

HOTEL RESERVATION ANALYSIS WITH SQL

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INTRODUCTION

- The hotel industry relies on data to make informed decisions and provide a better guest experience
- In this presentation, we will explore various aspects of hotel reservations and insights that can help in understanding customer behavior and improving service delivery. Our goal is to provide a comprehensive overview of the data, highlighting and offering actionable
- recommendations for enhancing the overall guest experience. This analysis is based on a detailed dataset of hotel reservations, encompassing information such as booking status, room types, customer demographics, and stay durations. By examining this data, we aim to uncover valuable insights that can inform strategic decisions and drive better business outcomes

DATASET DESCRIPTION

Dataset description The dataset includes the following columns:

- **Booking_ID:** A unique identifier for each hotel reservation.
- **no_of_adults:** The number of adults in the reservation.
- **no_of_children:** The number of children in the reservation.
- **no_of_weekend_nights:** The number of nights in the reservation that fall on weekends.
- **no_of_week_nights:** The number of nights in the reservation that fall on weekdays.
- **type_of_meal_plan:** The meal plan chosen by the guests.
- **room_type_reserved:** The type of room reserved by the guests.
- **lead_time:** The number of days between booking and arrival.
- **arrival_date:** The date of arrival.
- **market_segment_type:** The market segment to which the reservation belongs.
- **avg_price_per_room:** The average price per room in the reservation.
- **booking_status:** The status of the booking.

QUERIES TO ANALYZE THE HOTEL RESERVATION DATASET

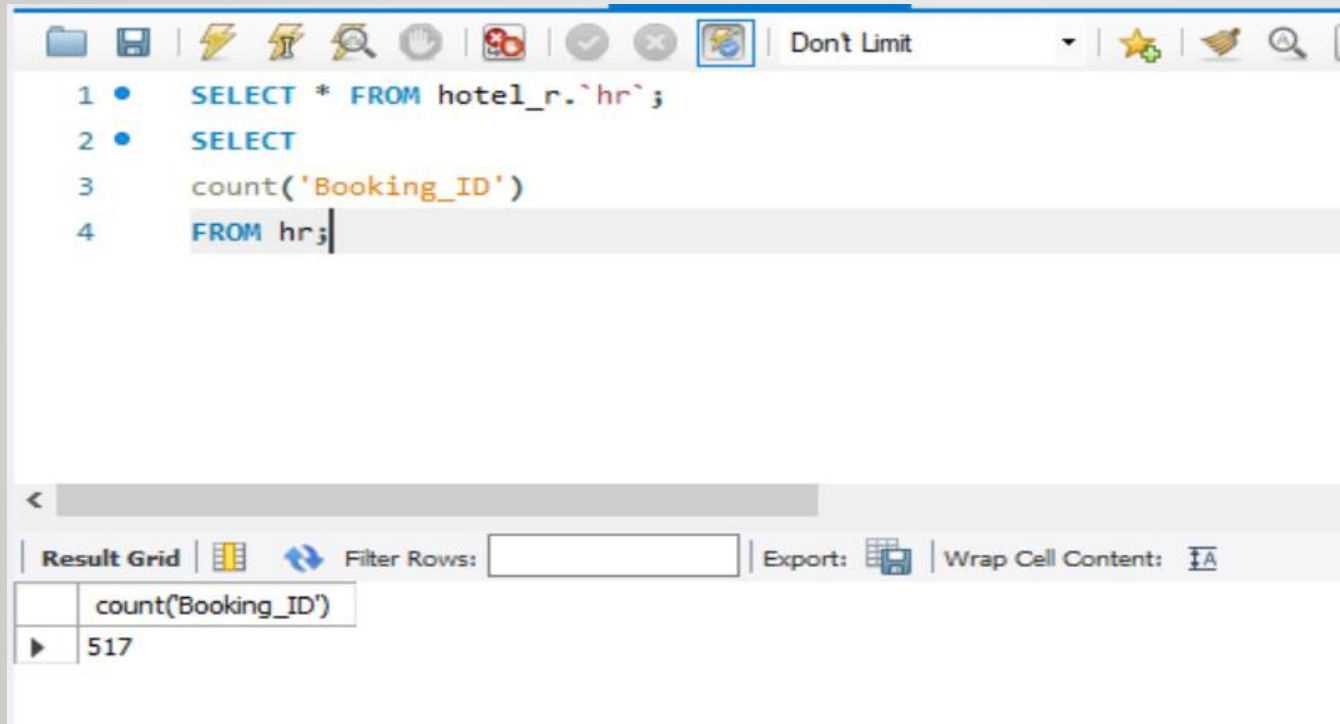
1. What is the total number of reservations in the dataset?
2. Which meal plan is the most popular among guests?
3. What is the average price per room for reservations involving children?
4. How many reservations were made for the year 20XX (replace XX with the desired year)?
5. What is the most commonly booked room type?
6. How many reservations fall on a weekend (`no_of_weekend_nights > 0`)?
7. What is the highest and lowest lead time for reservations?
8. How many reservations have a booking status of "Confirmed"?
9. What is the total number of adults and children across all reservations?
10. What is the average number of weekend nights for reservations involving children?
11. How many reservations were made in each month of the year?
12. What is the average number of nights (both weekend and weekday) spent by guests for each room type?
13. For reservations involving children, what is the most common room type, and what is the average price for that room type? •
14. Find the market segment type that generates the highest average price per room.
15. What is the total number of people of as per meal type ?

SQL QUERIES AND THE RESULT

SQL Queries and The Result

What Is The Total Number Of Reservations In The Dataset?

Result : 517



The screenshot shows a SQL query editor interface. The query is as follows:

```
1 • SELECT * FROM hotel_r.`hr`;
2 • SELECT
3   count('Booking_ID')
4   FROM hr;
```

Below the query editor is a result grid. The grid has two columns: the first column contains the SQL expression being evaluated, and the second column contains the result value.

	count('Booking_ID')
▶	517





The interface also includes a toolbar at the top with various icons and a 'Don't Limit' button. Below the query editor, there are options for 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'.

SQL Queries and The Result

Which Meal Plan Is The Most Popular Among Guests?

Result : Meal plan 1 with 390 count

```
1 • SELECT
2   type_of_meal_plan , count(*) AS Total
3   from hr
4   GROUP BY type_of_meal_plan
5   ORDER BY
6   Total DESC
7   LIMIT 1;
```

<   Filter Rows: | Export:  | Wrap Cell Content: 

	type_of_meal_plan	Total
▶	Meal Plan 1	390

SQL Queries and The Result

What is the average price per room for reservations involving children?

Result : Average price is 143.88 \$

```
6 • SELECT
7     avg(avg_price_per_room) AS avg_price
8     FROM hr
9     WHERE no_of_children > 0;
10
```

<

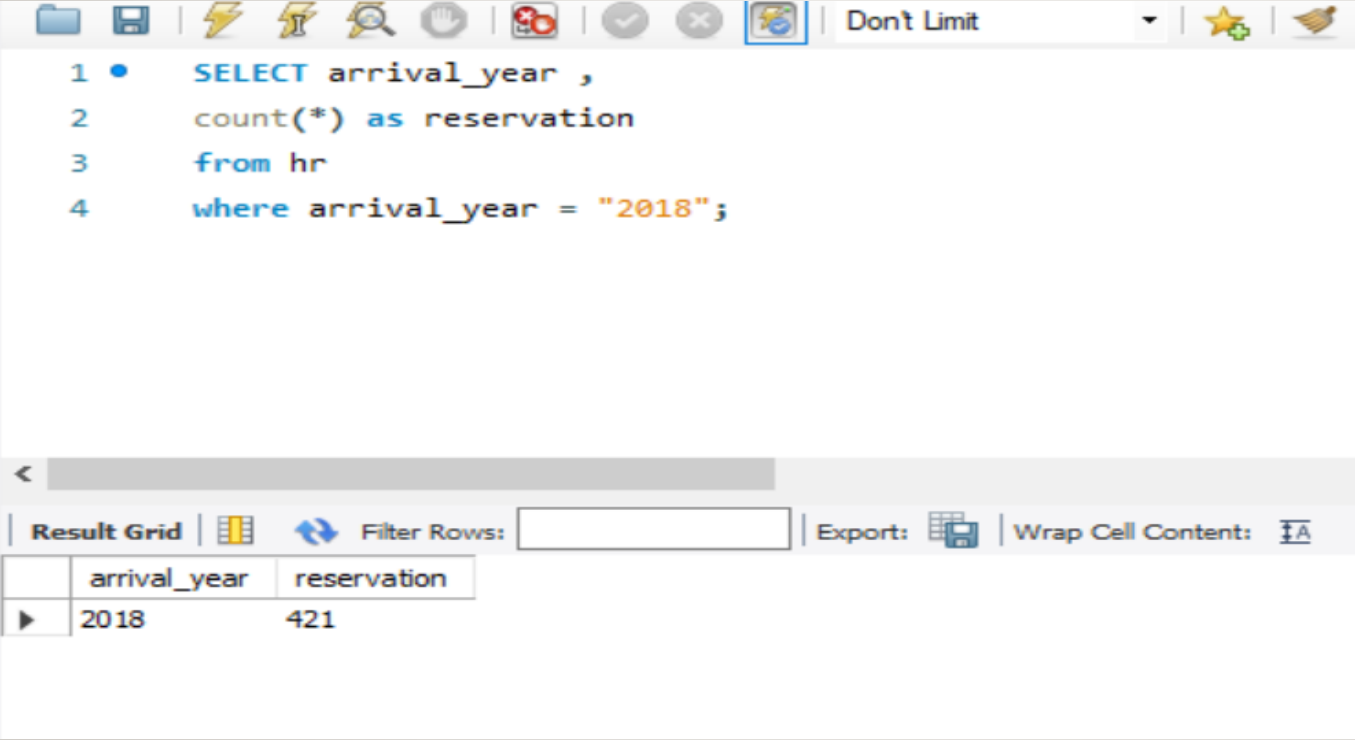
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	avg_price
▶	143.88

SQL Queries and The Result

How many reservations were made for the year 2018?

Result : 421 Reservations



The screenshot shows a SQL query editor interface. The query is as follows:

```
1 • SELECT arrival_year ,  
2     count(*) as reservation  
3     from hr  
4     where arrival_year = "2018";
```

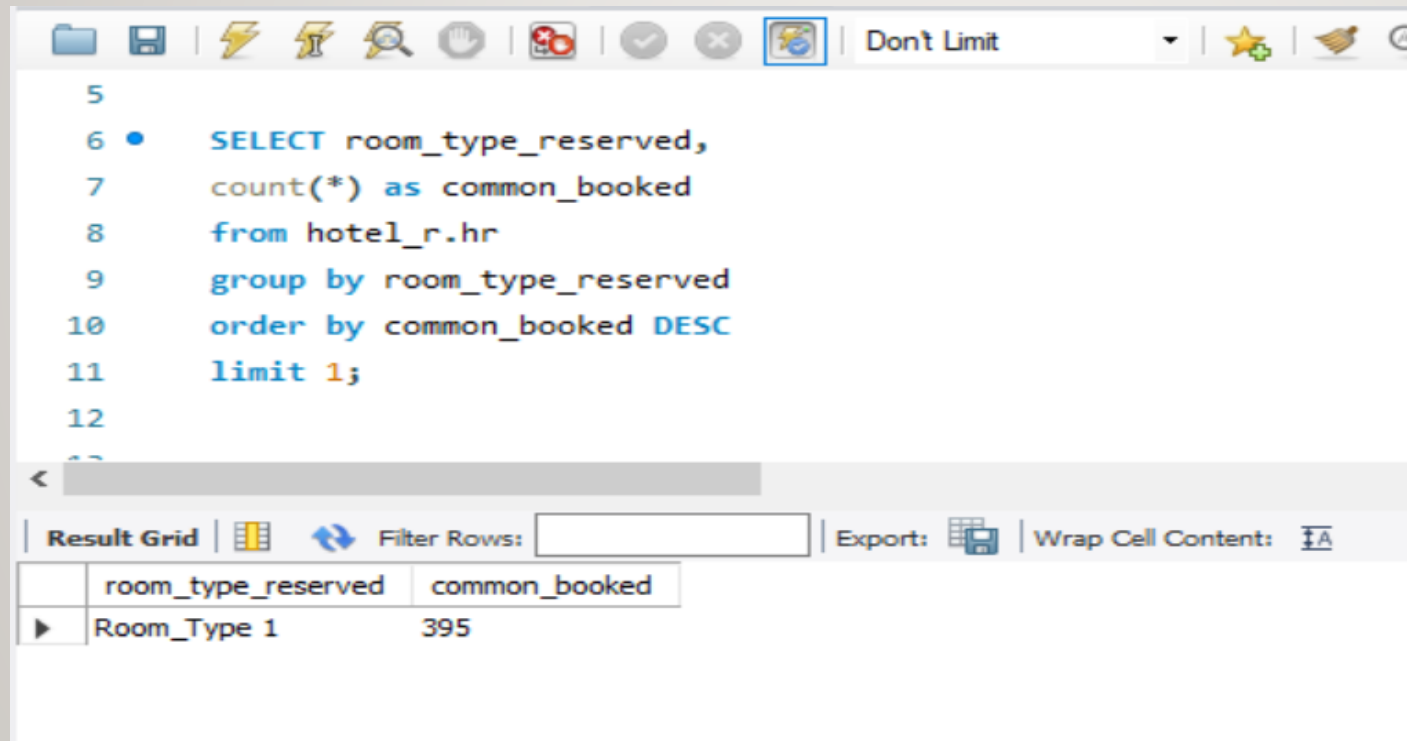
Below the query editor, the result grid is displayed. It has a toolbar with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. The result grid shows the following data:

	arrival_year	reservation
▶	2018	421

SQL Queries and The Result

What is the most commonly booked room type?

Result : Room Type 1 common booked



The screenshot shows a SQL query editor window with a toolbar at the top. The query is as follows:

```
5  
6 • SELECT room_type_reserved,  
7       count(*) as common_booked  
8       from hotel_r.hr  
9       group by room_type_reserved  
10      order by common_booked DESC  
11      limit 1;  
12  
13
```

Below the query editor is a result grid. The grid has two columns: 'room_type_reserved' and 'common_booked'. The first row of data shows 'Room_Type 1' and '395'.



room_type_reserved	common_booked
Room_Type 1	395

SQL Queries and The Result

How many reservations fall on a weekend (no_of_weekend_nights > 0)?

Result : 290 Reservations

```
12
13 • SELECT count(*) as reservations
14    from hotel_r.hr
15    where no_of_weekend_nights > 0;
```

Result Grid |  Filter Rows: | Export:  |



	reservations
	290

SQL Queries and The Result

How many reservations fall on a weekend (no_of_weekend_nights > 0)?

Result : 290 Reservations

```
12
13 • SELECT count(*) as reservations
14    from hotel_r.hr
15    where no_of_weekend_nights > 0;
```

Result Grid |  Filter Rows: | Export:  |



	reservations
	290

SQL Queries and The Result

How many reservations have a booking status of "Confirmed"?

Result : 360 Confirmed Bookings

```
22 • select
23     count(*) as confirmed_r
24     from hr
25     where booking_status="not_canceled";
26
27
```

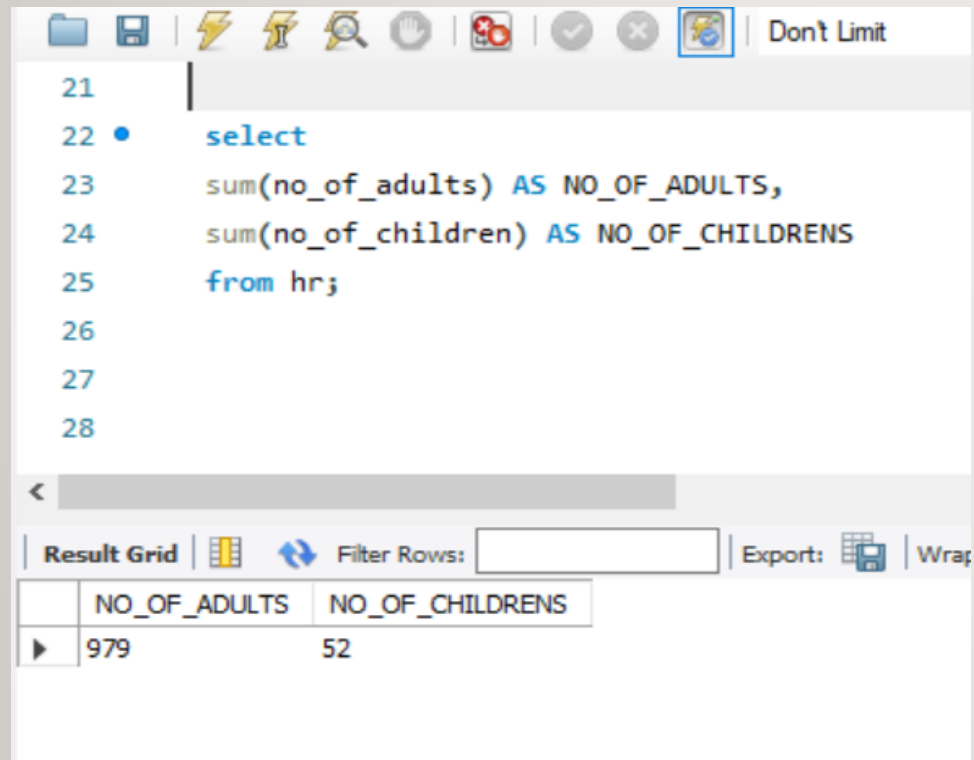
<  Filter Rows: Export:  W

	confirmed_r
▶	360

SQL Queries and The Result

What is the total number of adults and children across all reservations?

Result : 979 Childrens and 52 Adults



The screenshot shows a SQL query editor window. The query is as follows:

```
21  
22 • select  
23     sum(no_of_adults) AS NO_OF_ADULTS,  
24     sum(no_of_children) AS NO_OF_CHILDRENS  
25 from hr;  
26  
27  
28
```

Below the query editor is a "Result Grid" tab. It contains a table with the following data:

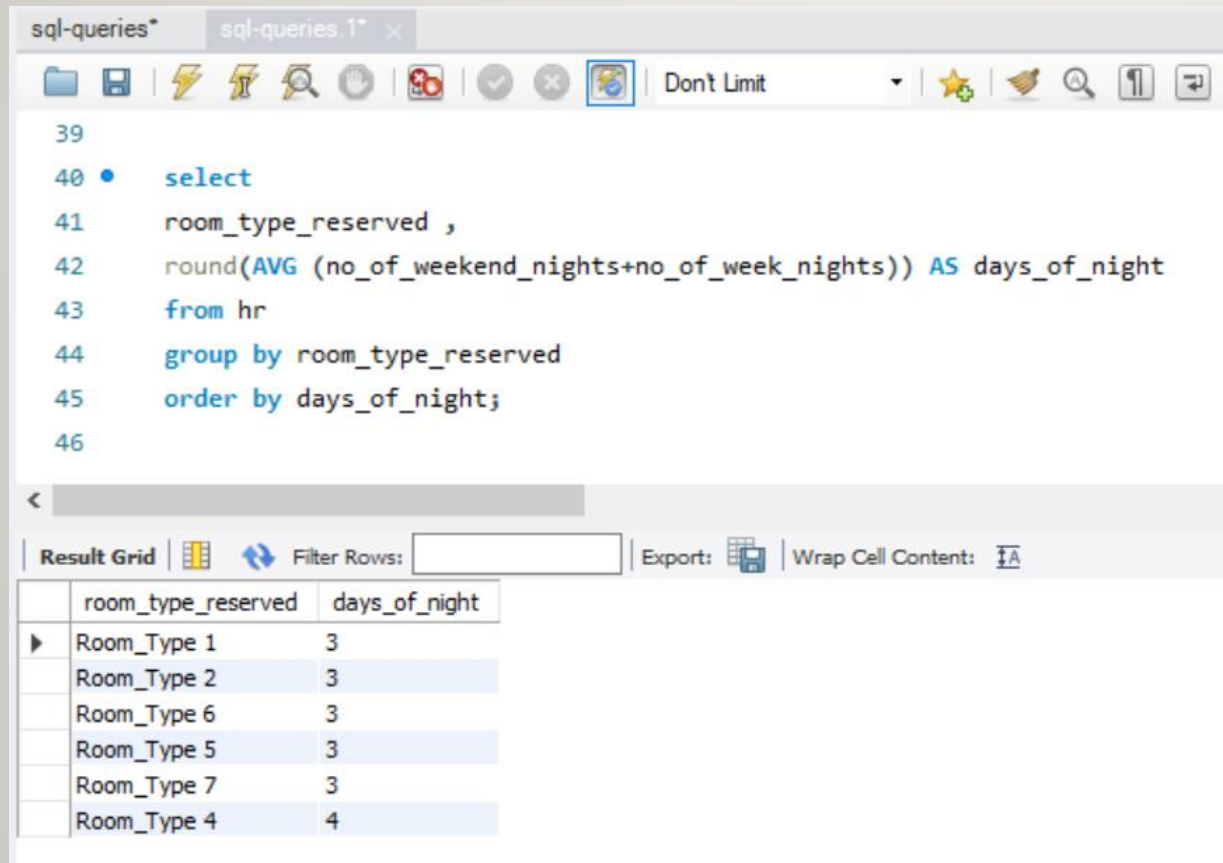
	NO_OF_ADULTS	NO_OF_CHILDRENS
▶	979	52

The interface includes a toolbar at the top with various icons (file, save, undo, redo, search, etc.) and a "Don't Limit" button. The "Result Grid" tab also has a "Filter Rows" input field and an "Export" button.

SQL Queries and The Result

What is the average number of nights (both weekend and weekday) spent by guests for each room type?

Result : See Query



The screenshot shows a SQL query editor window titled 'sql-queries*' with a tab 'sql-queries.1'. The query is as follows:

```
39
40 • select
41     room_type_reserved ,
42     round(AVG (no_of_weekend_nights+no_of_week_nights)) AS days_of_night
43 from hr
44 group by room_type_reserved
45 order by days_of_night;
46
```

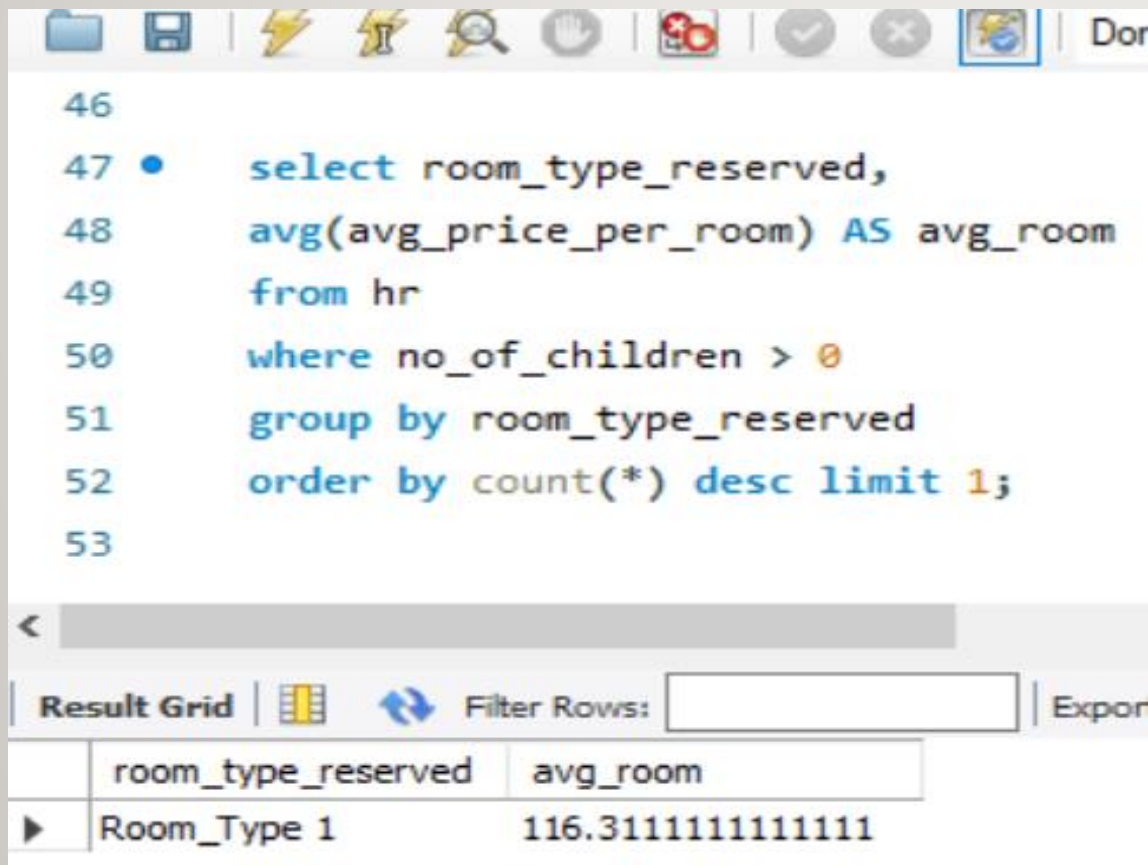
Below the query editor, the 'Result Grid' is displayed, showing the results of the query. The grid has two columns: 'room_type_reserved' and 'days_of_night'. The results are as follows:

room_type_reserved	days_of_night
Room_Type 1	3
Room_Type 2	3
Room_Type 6	3
Room_Type 5	3
Room_Type 7	3
Room_Type 4	4

SQL Queries and The Result

For reservations involving children, what is the most common room type, and what is the average price for that room type?

Result : Room Type 1



The screenshot shows a SQL query editor window with a toolbar at the top containing icons for file operations, execution, and navigation. The query text is as follows:

```
46  
47 • select room_type_reserved,  
48      avg(avg_price_per_room) AS avg_room  
49      from hr  
50      where no_of_children > 0  
51      group by room_type_reserved  
52      order by count(*) desc limit 1;  
53
```

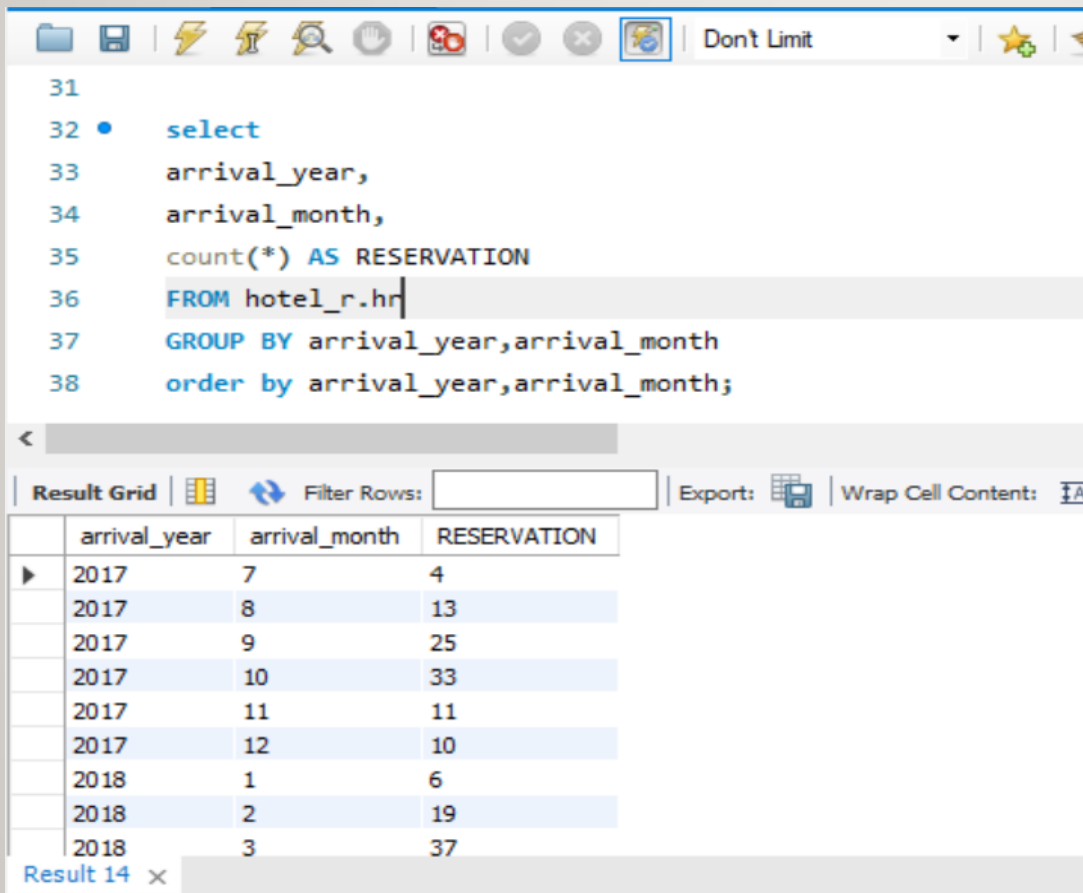
Below the query editor is a horizontal scrollbar. At the bottom, there is a 'Result Grid' section with a 'Filter Rows' input field and an 'Export' button. The result grid displays the following data:

	room_type_reserved	avg_room
▶	Room_Type 1	116.311111111111

SQL Queries and The Result

How many reservations were made in each month of the year?

Result : See the Query



The screenshot shows a SQL query editor window with a toolbar at the top. The query is as follows:

```
31
32 • select
33     arrival_year,
34     arrival_month,
35     count(*) AS RESERVATION
36 FROM hotel_r.hr
37 GROUP BY arrival_year,arrival_month
38 order by arrival_year,arrival_month;
```

Below the query editor is a 'Result Grid' section. It includes a 'Filter Rows' input field, an 'Export' button, and a 'Wrap Cell Content' checkbox. The grid displays the following data:

	arrival_year	arrival_month	RESERVATION
▶	2017	7	4
	2017	8	13
	2017	9	25
	2017	10	33
	2017	11	11
	2017	12	10
	2018	1	6
	2018	2	19
	2018	3	37

At the bottom left, there is a tab labeled 'Result 14' with a close button (X).

SQL Queries and The Result

What is the average number of weekend nights for reservations involving children?

Result : 1 Night

```
27 • SELECT
28     avg(no_of_weekend_nights) as weekedn_nights_child
29     from hotel_r.hr
30     where no_of_children > 0;
31
```

<

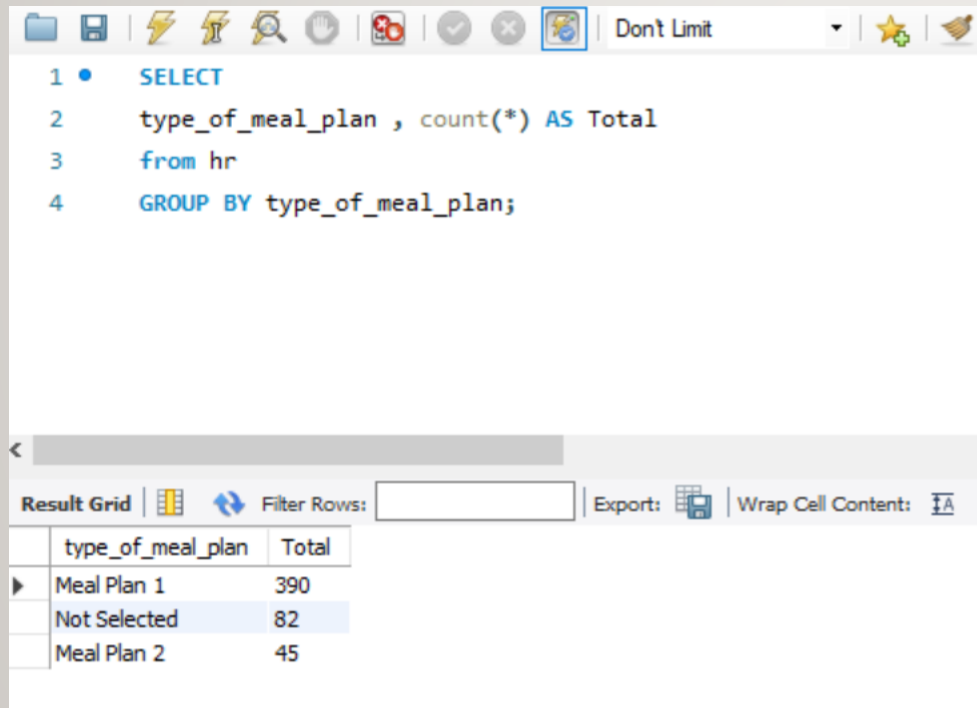
Result Grid   Filter Rows: Export:  Wrap Cell Content: 

	weekedn_nights_child
▶	1.0000

SQL Queries and The Result

What is the total number of people of as per meal type ?

Result : Plan 1 (390) ,Plan 2 (45), Not Selected (82)



The screenshot shows a SQL query editor window. The query is as follows:

```
1 • SELECT
2   type_of_meal_plan , count(*) AS Total
3   from hr
4   GROUP BY type_of_meal_plan;
```

Below the query editor is the 'Result Grid' tab. It displays the results of the query in a table format. The table has two columns: 'type_of_meal_plan' and 'Total'. The results are as follows:

type_of_meal_plan	Total
Meal Plan 1	390
Not Selected	82
Meal Plan 2	45