**The Queries:**

--first query: total revenue from all orders

SELECT SUM(Paid\_Amount) AS Total\_Revenue

FROM Payment;

--this is an aggregate query

--second query :average room price per hotel

SELECT H\_ID, AVG(R\_Price) AS Average\_Room\_Price

FROM Room

GROUP BY H\_ID;

--this is an aggregate query

--third query:customers who have booked rooms

SELECT Cust\_Name

FROM Customer

WHERE Cust\_ID IN (

SELECT Cust\_ID

FROM Room\_booked

);

--this is a query that uses a sub query to get the customers who have booked a room

--fourth query:hotels with no rooms booked

SELECT H\_name

FROM Hotel

WHERE H\_ID NOT IN (

SELECT H\_ID

FROM Room\_booked

);

--this is a query that uses a sub query to get the hotel whit no rooms booked

--fifth query : track order and payment details

SELECT C.Cust\_Name, O.Ord\_ID, P.Status

FROM Customer C

JOIN Orders O ON C.Cust\_ID = O.Cust\_ID

JOIN Payment P ON O.Cust\_ID = P.Cust\_ID;

--sixth query:used by car rental companies to track customer rentals and preferences

SELECT C.Cust\_Name, Car.Model, CC.Comp\_name

FROM Customer C

JOIN Car\_rented CR ON C.Cust\_ID = CR.Cust\_ID

JOIN Car ON CR.Car\_ID = Car.C\_ID

JOIN Car\_Comp CC ON CR.Comp\_ID = CC.Comp\_id;

--seventh query :used for loyalty programs and targeted marketing

SELECT C.Cust\_Name, SUM(P.Paid\_Amount) AS Total\_Spent

FROM Customer C

JOIN Orders O ON C.Cust\_ID = O.Cust\_ID

JOIN Payment P ON O.Cust\_ID = P.Cust\_ID

GROUP BY C.Cust\_Name

ORDER BY Total\_Spent DESC;

--eigth query :used by airline managers to analyze ticket sales performance

SELECT A.Air\_name, COUNT(TR.Ticket\_ID) AS Tickets\_Reserved

FROM Airline A

JOIN Ticket T ON A.Air\_ID = T.Air\_ID

JOIN Ticket\_reserved TR ON T.Ticket\_ID = TR.Ticket\_ID

GROUP BY A.Air\_name

ORDER BY Tickets\_Reserved DESC;

| **Query** | **Type** | **Frequency** | **Description** |
| --- | --- | --- | --- |
| 1. Total Revenue from All Payments | Aggregate | Daily/Weekly/Monthly | Sum of Paid\_Amount in the Payment table. |
| 2. Average Room Price per Hotel | Aggregate | Monthly/Quarterly | Average room price for each hotel. |
| 3. Customers Who Have Booked Rooms | Sub-query | Monthly | Customers who have booked rooms. |
| 4. Hotels with No Rooms Booked | Sub-query | Quarterly | Hotels with no rooms booked. |
| 5. Customer, Orders, and Payment | Join 3 Relations | Daily | Customer name, order ID, and payment status. |
| 6. Hotel, Room, and Room\_booked | Join 3 Relations | Daily | Hotel name, room number, and booking status. |
| 7. Top 5 Customers by Spending | Complex (Join + Aggregate) | Quarterly | Top 5 customers by total spending. |
| 8. Airlines with Most Tickets | Complex (Join + Aggregate) | Monthly | Airlines with the most tickets reserved. |