# Exercise 10: SQL Queries – Subqueries & Joins

The following exercises can be done using either subqueries or joins, it is of course a good idea to solve the exercises twice hence using both subqueries and then Joins.

**Subqueries & Joins**

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

Subqueries:

SELECT price, type, hotelNo

FROM Room

WHERE hotelNo = (SELECT hotelNo FROM Hotel WHERE hotelNo = 2);

Join :

SELECT Room.price, Room.type, hotelName

FROM Room

JOIN Hotel ON Room.hotelNo = Hotel.hotelNo

WHERE Room.hotelNo = 2;

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

SELECT hotelNo, guestNo

FROM Booking

WHERE hotelNo = (SELECT hotelNo FROM Hotel WHERE hotelNo = 2);

SELECT Guest.guestName, Guest.guestAddress, Hotel.hotelName

FROM Booking

JOIN Guest ON Booking.guestNo = Guest.guestNo

JOIN Hotel ON Booking.hotelNo = Hotel.hotelNo

WHERE hotelName = 'Grosvenor Hotel';

**18. 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 Guest.guestName, Guest.guestAddress, Hotel.hotelName, Room.roomNo, Room.type, Booking.dateFrom, Booking.dateTo

FROM Booking

JOIN Guest ON Booking.guestNo = Guest.guestNo

JOIN Hotel ON Booking.hotelNo = Hotel.hotelNo

JOIN Room ON Booking.roomNo = Room.roomNo

WHERE hotelName = 'Grosvenor Hotel';

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

SELECT SUM(price) AS totalIncome

FROM Booking

JOIN Guest ON Booking.guestNo = Guest.guestNo

JOIN Hotel ON Booking.hotelNo = Hotel.hotelNo

JOIN Room ON Booking.roomNo = Room.roomNo

WHERE hotelName = 'Grosvenor Hotel';

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

SELECT Guest.guestName, Guest.guestAddress, Hotel.hotelName, Room.roomNo, Room.type, Booking.dateFrom, Booking.dateTo

FROM Booking

JOIN Guest ON Booking.guestNo = Guest.guestNo

JOIN Hotel ON Booking.hotelNo = Hotel.hotelNo

JOIN Room ON Booking.roomNo = Room.roomNo

WHERE dateFrom = '' AND dateTo = '';

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

SELECT Hotel.hotelName, Booking.dateFrom, Booking.dateTo, SUM(price) AS lostIncome

FROM Booking

JOIN Hotel ON Booking.hotelNo = Hotel.hotelNo

JOIN Room ON Booking.roomNo = Room.roomNo

WHERE dateFrom = Null AND dateTo = Null;

**Join**

*Do the following exercises using joins.*

*Exercise 40-42 should make use of Inner Join, Left Join and Right Join one for each exercise.*

**40. List details about hotels and their bookings at the hotels that have bookings**

SELECT Hotel.hotelName, Hotel.city, Booking.dateFrom, Booking.dateTo

FROM Hotel

LEFT JOIN Booking ON Hotel.hotelNo = Booking.hotelNo;

**41. List details about all hotels and show the bookings for each hotel. (it should also be visible if no booking is placed at a specific hotel)**

SELECT Hotel.hotelName, Booking.dateFrom, Booking.dateTo, Room.type

FROM Booking

LEFT JOIN Hotel ON Booking.hotelNo = Hotel.hotelNo

LEFT JOIN Room ON Booking.roomNo = Room.roomNo;

**42. List of all guest registered, and list their bookings if they have any.**

**This exercise should be done using only inner joins**

SELECT Guest.guestName, Guest.guestAddress, Booking.dateFrom, Booking.dateTo

FROM Guest

JOIN Booking ON Guest.guestNo = Booking.guestNo;

**43. List the guest name of the guests that have a booking, together with the hotel name, room number of the room they have booked. Also show the dateFrom, DateTo of the booking.**

SELECT Guest.guestName, Guest.guestAddress, Booking.dateFrom, Booking.dateTo, Hotel.hotelName, Room.roomNo, Room.type

FROM Booking

JOIN Guest ON Booking.guestNo = Guest.guestNo

JOIN Hotel ON Booking.hotelNo = Hotel.hotelNo

JOIN Room ON Booking.roomNo = Room.roomNo;