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HOTEL MANAGEMENT DATABASE SYSTEM

CIT470 GROUP PROJECT

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PART I: Business Rules and Data Modeling

Executive Summary

Hotel Management System is an information system which streamlines day to day business operations in hotels and helps the management team deliver excellent guest experience. In this project, we will explore the business case operations, the main actors, processes, and events of the system database. The Hotel Management System has transformed the hotel industry to become more efficient and provide better services at minimized cost. It allowed a hotel or group of hotels to handle functions such as reservation booking, guest check-in/out, room pricing, and invoicing.

Traditionally, hotel management systems were restricted to on-premises solutions, which required clients to install it on PCs at their physical location. Recently, service users have been able to operate their software system in its entirety from anywhere they have access to internet connection.

The key features and functionalities include, Hotel Web Booking Engine Software, Front Desk System, Housekeeping Solution, Billing and Invoicing System, Reporting and Analytics Solutions, etc. A sophisticated hotel management system can combine all that complexity into one centralized location by keeping precise records of all the work that have to be done. It will allow the hotel customers the ability to select the options they desire in an easy-to-use way. Further, reservations are received from numerous channels, which must all be linked to a centralized hotel payment and invoicing system.

In this project, we have developed a database system which is one of the most crucial aspects of the hotel management system.

Business Rules

In the Hotel Management System database, there are the following core primary building blocks i.e., entity and their attributes.

Hotel– This entity comprises details of hotel attributes that include Hotel ID, Hotel Name, and Hotel Location. The Hotel ID uniquely identifies the hotel which makes it the primary key of this entity.

Customer– Customer entity contains important attributes applicable to this service such as Customer ID, Customer First Name, Customer Last Name, Customer Email Address, Customer Phone Number, and Customer Address. Customer ID has to always be unique to represent each customer distinctively.

Room – This entity consists of room-related data that mostly includes Room ID, Room Number, Room Type, Room Price, Room Availability, and Hotel ID. Each room is assigned a different Room ID that serves as a primary key.

Reservation- Any data related to bookings fall under this entity. The attributes consist of Reservation ID, Reservation Date, and Reservation Period. The Reservation ID is a primary key of this entity.

Payment- This entity is composed of payment attributes, namely Payment ID, Payment Date, and Payment Method. The Payment ID is a unique identifier of the Payment entity, so primary key.

Review – Customer Reviews will be stored in this entity. It consists of Review ID, Feedback, Rate. The Review ID will be assigned to identify the table.

Invoice – This entity contains details of invoice. Invoice ID, Issue Date will be attributes, and while Invoice ID is primary key.

Entities	Business Rule that describes the attributes of the given entities

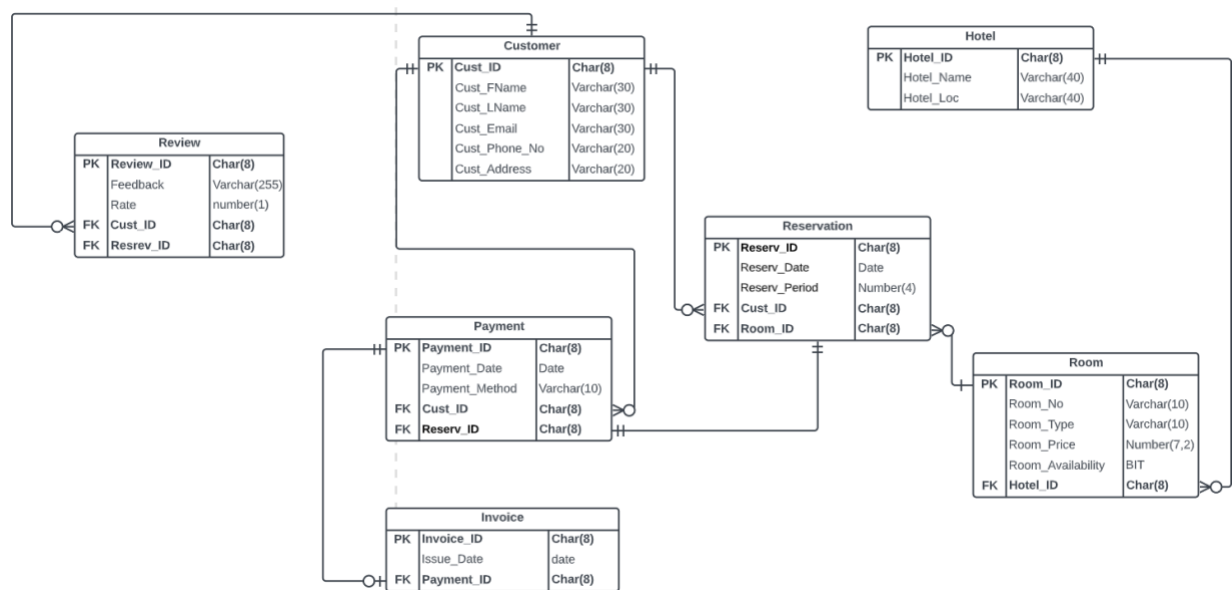
Hotel	Hotel ID: Identification code given for each hotel.
	Hotel Name: The name of the hotel
	Hotel Location: The location of the hotel
Customer	Customer ID: Identity code assigned to a person
	Customer First Name: The first name of the customer
	Customer Last Name: The last name of the customer
	Customer Email Address: Email address of the person
	Customer Phone Number: Phone number of the customer
	Customer Address: An address the person currently lives in
Room	Room ID: A code given to each room
	Room Number: Hotel room number
	Room Type: Whether the room is family or standard
	Room Price : The price set for each room
	Room Availability : Whether the room is available at the moment
Reservation	Reservation ID : The generated code while making reservation and unique for every reservation
	Reservation Date : The date on which the reservation is made
	Reservation Period : For how long the customer is staying
Payment	Payment ID : The Unique ID for each payment
	Payment Date : The date which the payment completed on
	Payment Method: How the payment took place

Relationships		
Customer Vs Reservation	Customer can make many Reservations: o ---- <	1-M
Hotel Vs Room	Hotel can have many Rooms : -----o<	1-M
Room vs Reservation	Room can be reserved many times: -----o<	1-M
Customer vs Payment	Customer can make many Payments -----o<	1-M
Customer vs Review	Customer can make many Reviews -----o<	1-M
Payment vs Reservation	One Payment is made for one Reservation ---- 	1-1
Payment vs Invoice	One Payment can generate one Invoice : ----- o	1-1

Entity	Attributes	Column Name	Types	Identifier s
Hotel	Hotel ID	Hotel_ID	Char(20)	PK
	Hotel Name	Hotel_Name	Varchar(40)	
	Hotel Location	Hotel_Loc	Varchar(40)	
Customer	Customer ID	Cust_ID	Char(8)	PK
	Customer First Name	Cust_FName	Varchar(30)	
	Customer Last Name	Cust_LName	Varchar(30)	
	Customer Email Address	Cust_Email	Varchar(30)	
	Customer Phone Number	Cust_Phone_No	Varchar(20)	
	Customer Address	Cust_Address	Varchar(20)	

Room	Room ID	Room_ID	Char(8)	PK
	Room Number	Room_No	Varchar(10)	
	Room Type	Room_Type	Varchar(10)	
	Room Price	Room_Price	Number(7,2)	
	Room Availability	Room_Availability	BIT	
	Hotel ID	Hotel_ID	Char(8)	FK
Reservation	Reservation ID	Reserv_ID	Char(8)	PK
	Reservation Date	Reserv_Date	date	
	Reservation Period	Reserv_Period	Number(4)	
	Customer ID	Cust_ID	Char(8)	FK
	Room ID	Room_ID	Char(8)	FK
Payment	Payment ID	Payment_ID	Char(8)	PK
	Payment Date	Payment_Date	Date	
	Payment Method	Payment_Method	Varchar(10)	
	Customer ID	Cust_ID	Char(8)	FK
	Reservation ID	Reserv_ID	Char(8)	FK
Review	Review Id	Review_ID	Char(8)	PK
	Feedback	Feedback	Varchar(256)	
	Rate	Rate	Varchar(10)	
	Customer ID	Cust_ID	Char(8)	FK
	Reservation ID	Reserv_ID	Char(8)	FK
Invoice	Invoice ID	Invoice_ID	Char(8)	PK
	Issue Date	Issue_Date	Date	
	Payment ID	Payment_ID	Char(8)	FK

Entity Relationship Diagram (ERD)



Relational Notation

Hotel(Hotel ID, Hotel Name, Hotel Location)

Customer(Customer ID, Customer First Name, Customer Last Name, Customer Email Address, Customer Phone Number, Customer Address)

Room(Room ID, Room Number, Room Type, Room Price, Room Availability, Hotel ID*)

Reservation(Reservation ID, Reservation Date, Reservation Period, Customer ID*, Room ID*)

Payment(Payment ID, Payment Date, Payment Method, Customer ID*, Reservation ID*)

Review(Review ID, Feedback, Rate, Customer ID*, Reservation ID*)

Invoice(Invoice ID, Issue Date, Payment ID*)

The Schema Data Dictionary

Table Name	Attribute Name	Contents	Type	Format	Range	Required	PK or FK	FK Referenced Table
------------	----------------	----------	------	--------	-------	----------	----------	---------------------

Customer	Cust_ID Cust_FName Cust_LName Cust_Email Cust_Phone_No Cust_Address	Customer ID Customer Frist Name Customer Last Name Customer Email Customer Phone Number Customer Address	Char(8) Varchar(30) Varchar(30) Varchar(30) Varchar(20) Varchar(20)			Yes Yes Yes Yes	PK		
Hotel	Hotel_ID Hotel_Name Hotel_Loc	Hotel ID Hotel Name Hotel Location	Char(8) Varchar(40) Varchar(40)			Yes Yes Yes	PK		

PART II: Implementation -SQL Related

Table Creation & Insertion

```
CREATE TABLE Customer (  
    cust_id char(8) not null,  
    cust_Fname varchar(30) not null,  
    cust_Lname varchar(30) not null,  
    cust_Email varchar(30) not null,  
    cust_Phone_No varchar(20),  
    cust_Address varchar(20),  
    constraint pk_customer primary key(cust_id)  
);  
  
INSERT INTO Customer VALUES('1','Emmalynn','Pimerick','epimerick0@hostgator.com','311-315-8577','Poland');  
INSERT INTO Customer VALUES('2','Brnaba','Gorry','bgorry1@canalblog.com','459-614-7277','Philippines');  
INSERT INTO Customer VALUES('3','Jerrine','Gorman','jgorman2@mashable.com','663-243-7418','France');  
INSERT INTO Customer VALUES('4','Joey','Hatwell','jhatwell3@intel.com','264-985-0938','China');  
INSERT INTO Customer VALUES('5','Poul','Fuge','pfuge4@vinaora.com','304-838-7585','Tunisia');  
INSERT INTO Customer VALUES('6','Dex','Sifflett','dsifflett5@ox.ac.uk','259-984-5382','Brazil');  
INSERT INTO Customer VALUES('7','Franky','Covotto','fcovotto6@uiuc.edu','542-435-0473','Macedonia');  
INSERT INTO Customer VALUES('8','Lamond','Gerrie','lgerrie7@blogspot.com','791-723-4674','China');  
INSERT INTO Customer VALUES('9','Vivienne','Pullin','vpullin8@wikipedia.org','248-841-1074','Albania');  
INSERT INTO Customer VALUES('10','Jarred','Stainton - Skinn','jstaintonskinn9@sphinn.com','561-728-5819','France');
```

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_EMAIL	CUST_PHONE_NO	CUST_ADDRESS
1	Emmalynn	Pimerick	epimerick0@hostgator.com	311-315-8577	Poland
2	Brnaba	Gorry	bgorry1@canalblog.com	459-614-7277	Philippines
3	Jerrine	Gorman	jgorman2@mashable.com	663-243-7418	France
4	Joey	Hatwell	jhatwell3@intel.com	264-985-0938	China
5	Poul	Fuge	pfuge4@vinaora.com	304-838-7585	Tunisia
6	Dex	Sifflett	dsifflett5@ox.ac.uk	259-984-5382	Brazil
7	Franky	Covotto	fcovotto6@uiuc.edu	542-435-0473	Macedonia
8	Lamond	Gerrie	lgerrie7@blogspot.com	791-723-4674	China
9	Vivienne	Pullin	vpullin8@wikipedia.org	248-841-1074	Albania
10	Jarred	Stainton - Skinn	jstaintonskinn9@sphinn.com	561-728-5819	France

```
CREATE TABLE Review(  
    review_id char(8) not null,  
    feedback varchar(255),  
    rate number(1) check(rate <= 5),  
    cust_id char(8) not null,  
    constraint pk_review primary key(review_id),  
    constraint fk_review_customer foreign key(cust_id) references Customer(cust_id)  
);
```

```
INSERT INTO REVIEW VALUES('1','Great view of Dubai skyline,pool area is very relaxing and clean. The room is  
very luxurious with a big bath and modern decor room. The gym is great, has a lot of equipment',5,'1');
```

```
INSERT INTO REVIEW VALUES('2','The beds are comfortable and there is plenty of drawers and closets for a full  
week or more for a family in the room.',4,'10');
```

```
INSERT INTO REVIEW VALUES('3','Gorgeous design, friendly staff, clean and safe atmosphere. Fantastic  
restaurants and cafe within. We also booked couples massages. We enjoyed the pool and variety of options if we  
stayed in.',5,'3');
```

```
INSERT INTO REVIEW VALUES('4','The lobby is just breathtaking and we had gone through the VIP check in majlis.  
Our room (regal suite) is very spacious and elegant. The bathroom and Closet room was just marvelous.',4,'8');
```

```
INSERT INTO REVIEW VALUES('5','Clean, fun, great breakfast, and fantastic service! Nice central location as well.  
Highly recommend as it is a great price you can't beat for the quality received. Cinema and dining added  
bonus.',3,'5');
```

```
INSERT INTO REVIEW VALUES('6','Well managed, clean spot with great Thai cuisine, good Lebanese restaurant.  
The pools and facilities are new and of high standard. Its a great idea to organize the cinema events at the beach at  
night time.',4,'9');
```

```
INSERT INTO REVIEW VALUES('7','The gym is very good and well equipped. The sauna and steam room were a  
real highlight too. The rooms are spacious, clean and comfortable. All the staff are friendly, welcoming and so  
helpful.',5,'7');
```

```
INSERT INTO REVIEW VALUES('8','The room was spacious, with a comfy bed. Breakfast was fantastic, with  
accommodating staff. The hotel has an excellent pool with an exciting shape. It indeed was definitely would come  
again hotel.',4,'4');
```

```
INSERT INTO REVIEW VALUES('9','Location is also good, most things a short taxi ride away. Swimming pool, gym  
and spa available. Samuel and Anil did a really good job of servicing our rooms, always getting us what we  
need.',4,'2');
```

```
INSERT INTO REVIEW VALUES('10','This resort was absolutely beautiful, great location, great facilities, great staff  
and wonderful food in the Crescendo Restaurant. Lagoon pool rooms were beautiful and very clean.',5,'6');
```

REVIEW_ID	FEEDBACK	RATE	CUST_ID
1	Great view of Dubai skyline, pool area is very relaxing and clean. The room is very luxurious with a big bath and modern decor room. The gym is great, has a lot of equipment	5	1
2	The beds are comfortable and there is plenty of drawers and closets for a full week or more for a family in the room.	4	10
3	Gorgeous design, friendly staff, clean and safe atmosphere. Fantastic restaurants and cafe within. We also booked couples massages. We enjoyed the pool and variety of options if we stayed in.	5	3
4	The lobby is just breathtaking and we had gone through the VIP check in majlis. Our room (regal suite) is very spacious and elegant. The bathroom and Closet room was just marvelous.	4	8
5	Clean, fun, great breakfast, and fantastic service! Nice central location as well. Highly recommend as it is a great price you can't beat for the quality received. Cinema and dining added bonus.	3	5
6	Well managed, clean spot with great Thai cuisine, good Lebanese restaurant. The pools and facilities are new and of high standard. Its a great idea to organize the cinema events at the beach at night time.	4	9
7	The gym is very good and well equipped. The sauna and steam room were a real highlight too. The rooms are spacious, clean and comfortable. All the staff are friendly, welcoming and so helpful.	5	7
8	The room was spacious, with a comfy bed. Breakfast was fantastic, with accommodating staff. The hotel has an excellent pool with an exciting shape. It indeed was definitely would come again hotel.	4	4
9	Location is also good, most things a short taxi ride away. Swimming pool, gym and spa available. Samuel and Anil did a really good job of servicing our rooms, always getting us what we need.	4	2
10	This resort was absolutely beautiful, great location, great facilities, great staff and wonderful food in the Crescendo Restaurant. Lagoon pool rooms were beautiful and very clean.	5	6

CREATE TABLE Hotel (

hotel_id char(8) not null,

hotel_name varchar(40) not null,

hotel_loc varchar(40) not null,

Constraint pk_hotel primary key(hotel_id)

);

INSERT INTO HOTEL VALUES('1','Scarlet Horizon Hotel','45 Buell Plaza');

INSERT INTO HOTEL VALUES('2','Lord Monarch Hotel','74 Summerview Drive');

INSERT INTO HOTEL VALUES('3','Rau, Schiller & Crooks','78416 Rowland Avenue');

INSERT INTO HOTEL VALUES('4','Dual Aegis Resort','58 Dennis Lane');

INSERT INTO HOTEL VALUES('5','Mellow Cosmos Hotel','8 Dryden Hill');

INSERT INTO HOTEL VALUES('6','Twin Phoenix Hotel','81 Browning Road');

INSERT INTO HOTEL VALUES('7','Riverside Bliss Hotel','0 Cardinal Road');

INSERT INTO HOTEL VALUES('8','Nicolas-Nitzsche','490 Coolidge Drive');

INSERT INTO HOTEL VALUES('9','Sunny Estate Hotel & Spa','222 Vidon Pass');

INSERT INTO HOTEL VALUES('10','Serene Gem Hotel','0000 Esker Parkway');

HOTEL_ID	HOTEL_NAME	HOTEL_LOC
1	Scarlet Horizon Hotel	45 Buell Plaza
2	Lord Monarch Hotel	74 Summerview Drive
3	Rau, Schiller & Crooks	78416 Rowland Avenue
4	Dual Aegis Resort	58 Dennis Lane
5	Mellow Cosmos Hotel	8 Dryden Hill
6	Twin Phoenix Hotel	81 Browning Road
7	Riverside Bliss Hotel	0 Cardinal Road
8	Nicolas-Nitzsche	490 Coolidge Drive
9	Sunny Estate Hotel & Spa	222 Vidon Pass
10	Serene Gem Hotel	0000 Esker Parkway

```

CREATE TABLE Room (
    room_id char(8) not null,
    room_no varchar(10) not null,
    room_type varchar(10) not null,
    room_price number(7,2) not null,
    room_availability char(1) not null,
    hotel_id char(8) not null,
    constraint pk_room primary key(room_id),
    constraint fk_room_hotel foreign key(hotel_id) references Hotel(hotel_id)
);

INSERT INTO ROOM VALUES('1','2-01','Single',181.76,'T','1');
INSERT INTO ROOM VALUES('2','2-02','Double',222.82,'F','2');
INSERT INTO ROOM VALUES('3','2-11','Triple',265.03,'F','3');
INSERT INTO ROOM VALUES('4','2-42','King',1137.79,'T','4');
INSERT INTO ROOM VALUES('5','3-15','Queen',782.72,'T','5');
INSERT INTO ROOM VALUES('6','2-23','Twin',569.74,'T','6');
INSERT INTO ROOM VALUES('7','4-09','Quad',1073.14,'T','7');
INSERT INTO ROOM VALUES('8','4-01','Double',2254.51,'F','8');
INSERT INTO ROOM VALUES('9','3-19','Suite',3419.20,'F','9');
INSERT INTO ROOM VALUES('10','2-13','Single',395.92,'T','10');

```

ROOM_ID	ROOM_NO	ROOM_TYPE	ROOM_PRICE	ROOM_AVAILABILITY	HOTEL_ID
1	201	Single	181.76	T	1
2	2-02	Double	222.82	F	2
3	2-11	Triple	265.03	F	3
4	2-42	King	1137.79	T	4
5	3-15	Queen	782.72	T	5
6	2-23	Twin	569.74	T	6
7	4-09	Quad	1073.14	T	7
8	4-01	Double	2254.51	F	8
9	3-19	Suite	3419.2	F	9
10	2-13	Single	395.92	T	10

```

CREATE TABLE Reservation (
    reserv_id char(8) not null,

```

```

    reserv_date date not null,
    reserv_period number(2) not null,
    room_id char(8) not null,
    cust_id char(8) not null,
    constraint pk_reservation primary key(reserv_id),
    constraint fk_reservation_customer foreign key(cust_id) references Customer(cust_id),
    constraint fk_reservation_room foreign key(room_id) references Room(room_id)
);

INSERT INTO RESERVATION VALUES('1','24-JAN-22',23,'1','1');
INSERT INTO RESERVATION VALUES('2','15-Nov-2022',11,'2','2');
INSERT INTO RESERVATION VALUES('3','07-Dec-2022',28,'3','3');
INSERT INTO RESERVATION VALUES('4','15-Jan-2023',28,'4','4');
INSERT INTO RESERVATION VALUES('5','07-Dec-2022',14,'5','5');
INSERT INTO RESERVATION VALUES('6','23-Jan-2023',10,'6','6');
INSERT INTO RESERVATION VALUES('7','09-Dec-2022',9,'7','7');
INSERT INTO RESERVATION VALUES('8','04-Jan-2023',18,'8','8');
INSERT INTO RESERVATION VALUES('9','07-Dec-2022',15,'9','9');
INSERT INTO RESERVATION VALUES('10','01-Jan-2023',26,'10','10');

```

RESERV_ID	RESERV_DATE	RESERV_PERIOD	ROOM_ID	CUST_ID
1	24-JAN-22	23	1	1
2	15-NOV-22	11	2	2
3	07-DEC-22	28	3	3
4	15-JAN-23	28	4	4
5	07-DEC-22	14	5	5
6	23-JAN-23	10	6	6
7	09-DEC-22	9	7	7
8	04-JAN-23	18	8	8
9	07-DEC-22	15	9	9
10	01-JAN-23	26	10	10

```

CREATE Table Payment (
    payment_id char(8) not null,
    payment_date date not null,
    payment_method varchar(10) not null,

```

```

cust_id char(8) not null,
reserv_id char(8) not null,
constraint pk_payment primary key(payment_id),
constraint fk_payment_customer foreign key(cust_id) references Customer(cust_id),
constraint fk_payment_reservation foreign key(reserv_id) references Reservation(reserv_id)
);

```

```

INSERT INTO PAYMENT VALUES('1','31-Dec-2022','card',1,1);
INSERT INTO PAYMENT VALUES('2','07-Jan-2023','cash',2,2);
INSERT INTO PAYMENT VALUES('3','13-Dec-2022','cash',3,3);
INSERT INTO PAYMENT VALUES('4','29-Jan-2023','card',4,4);
INSERT INTO PAYMENT VALUES('5','13-Dec-2022','cash',5,5);
INSERT INTO PAYMENT VALUES('6','08-Jan-2023','card',6,6);
INSERT INTO PAYMENT VALUES('7','11-Nov-2022','card',7,7);
INSERT INTO PAYMENT VALUES('8','18-Jan-2023','cash',8,8);
INSERT INTO PAYMENT VALUES('9','03-Nov-2022','card',9,9);
INSERT INTO PAYMENT VALUES('10','12-Dec-2022','card',10,10);

```

PAYMENT_ID	PAYMENT_DATE	PAYMENT_METHOD	CUST_ID	RESERV_ID
1	31-DEC-22	card	1	1
2	07-JAN-23	cash	2	2
3	13-DEC-22	cash	3	3
4	29-JAN-23	card	4	4
5	13-DEC-22	cash	5	5
6	08-JAN-23	card	6	6
7	11-NOV-22	card	7	7
8	18-JAN-23	cash	8	8
9	03-NOV-22	card	9	9
10	12-DEC-22	card	10	10

[Download CSV](#)

```

CREATE TABLE Invoice (
invoice_id char(8) not null,
issue_date date not null,
payment_id char(8) not null,
constraint pk_invoice primary key(invoice_id),

```



```

constraint fk_invoice_payment foreign key(payment_id) references Payment(payment_id)
);
INSERT INTO INVOICE VALUES('1','01-Feb-2023','1');
INSERT INTO INVOICE VALUES('2','15-Dec-2022','2');
INSERT INTO INVOICE VALUES('3','28-Dec-2022','3');
INSERT INTO INVOICE VALUES('4','02-Dec-2022','4');
INSERT INTO INVOICE VALUES('5','27-Dec-2022','5');
INSERT INTO INVOICE VALUES('6','07-Dec-2022','6');
INSERT INTO INVOICE VALUES('7','13-Jan-2023','7');
INSERT INTO INVOICE VALUES('8','06-Dec-2022','8');
INSERT INTO INVOICE VALUES('9','02-Nov-2022','9');
INSERT INTO INVOICE VALUES('10','03-Feb-2023','10');

```

INVOICE_ID	ISSUE_DATE	PAYMENT_ID
1	01-FEB-23	1
2	15-DEC-22	2
3	28-DEC-22	3
4	02-DEC-22	4
5	27-DEC-22	5
6	07-DEC-22	6
7	13-JAN-23	7
8	06-DEC-22	8
9	02-NOV-22	9
10	03-FEB-23	10

[Download CSV](#)

15 Queries

1. Display Customer along with the hotel and room number as well as the day they booked.

```

select * from Reservation;
select customer.cust_fname,customer.cust_lname, hotel.hotel_name, room.room_no,
reservation.reserv_date
from customer, hotel, room, reservation

```

where reservation.cust_id = customer.cust_id and reservation.room_id = room.room_id and room.hotel_id = hotel.hotel_id;

CUST_FNAME	CUST_LNAME	HOTEL_NAME	ROOM_NO	RESERV_DATE
Emmalynn	Pimerick	Scarlet Horizon Hotel	2-01	24-JAN-22
Brnaba	Gorry	Lord Monarch Hotel	2-02	15-NOV-22
Jerrine	Gorman	Rau, Schiller & Crooks	2-11	07-DEC-22
Joey	Hatwell	Dual Aegis Resort	2-42	15-JAN-23
Poul	Fuge	Mellow Cosmos Hotel	3-15	07-DEC-22
Dex	Sifflett	Twin Phoenix Hotel	2-23	23-JAN-23
Franky	Covotto	Riverside Bliss Hotel	4-09	09-DEC-22
Lamond	Gerrie	Nicolas-Nitzsche	4-01	04-JAN-23
Vivienne	Pullin	Sunny Estate Hotel & Spa	3-19	07-DEC-22
Jarred	Stainton - Skinn	Serene Gem Hotel	2-13	01-JAN-23

- Create a view table which consists of query #1.
create view hotel_reservation as
select customer.cust_fname, customer.cust_lname, hotel.hotel_name, room.room_no,
reservation.reserv_date
from customer, hotel, room, reservation
where reservation.cust_id = customer.cust_id and reservation.room_id = room.room_id
and room.hotel_id = hotel.hotel_id;

CUST_FNAME	CUST_LNAME	HOTEL_NAME	ROOM_NO	RESERV_DATE
Emmalynn	Pimerick	Scarlet Horizon Hotel	2-01	24-JAN-22
Brnaba	Gorry	Lord Monarch Hotel	2-02	15-NOV-22
Jerrine	Gorman	Rau, Schiller & Crooks	2-11	07-DEC-22
Joey	Hatwell	Dual Aegis Resort	2-42	15-JAN-23
Poul	Fuge	Mellow Cosmos Hotel	3-15	07-DEC-22
Dex	Sifflett	Twin Phoenix Hotel	2-23	23-JAN-23
Franky	Covotto	Riverside Bliss Hotel	4-09	09-DEC-22
Lamond	Gerrie	Nicolas-Nitzsche	4-01	04-JAN-23
Vivienne	Pullin	Sunny Estate Hotel & Spa	3-19	07-DEC-22
Jarred	Stainton - Skinn	Serene Gem Hotel	2-13	01-JAN-23

- Display only available rooms in hotels ordered by their prices in AED.
select h.hotel_name, r.Room_no, r.room_price || ' AED', r.room_availability
from hotel h, room r
where r.hotel_id = h.hotel_id and r.room_availability= 'T'
order by r.room_price;

HOTEL_NAME	ROOM_NO	R.ROOM_PRICE 'AED'	ROOM_AVAILABILITY
Scarlet Horizon Hotel	2-01	181.76 AED	T
Serene Gem Hotel	2-13	395.92 AED	T
Twin Phoenix Hotel	2-23	569.74 AED	T
Mellow Cosmos Hotel	3-15	782.72 AED	T
Riverside Bliss Hotel	4-09	1073.14 AED	T
Dual Aegis Resort	2-42	1137.79 AED	T

4. Count and group by customers depending on the payment method used.
 select payment_method, count(*) as Transaction_Count from payment group by
 payment_method;

PAYMENT_METHOD	TRANSACTION_COUNT
cash	4
card	6

5. Display rooms with price ranging from 500 to 1500 and type in
 'Triple','King','Queen','Suite'.
 select h.hotel_name,r.room_type,r.room_price
 from hotel h, room r
 where h.hotel_id = r.hotel_id and r.room_type in ('Triple','King','Queen','Suite') and
 r.room_price between 500 and 1500;

HOTEL_NAME	ROOM_TYPE	ROOM_PRICE
Dual Aegis Resort	King	1137.79
Mellow Cosmos Hotel	Queen	782.72

6. Display all the room types and their respective counts

```
select room_type, count(*) AS count
from room
Group by room_type
```

ROOM_TYPE	COUNT
Quad	1
Triple	1
Double	2
King	1
Twin	1
Suite	1
Single	2
Queen	1

7. Calculate the total prices of a reservation period of a specific period for all the rooms with prices above 500

```
select d.reserv_date ,r.room_no, r.room_type, h.hotel_name,(d.reserv_period *
r.room_price) AS total
```

```
from reservation d, room r, hotel h
```

```
where (d.room_id = r.room_id AND r.hotel_id = h.hotel_id) AND r.room_type in
(select room_type From room Where room_price >= 500)
```

RESERV_DATE	ROOM_NO	ROOM_TYPE	HOTEL_NAME	TOTAL
15-NOV-22	2-02	Double	Lord Monarch Hotel	2451.02
15-JAN-23	2-42	King	Dual Aegis Resort	31858.12
07-DEC-22	3-15	Queen	Mellow Cosmos Hotel	10958.08
23-JAN-23	2-23	Twin	Twin Phoenix Hotel	5697.4
09-DEC-22	4-09	Quad	Riverside Bliss Hotel	9658.26
04-JAN-23	4-01	Double	Nicolas-Nitzsche	40581.18
07-DEC-22	3-19	Suite	Sunny Estate Hotel & Spa	51288

8. Display all customers from France, china, Brazil and Albania whose first name includes 'a'

```
select cust_fname AS name, cust_email AS email,cust_address AS address
from customer
```

Where cust_fname Like '%a%' and cust_address in ('China','France','Albania','Brazil')

NAME	EMAIL	ADDRESS
Lamond	lgerrie7@blogspot.com	China
Jarred	jstaintonskin9@sphinn.com	France

9. Update the availability of room number '2-01' to F

Update room set room_availability = 'F' where room_no = '2-01';
select * from room where room_no = '2-01';

1 row(s) updated.

ROOM_ID	ROOM_NO	ROOM_TYPE	ROOM_PRICE	ROOM_AVAILABILITY	HOTEL_ID
1	2-01	Single	181.76	F	1

10. Display all payments made between January 8, 2022, and November 28, 2022

select * from payment where payment_date between '08-Jan-2022' and '28-Nov-2022'

PAYMENT_ID	PAYMENT_DATE	PAYMENT_METHOD	CUST_ID	RESERV_ID
7	11-NOV-22	card	7	7
9	03-NOV-22	card	9	9

11. Display the average prices of each room types

select room_type, Avg(room_price)
from room
Group by room_type;

ROOM_TYPE	Average Price
Quad	1073.14
Triple	265.03
Double	1238.665
King	1137.79
Twin	569.74
Suite	3419.2
Single	288.84
Queen	782.72

12. Display the maximum times a single room is booked.

`select max(count(room_id)) from reservation group by room_id;`

MAX(COUNT(ROOM_ID))
1

[Download CSV](#)

13. Group Rooms by their booking frequency and display only those which have been booked 2 and more times.

`select Room_Type, count(Room_Type) from Room group by Room_Type having count(room_type) >=2;`

ROOM_TYPE	COUNT(ROOM_TYPE)
Double	2
Single	2

14. Display the date on which invoice is generated in descending order.
`select Issue_Date from invoice order by Issue_Date desc;`

ISSUE_DATE
03-FEB-23
01-FEB-23
13-JAN-23
28-DEC-22
27-DEC-22
15-DEC-22
07-DEC-22
06-DEC-22
02-DEC-22
02-NOV-22

15. Join Customer and their Payment Info

```
SELECT Customer.Cust_FNAME, Payment.Payment_ID
FROM Customer
INNER JOIN Payment ON Customer.Cust_ID = Payment.Cust_ID;
```

CUST_FNAME	PAYMENT_ID
Emmalynn	1
Brnaba	2
Jerrine	3
Joey	4
Poul	5
Dex	6
Franky	7
Lamond	8
Vivienne	9
Jarred	10

PART III: Implementation - Advanced SQL Related

1. If reserve period is more than five days, reduce the price by 5% for each booking after the 5th day, and calculate total price based on the reserve duration.

```
CREATE OR REPLACE PROCEDURE DURATION_OFFER(stay in number,
room_booked in varchar)
IS
one_night number;
total_amount number;
```

```
BEGIN
```

```

select room_price into one_night from room where room_id = room_booked;
if (stay > 5) then
    total_amount := 0.95 * (stay - 5) * one_night;
    DBMS_OUTPUT.PUT_LINE('The Total Price after the offer is: '|| total_amount);
else
    DBMS_OUTPUT.PUT_LINE('Sorry, the offer does not apply to reserve period less
than 5 days!');
end if;
END;
To call:
DECLARE
    aa number;
    bb char(8);
BEGIN
    aa := 10;
    bb := '3';
    DURATION_OFFER(aa,bb);
END;

```

```

35
36 DECLARE
37     aa number;
38     bb char(8);
39 BEGIN
40     aa := 10;
41     bb := '3';
42     DURATION_OFFER(aa,bb);
43 END;
44
45
Statement processed.
The Total Price after the offer is: 2584.0425

```

2. Create Trigger, Function and Procedure

#Trigger

Give 15% discount on weekends for room.

Create or Replace Trigger Discount_on_Weekend

before insert on room

for each row

begin

```

    IF TO_CHAR(SYSDATE, 'DAY') BETWEEN 'SATURDAY' AND 'MONDAY'
    THEN

```

```

        :new.room_price := :new.room_price - .15 * :new.room_price;

```

```

    end if;

```

```

end;

```



```

59 |
60 Insert into Room Values('0145', '4-09', 'Single', 430.00, 'T', '1');
61

```

1 row(s) inserted.

15% Discount has been applied to the room price.

3. #Trigger

Create or Replace Trigger Sanitation
before insert or update on reservation
for each row

begin

if TO_CHAR(SYSDATE, 'HH12:MI') between '7:00 PM' and '12:00 AM' THEN
RAISE_APPLICATION_ERROR(-20001, 'The booking is closed');
end if;

end;

4. FUNCTION

Create a function which computes the total number of bookings in a given month.

CREATE OR REPLACE FUNCTION RESERVATION_IN_MONTH(mnth in varchar)

RETURN NUMBER

IS

times NUMBER(4);

BEGIN

select COUNT(reserv_date) INTO TIMES from reservation where TO_CHAR(reserv_date,
'MON') = mnth;

RETURN TIMES;

END;

BEGIN

DBMS_OUTPUT.PUT_LINE(RESERVATION_IN_MONTH('JAN') || ' bookings
have been made.');

END;

Statement processed.

5 bookings have been made.

PART IV: Setup MySQL Database Server and PHP Web App

MySQL Scripts

```
--  
  
-- Database: `hotel_management_system`  
  
--  
  
CREATE DATABASE IF NOT EXISTS `hotel_management_system` DEFAULT  
CHARACTER SET utf8mb4 COLLATE utf8mb4_general_ci;  
USE `hotel_management_system`;  
  
-----  
  
--  
  
-- Table structure for table `Customer`  
  
--  
  
CREATE TABLE `Customer` (  
  `cust_id` char(8) NOT NULL,  
  `cust_Fname` varchar(30) NOT NULL,  
  `cust_Lname` varchar(30) NOT NULL,  
  `cust_Email` varchar(30) NOT NULL,  
  `cust_Phone_No` varchar(20) DEFAULT NULL,  
  `cust_Address` varchar(20) DEFAULT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;  
  
--  
  
-- Dumping data for table `Customer`  
  
--
```

```
INSERT INTO `Customer` (`cust_id`, `cust_Fname`, `cust_Lname`, `cust_Email`,  
`cust_Phone_No`, `cust_Address`) VALUES  
(1, 'Emmalynn', 'Pimerick', 'epimerick0@hostgator.com', '311-315-8577', 'Poland'),  
(10, 'Jarred', 'Stainton - Skinn', 'jstaintonskinn9@sphinn.com', '561-728-5819',  
'France'),  
(2, 'Brnaba', 'Gorry', 'bgorry1@canalblog.com', '459-614-7277', 'Philippines'),  
(3, 'Jerrine', 'Gorman', 'jgorman2@mashable.com', '663-243-7418', 'France'),  
(4, 'Joey', 'Hatwell', 'jhatwell3@intel.com', '264-985-0938', 'China'),  
(5, 'Poul', 'Fuge', 'pfuge4@vinaora.com', '304-838-7585', 'Tunisia'),  
(6, 'Dex', 'Sifflett', 'dsifflett5@ox.ac.uk', '259-984-5382', 'Brazil'),  
(7, 'Franky', 'Covotto', 'fcovotto6@uiuc.edu', '542-435-0473', 'Macedonia'),  
(8, 'Lamond', 'Gerrie', 'lgerrie7@blogspot.com', '791-723-4674', 'China'),  
(9, 'Vivienne', 'Pullin', 'vpullin8@wikipedia.org', '248-841-1074', 'Albania');
```

--

-- *Table structure for table `Hotel`*

--

```
CREATE TABLE `Hotel` (  
  `hotel_id` char(8) NOT NULL,  
  `hotel_name` varchar(40) NOT NULL,  
  `hotel_loc` varchar(40) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

```
--  
  
-- Dumping data for table `Hotel`  
  
--  
  
INSERT INTO `Hotel` (`hotel_id`, `hotel_name`, `hotel_loc`) VALUES  
(  
  '1', 'Scarlet Horizon Hotel', '45 Buell Plaza',  
  '10', 'Serene Gem Hotel', '0000 Esker Parkway',  
  '2', 'Lord Monarch Hotel', '74 Summerview Drive',  
  '3', 'Rau, Schiller & Crooks', '78416 Rowland Avenue',  
  '4', 'Dual Aegis Resort', '58 Dennis Lane',  
  '5', 'Mellow Cosmos Hotel', '8 Dryden Hill',  
  '6', 'Twin Phoenix Hotel', '81 Browning Road',  
  '7', 'Riverside Bliss Hotel', '0 Cardinal Road',  
  '8', 'Nicolas-Nitzsche', '490 Coolidge Drive',  
  '9', 'Sunny Estate Hotel & Spa', '222 Vidon Pass');  
  
-----  
  
--  
  
-- Table structure for table `Invoice`  
  
--  
  
CREATE TABLE `Invoice` (  
  `invoice_id` char(8) NOT NULL,  
  `issue_date` datetime NOT NULL,  
  `payment_id` char(8) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

```
--
```

```
-- Dumping data for table `Invoice`
```

```
--
```

```
INSERT INTO `Invoice` (`invoice_id`, `issue_date`, `payment_id`) VALUES
```

```
('1', '2023-02-09 00:00:00', '1'),
```

```
('10', '2023-02-08 00:00:00', '10'),
```

```
('2', '2023-12-12 00:00:00', '2'),
```

```
('3', '2022-12-20 00:00:00', '3'),
```

```
('4', '2022-12-27 00:00:00', '4'),
```

```
('5', '2022-12-12 00:00:00', '5'),
```

```
('6', '2022-12-10 00:00:00', '6'),
```

```
('7', '2023-01-23 00:00:00', '7'),
```

```
('8', '2022-12-27 00:00:00', '8'),
```

```
('9', '2022-11-24 00:00:00', '9');
```

```
-- -----
```

```
--
```

```
-- Table structure for table `Payment`
```

```
--
```

```
CREATE TABLE `Payment` (
```

```
  `payment_id` char(8) NOT NULL,
```

```
  `payment_date` datetime NOT NULL,
```

```
  `payment_method` varchar(10) NOT NULL,
```

```
`cust_id` char(8) NOT NULL,
`reserv_id` char(8) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `Payment`
--

INSERT INTO `Payment` (`payment_id`, `payment_date`, `payment_method`, `cust_id`,
`reserv_id`) VALUES
('1', '2022-12-20 00:00:00', 'card', '1', '1'),
('10', '2022-12-22 00:00:00', 'card', '10', '10'),
('2', '2023-01-23 00:00:00', 'cash', '2', '2'),
('3', '2022-12-22 00:00:00', 'cash', '3', '3'),
('4', '2023-01-12 00:00:00', 'card', '4', '4'),
('5', '2022-12-18 00:00:00', 'cash', '5', '5'),
('6', '2023-01-15 00:00:00', 'card', '6', '6'),
('7', '2022-11-02 00:00:00', 'card', '7', '7'),
('8', '2023-01-27 00:00:00', 'cash', '8', '8'),
('9', '2022-11-15 00:00:00', 'card', '9', '9');

-----

--
-- Table structure for table `Reservation`
--
```

```
CREATE TABLE `Reservation` (  
  `reserv_id` char(8) NOT NULL,  
  `reserv_date` datetime NOT NULL,  
  `reserv_period` tinyint(4) NOT NULL,  
  `room_id` char(8) NOT NULL,  
  `cust_id` char(8) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;  
  
--  
-- Dumping data for table `Reservation`  
--  
  
INSERT INTO `Reservation` (`reserv_id`, `reserv_date`, `reserv_period`, `room_id`,  
  `cust_id`) VALUES  
(  
'1', '2022-01-22 00:00:00', 23, '1', '1'),  
(  
'10', '2022-01-23 00:00:00', 26, '10', '10'),  
(  
'2', '2022-11-20 00:00:00', 11, '2', '2'),  
(  
'3', '2022-12-22 00:00:00', 28, '3', '3'),  
(  
'4', '2022-01-23 00:00:00', 28, '4', '4'),  
(  
'5', '2022-12-20 00:00:00', 14, '5', '5'),  
(  
'6', '2022-01-23 00:00:00', 10, '6', '6'),  
(  
'7', '2022-12-22 00:00:00', 9, '7', '7'),  
(  
'8', '2022-01-20 00:00:00', 18, '8', '8'),  
(  
'9', '2022-12-22 00:00:00', 15, '9', '9');  
  
-----
```

```
--  
-- Table structure for table `Review`  
--
```

```
CREATE TABLE `Review` (  
  `review_id` char(8) NOT NULL,  
  `feedback` varchar(255) DEFAULT NULL,  
  `rate` tinyint(4) DEFAULT NULL CHECK (`rate` <= 5),  
  `cust_id` char(8) NOT NULL,  
  `hotel_id` int(11) NOT NULL DEFAULT 4  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

```
--  
-- Dumping data for table `Review`  
--
```

```
INSERT INTO `Review` (`review_id`, `feedback`, `rate`, `cust_id`, `hotel_id`) VALUES  
(  
'1', 'Great view of Dubai skyline, pool area is very relaxing and clean. The room is very  
luxurious with a big bath and modern decor room. The gym is great, has a lot of  
equipment', 5, '1', 4),  
(  
'10', 'This resort was absolutely beautiful, great location, great facilities, great staff and  
wonderful food in the Crescendo Restaurant. Lagoon pool rooms were beautiful and  
very clean.', 5, '6', 1),  
(  
'2', 'The beds are comfortable and there is plenty of drawers and closets for a full week  
or more for a family in the room.', 4, '10', 4),
```


('3', 'Gorgeous design, friendly staff, clean and safe atmosphere. Fantastic restaurants and cafe within. We also booked couples massages. We enjoyed the pool and variety of options if we stayed in.', 5, '3', 8),
('4', 'The lobby is just breathtaking and we had gone through the VIP check in majlis. Our room (regal suite) is very spacious and elegant. The bathroom and Closet room was just marvelous.', 4, '8', 2),
('5', 'Clean, fun, great breakfast, and fantastic service! Nice central location as well. Highly recommend as it is a great price you can't beat for the quality received. Cinema and dining added bonus.', 3, '5', 4),
('6', 'Well managed, clean spot with great Thai cuisine, good Lebanese restaurant. The pools and facilities are new and of high standard. Its a great idea to organize the cinema events at the beach at night time.', 4, '9', 7),
('7', 'The gym is very good and well equipped. The sauna and steam room were a real highlight too. The rooms are spacious, clean and comfortable. All the staff are friendly, welcoming and so helpful.', 5, '7', 4),
('8', 'The room was spacious, with a comfy bed. Breakfast was fantastic, with accommodating staff. The hotel has an excellent pool with an exciting shape. It indeed was definitely would come again hotel.', 4, '4', 10),
('9', 'Location is also good, most things a short taxi ride away. Swimming pool, gym and spa available. Samuel and Anil did a really good job of servicing our rooms, always getting us what we need.', 4, '2', 4);

-- -----

--

-- *Table structure for table 'Room'*

--

```
CREATE TABLE `Room` (  
  `room_id` char(8) NOT NULL,  
  `room_no` varchar(10) NOT NULL,  
  `room_type` varchar(10) NOT NULL,  
  `room_price` decimal(7,2) NOT NULL,  
  `room_availability` char(1) NOT NULL,  
  `img` text NOT NULL,  
  `hotel_id` char(8) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

```
--
```

```
-- Dumping data for table `Room`
```

```
--
```

```
INSERT INTO `Room` (`room_id`, `room_no`, `room_type`, `room_price`,  
  `room_availability`, `img`, `hotel_id`) VALUES  
(  
'1', '201', 'Single', '181.76', 'T', 'single1.jpeg', '1'),  
(  
'10', '2-13', 'Single', '395.92', 'T', 'single10.jpeg', '10'),  
(  
'11', '1-50', 'twin', '569.74', 'T', 'twin4.jpg', '4'),  
(  
'12', '0-45', 'double', '2400.00', 'T', 'double4.jpg', '4'),  
(  
'13', '2-10', 'single', '395.92', 'F', 'single4.jpeg', '4'),  
(  
'2', '2-02', 'Double', '222.82', 'F', 'double2.jpg', '2'),  
(  
'3', '2-11', 'Triple', '265.03', 'F', 'triple3.jpeg', '3'),  
(  
'4', '2-42', 'King', '1137.79', 'T', 'king4.jpg', '4'),  
(  
'5', '3-15', 'Queen', '782.72', 'T', 'queen5.jpeg', '5'),  
(  
'6', '2-23', 'Twin', '569.74', 'T', 'twin6.jpg', '6'),
```

```
('7', '4-09', 'Quad', '1073.14', 'T', 'quad7.jpeg', '7'),  
('8', '4-01', 'Double', '2254.51', 'F', 'double8.jpg', '8'),  
('9', '3-19', 'Suite', '3419.20', 'F', 'suite9.jpg', '9');
```

```
--
```

```
-- Indexes for dumped tables
```

```
--
```

```
--
```

```
-- Indexes for table `Customer`
```

```
--
```

```
ALTER TABLE `Customer`  
  ADD PRIMARY KEY (`cust_id`);
```

```
--
```

```
-- Indexes for table `Hotel`
```

```
--
```

```
ALTER TABLE `Hotel`  
  ADD PRIMARY KEY (`hotel_id`);
```

```
--
```

```
-- Indexes for table `Invoice`
```

```
--
```

```
ALTER TABLE `Invoice`  
  ADD PRIMARY KEY (`invoice_id`),  
  ADD KEY `fk_invoice_payment` (`payment_id`);
```

```
--  
  
-- Indexes for table `Payment`  
  
--  
ALTER TABLE `Payment`  
  ADD PRIMARY KEY (`payment_id`),  
  ADD KEY `fk_payment_customer` (`cust_id`),  
  ADD KEY `fk_payment_reservation` (`reserv_id`);  
  
--  
  
-- Indexes for table `Reservation`  
  
--  
ALTER TABLE `Reservation`  
  ADD PRIMARY KEY (`reserv_id`),  
  ADD KEY `fk_reservation_customer` (`cust_id`),  
  ADD KEY `fk_reservation_room` (`room_id`);  
  
--  
  
-- Indexes for table `Review`  
  
--  
ALTER TABLE `Review`  
  ADD PRIMARY KEY (`review_id`),  
  ADD KEY `fk_review_customer` (`cust_id`);  
  
--  
  
-- Indexes for table `Room`  
  
--  
ALTER TABLE `Room`
```

```
ADD PRIMARY KEY (`room_id`),
ADD UNIQUE KEY `room_id` (`room_id`),
ADD KEY `fk_room_hotel` (`hotel_id`);

--
-- Constraints for dumped tables
--

--
-- Constraints for table `Invoice`
--

ALTER TABLE `Invoice`
  ADD CONSTRAINT `fk_invoice_payment` FOREIGN KEY (`payment_id`)
REFERENCES `Payment` (`payment_id`);

--
-- Constraints for table `Payment`
--

ALTER TABLE `Payment`
  ADD CONSTRAINT `fk_payment_customer` FOREIGN KEY (`cust_id`)
REFERENCES `Customer` (`cust_id`),
  ADD CONSTRAINT `fk_payment_reservation` FOREIGN KEY (`reserv_id`)
REFERENCES `Reservation` (`reserv_id`);

--
-- Constraints for table `Reservation`
--
```

```
ALTER TABLE `Reservation`  
  ADD CONSTRAINT `fk_reservation_customer` FOREIGN KEY (`cust_id`)  
REFERENCES `Customer` (`cust_id`),  
  ADD CONSTRAINT `fk_reservation_room` FOREIGN KEY (`room_id`) REFERENCES  
`Room` (`room_id`);  
  
--  
-- Constraints for table `Review`  
--  
ALTER TABLE `Review`  
  ADD CONSTRAINT `fk_review_customer` FOREIGN KEY (`cust_id`) REFERENCES  
`Customer` (`cust_id`);  
  
--  
-- Constraints for table `Room`  
--  
ALTER TABLE `Room`  
  ADD CONSTRAINT `fk_room_hotel` FOREIGN KEY (`hotel_id`) REFERENCES  
`Hotel` (`hotel_id`);  
COMMIT;  
  
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;  
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS  
*/;  
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

PHP Scripts

db.php

```
<?php

// constants for connection

define('HOSTNAME', 'localhost');

define('DATABASE', 'id19831983_hotel_management_system');

define('USERNAME', 'id19831983_mekson');

define('PASSWORD', 'yA%]QU+gbwm5n]3~');

$connection = mysqli_connect(HOSTNAME, USERNAME, PASSWORD, DATABASE);

if (!$connection) die('Database Access Failed no connection ' .
mysqli_connect_errno());
```

controller.php

```
<?php require_once('../db/db.php');

header('Access-Control-Allow-Origin:');
header('Content-Type:application/json');
header('Access-Control-Allow-Methods: POST, GET, PUT, OPTIONS, PATCH,
DELETE');
header('Access-Control-Allow-Headers: *');

$request = $_POST['request'];

$result = "";
switch ($request) {
    case "GET_ALL_ROOMS":
        $result = get_all_rooms($connection);
        break;
```

```

        case "BOOK_A_ROOM":
            $result =
book_a_room($connection,$_POST['id'],$_POST['custId'],$_POST['roomId'],$_POST['date'],
$_POST['period']);
            break;
        case "GET_HOTEL_DETAILS":
            $result = get_hotel_details($connection,$_POST['name']);
            break;
        case "GET_HOTELS":
            $result = get_hotels($connection);
            break;
        case "GET_ROOMS":
            $result = get_rooms($connection,$_POST['id']);
            break;
        default:
            return "";
    }
}

```

```

echo $result;

```

```

function get_all_rooms($connection)
{
    $query = "SELECT R.room_no AS no, R.room_type AS type, R.room_price AS price,
R.room_availability As availability,H.hotel_name As hotel_name,H.hotel_loc AS
location ";
    $query .= "FROM Room R, Hotel H ";
    $query .= "WHERE H.hotel_id = R.hotel_id";
    $result = mysqli_query($connection, $query);

    if (!$result) die('Database operation failed get all rooms' . mysqli_connect_errno());
    $data = array();
    while ($row = mysqli_fetch_assoc($result)) {
        $room = array();
        $room['room_no'] = $row['no'];
        $room['type'] = $row['type'];
        $room['price'] = $row['price'];
        $room['availability'] = $row['availability'];
        $room['hotel_name'] = $row['hotel_name'];
        $room['location'] = $row['location'];
        $data[] = $room;
    }
    return json_encode($data);
}

```

```

function book_a_room($connection,$id,$customer,$room,$date,$period)

```



```

{
    $query = "INSERT INTO Reservation
(reserv_id,reserv_date,reserv_period,room_id,cust_id) ";
    $query .= "VALUES ($id,'$date',$period,$room,$customer)";

    $result = mysqli_query($connection, $query);

    if (!$result) die('Database operation failed' . mysqli_connect_error());

    return json_encode(array('success'=>true));
}

```

```

function get_rooms($connection,$id){
    $query = "SELECT r.room_id AS id, r.room_no AS no FROM Room r, Hotel h
WHERE r.hotel_id = h.hotel_id AND h.hotel_id = '$id'";
    $result = mysqli_query($connection,$query);
    if (!$result) die('Database operation failed ' . mysqli_connect_errno());
    $data = array();
    while ($row = mysqli_fetch_assoc($result)) {
        $room = array();
        $room['id'] = $row['id'];
        $room['no'] = $row['no'];
        $data[] = $room;
    }
    return json_encode($data);
}

```

```

function get_hotels($connection){
    $query = "SELECT hotel_id, hotel_name FROM Hotel";
    $result = mysqli_query($connection,$query);
    if (!$result) die('Database operation failed ' . mysqli_connect_errno());
    $data = array();
    while ($row = mysqli_fetch_assoc($result)) {
        $hotel = array();
        $hotel['id'] = $row['hotel_id'];
        $hotel['name'] = $row['hotel_name'];
        $data[] = $hotel;
    }
    return json_encode($data);
}

```

```

function get_hotel_details($connection,$name){
    $query = "SELECT R.room_type AS type, R.room_price AS price, H.hotel_name As
name, R.img,R.hotel_id As id ";
    $query .= "FROM Room R, Hotel H ";
}

```

```

$query = "WHERE R.hotel_id = H.hotel_id && H.hotel_name = '$name' " ;

$result = mysqli_query($connection,$query);
if (!$result) die('Database operation failed ' . mysqli_connect_errno());
$data = array();
$review = array();
$id = "";
while ($row = mysqli_fetch_assoc($result)) {
    $room = array();
    $room['type'] = $row['type'];
    $room['price'] = $row['price'];
    $room['hotel_name'] = $row['name'];
    $room['img'] = $row['img'];
    $id = $row['id'];
    $data[] = $room;
}

$query2 = "SELECT R.feedback AS feedback, R.rate AS rate, C.cust_Fname AS name
";
$query2 = "FROM Review R, Customer C ";
$query2 = "WHERE C.cust_id = R.cust_id && R.hotel_id = '$id' ";

$result2 = mysqli_query($connection,$query2);
if (!$result2) die('Database operation failed ' . mysqli_error($connection));

while ($row2 = mysqli_fetch_assoc($result2)) {
    $item = array();
    $item['feedback'] = $row2['feedback'];
    $item['rate'] = $row2['rate'];
    $item['name'] = $row2['name'];
    $review[] = $item;
}
$final_result = array($data,$review);
return json_encode($final_result);
}

```

JavaScript

```

const getAllRooms = () => {
    $.ajax({

```

```
method: "POST",
url: "https://hotelmanagementbooking.000webhostapp.com/controller/controller.php",
dataType: "json",
data: { request: "GET_ALL_ROOMS" },
success: function (data) {
  generateTable(data);
},
});
};

const getHotelDetails = () => {
  let params = new URLSearchParams(location.search);
  const hotel = params.get("hotel");
  $.ajax({
    method: "POST",
    url: "https://hotelmanagementbooking.000webhostapp.com/controller/controller.php",
    dataType: "json",
    data: { request: "GET_HOTEL_DETAILS", name: hotel },
    success: function (data) {
      generateHotelDetails(data[0], hotel);
      generateReviews(data[1]);
    },
  });
};

const bookRoom = (e) => {
  e.preventDefault();
```

```

console.log('adf')
const custId = $('#cust_id').val();
const roomId = $('#rooms').val();
const date = $('#date').val();
const period = $('#period').val();
$.ajax({
  method: "POST",
  url: "https://hotelmanagementbooking.000webhostapp.com/controller/controller.php",
  dataType: "json",
  data: { request: "BOOK_A_ROOM",id:Math.floor(Math.random() * 1000),
custId,roomId,date,period },
  success: function (data) {
    if(data['success']){
      alert("Thanks for booking with us")
    }
  },
});
}

const getHotels = () => {
$.ajax({
  method: "POST",
  url: "https://hotelmanagementbooking.000webhostapp.com/controller/controller.php",
  dataType: "json",
  data: { request: "GET_HOTELS" },
  success: function (data) {

```

```
let html = "";
data.forEach((hotel) => {
  html += `<option value=${hotel.id} >${hotel.name}</option>`;
});
$("#hotels").html(html);
},
});
};

const getRooms = () => {
  const id = $('#hotels').val() || '1';

  $.ajax({
    method: "POST",
    url: "https://hotelmanagementbooking.000webhostapp.com/controller/controller.php",
    dataType: "json",
    data: { request: "GET_ROOMS",id },
    success: function (data) {
      let html = "";
      data.forEach((room) => {
        html += `<option value=${room.id} >${room.no}</option>`;
      });
      $("#rooms").html(html);
    },
  });
}
```

```

const generateTable = (data) => {
  let html = "";
  data.forEach((room) => {
    const no = room.room_no;
    const availability = room.availability === "T" ? "Yes" : "No";
    const location = room.location;
    const price = room?.price;
    const type = room?.type;
    const hotel = room?.hotel_name;
    const style =
      availability === "Yes" ? "background:#80de64" : "background:#eb4c46";
    html += ` <tr >
    <td>${no}</td>
    <td>${type}</td>
    <td>${price}</td>
    <td style='${style}'>${availability}</td>
    <td><a href="/hotel.html?hotel=${hotel}">${hotel}</a></td>
    <td>${location}</td>
  </tr>`;
  });
  $("#table_body").html(html);
};

```

```

const generateHotelDetails = (data, name) => {
  let html = "";
  data.forEach((hotelRoom) => {
    const type = hotelRoom?.type;

```

```

const price = hotelRoom?.price;
const hotel = hotelRoom?.hotel_name;
const image = hotelRoom?.img;
html += `
<div class="col-lg-3 col-sm-6">
  <div class="accomodation_item text-center">
    <div class="hotel_img">
      
      <a href="#" class="btn theme_btn button_hover">Book Now</a>
    </div>
    <a href="#"><h4 class="sec_h4">${type}</h4></a>
    <h5>$$${price}<small>/night</small></h5>
  </div>
</div>`;
});
$("#title").text(name);
$("#rooms").html(html);
};

const generateReviews = (data) => {
  let html = "";
  data.forEach((review) => {
    const feedback = review?.feedback;
    const rate = review?.rate;
    const name = review?.name;

```

```

html += `
<div class="media testimonial_item">
    <div class="media-body">
        <p>
            ${feedback}
        </p>
        <a href="#"><h4 class="sec_h4">${name}</h4></a>
        <div class="star">
            ${rate} <a href="#"><i class="fa fa-star"></i></a>
        </div>
    </div>
</div>
`;
});
$("##testimony").html(html);
};

```

PHP Web App

NB. Website link

https://salmon-carlotta-75.tiiny.site/

Dimensions: Responsive1045x127655%No throttling

All Rooms

#	Type	Price	Availability	Hotel	Location
201	Single	\$181.76	Yes	Serenet Horizon Hotel	45 Buell Plaza
2-13	Single	\$395.92	Yes	Serene Gem Hotel	0000 Esker Parkway
1-50	Twin	\$569.74	Yes	Dual Aegis Resort	58 Dennis Lane
0-45	double	\$2400.00	Yes	Dual Aegis Resort	58 Dennis Lane
2-10	single	\$395.92	No	Dual Aegis Resort	58 Dennis Lane
2-02	Double	\$222.82	No	Lord Monarch Hotel	74 Summerview Drive
2-11	Triple	\$265.03	No	Bak, Schiller & Crooks	78416 Rowland Avenue
2-42	King	\$1137.79	Yes	Dual Aegis Resort	58 Dennis Lane
3-15	Queen	\$782.72	Yes	Mellow Cosmos Hotel	8 Dryden Hill
2-23	Twin	\$569.74	Yes	Twin Phoenix Hotel	81 Browning Road
4-09	Quad	\$1073.14	Yes	Riverside Bliss Hotel	0 Cardinal Road
4-01	Double	\$2254.51	No	Nicolas-Nitzsche	490 Coolidge Drive
3-19	Suite	\$3419.20	No	Sunny Estate Hotel & Spa	222 Viden Pass

Filter

Has blocked cookiesBlocked Requests3rd-party requests

100 ms200 ms300 ms400 ms500 ms600 ms700 ms800 ms900 ms1000 ms1100 ms1200 ms1300 ms

Name

HeadersPayloadPreviewResponseInitiatorTiming

salm...

> [{room_no: "281", type: "Single", price: "181.76", availability: "T",...}]

ad-s...

> 0: {room_no: "281", type: "Single", price: "181.76", availability: "T",...}

> 1: {room_no: "2-13", type: "Single", price: "395.92", availability: "T", hotel_name: "Serene Gem Hotel",...}

> 2: {room_no: "1-50", type: "Twin", price: "569.74", availability: "T", hotel_name: "Dual Aegis Resort",...}

> 3: {room_no: "0-45", type: "double", price: "2400.00", availability: "T", hotel_name: "Dual Aegis Resort",...}

> 4: {room_no: "2-10", type: "single", price: "395.92", availability: "F", hotel_name: "Dual Aegis Resort",...}

> 5: {room_no: "2-02", type: "Double", price: "222.82", availability: "F", hotel_name: "Lord Monarch Hotel",...}

> 6: {room_no: "2-11", type: "Triple", price: "265.03", availability: "F",...}

> 7: {room_no: "2-42", type: "King", price: "1137.79", availability: "T", hotel_name: "Dual Aegis Resort",...}

> 8: {room_no: "3-15", type: "Queen", price: "782.72", availability: "T", hotel_name: "Mellow Cosmos Hotel",...}

> 9: {room_no: "2-23", type: "Twin", price: "569.74", availability: "T", hotel_name: "Twin Phoenix Hotel",...}

> 10: {room_no: "4-09", type: "Quad", price: "1073.14", availability: "T",...}

> 11: {room_no: "4-01", type: "Double", price: "2254.51", availability: "F", hotel_name: "Nicolas-Nitzsche",...}

> 12: {room_no: "3-19", type: "Suite", price: "3419.20", availability: "F",...}

11 requests

All Rooms

#	Type	Price	Availability	Hotel	Location
201	Single	\$181.76	Yes	Scarlet Horizon Hotel	45 Buell Plaza
2-13	Single	\$395.92	Yes	Serene Gem Hotel	0000 Esker Parkway
1-50	twin	\$569.74	Yes	Dual Aegis Resort	58 Dennis Lane
0-45	double	\$2400.00	Yes	Dual Aegis Resort	58 Dennis Lane
2-10	single	\$395.92	No	Dual Aegis Resort	58 Dennis Lane
2-02	Double	\$222.82	No	Lord Monarch Hotel	74 Summerview Drive
2-11	Triple	\$265.03	No	Rau, Schiller & Crooks	78416 Rowland Avenue
2-42	King	\$1137.79	Yes	Dual Aegis Resort	58 Dennis Lane
3-15	Queen	\$782.72	Yes	Mellow Cosmos Hotel	8 Dryden Hill
2-23	Twin	\$569.74	Yes	Twin Phoenix Hotel	81 Browning Road
4-09	Quad	\$1073.14	Yes	Riverside Bliss Hotel	0 Cardinal Road
4-01	Double	\$2254.51	No	Nicolas-Nitzsche	490 Coolidge Drive
3-19	Suite	\$3419.20	No	Sunny Estate Hotel & Spa	222 Vidon Pass

Testimonial from our Clients

The French Revolution constituted for the conscience of the dominant aristocratic class a fall from

Great view of Dubai skyline, pool area is very relaxing and clean. The room is very luxurious with a big bath and modern decor room. The gym is great, has a lot of equipment

Emmalynn

5 ★

The beds are comfortable and there is plenty of drawers and closets for a full week or more for a family in the room.

Jarred

4 ★

Clean, fun, great breakfast, and fantastic service! Nice central location as well. Highly recommend as it is a great price you can't beat for the quality received. Cinema and dining added bonus.

Poul

3 ★



twin
\$569.74/night



double
\$2400.00/night



single
\$395.92/night



King
\$1137.79/night

Dual Aegis Resort

We all live in an age that belongs to the young at heart. Life that is becoming extremely fast.

BOOK NOW

twin
\$569.74/night

BOOK NOW

double
\$2400.00/night

BOOK NOW

single
\$395.52/night

BOOK NOW

king
\$1137.79/night

Testimonial from our Clients

The French Revolution constituted for the convenience of the dominant aristocratic class a full from.

Great view of Dubai skyline, pool area is very relaxing and clean. The room is very luxurious with a big bath and modern decor rooms. The gym is great, has a lot of equipment.

Emmalynn
5.0

Filter

Has blocked cookies Blocked Requests 3rd-party requests

500 ms 1000 ms 1500 ms 2000 ms 2500 ms 3000 ms

Name	Headers	Payload	Preview	Response	Initiator	Timing
hotel...			<pre> [[{"type": "twin", price: "569.74", hotel_name: "Dual Aegis Resort", img: "twin4.jpg"}, ...] 0: [{"type": "twin", price: "569.74", hotel_name: "Dual Aegis Resort", img: "twin4.jpg"}] 1: [{"type": "double", price: "2400.00", hotel_name: "Dual Aegis Resort", img: "double4.jpg"}] 2: [{"type": "single", price: "395.52", hotel_name: "Dual Aegis Resort", img: "single4.jpeg"}] 3: [{"type": "king", price: "1137.79", hotel_name: "Dual Aegis Resort", img: "king4.jpg"}] 1: [{"type": "single", price: "395.52", hotel_name: "Dual Aegis Resort", img: "single4.jpeg"}] 0: [{"type": "single", price: "395.52", hotel_name: "Dual Aegis Resort", img: "single4.jpeg"}] feedback: "Great view of Dubai skyline, pool area is very relaxing and clean. The room is very luxurious with a big bath and modern decor rooms. The gym is great, has a lot of equipment." name: "Emmalynn" rate: "5" 1: [{"type": "single", price: "395.52", hotel_name: "Dual Aegis Resort", img: "single4.jpeg"}] feedback: "The beds are comfortable and there is plenty of drawers and closets for a full week or more for a family." name: "Jarrod" rate: "4" 2: [{"type": "single", price: "395.52", hotel_name: "Dual Aegis Resort", img: "single4.jpeg"}] feedback: "Clean, fun, great breakfast, and fantastic service! Nice central location as well. Highly recommended." name: "Paul" rate: "3" 3: [{"type": "single", price: "395.52", hotel_name: "Dual Aegis Resort", img: "single4.jpeg"}] feedback: "The gym is very good and well equipped. The sauna and steam room were a real highlight too. The room was clean and comfortable." name: "Franky" rate: "5" 4: [{"type": "single", price: "395.52", hotel_name: "Dual Aegis Resort", img: "single4.jpeg"}] feedback: "Location is also good, most things a short taxi ride away. Swimming pool, gym and spa available." name: "Brnaba" rate: "4" </pre>			
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boot...						
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jquery...						
jquery...						
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Thanks for booking with us

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Make Your Reservation

1

CHECK IN

25/11/2022

PERIOD OF STAY

6

1-50

HOTEL NAME

Dual Aegis Resort

BOOK NOW