

Queries & Pathway Transaction

1-Total Value of Extra Services Used by Each Guest

```
select concat(guest_fname, ', ' , guest_lname) as full_name , sum(BS.quantity * HS.price) as  
total_service  
from Guests G  
inner join booking B  
ON G.guest_id = B.guest_id  
inner join Booking_service BS  
on B.booking_id = BS.booking_id  
inner join hotel_service HS  
on BS.service_id = HS.service_id  
group by guest_fname, guest_lname  
order by guest_fname
```

Send query to DBMS



Query Optimization



Call Tables: Guests G, Booking B, Booking_service BS, Hotel_service HS



Use Joins with Conditions:

- G.guest_id = B.guest_id
- B.booking_id = BS.booking_id
- BS.service_id = HS.service_id



Aggregate Data:

- SUM(BS.quantity * HS.price) AS total_service
- GROUP BY G.guest_fname, G.guest_lname



Collect Results:

- full_name (G.guest_fname + ' ' + G.guest_lname)
- total_service



Sort Results:

- ORDER BY G.guest_fname ASC



Show Results

2-Employee and Their Manager Details

```
select concat(e.employee_fname, ' ', e.employee_lname) as employee_name , concat(m.employee_fname, ' ', m.employee_lname) as manager_name, e.employee_role  
from Employees e inner join Employees m  
on e.manager_id= m.employee_id
```

Send query to DBMS

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Query Optimization

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Call Table: Employees e, Employees m

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Use Join with Condition:

- e.manager_id = m.employee_id

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Collect Results:

- employee_name (e.employee_fname + ' ' + e.employee_lname)
- manager_name (m.employee_fname + ' ' + m.employee_lname)
 - employee_role (e.employee_role)

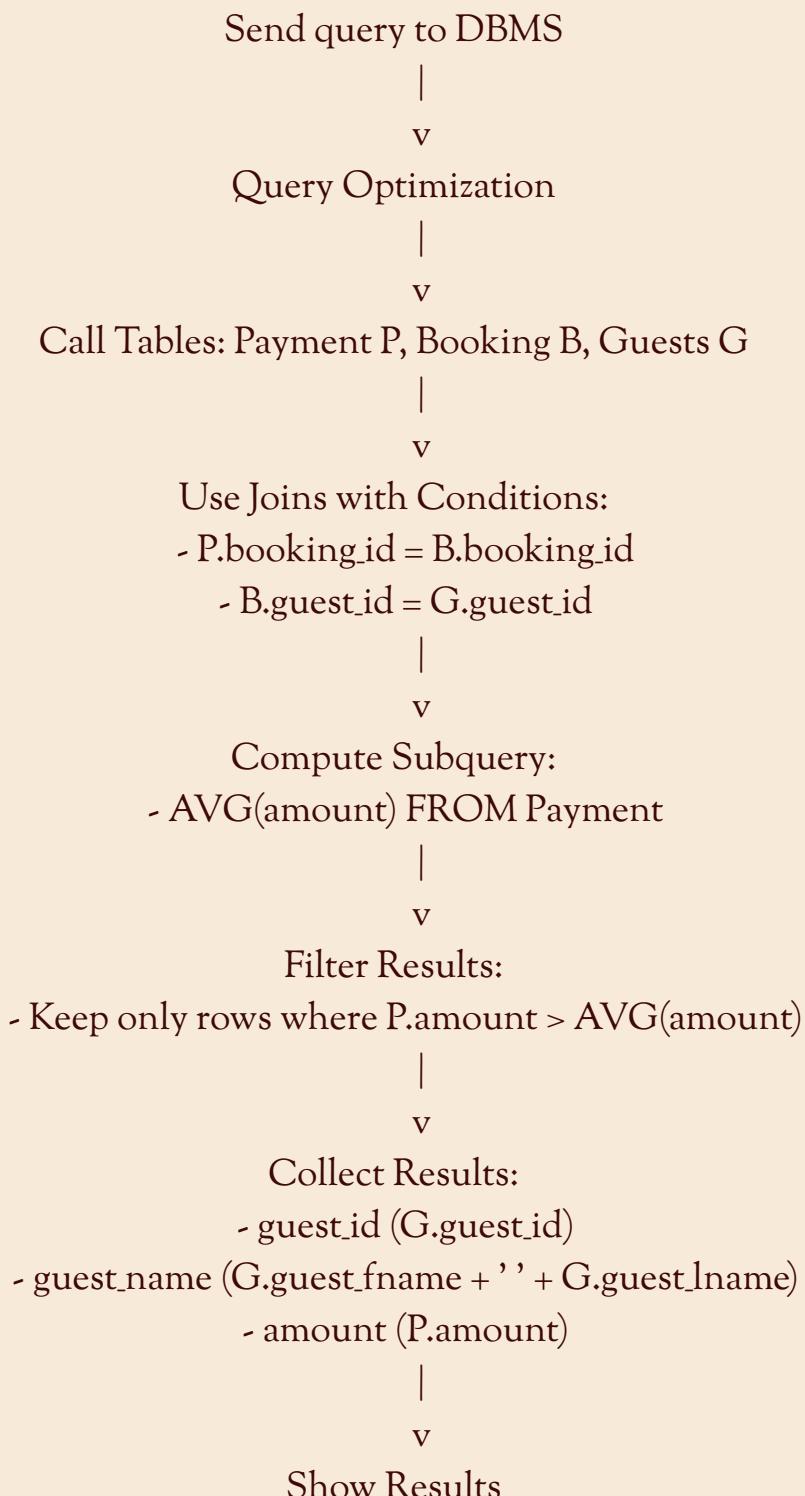
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Show Results

3-Guests Who Paid Above Average Amount

```
select G.guest_id, concat(G.guest_fname, ' ', G.guest_lname) as guest_name , P.amount  
      from Payment P  
inner JOIN Booking B on P.booking_id = B.booking_id  
inner JOIN Guests G on B.guest_id = G.guest_id  
where P.amount > (select AVG(amount) from Payment);
```



4-Monthly Revenue Report

```
select year(payment_date) as year , month(payment_date) as month, sum(amount) as total_amount  
      from payment  
 group by year(payment_date) , month(payment_date)  
 ORDER BY YEAR, MONTH;
```

Send query to DBMS

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Query Optimization

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Call Table: Payment

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Extract Year and Month from payment_date

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Aggregate Data:

- SUM(amount) AS total_amount
- GROUP BY year(payment_date), month(payment_date)

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Sort Results:

- ORDER BY year ASC, month ASC

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Collect Results:

- year
- month
- total_amount

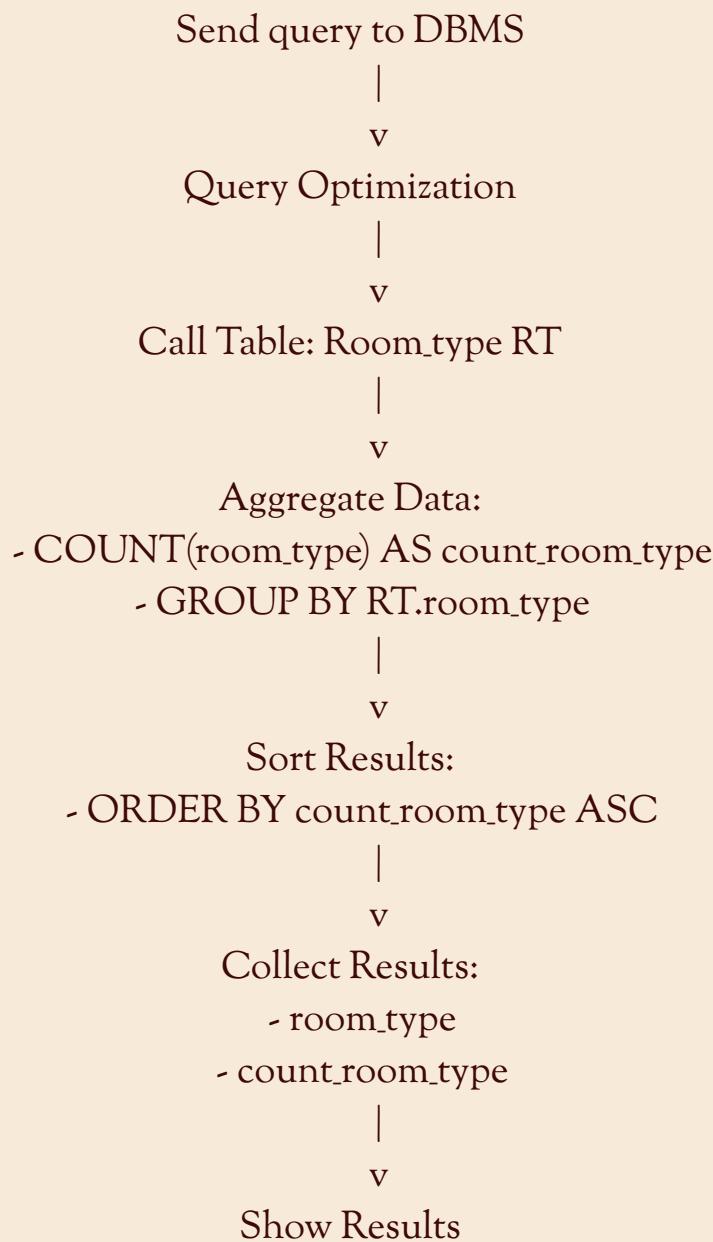
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Show Results

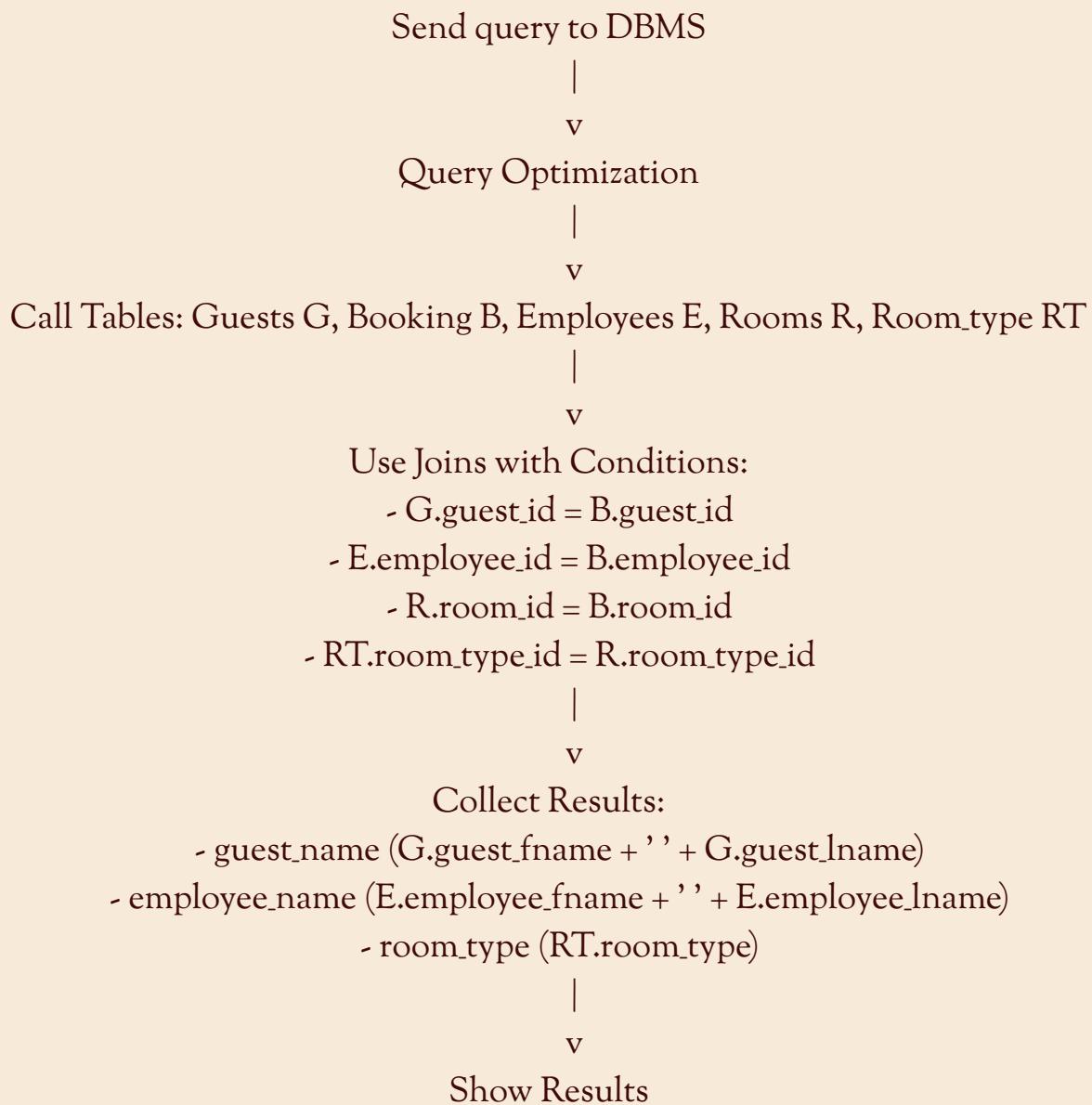
5-Count of Rooms per Room Type

```
SELECT RT.ROOM_TYPE , COUNT(ROOM_TYPE) AS COUNT_ROOM_TYPE  
      FROM ROOM_TYPE RT  
     GROUP BY ROOM_TYPE  
ORDER BY COUNT(ROOM_TYPE)
```



6-Booking Details: Guest, Employee, and Room Type

```
select concat(G.guest_fname, ' ', G.guest_lname) as guest_name , concat(e.employee_fname,'  
,e.employee_lname) as employee_name , room_type  
from guests G  
inner join Booking B  
on G.guest_id = B.guest_id  
inner join Employees E  
on E.employee_id = B.employee_id  
inner join Rooms R  
on R.room_id = B.room_id  
inner join Room_type RT  
on RT.room_type_id = R.room_type_id
```



7-Most Popular Extra Services

```
select S.name_service , count(name_service) as count_of_service
      from hotel_Service S
      inner join Booking_service BS
      on S.service_id = BS.service_id
      inner join Booking B
      on B.booking_id = BS.booking_id
      inner join Rooms R
      on R.room_id = B.room_id
      group by S.name_service
      order by count(name_service) desc
```

