

Potential Solutions**Problem Set (5 points each unless otherwise noted):**

Write the SQL statements to perform the following tasks:

1. List all hotel details.

- `SELECT *`
`FROM hotel`

2. List all guest names.

- `SELECT guestName`
`FROM guest`

3. List the room types with a price at least 300.

- `SELECT type`
`FROM room`
`WHERE price >= 300`

4. List all rooms of type "Family Room" that are in cities starting with the letter "A".

- `SELECT r.*`
`FROM Room r, Hotel h`
`WHERE r.hotelNo = h.hotelNo AND r.type = 'Family Room' AND h.city`
`LIKE 'A%'`

5. List all guests who have stayed in the hotel with name "Akdeniz Hotel".

- `SELECT g.*`
`FROM Guest g, Booking b, Hotel h`
`WHERE g.guestNo = b.guestNo AND b.hotelNo = h.hotelNo`
`AND h.hotelName = 'Akdeniz Hotel'`

6. Remove all rooms which last had a booking that ended over two (2) years ago.
(10 points)

- NOTE: This one is increased points due to the extra work required to analyze the request

- DELETE
FROM Room
WHERE roomNo IN (SELECT roomNo
FROM Booking
GROUP BY roomNo
HAVING MAX(dateTo) < DATE_SUB(CURDATE(),
INTERVAL 2 YEAR))
7. List all guest names and addresses and the total number of bookings for each guest.
- SELECT g.guestName, g.guestAddress, COUNT(*)
FROM Guest g, Booking b
WHERE g.guestNo = b.guestNo
GROUP BY g.guestName, g.guestAddress
8. List all guest names along with the total price they have paid for all their bookings in our system.
- SELECT g.guestName, SUM(price)
FROM Guest g, Room r, Booking b
WHERE g.guestNo = b.guestNo AND b.roomNo = r.roomNo
AND b.hotelNo = r.hotelNo GROUP BY g.guestName
9. List the hotels and rooms that were not reserved on "1-Mar-2022".
- SELECT h.hotelName, r.roomNo
FROM Hotel h, Room r
WHERE (h.hotelNo, r.roomNo) NOT IN (SELECT b.hotelNo, b.roomNo
FROM Booking b
WHERE b.dateFrom <= "1-Mar-2022" AND
b.dateTo >= "1-Mar-2022")
10. Give a list of the guest names and hotel names they have stayed in. Do not display any room or date information.
- SELECT DISTINCT g.guestName, h.hotelName
FROM Guest g, Booking b, Hotel h
WHERE g.guestNo = b.guestNo AND b.hotelNo = h.hotelNo

11. How many unique room types are there?

- `SELECT COUNT(DISTINCT type)`
`FROM room`

12. For each guest who has spent more than 10,000 in rooms in the past year, list their name and their address and the hotel names and cities they have stayed in. (10 points)

- NOTE: This one is increased points due to the extra work required to analyze the request
- `SELECT DISTINCT g.guestName, g.guestAddress, h.hotelName, h.city`
`FROM Guest g, Booking b, Hotel h`
`WHERE g.guestNo = b.guestNo AND b.hotelNo = h.hotelNo AND`
`g.guestNo IN`
`(SELECT b.guestNo`
`FROM Booking b, Room r`
`WHERE b.roomNo = h.roomNo AND b.hotelNo = h.hotelNo`
`AND`
`dateTo > DATE_SUB(CURDATE(), INTERVAL 1 YEAR)`
`GROUP BY b.guestNo`
`HAVING SUM(price) > 10000)`