-- Practical No.3 --

```sql
CREATE DATABASE ATHARVA;
USE ATHARVA;
CREATE TABLE HOTEL
(
Hotel_No int,
HName varchar(100),
City  varchar(100),
PRIMARY KEY(Hotel_No)
);

CREATE TABLE ROOM
(
Room_No int,
Hotel_No int,
RType varchar(100),
Price  int
);

CREATE TABLE BOOKING
(
Hotel_No int,
Guest_No int,
Date_From int,
Date_To int,
Room_No int
);

CREATE TABLE GUEST
(
Guest_No int,
Guest_Name varchar(100),
Guest_Address varchar(100),
PRIMARY KEY(Guest_No)
);

DESC HOTEL;

INSERT INTO HOTEL
```

```sql
VALUES
(01,'Damodar','Pune'),
(02,'SilverOak','Mumbai'),
(03,'RKHotel','Pune');

INSERT INTO ROOM
VALUES
(07,01,'Luxary',1200),
(08,02,'Double',800),
(09,01,'Single',200),
(10,03,'Triple',1000);

INSERT INTO BOOKING
VALUES
(01,11,'07-08-23','10-08-23',07),
(01,12,'08-09-23','09-09-23',08),
(02,13,'10-09-23','12-09-23',09),
(03,14,'11-09-23','15-09-23',10);

INSERT INTO GUEST
VALUES
(11,'Arjun','Delhi'),
(12,'Dhananjay','Pune'),
(13,'Aakrit','Nagpur'),
(14,'Rohit','Nashik');

SELECT * FROM ROOM;
SELECT * FROM HOTEL;
SELECT * FROM BOOKING;
SELECT * FROM GUEST;

-- New Day-- use
ATHARVA;
ALTER TABLE booking
MODIFY COLUMN DATE_FROM DATE, MODIFY COLUMN DATE_TO DATE;

-- Updating Values in Table --
UPDATE booking
SET DATE_FROM = '2023-08-07'
WHERE Guest_No=11;
```

```sql
UPDATE booking
SET DATE_FROM = '2023-09-08'
WHERE Guest_No=12;
UPDATE booking
SET DATE_FROM = '2023-09-10'
WHERE Guest_No=13;
UPDATE booking
SET DATE_FROM = '2023-09-11'
WHERE Guest_No=14;

UPDATE booking
SET DATE_TO = '2023-08-10'
WHERE Guest_No=11;
UPDATE booking
SET DATE_TO = '2023-09-09'
WHERE Guest_No=12;
UPDATE booking
SET DATE_TO = '2023-09-12'
WHERE Guest_No=13;
UPDATE booking
SET DATE_TO = '2023-09-15'
WHERE Guest_No=14;

ALTER TABLE booking
ADD foreign key (Guest_No) references guest(Guest_No);

-- -- -- -- Queries -- -- -- --

-- What is  the total revenue per night from all double rooms?
SELECT SUM(Price) from room
WHERE RType ='Double';

-- List the details of all rooms at the Damodar Hotel, including the name of the guest staying in
the room if the room is occupied.
SELECT * from hotel h INNER JOIN booking b
ON h.Hotel_No = b.Hotel_No
INNER JOIN guest g
ON b.Guest_No = g.Guest_No
WHERE HName = 'Damodar';
```

```sql
-- What is the average number of bookings for each hotel in September?
SELECT Hotel_No,AVG(Room_No) as Room_Average FROM booking
WHERE MONTH(DATE_FROM)>= 9 AND MONTH(DATE_FROM) <= 9
GROUP BY Hotel_No;

-- Create index on one of the field and show it's preformance in query
CREATE INDEX index_Hotel on hotel(HName);
Select * FROM hotel
WHERE HName = 'Damodar';

-- List full details of all hotels
SELECT * from hotel h INNER JOIN booking b
ON h.Hotel_No = b.Hotel_No
INNER JOIN guest g
ON b.Guest_No = g.Guest_No
INNER  JOIN  room  r  on
b.Room_No = r.Room_No;

-- List full details of all hotels in Pune
SELECT * from hotel h INNER JOIN booking b
ON h.Hotel_No = b.Hotel_No
INNER JOIN guest g
ON b.Guest_No = g.Guest_No
INNER  JOIN  room  r  on
b.Room_No = r.Room_No
WHERE City = 'Pune';

-- Upadte the price of all rooms by 5% UPDATE
room SET Price = Price + Price*0.05; select *
from room;

-- List the number of rooms in each hotel in Mumbai.
Select h.HName, r.Room_No AS 'Rooms in Mumbai'  FROM room r INNER JOIN hotel h ON
h.Hotel_No = r.Hotel_No
where r.Hotel_No = (SELECT Hotel_No FROM hotel
                    WHERE City = 'Mumbai');

-- List all Double or Single Rooms with a price below Rs.1000 per night in ASC order of price.
SELECT h.HName,r.Room_No,r.Price FROM room r INNER JOIN hotel h
ON h.Hotel_No = r.Hotel_No
```

WHERE RType ='Double' OR RType ='Single' AND Price <1000 ORDER BY Price ASC;