# Directions & Deliverable

Complete the following exercises in a single document. Label each question and/or letter clearly. For each query, provide a screen shot of your output. Submit your work electronically to Blackboard by the due date specified.

#### Exercises (4.5 pts ea)

*The following tables form part of a database held in a relational DBMS:*

Hotel (hotelNo, hotelName, city)

Room (roomNo, hotelNo, type, price)

Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)

Guest (guestNo, guestName, guestAddress)

*where* Hotel *contains hotel details and* hotelNo *is the primary key;*

Room contains room details for each hotel and (roomNo, hoteINo) forms the primary key;

Booking contains details of bookings and (hoteINo, guestNo, dateFrom) forms the primary key;

Guest contains guest details and guestNo is the primary key.

***Simple Queries***

1. *List full details of all hotels.*

SELECT \*

FROM Hotel

1. *List full details of all hotels in London.*

SELECT \*

FROM Hotel h

WHERE h.city = ‘London’

1. *List the names and addresses of all guests in London, alphabetically ordered by name.*

SELECT g.GuestName, g.Address

FROM Guest g JOIN Booking b

ON g.guestNo = b.guestNo

JOIN Hotel h ON b.hotelNo = h.hotelNo

WHERE h.city = ‘London’

GROUP BY g.GuestName

ORDER BY GuestName

1. *List all double or family rooms with a price below $40.00 per night, in ascending order of price.*

SELECT r.roomNo, r.type, r.proce

FROM Hotel h, Room r

WHERE h.hotelNo = r.hotelNo AND r.type = ‘double’ OR r.type = ‘family’

AND r.price < 40

ORDER BY r.price

1. *List the bookings for which no dateTo has been specified.*

SELECT \*

FROM Booking b

WHERE b.dateTo is NULL

***Aggregate Functions***

1. *How many hotels are there?*

SELECT COUNT(\*)

FROM Hotel h

1. *What is the average price of a room?*

SELECT AVG(r.price)

FROM Room r

1. *What is the total revenue per night from all double rooms?*

SELECT SUM(r.price)

FROM Room r

WHERE r.type = ‘double’

1. *How many different guests have made bookings for August?*

SELECT COUNT(\*)

FROM Booking b

WHERE MONTH(b.dateFrom) = 8

OR MONTH(b.dateTo) = 8

***Subqueries and Joins***

1. *List the price and type of all rooms at the Grosvenor Hotel.*

SELECT r.price, r.type

FROM Room r, Hotel h

WHERE r.hotelNo = h.hotelNo AND h.hotelName = ‘Grosvenor Hotel’

1. *List all guests currently staying at the Grosvenor Hotel.*

SELECT g.guestName

FROM Guests g, Booking g, Hotel h

WHERE g.guestNo = b.guestNo AND g.HotelNO = h.HotelNo

AND h.HotelName = ‘Grosvenor Hotel’

1. *List the details of all rooms at the Grosvenor Hotel, including the name of the guest staying in the room, if the room is occupied.*

SELECT r.\*, b.guestName

FROM Room r JOIN Hotel h ON r.hotelNo = h.hotelNo

JOIN Booking b ON h.hotelNo = b.hotelNo

WHERE b.guestNo IS NOT NULL

1. *What is the total income from bookings for the Grosvenor Hotel today?*

SELECT SUM(r.price) as [Total Income]

FROM Room r, Hotel h, Booking b

WHERE r.hoteNo = h.hotelNo AND h.hotelNo = b.hotelNo

AND h.hotelName = ‘Grosvenor Hotel’ AND b.dateFrom = GETDATE()

1. *List the rooms that are currently unoccupied at the Grosvenor Hotel.*

SELECT r.RoomNo, r.hotelNo, r.price, r.type

FROM Room r JOIN Hotel ON r.hotelNo = h.hotelNo

JOIN Booking b on b.hotelNo = h.hotelNo

WHERE h.hoteName = ‘Grosvenor Hotel’ AND GETDATE() IS NOT BETWEEN(b.dateFrom, b.dateTo)

1. *What is the lost income from unoccupied rooms at the Grosvenor Hotel?*

SELECT SUM(r.price) as [Lost Income]

FROM Room r JOIN Hotel h ON r.hotelNo = h.hotelNo

Join Booking b on b.hotelNo = h.hotelNo

WHERE b.dateFrom IS NULL

***Grouping***

1. *List the number of rooms in each hotel.*

SELECT h.hotelName, COUNT(r.hotelNo)

FROM Room r JOIN Hotel h ON r.hotelNo = h.hotelNo

GROUP BY hotelName

1. *List the number of rooms in each hotel in London.*

SELECT h.hotelName, COUNT(r.hotelNo)

FROM Room r JOIN Hotel h ON r.hotelNo = h.hotelNo

WHERE h.city = ‘London’

GROUP BY hotelName

1. *What is the average number of bookings for each hotel in August?*

SELECT h.hotelName, AVG(COUNT(b.hotelNo))

FROM Hotel h JOIN Booking b ON h.hotelNo = b.hotelNo

WHERE MONTH(b.fromDate) = 8 OR MONTH(b.toDate) = 8

GROUP BY hotelName

1. *What is the most commonly booked room type for each hotel in London?*

SELECT h.hotelName, MAX( COUNT(r.type))

FROM Hotel h JOIN Room r ON h.hotelNo = r.hotelNo

JOIN Booking b ON r.hotelNo

1. *What is the lost income from unoccupied rooms at each hotel today?*

SELECT h.hotelNo, h.hotelName, h.city, SUM(r.price)

FROM Room r, Hotel h, Booking b

WHERE r.hotelNo = b.hotelNo AND b.hotelNo = h.hotelNo AND b.guestNo IS NULL

GROUP BY h.hotelNo

***Populating Tables***

1. *Insert \*any\* records into each of these tables.*

INSERT INTO Hotel

VALUES(‘Trump’, ‘Las Vegas’)

INSERT INTO Room

VALUES(2, ‘Single’, 123.00)

INSERT INTO Booking

VALUES(2, 5, 12-10-2018, 14-10-2018, 201)

INSERT INTO Guest

VALUES(‘Tim Capehart’, ‘1234 Main St.’)

1. *Update the price of all rooms by 5%.*

UPDATE Room

SET price = price \* 1.05