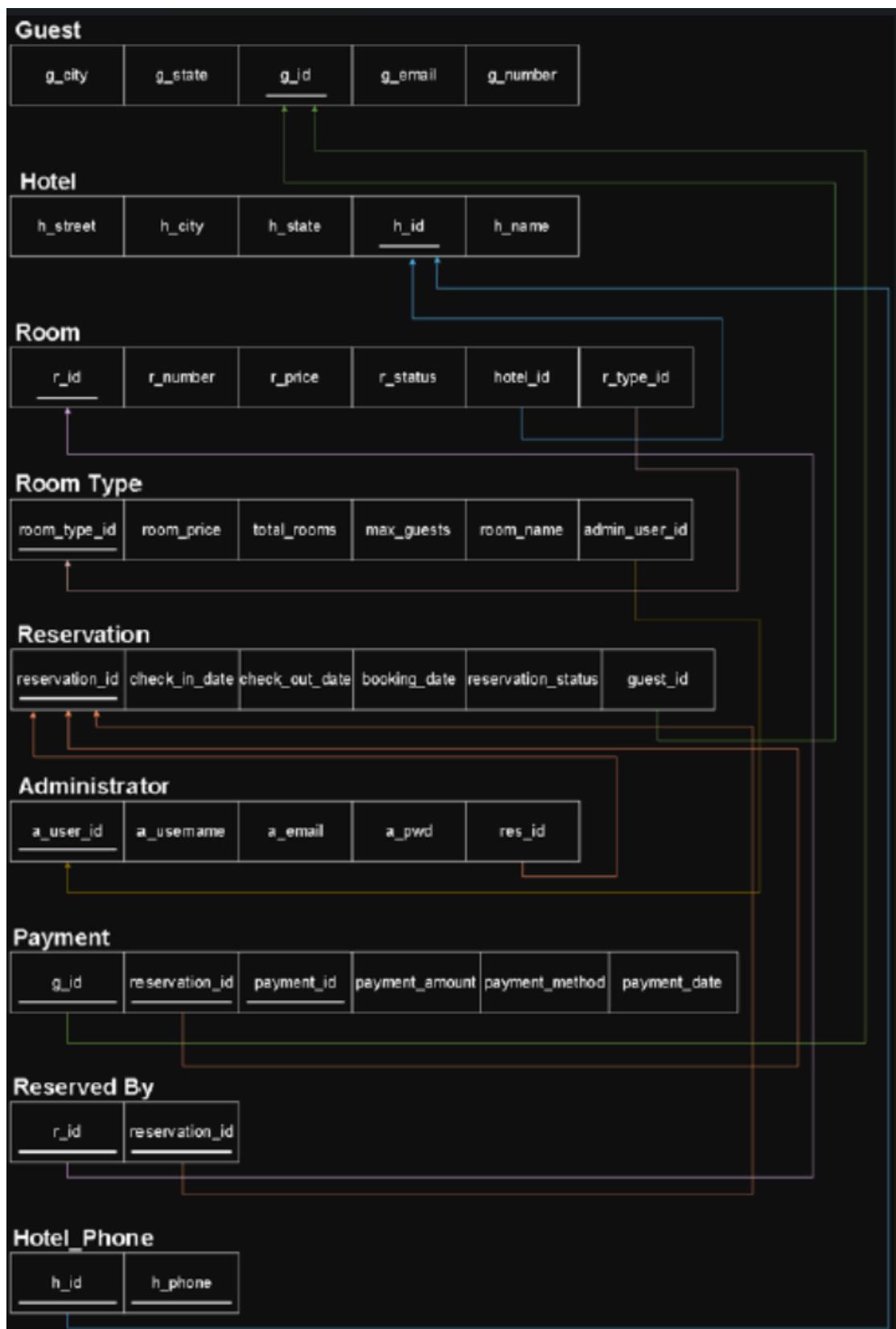


## **4. ER TO RELATIONAL MAPPING**

### **4.1 STEPS OF ALGORITHM FOR CHOSEN PROBLEM**

1. Mapping Strong Entities
2. Mapping Weak Entities
3. Mapping 1:N Relationships
4. Mapping M:N Relationships
5. Mapping Multivalued Attributes
6. Mapping Composite Attributes
7. Mapping Derived Attributes

## 4.2 COMPLETE DIAGRAM OF RELATIONAL MAPPING



## 5. DDL STATEMENTS

```
mysql> CREATE DATABASE Hotel_Management_System;
Query OK, 1 row affected (0.03 sec)

mysql> USE Hotel_Management_System;
Database changed
```

```
mysql> CREATE TABLE Guest (
    ->     g_id INT PRIMARY KEY AUTO_INCREMENT,
    ->     g_name VARCHAR(50),
    ->     g_email VARCHAR(100) UNIQUE,
    ->     g_number VARCHAR(15),
    ->     g_city VARCHAR(50),
    ->     g_state VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESCRIBE Guest;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra        |
+-----+-----+-----+-----+-----+-----+
| g_id  | int    | NO   | PRI   | NULL    | auto_increment |
| g_name | varchar(50) | YES  |       | NULL    |               |
| g_email | varchar(100) | YES  | UNI   | NULL    |               |
| g_number | varchar(15) | YES  |       | NULL    |               |
| g_city  | varchar(50) | YES  |       | NULL    |               |
| g_state | varchar(50) | YES  |       | NULL    |               |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.06 sec)

mysql>
mysql> CREATE TABLE Hotel (
    ->     h_id INT PRIMARY KEY AUTO_INCREMENT,
    ->     h_name VARCHAR(100),
    ->     h_street VARCHAR(100),
    ->     h_city VARCHAR(50),
    ->     h_state VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.01 sec)

mysql> DESCRIBE Hotel;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra        |
+-----+-----+-----+-----+-----+-----+
| h_id  | int    | NO   | PRI   | NULL    | auto_increment |
| h_name | varchar(100) | YES  |       | NULL    |               |
| h_street | varchar(100) | YES  |       | NULL    |               |
| h_city  | varchar(50) | YES  |       | NULL    |               |
| h_state | varchar(50) | YES  |       | NULL    |               |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
mysql> CREATE TABLE Room_Type (
    ->     room_type_id INT PRIMARY KEY AUTO_INCREMENT,
    ->     room_name VARCHAR(50),
    ->     room_price DECIMAL(10,2),
    ->     total_rooms INT,
    ->     max_guests INT,
    ->     admin_user_id INT
```

```

->      admin_user_id INT
-> );
Query OK, 0 rows affected (0.02 sec)

mysql> DESCRIBE Room_Type;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| room_type_id | int | NO | PRI | NULL | auto_increment |
| room_name | varchar(50) | YES | | NULL |
| room_price | decimal(10,2) | YES | | NULL |
| total_rooms | int | YES | | NULL |
| max_guests | int | YES | | NULL |
| admin_user_id | int | YES | | NULL |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
mysql> CREATE TABLE Room (
->      r_id INT PRIMARY KEY AUTO_INCREMENT,
->      r_number VARCHAR(10),
->      r_price DECIMAL(10,2),
->      r_status VARCHAR(20),
->      hotel_id INT,
->      r_type_id INT,
->      FOREIGN KEY (hotel_id) REFERENCES Hotel(h_id),
->      FOREIGN KEY (r_type_id) REFERENCES Room_Type(room_type_id)
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESCRIBE Room;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| r_id | int | NO | PRI | NULL | auto_increment |
| r_number | varchar(10) | YES | | NULL |
| r_price | decimal(10,2) | YES | | NULL |
| r_status | varchar(20) | YES | | NULL |
| hotel_id | int | YES | MUL | NULL |
| r_type_id | int | YES | MUL | NULL |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
mysql> CREATE TABLE Reservation (
->      reservation_id INT PRIMARY KEY AUTO_INCREMENT,
->      guest_id INT,
->      check_in_date DATE,
->      check_out_date DATE,
->      booking_date DATE,
->      reservation_status VARCHAR(20),
->      FOREIGN KEY (guest_id) REFERENCES Guest(g_id)
-> );

```

```

->      FOREIGN KEY (guest_id) REFERENCES Guest(g_id)
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESCRIBE Reservation;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| reservation_id | int | NO | PRI | NULL | auto_increment |
| guest_id | int | YES | MUL | NULL | |
| check_in_date | date | YES | | NULL | |
| check_out_date | date | YES | | NULL | |
| booking_date | date | YES | | NULL | |
| reservation_status | varchar(20) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
mysql> CREATE TABLE Administrator (
->     a_user_id INT PRIMARY KEY AUTO_INCREMENT,
->     a_username VARCHAR(50) UNIQUE,
->     a_email VARCHAR(100),
->     a_pwd VARCHAR(50),
->     res_id INT,
->     FOREIGN KEY (res_id) REFERENCES Reservation(reservation_id)
-> );
Query OK, 0 rows affected (0.03 sec)

mysql> DESCRIBE Administrator;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| a_user_id | int | NO | PRI | NULL | auto_increment |
| a_username | varchar(50) | YES | UNI | NULL | |
| a_email | varchar(100) | YES | | NULL | |
| a_pwd | varchar(50) | YES | | NULL | |
| res_id | int | YES | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
mysql> CREATE TABLE Payment (
->     payment_id INT PRIMARY KEY AUTO_INCREMENT,
->     g_id INT,
->     reservation_id INT,
->     payment_amount DECIMAL(10, 2),
->     payment_method VARCHAR(30),
->     payment_date DATE,
->     FOREIGN KEY (g_id) REFERENCES Guest(g_id),
->     FOREIGN KEY (reservation_id) REFERENCES Reservation(reservation_id)
-> );
Query OK, 0 rows affected (0.06 sec)

```

```

->      FOREIGN KEY (reservation_id) REFERENCES Reservation(reservation_id)
-> );
Query OK, 0 rows affected (0.06 sec)

mysql> DESCRIBE Payment;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| payment_id | int | NO | PRI | NULL | auto_increment |
| g_id | int | YES | MUL | NULL |
| reservation_id | int | YES | MUL | NULL |
| payment_amount | decimal(10,2) | YES | | NULL |
| payment_method | varchar(30) | YES | | NULL |
| payment_date | date | YES | | NULL |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
mysql> CREATE TABLE Reserved_By (
->     r_id INT,
->     reservation_id INT,
->     PRIMARY KEY (r_id, reservation_id),
->     FOREIGN KEY (r_id) REFERENCES Room(r_id),
->     FOREIGN KEY (reservation_id) REFERENCES Reservation(reservation_id)
-> );
Query OK, 0 rows affected (0.05 sec)

mysql> DESCRIBE Reserved_By;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| r_id | int | NO | PRI | NULL |
| reservation_id | int | NO | PRI | NULL |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>
mysql> CREATE TABLE Hotel_Phone (
->     h_id INT,
->     h_phone VARCHAR(15),
->     PRIMARY KEY (h_id, h_phone),
->     FOREIGN KEY (h_id) REFERENCES Hotel(h_id)
-> );
Query OK, 0 rows affected (0.02 sec)

mysql> DESCRIBE Hotel_Phone;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| h_id | int | NO | PRI | NULL |
| h_phone | varchar(15) | NO | PRI | NULL |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

```

```
mysql> CREATE TABLE Payment_Log (
->     log_id INT AUTO_INCREMENT PRIMARY KEY,
->     payment_id INT,
->     log_message VARCHAR(255),
->     log_time TIMESTAMP DEFAULT CURRENT_TIMESTAMP
-> );
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> DESCRIBE Payment_Log;
```

Field	Type	Null	Key	Default	Extra
log_id	int	NO	PRI	NULL	auto_increment
payment_id	int	YES		NULL	
log_message	varchar(255)	YES		NULL	
log_time	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED

```
4 rows in set (0.00 sec)
```

## 6. DML STATEMENTS

```
mysql> INSERT INTO Hotel (h_name, h_street, h_city, h_state) VALUES
-> ('Taj Palace', 'MG Road', 'Delhi', 'Delhi'),
-> ('Oberoi Grand', 'Park Street', 'Kolkata', 'West Bengal'),
-> ('The Leela Palace', 'Bhikaji Cama Place', 'New Delhi', 'Delhi'),
-> ('ITC Maurya', 'Sardar Patel Marg', 'New Delhi', 'Delhi'),
-> ('Radisson Blu', 'Mahipalpur', 'New Delhi', 'Delhi'),
-> ('Hilton Mumbai', 'Nariman Point', 'Mumbai', 'Maharashtra'),
-> ('Marriott Bangalore', 'Whitefield', 'Bangalore', 'Karnataka'),
-> ('Hyatt Bangalore', 'Koramangala', 'Bangalore', 'Karnataka');
Query OK, 8 rows affected (0.00 sec)
Records: 8  Duplicates: 0  Warnings: 0

mysql>
mysql> SELECT * FROM Hotel;
+-----+-----+-----+-----+
| h_id | h_name      | h_street    | h_city     | h_state   |
+-----+-----+-----+-----+
| 1   | Taj Palace   | MG Road     | Delhi      | Delhi     |
| 2   | Oberoi Grand | Park Street | Kolkata    | West Bengal |
| 3   | The Leela Palace | Bhikaji Cama Place | New Delhi | Delhi |
| 4   | ITC Maurya   | Sardar Patel Marg | New Delhi | Delhi |
| 5   | Radisson Blu | Mahipalpur | New Delhi | Delhi |
| 6   | Hilton Mumbai | Nariman Point | Mumbai    | Maharashtra |
| 7   | Marriott Bangalore | Whitefield | Bangalore | Karnataka |
| 8   | Hyatt Bangalore | Koramangala | Bangalore | Karnataka |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql>
mysql> --- =====
mysql> --- INSERT ROOM TYPES
mysql> --- =====
mysql>
mysql> INSERT INTO Room_Type (room_name, room_price, total_rooms, max_guests, admin_user_id) VALUES
-> ('Single Room', 2500, 30, 1, NULL),
-> ('Deluxe', 4000, 40, 2, NULL),
-> ('Double Bed', 4500, 35, 2, NULL),
-> ('Suite', 7000, 20, 4, NULL),
-> ('Presidential Suite', 15000, 5, 6, NULL),
-> ('Twin Bed', 3500, 25, 2, NULL),
-> ('Family Room', 6000, 15, 4, NULL);
Query OK, 7 rows affected (0.00 sec)
Records: 7  Duplicates: 0  Warnings: 0

mysql>
mysql> SELECT * FROM Room_Type;
+-----+-----+-----+-----+-----+-----+
| room_type_id | room_name      | room_price | total_rooms | max_guests | admin_user_id |
+-----+-----+-----+-----+-----+-----+
| 1 | Single Room   | 2500.00    | 30 | 1 | NULL |
| 2 | Deluxe         | 4000.00    | 40 | 2 | NULL |
| 3 | Double Bed    | 4500.00    | 35 | 2 | NULL |
| 4 | Suite          | 7000.00    | 20 | 4 | NULL |
+-----+-----+-----+-----+-----+
```

3	Double Bed	4500.00		35	2	NULL
4	Suite	7000.00		20	4	NULL
5	Presidential Suite	15000.00		5	6	NULL
6	Twin Bed	3500.00		25	2	NULL
7	Family Room	6000.00		15	4	NULL

7 rows in set (0.00 sec)

```

mysql>
mysql> -- =====
mysql> -- INSERT ROOMS FOR HOTELS
mysql> -- =====
mysql>
mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 2500, 'Available', 1, 1),
-> ('S102', 2500, 'Available', 1, 1),
-> ('S103', 2500, 'Available', 1, 1),
-> ('S104', 2500, 'Available', 1, 1),
-> ('S105', 2500, 'Available', 1, 1),
-> ('D201', 4000, 'Available', 1, 2),
-> ('D202', 4000, 'Available', 1, 2),
-> ('D203', 4000, 'Available', 1, 2),
-> ('D204', 4000, 'Available', 1, 2),
-> ('D205', 4000, 'Available', 1, 2),
-> ('DB301', 4500, 'Available', 1, 3),
-> ('DB302', 4500, 'Available', 1, 3),
-> ('DB303', 4500, 'Available', 1, 3),
-> ('SU401', 7000, 'Available', 1, 4),
-> ('SU402', 7000, 'Available', 1, 4),
-> ('PS501', 15000, 'Available', 1, 5);
Query OK, 16 rows affected (0.01 sec)
Records: 16  Duplicates: 0  Warnings: 0

```

```

mysql>
mysql> SELECT * FROM Room WHERE hotel_id = 1;
+-----+-----+-----+-----+-----+-----+
| r_id | r_number | r_price | r_status | hotel_id | r_type_id |
+-----+-----+-----+-----+-----+-----+
| 1   | S101    | 2500.00 | Available | 1        | 1        |
| 2   | S102    | 2500.00 | Available | 1        | 1        |
| 3   | S103    | 2500.00 | Available | 1        | 1        |
| 4   | S104    | 2500.00 | Available | 1        | 1        |
| 5   | S105    | 2500.00 | Available | 1        | 1        |
| 6   | D201    | 4000.00 | Available | 1        | 2        |
| 7   | D202    | 4000.00 | Available | 1        | 2        |
| 8   | D203    | 4000.00 | Available | 1        | 2        |
| 9   | D204    | 4000.00 | Available | 1        | 2        |
| 10  | D205    | 4000.00 | Available | 1        | 2        |
| 11  | DB301   | 4500.00 | Available | 1        | 3        |
| 12  | DB302   | 4500.00 | Available | 1        | 3        |
| 13  | DB303   | 4500.00 | Available | 1        | 3        |
| 14  | SU401   | 7000.00 | Available | 1        | 4        |
| 15  | SU402   | 7000.00 | Available | 1        | 4        |
+-----+-----+-----+-----+-----+-----+

```

13	DB303	4500.00	Available	1	3
14	SU401	7000.00	Available	1	4
15	SU402	7000.00	Available	1	4
16	PS501	15000.00	Available	1	5

16 rows in set (0.00 sec)

```
mysql>
mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 2800, 'Available', 2, 1),
-> ('S102', 2800, 'Available', 2, 1),
-> ('S103', 2800, 'Available', 2, 1),
-> ('S104', 2800, 'Available', 2, 1),
-> ('D201', 4500, 'Available', 2, 2),
-> ('D202', 4500, 'Available', 2, 2),
-> ('D203', 4500, 'Available', 2, 2),
-> ('D204', 4500, 'Available', 2, 2),
-> ('T301', 3800, 'Available', 2, 6),
-> ('T302', 3800, 'Available', 2, 6),
-> ('F401', 6500, 'Available', 2, 7),
-> ('F402', 6500, 'Available', 2, 7);
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

```
mysql>
mysql> SELECT * FROM Room WHERE hotel_id = 2;
+-----+-----+-----+-----+-----+-----+
| r_id | r_number | r_price | r_status | hotel_id | r_type_id |
+-----+-----+-----+-----+-----+-----+
| 17 | S101 | 2800.00 | Available | 2 | 1 |
| 18 | S102 | 2800.00 | Available | 2 | 1 |
| 19 | S103 | 2800.00 | Available | 2 | 1 |
| 20 | S104 | 2800.00 | Available | 2 | 1 |
| 21 | D201 | 4500.00 | Available | 2 | 2 |
| 22 | D202 | 4500.00 | Available | 2 | 2 |
| 23 | D203 | 4500.00 | Available | 2 | 2 |
| 24 | D204 | 4500.00 | Available | 2 | 2 |
| 25 | T301 | 3800.00 | Available | 2 | 6 |
| 26 | T302 | 3800.00 | Available | 2 | 6 |
| 27 | F401 | 6500.00 | Available | 2 | 7 |
| 28 | F402 | 6500.00 | Available | 2 | 7 |
+-----+-----+-----+-----+-----+-----+
```

12 rows in set (0.00 sec)

```
mysql>
mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 3200, 'Available', 3, 1),
-> ('S102', 3200, 'Available', 3, 1),
-> ('S103', 3200, 'Available', 3, 1),
-> ('D201', 5500, 'Available', 3, 2),
-> ('D202', 5500, 'Available', 3, 2),
-> ('D203', 5500, 'Available', 3, 2),
-> ('D204', 5500, 'Available', 3, 2),
```

```
-> ('D203', 5500, 'Available', 3, 2),
-> ('D204', 5500, 'Available', 3, 2),
-> ('D205', 5500, 'Available', 3, 2),
-> ('DB301', 5200, 'Available', 3, 3),
-> ('DB302', 5200, 'Available', 3, 3),
-> ('SU401', 8500, 'Available', 3, 4),
-> ('SU402', 8500, 'Available', 3, 4),
-> ('SU403', 8500, 'Available', 3, 4);
```

Query OK, 13 rows affected (0.00 sec)

Records: 13 Duplicates: 0 Warnings: 0

mysql>

```
mysql> SELECT * FROM Room WHERE hotel_id = 3;
```

r_id	r_number	r_price	r_status	hotel_id	r_type_id
29	S101	3200.00	Available	3	1
30	S102	3200.00	Available	3	1
31	S103	3200.00	Available	3	1
32	D201	5500.00	Available	3	2
33	D202	5500.00	Available	3	2
34	D203	5500.00	Available	3	2
35	D204	5500.00	Available	3	2
36	D205	5500.00	Available	3	2
37	DB301	5200.00	Available	3	3
38	DB302	5200.00	Available	3	3
39	SU401	8500.00	Available	3	4
40	SU402	8500.00	Available	3	4
41	SU403	8500.00	Available	3	4

13 rows in set (0.00 sec)

mysql>

```
mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 3000, 'Available', 4, 1),
-> ('S102', 3000, 'Available', 4, 1),
-> ('S103', 3000, 'Available', 4, 1),
-> ('S104', 3000, 'Available', 4, 1),
-> ('D201', 5000, 'Available', 4, 2),
-> ('D202', 5000, 'Available', 4, 2),
-> ('D203', 5000, 'Available', 4, 2),
-> ('D204', 5000, 'Available', 4, 2),
-> ('DB301', 4800, 'Available', 4, 3),
-> ('DB302', 4800, 'Available', 4, 3),
-> ('DB303', 4800, 'Available', 4, 3),
-> ('F401', 7200, 'Available', 4, 7),
-> ('F402', 7200, 'Available', 4, 7);
```

Query OK, 13 rows affected (0.00 sec)

Records: 13 Duplicates: 0 Warnings: 0

mysql>

```
mysql> SELECT * FROM Room WHERE hotel_id = 4;
```

```

mysql> SELECT * FROM Room WHERE hotel_id = 4;
+-----+-----+-----+-----+-----+-----+
| r_id | r_number | r_price | r_status | hotel_id | r_type_id |
+-----+-----+-----+-----+-----+-----+
| 42  | S101    | 3000.00 | Available | 4        | 1        |
| 43  | S102    | 3000.00 | Available | 4        | 1        |
| 44  | S103    | 3000.00 | Available | 4        | 1        |
| 45  | S104    | 3000.00 | Available | 4        | 1        |
| 46  | D201    | 5000.00 | Available | 4        | 2        |
| 47  | D202    | 5000.00 | Available | 4        | 2        |
| 48  | D203    | 5000.00 | Available | 4        | 2        |
| 49  | D204    | 5000.00 | Available | 4        | 2        |
| 50  | DB301   | 4800.00 | Available | 4        | 3        |
| 51  | DB302   | 4800.00 | Available | 4        | 3        |
| 52  | DB303   | 4800.00 | Available | 4        | 3        |
| 53  | F401    | 7200.00 | Available | 4        | 7        |
| 54  | F402    | 7200.00 | Available | 4        | 7        |
+-----+-----+-----+-----+-----+-----+
13 rows in set (0.00 sec)

mysql>
mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 2200, 'Available', 5, 1),
-> ('S102', 2200, 'Available', 5, 1),
-> ('S103', 2200, 'Available', 5, 1),
-> ('S104', 2200, 'Available', 5, 1),
-> ('S105', 2200, 'Available', 5, 1),
-> ('D201', 3500, 'Available', 5, 2),
-> ('D202', 3500, 'Available', 5, 2),
-> ('D203', 3500, 'Available', 5, 2),
-> ('D204', 3500, 'Available', 5, 2),
-> ('T301', 3200, 'Available', 5, 6),
-> ('T302', 3200, 'Available', 5, 6),
-> ('T303', 3200, 'Available', 5, 6);
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0

mysql>
mysql> SELECT * FROM Room WHERE hotel_id = 5;
+-----+-----+-----+-----+-----+-----+
| r_id | r_number | r_price | r_status | hotel_id | r_type_id |
+-----+-----+-----+-----+-----+-----+
| 55  | S101    | 2200.00 | Available | 5        | 1        |
| 56  | S102    | 2200.00 | Available | 5        | 1        |
| 57  | S103    | 2200.00 | Available | 5        | 1        |
| 58  | S104    | 2200.00 | Available | 5        | 1        |
| 59  | S105    | 2200.00 | Available | 5        | 1        |
| 60  | D201    | 3500.00 | Available | 5        | 2        |
| 61  | D202    | 3500.00 | Available | 5        | 2        |
| 62  | D203    | 3500.00 | Available | 5        | 2        |
| 63  | D204    | 3500.00 | Available | 5        | 2        |
| 64  | T301    | 3200.00 | Available | 5        | 6        |
+-----+-----+-----+-----+-----+-----+

```

63	D204	3500.00	Available	5	2
64	T301	3200.00	Available	5	6
65	T302	3200.00	Available	5	6
66	T303	3200.00	Available	5	6

12 rows in set (0.00 sec)

```
mysql>
mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 3500, 'Available', 6, 1),
-> ('S102', 3500, 'Available', 6, 1),
-> ('S103', 3500, 'Available', 6, 1),
-> ('D201', 5500, 'Available', 6, 2),
-> ('D202', 5500, 'Available', 6, 2),
-> ('D203', 5500, 'Available', 6, 2),
-> ('D204', 5500, 'Available', 6, 2),
-> ('DB301', 5200, 'Available', 6, 3),
-> ('DB302', 5200, 'Available', 6, 3),
-> ('SU401', 9000, 'Available', 6, 4),
-> ('SU402', 9000, 'Available', 6, 4);
Query OK, 11 rows affected (0.00 sec)
Records: 11  Duplicates: 0  Warnings: 0
```

```
mysql>
mysql> SELECT * FROM Room WHERE hotel_id = 6;
+-----+-----+-----+-----+-----+-----+
| r_id | r_number | r_price | r_status | hotel_id | r_type_id |
+-----+-----+-----+-----+-----+-----+
| 67 | S101 | 3500.00 | Available | 6 | 1 |
| 68 | S102 | 3500.00 | Available | 6 | 1 |
| 69 | S103 | 3500.00 | Available | 6 | 1 |
| 70 | D201 | 5500.00 | Available | 6 | 2 |
| 71 | D202 | 5500.00 | Available | 6 | 2 |
| 72 | D203 | 5500.00 | Available | 6 | 2 |
| 73 | D204 | 5500.00 | Available | 6 | 2 |
| 74 | DB301 | 5200.00 | Available | 6 | 3 |
| 75 | DB302 | 5200.00 | Available | 6 | 3 |
| 76 | SU401 | 9000.00 | Available | 6 | 4 |
| 77 | SU402 | 9000.00 | Available | 6 | 4 |
+-----+-----+-----+-----+-----+-----+
```

11 rows in set (0.00 sec)

```
mysql>
mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 2800, 'Available', 7, 1),
-> ('S102', 2800, 'Available', 7, 1),
-> ('S103', 2800, 'Available', 7, 1),
-> ('D201', 4200, 'Available', 7, 2),
-> ('D202', 4200, 'Available', 7, 2),
-> ('D203', 4200, 'Available', 7, 2),
-> ('D204', 4200, 'Available', 7, 2),
-> ('D205', 4200, 'Available', 7, 2),
-> ('T301', 3800, 'Available', 7, 6),
```

```

-> ('T301', 3800, 'Available', 7, 6),
-> ('T302', 3800, 'Available', 7, 6),
-> ('F401', 6200, 'Available', 7, 7);
Query OK, 11 rows affected (0.00 sec)
Records: 11  Duplicates: 0  Warnings: 0

```

```

mysql>
mysql> SELECT * FROM Room WHERE hotel_id = 7;

```

r_id	r_number	r_price	r_status	hotel_id	r_type_id
78	S101	2800.00	Available	7	1
79	S102	2800.00	Available	7	1
80	S103	2800.00	Available	7	1
81	D201	4200.00	Available	7	2
82	D202	4200.00	Available	7	2
83	D203	4200.00	Available	7	2
84	D204	4200.00	Available	7	2
85	D205	4200.00	Available	7	2
86	T301	3800.00	Available	7	6
87	T302	3800.00	Available	7	6
88	F401	6200.00	Available	7	7

11 rows in set (0.00 sec)

```

mysql>

```

```

mysql> INSERT INTO Room (r_number, r_price, r_status, hotel_id, r_type_id) VALUES
-> ('S101', 3000, 'Available', 8, 1),
-> ('S102', 3000, 'Available', 8, 1),
-> ('D201', 4800, 'Available', 8, 2),
-> ('D202', 4800, 'Available', 8, 2),
-> ('D203', 4800, 'Available', 8, 2),
-> ('D204', 4800, 'Available', 8, 2),
-> ('DB301', 5000, 'Available', 8, 3),
-> ('DB302', 5000, 'Available', 8, 3),
-> ('SU401', 8200, 'Available', 8, 4),
-> ('SU402', 8200, 'Available', 8, 4),
-> ('F401', 6800, 'Available', 8, 7);

```

Query OK, 11 rows affected (0.00 sec)

Records: 11 Duplicates: 0 Warnings: 0

```

mysql>

```

```

mysql> SELECT * FROM Room WHERE hotel_id = 8;

```

r_id	r_number	r_price	r_status	hotel_id	r_type_id
89	S101	3000.00	Available	8	1
90	S102	3000.00	Available	8	1
91	D201	4800.00	Available	8	2
92	D202	4800.00	Available	8	2
93	D203	4800.00	Available	8	2
94	D204	4800.00	Available	8	2
95	DB301	5000.00	Available	8	3

95	DB301	5000.00	Available	8	3
96	DB302	5000.00	Available	8	3
97	SU401	8200.00	Available	8	4
98	SU402	8200.00	Available	8	4
99	F401	6800.00	Available	8	7

11 rows in set (0.00 sec)

```
mysql>
mysql> -- =====
mysql> -- INSERT HOTEL PHONE NUMBERS
mysql> -- =====
mysql>
mysql> INSERT INTO Hotel_Phone (h_id, h_phone) VALUES
-> (1, '011-23456789'),
-> (1, '011-23456790'),
-> (2, '033-22876543'),
-> (2, '033-22876544'),
-> (3, '011-41234567'),
-> (3, '011-41234568'),
-> (4, '011-26117777'),
-> (4, '011-26117778'),
-> (5, '011-41657777'),
-> (5, '011-41657778'),
-> (6, '022-61322323'),
-> (6, '022-61322324'),
-> (7, '080-41234567'),
-> (7, '080-41234568'),
-> (8, '080-41515151'),
-> (8, '080-41515152');
```

Query OK, 16 rows affected (0.00 sec)

Records: 16 Duplicates: 0 Warnings: 0

```
mysql>
mysql> SELECT * FROM Hotel_Phone;
```

h_id	h_phone
1	011-23456789
1	011-23456790
2	033-22876543
2	033-22876544
3	011-41234567
3	011-41234568
4	011-26117777
4	011-26117778
5	011-41657777
5	011-41657778
6	022-61322323
6	022-61322324
7	080-41234567
7	080-41234568
8	080-41515151

```

| 7 | 080-41234568 |
| 8 | 080-41515151 |
| 8 | 080-41515152 |
+-----+
16 rows in set (0.00 sec)

mysql>
mysql> -- =====
mysql> -- INSERT ADMIN USERS
mysql> -- =====
mysql>
mysql> INSERT INTO Administrator (a_username, a_email, a_pwd, res_id) VALUES
-> ('admin_taj', 'admin@tajpalace.com', 'admin123', NULL),
-> ('admin_oberoi', 'admin@oberoi.com', 'admin123', NULL),
-> ('admin_leela', 'admin@leela.com', 'admin123', NULL),
-> ('admin_itc', 'admin@itc.com', 'admin123', NULL),
-> ('admin_radisson', 'admin@radisson.com', 'admin123', NULL),
-> ('admin_hilton', 'admin@hilton.com', 'admin123', NULL),
-> ('admin_marriott', 'admin@marriott.com', 'admin123', NULL),
-> ('admin_hyatt', 'admin@hyatt.com', 'admin123', NULL);
Query OK, 8 rows affected (0.00 sec)
Records: 8  Duplicates: 0  Warnings: 0

mysql>
mysql> SELECT * FROM Administrator;
+-----+-----+-----+-----+-----+
| a_user_id | a_username | a_email | a_pwd | res_id |
+-----+-----+-----+-----+-----+
| 1 | admin_taj | admin@tajpalace.com | admin123 | NULL |
| 2 | admin_oberoi | admin@oberoi.com | admin123 | NULL |
| 3 | admin_leela | admin@leela.com | admin123 | NULL |
| 4 | admin_itc | admin@itc.com | admin123 | NULL |
| 5 | admin_radisson | admin@radisson.com | admin123 | NULL |
| 6 | admin_hilton | admin@hilton.com | admin123 | NULL |
| 7 | admin_marriott | admin@marriott.com | admin123 | NULL |
| 8 | admin_hyatt | admin@hyatt.com | admin123 | NULL |
+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

```

## 7. QUERIES

### 7.1 SIMPLE QUERY WITH GROUP BY, AGGREGATE

```
mysql> SELECT h.h_name, COUNT(r.r_id) AS total_rooms
-> FROM Hotel h
-> LEFT JOIN Room r ON h.h_id = r.hotel_id
-> GROUP BY h.h_id, h.h_name;
+-----+-----+
| h_name          | total_rooms |
+-----+-----+
| Taj Palace      |        16 |
| Oberoi Grand   |        12 |
| The Leela Palace |       13 |
| ITC Maurya     |       13 |
| Radisson Blu   |        12 |
| Hilton Mumbai   |        11 |
| Marriott Bangalore |       11 |
| Hyatt Bangalore |        11 |
+-----+
8 rows in set (0.00 sec)
```

## 7.2 UPDATE OPERATION

```
mysql> UPDATE Room
      -> SET r_status = 'Booked'
      -> WHERE r_id = 1;
Query OK, 1 row affected (0.13 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>
mysql> SELECT * FROM Room WHERE r_id = 1;
+-----+-----+-----+-----+-----+
| r_id | r_number | r_price | r_status | hotel_id | r_type_id |
+-----+-----+-----+-----+-----+
|    1 | S101     | 2500.00 | Booked   |        1 |         1 |
+-----+-----+-----+-----+-----+
1 row in set (0.01 sec)
```

## 7.3 DELETE OPERATION

```
mysql> DELETE FROM Hotel_Phone  
      -> WHERE h_phone = '011-23456790';  
Query OK, 1 row affected (0.01 sec)  
  
mysql>  
mysql> SELECT * FROM Hotel_Phone WHERE h_id = 1;  
+-----+-----+  
| h_id | h_phone |  
+-----+-----+  
|    1 | 011-23456789 |  
+-----+-----+  
1 row in set (0.00 sec)
```

## 7.4 CORRELATED QUERY

```
mysql> INSERT INTO Guest (g_name, g_email, g_number, g_city, g_state)
-> VALUES
-> ('Riya Sharma', 'riya@gmail.com', '9876543210', 'Delhi', 'Delhi'),
-> ('Aditi Mehta', 'aditi@gmail.com', '9988776655', 'Mumbai', 'Maharashtra');
Query OK, 2 rows affected (0.01 sec)
Records: 2  Duplicates: 0  Warnings: 0

mysql>
mysql> SELECT * FROM Guest;
+-----+-----+-----+-----+-----+
| g_id | g_name      | g_email        | g_number | g_city    | g_state   |
+-----+-----+-----+-----+-----+
| 1   | Riya Sharma | riya@gmail.com | 9876543210 | Delhi     | Delhi     |
| 2   | Aditi Mehta | aditi@gmail.com | 9988776655 | Mumbai    | Maharashtra |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>
mysql> -- Insert sample reservations
mysql> INSERT INTO Reservation (guest_id, check_in_date, check_out_date, booking_date, reservation_status)
-> VALUES
-> (1, '2025-11-10', '2025-11-12', CURDATE(), 'Booked'),
-> (2, '2025-12-01', '2025-12-03', CURDATE(), 'Booked');
Query OK, 2 rows affected (0.00 sec)
Records: 2  Duplicates: 0  Warnings: 0

mysql>
mysql> SELECT * FROM Reservation;
+-----+-----+-----+-----+-----+-----+
| reservation_id | guest_id | check_in_date | check_out_date | booking_date | reservation_status |
+-----+-----+-----+-----+-----+
| 1             | 1         | 2025-11-10   | 2025-11-12   | 2025-11-10   | Booked       |
| 2             | 2         | 2025-12-01   | 2025-12-03   | 2025-11-10   | Booked       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> SELECT g.g_name
-> FROM Guest g
-> WHERE EXISTS (
->     SELECT 1
->     FROM Reservation r
->     WHERE r.guest_id = g.g_id
-> );
+-----+
| g_name      |
+-----+
| Riya Sharma |
| Aditi Mehta |
+-----+
2 rows in set (0.01 sec)
```

## 7.5 NESTED QUERY

```
mysql> SELECT h_name
-> FROM Hotel
-> WHERE h_id IN (
->     SELECT hotel_id
->     FROM Room
->     WHERE r_price > (SELECT AVG(r_price) FROM Room)
-> );
+-----+
| h_name |
+-----+
| Taj Palace
| Oberoi Grand
| The Leela Palace
| ITC Maurya
| Hilton Mumbai
| Marriott Bangalore
| Hyatt Bangalore
+-----+
7 rows in set (0.02 sec)
```

## 8. STORED PROCEDURES, FUNCTIONS AND TRIGGERS

### 8.1 STORED PROCEDURES OR FUNCTIONS

```
mysql> DELIMITER $$  
mysql> CREATE PROCEDURE sp_BookRoom(  
    -->     IN p_guest_id INT,  
    -->     IN p_room_id INT,  
    -->     IN p_checkin DATE,  
    -->     IN p_checkout DATE  
--> )  
--> BEGIN  
-->     DECLARE new_res_id INT;  
-->     INSERT INTO Reservation (guest_id, check_in_date, check_out_date, booking_date, reservation_status)  
-->         VALUES (p_guest_id, p_checkin, p_checkout, CURDATE(), 'Booked');  
-->     SET new_res_id = LAST_INSERT_ID();  
-->     INSERT INTO Reserved_By (r_id, reservation_id)  
-->         VALUES (p_room_id, new_res_id);  
-->     UPDATE Room  
-->         SET r_status = 'Booked'  
-->         WHERE r_id = p_room_id;  
--> END$$  
Query OK, 0 rows affected (0.02 sec)  
  
mysql> DELIMITER ;  
mysql>  
mysql> CALL sp_BookRoom(1, 1, '2025-11-15', '2025-11-18');  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> SELECT * FROM Reservation ORDER BY reservation_id DESC LIMIT 1;  
+-----+-----+-----+-----+-----+-----+  
| reservation_id | guest_id | check_in_date | check_out_date | booking_date | reservation_status |  
+-----+-----+-----+-----+-----+-----+  
| 99683 | 1 | 2025-11-15 | 2025-11-18 | 2025-11-13 | Booked |  
+-----+-----+-----+-----+-----+-----+  
1 row in set (0.00 sec)  
  
mysql> SELECT * FROM Room WHERE r_id = 1;  
+-----+-----+-----+-----+-----+-----+  
| r_id | r_number | r_price | r_status | hotel_id | r_type_id |  
+-----+-----+-----+-----+-----+-----+  
| 1 | S101 | 2500.00 | Booked | 1 | 1 |  
+-----+-----+-----+-----+-----+-----+  
1 row in set (0.00 sec)
```

```

mysql> DELIMITER $$  

mysql> CREATE PROCEDURE sp_CancelReservation(IN p_reservation_id INT)  

-> BEGIN  

->     DECLARE v_room_id INT;  

->     SELECT r_id INTO v_room_id  

->     FROM Reserved_By  

->     WHERE reservation_id = p_reservation_id;  

->     UPDATE Reservation  

->     SET reservation_status = 'Cancelled'  

->     WHERE reservation_id = p_reservation_id;  

->     UPDATE Room  

->     SET r_status = 'Available'  

->     WHERE r_id = v_room_id;  

-> END$$  

Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;  

mysql>  

mysql> CALL sp_CancelReservation(1);  

Query OK, 0 rows affected (0.01 sec)

mysql> SELECT reservation_id, reservation_status FROM Reservation WHERE reservation_id = 1;  

+-----+-----+
| reservation_id | reservation_status |
+-----+-----+
|          1 | Cancelled        |
+-----+-----+
1 row in set (0.00 sec)

```

```

mysql> DELIMITER $$  

mysql> CREATE FUNCTION fn_StayDuration(p_checkin DATE, p_checkout DATE)  

-> RETURNS INT  

-> DETERMINISTIC  

-> BEGIN  

->     RETURN DATEDIFF(p_checkout, p_checkin);  

-> END$$  

Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;  

mysql>  

mysql> SELECT fn_StayDuration('2025-11-10', '2025-11-12') AS Stay_Duration;  

+-----+
| Stay_Duration |
+-----+
|          2 |
+-----+
1 row in set (0.00 sec)

```

## 8.2 TRIGGERS

```
mysql> DELIMITER $$  
mysql> CREATE TRIGGER trg_UpdateRoomStatus  
    -> AFTER INSERT ON Reserved_By  
    -> FOR EACH ROW  
    -> BEGIN  
    ->     UPDATE Room  
    ->     SET r_status = 'Booked'  
    ->     WHERE r_id = NEW.r_id;  
    -> END$$  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> DELIMITER ;  
mysql>  
mysql> INSERT INTO Reserved_By (r_id, reservation_id) VALUES (2, 2);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> SELECT r_id, r_status FROM Room WHERE r_id = 2;  
+----+-----+  
| r_id | r_status |  
+----+-----+  
| 2   | Booked  |  
+----+-----+  
1 row in set (0.00 sec)
```

```
mysql> DELIMITER $$  
mysql> CREATE TRIGGER trg_PaymentLog  
    -> AFTER INSERT ON Payment  
    -> FOR EACH ROW  
    -> BEGIN  
    ->     INSERT INTO Payment_Log (payment_id, log_message)  
    ->     VALUES (NEW.payment_id, CONCAT('Payment of ₹', NEW.payment_amount, ' received via ', NEW.payment_method));  
    -> END$$  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> DELIMITER ;  
mysql>  
mysql> INSERT INTO Payment (g_id, reservation_id, payment_amount, payment_method, payment_date)  
    -> VALUES (1, 1, 6000, 'UPI', CURDATE());  
Query OK, 1 row affected (0.01 sec)  
  
mysql> SELECT * FROM Payment_Log ORDER BY log_id DESC LIMIT 5;  
+----+-----+-----+-----+  
| log_id | payment_id | log_message           | log_time      |  
+----+-----+-----+-----+  
| 1     | 4       | Payment of ₹6000.00 received via UPI | 2025-11-13 19:05:16 |  
+----+-----+-----+-----+  
1 row in set (0.00 sec)
```

## 9. FRONT END DEVELOPMENT



### Hotel Management

Guest      Admin

Full Name \*

Email Address \*

Phone Number

City

State

sanjana

Logout

Welcome, sanjana!

Book Room    My Reservations    Make Payment

---

#### Book a Room

Select Hotel \*

sanjana

Welcome, sanjana!

Logout Book Room My Reservations Make Payment

**Make Payment**

Select Reservation to Pay \*

Reservation 1012 - Room D201 (2025-11-14 to 2025-11-18)

**Total Amount to Pay**

₹ 16,800

Payment Method \*

Net Banking

**Process Payment**

Hotel Management

Guest Admin

Username  
admin\_oberoi

Password  
\*\*\*\*\*

**Admin Login**

ADMIN

admin\_oberoi

Logout

## Admin Dashboard

All Reservations   Room Status   Payment Logs

### All Reservations

Res ID	Guest Name	Email	Check-In	Check-Out	Room	Status
1009	sanjana	sanjana@gmail.com	2025-11-10	2025-11-14	F402	<span>Booked</span>
1005	risu	risu@abc.com	2025-11-07	2025-11-09	S101	<span>Booked</span>

Total Reservations: 2

admin\_oberoi

All Reservations   Room Status   Payment Logs

Logout

### Room Status

Room Number	Type	Price (₹)	Status
S101	Single Room	2800.00	<span>Booked</span>
S102	Single Room	2800.00	<span>Available</span>
S103	Single Room	2800.00	<span>Available</span>
S104	Single Room	2800.00	<span>Available</span>
D201	Deluxe	4500.00	<span>Available</span>
D202	Deluxe	4500.00	<span>Available</span>
D203	Deluxe	4500.00	<span>Available</span>
D204	Deluxe	4500.00	<span>Available</span>
T301	Twin Bed	3800.00	<span>Available</span>

ADMIN

admin\_oberoi

Logout

## Admin Dashboard

All Reservations   Room Status   Payment Logs

### Payment Logs

Log ID	Payment ID	Guest Name	Room	Message	Timestamp
4	5	sanjana	SU403	Payment of ₹25500.00 via Card	2025-11-13 11:44:04
5	5	sanjana	SU403	Payment of ₹25500.0 received via Card	2025-11-13 11:44:04
3	4	risu	F401	Payment of ₹24800.0 received via UPI	2025-11-07 14:18:54
2	3	risu	S101	Payment of ₹5600.0 received via Card	2025-11-07 08:41:47
1	2	sanjana	D201	Payment of ₹7000.0 received via Net Banking	2025-11-06 22:27:21

Total Payment Logs: 5

## REFERENCES

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# APPENDIX A DEFINITIONS, ACRONYMS AND ABBREVIATIONS

## A.1 Definitions

<u>Term</u>	<u>Definition</u>
Database	An organized collection of structured information stored electronically.
Reservation	A booking made by a guest for a hotel room for a specific date range.
Room Status	Indicates whether a hotel room is <i>Available</i> , <i>Booked</i> , <i>Occupied</i> , or <i>Under Maintenance</i> .
Trigger	A database object that automatically executes when an event occurs (INSERT/UPDATE/DELETE).
Stored Procedure	A reusable block of SQL statements stored in the database and executed when called.
Foreign Key	A constraint used to link two database tables based on a related column.
Frontend	User interface part of the application that users interact with (HTML/CSS/Jinja templates).
Backend	Server-side logic that processes data, executes queries, and manages application flow (Flask).

## A.2 Acronyms

<u>Acronym</u>	<u>Meaning</u>
DBMS	Database Management System
SQL	Structured Query Language
UI	User Interface
CRUD	Create, Read, Update, Delete
HTML	HyperText Markup Language
CSS	Cascading Style Sheets

API	Application Programming Interface
IDE	Integrated Development Environment

### A.3 Abbreviations Used in the Database

<u>Abbreviation</u>	<u>Meaning</u>
g_id	Guest ID
h_id	Hotel ID
r_id	Room ID
room_type_id	Room Type ID
reservation_id	Reservation ID
a_user_id	Administrator User ID
payment_id	Payment ID
res_id	Reservation ID (in Administrator table)

## **GITHUB REPO LINK**

<https://github.com/RisuKumari11/hotel-reservation-system>