HOTEL RESERVATION ANALYSIS

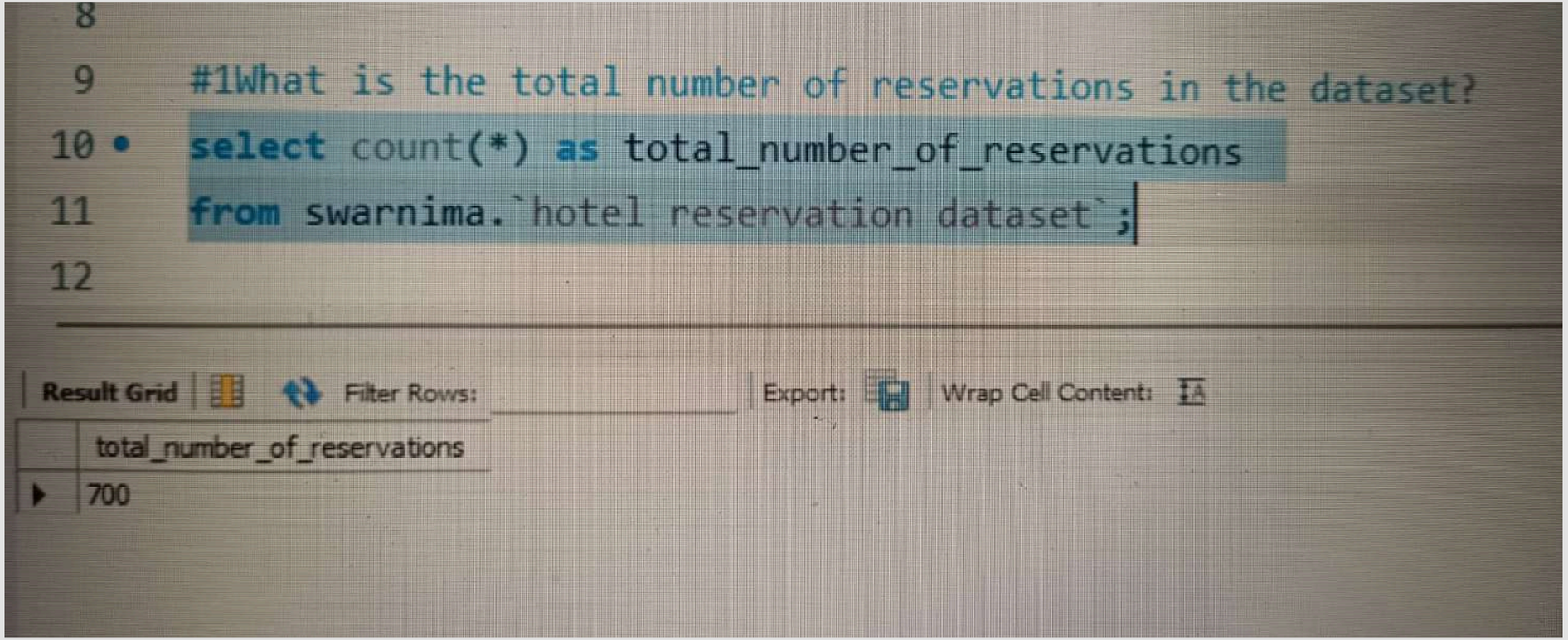
- The hotel industry relies on data to make informed decisions and provide a better guest experience.
- In this internship, I worked with a hotel reservation dataset to gain insights into guest preferences, booking trends, and other key factors that impact the hotel's operations.
- Used SQL to query and analyze the data, as well as answer specific questions about the dataset.

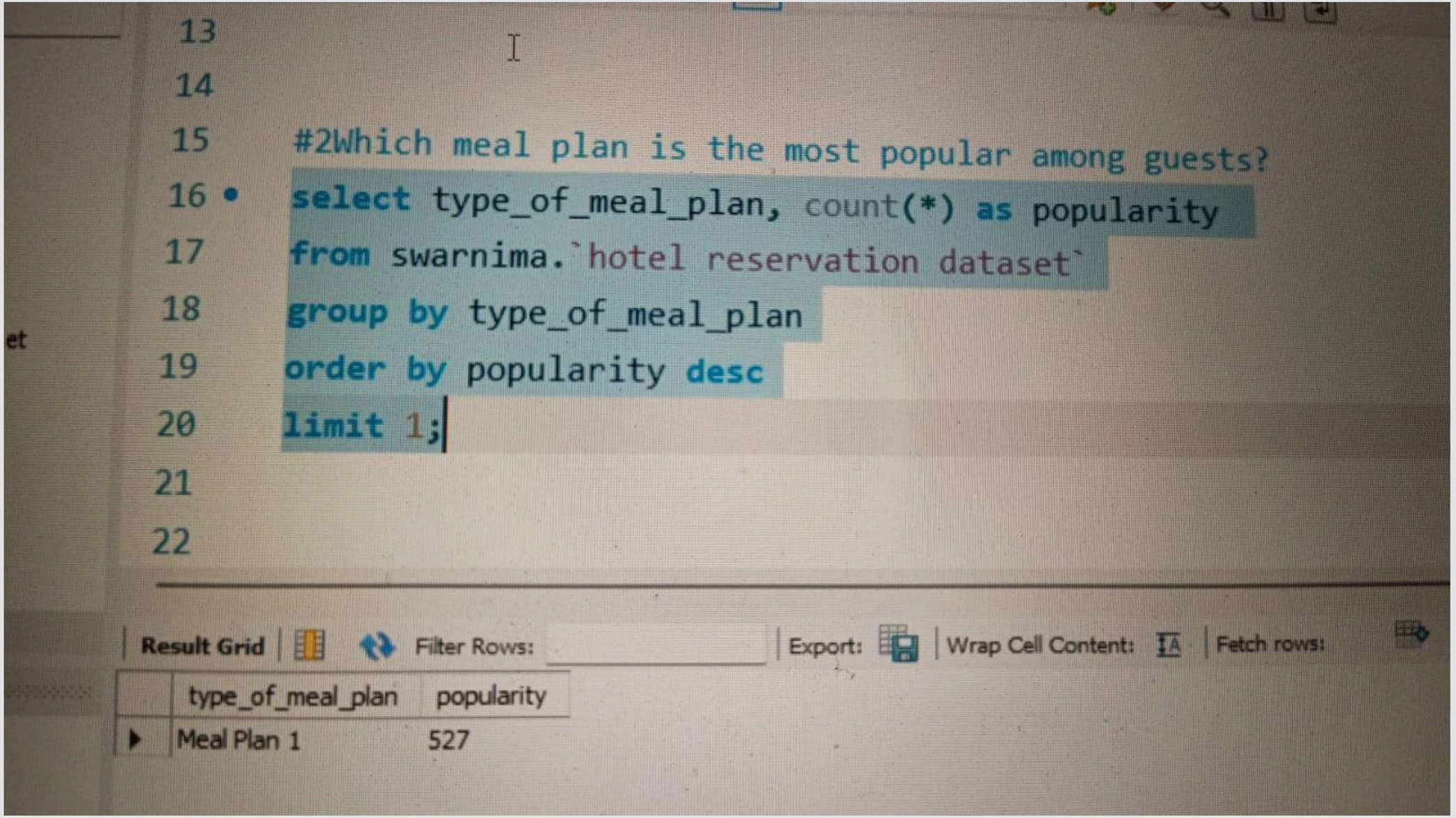
The dataset includes the following columns:

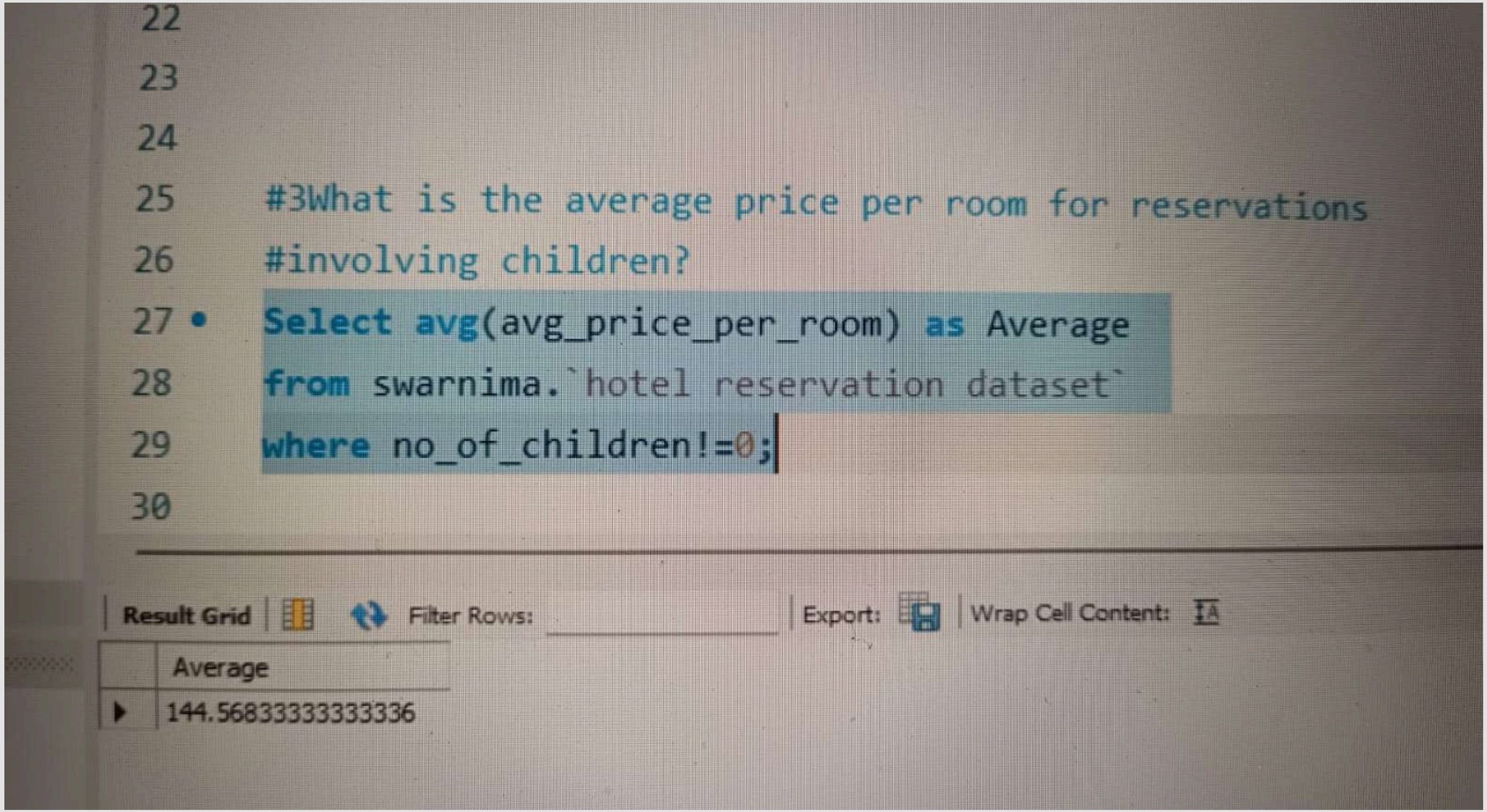
- **Booking_ID:** A unique identifier for each hotel reservation.
- **no_of_adults:** The number of adults in the reservation.
- **no_of_children:** The number of children in the reservation.
- **no_of_weekend_nights:** The number of nights in the reservation that fall on weekends.
- **no_of_week_nights:** 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 reservationbelongs.
- **avg_price_per_room**: The average price per room in the reservation.
- **booking_status**: The status of the booking.

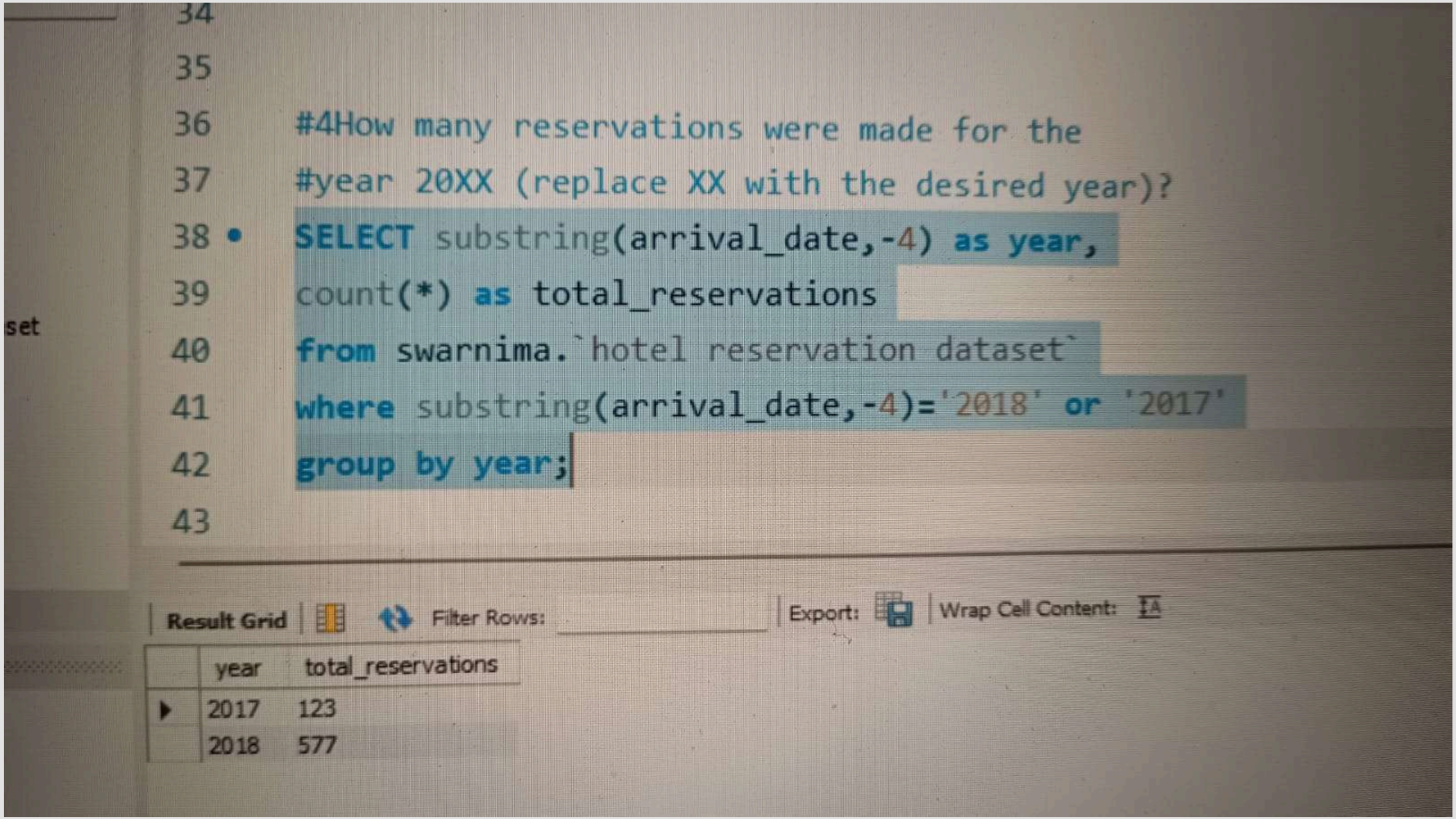
Here are 15 questions for which I have answered with the help of SQL queries:

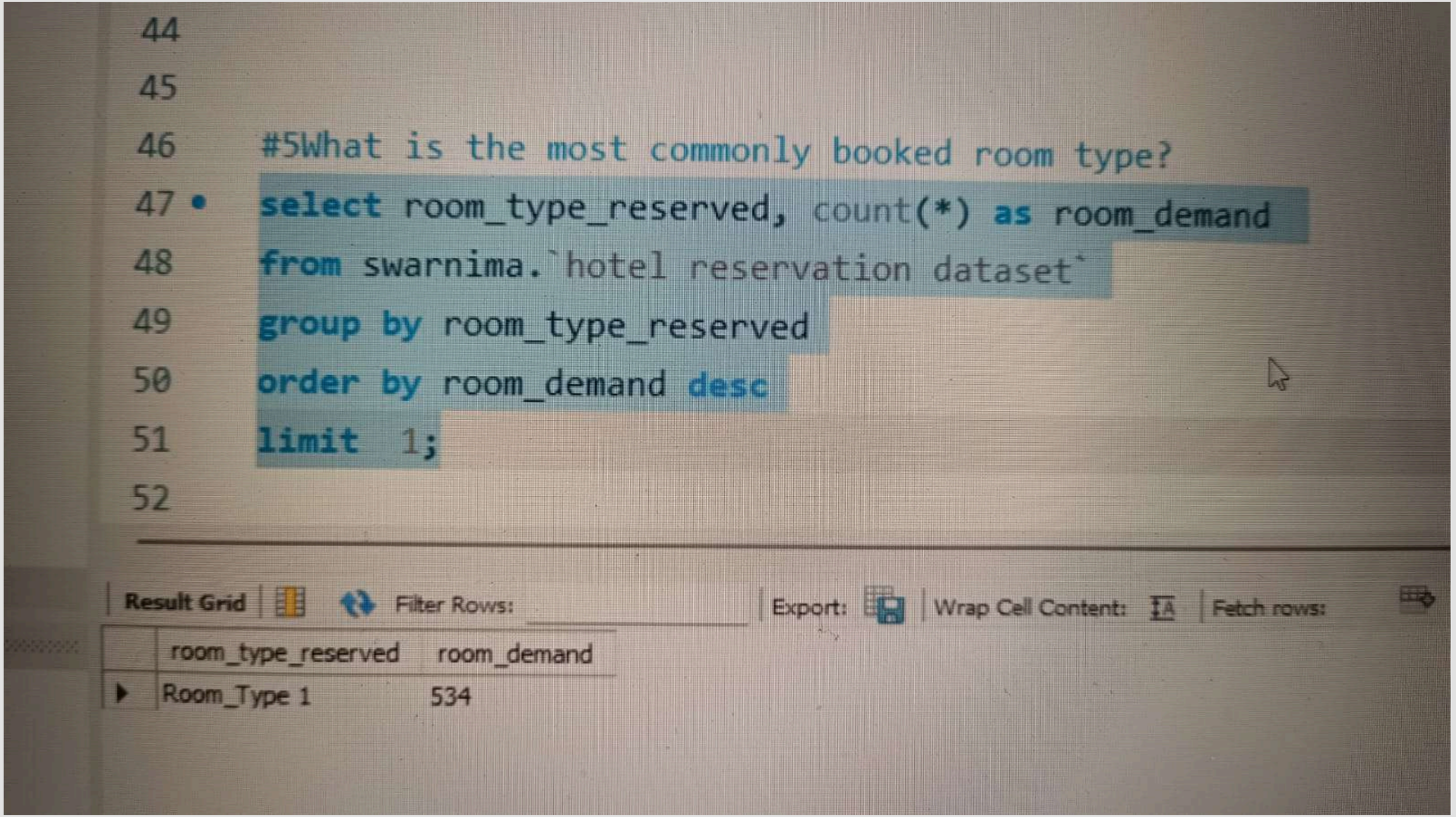
1. What is the total number of reservations in the dataset?
2. Which meal plan is the most popular among guests?
3. What is the average price per room for reservations involving children?
4. How many reservations were made for the year 20XX (replace XX with the desired year)?
5. What is the most commonly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

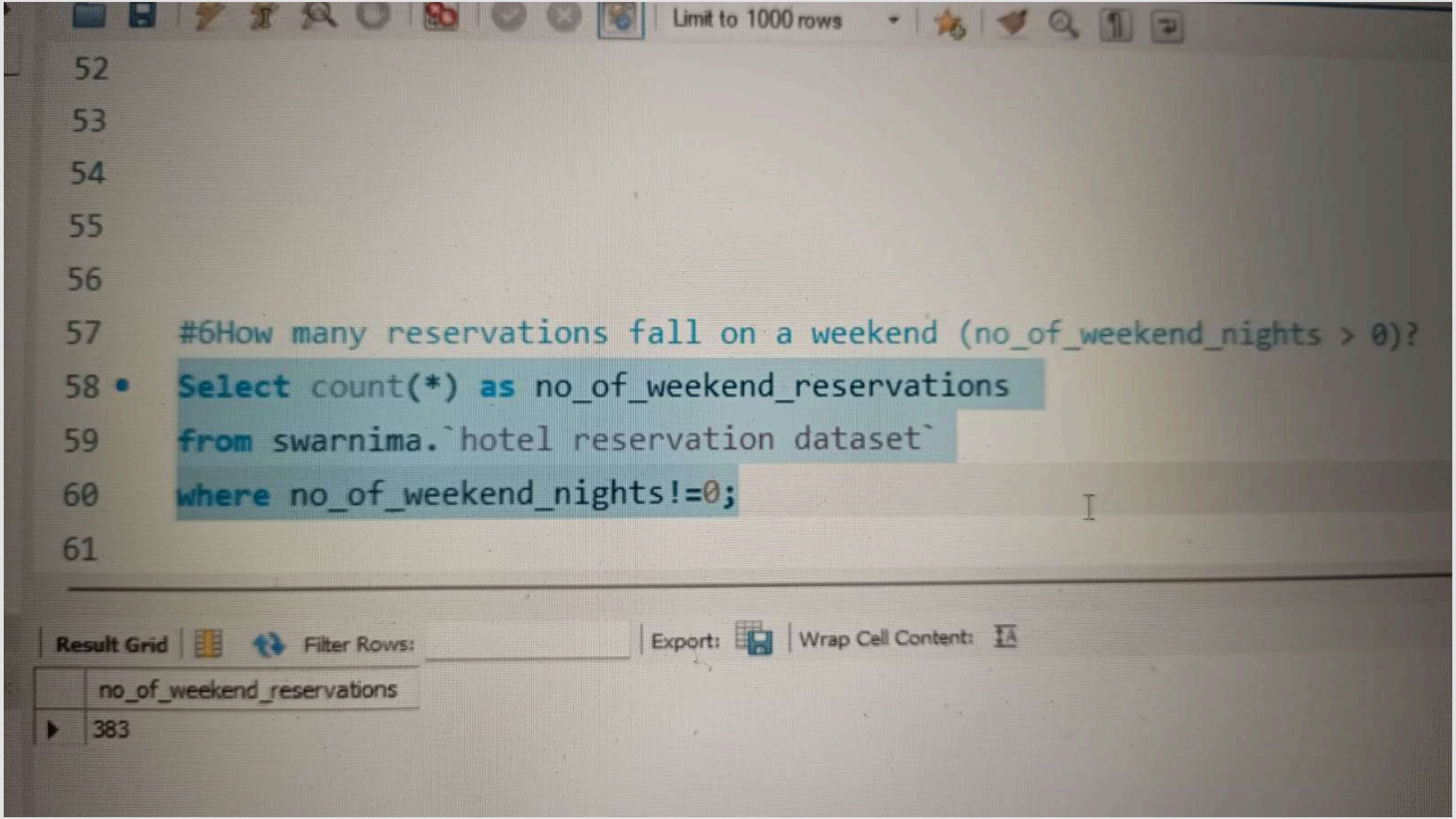

8
9 #1What is the total number of reservations in the dataset?
10 • select count(*) as total_number_of_reservations
11 from swarnima.`hotel reservation dataset`;
12
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
total_number_of_reservations
700

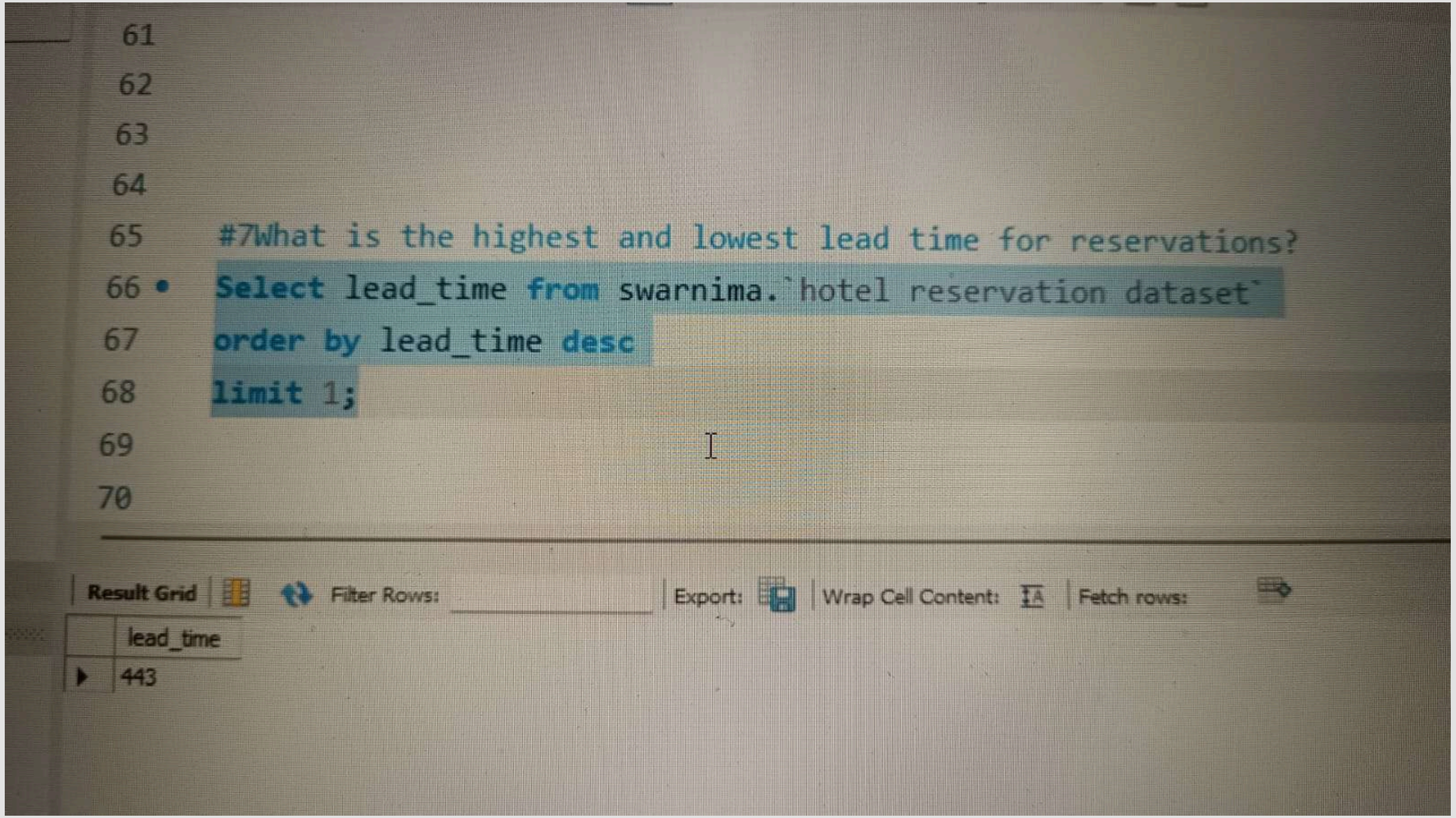

13
14
15 #2Which meal plan is the most popular among guests?
16 • select type_of_meal_plan, count(*) as popularity
17 from swarnima.`hotel reservation dataset`
18 group by type_of_meal_plan
19 order by popularity desc
20 limit 1;
21
22
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Fetch rows:
type_of_meal_plan
popularity
Meal Plan 1
527

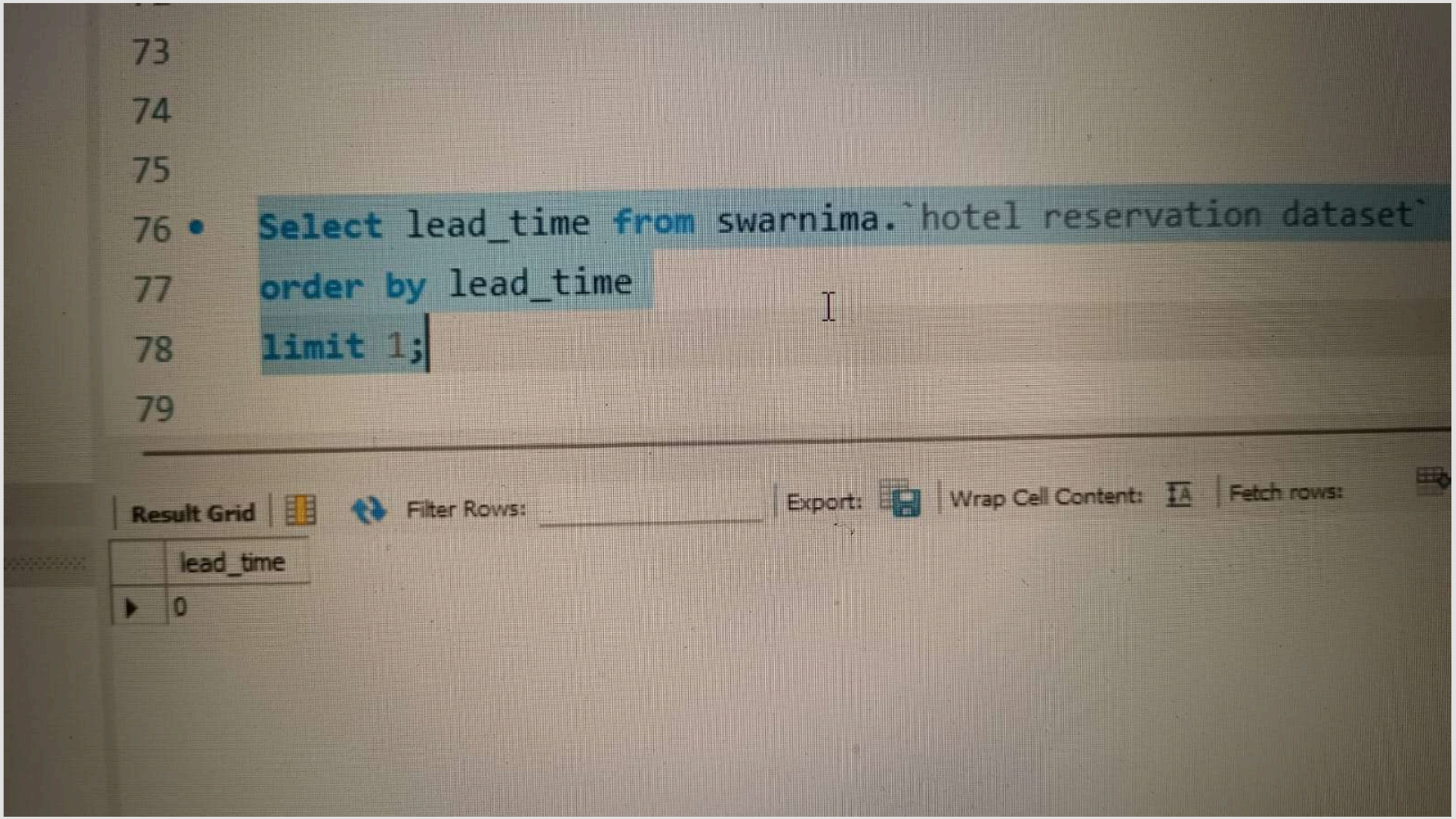

22
23
24
25 #3What is the average price per room for reservations
26 #involving children?
27 • Select avg(avg_price_per_room) as Average
28 from swarnima.`hotel reservation dataset`
29 where no_of_children!=0;
30
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Average
144.56833333333336

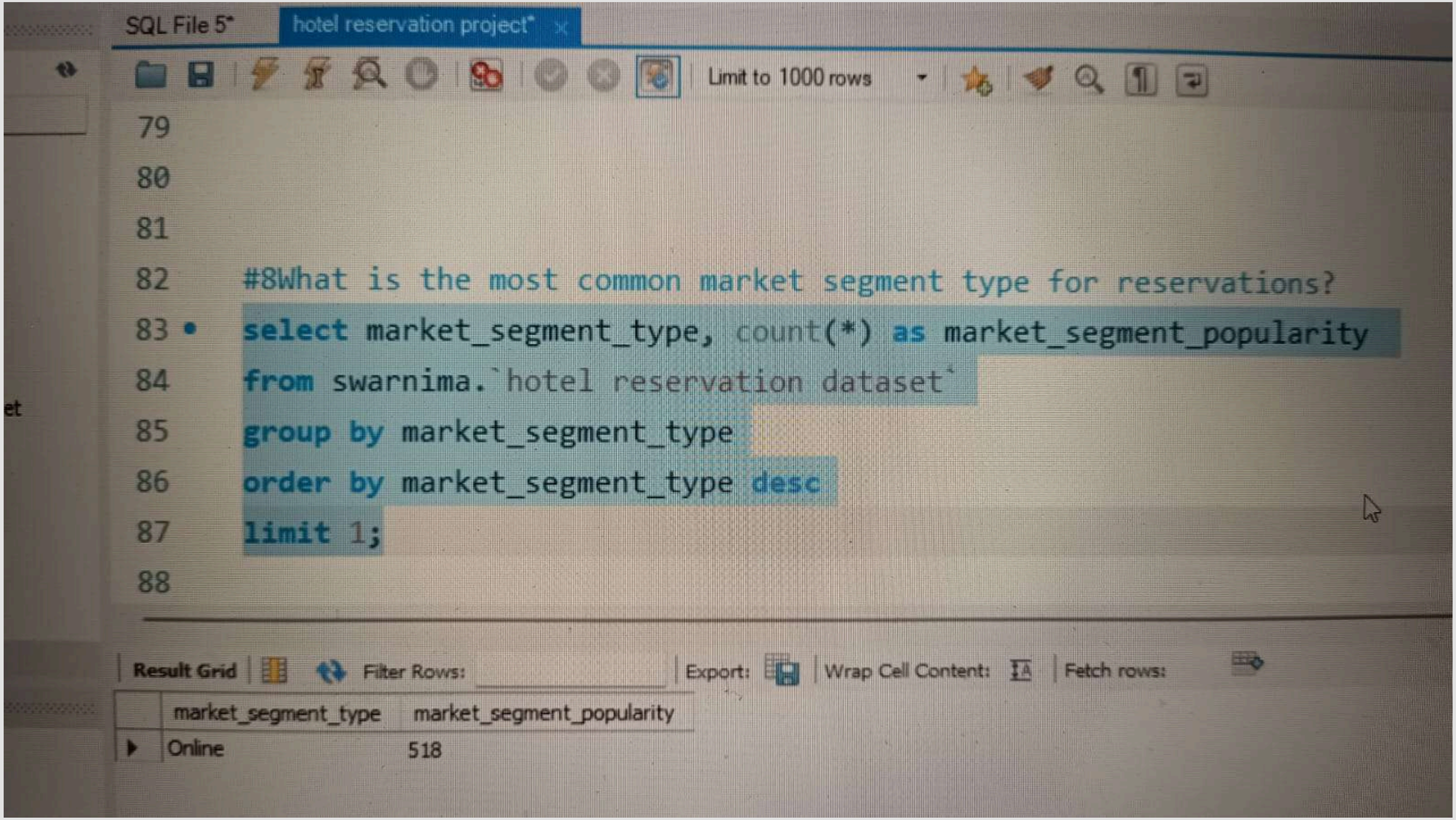

34
35
36 #4How many reservations were made for the
37 #year 20XX (replace XX with the desired year)?
38 • SELECT substring(arrival_date,-4) as year,
39 count(*) as total_reservations
40 from swarnima.`hotel reservation dataset`
41 where substring(arrival_date,-4)='2018' or '2017'
42 group by year;
43
set
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
year
total_reservations
2017
123
2018
577

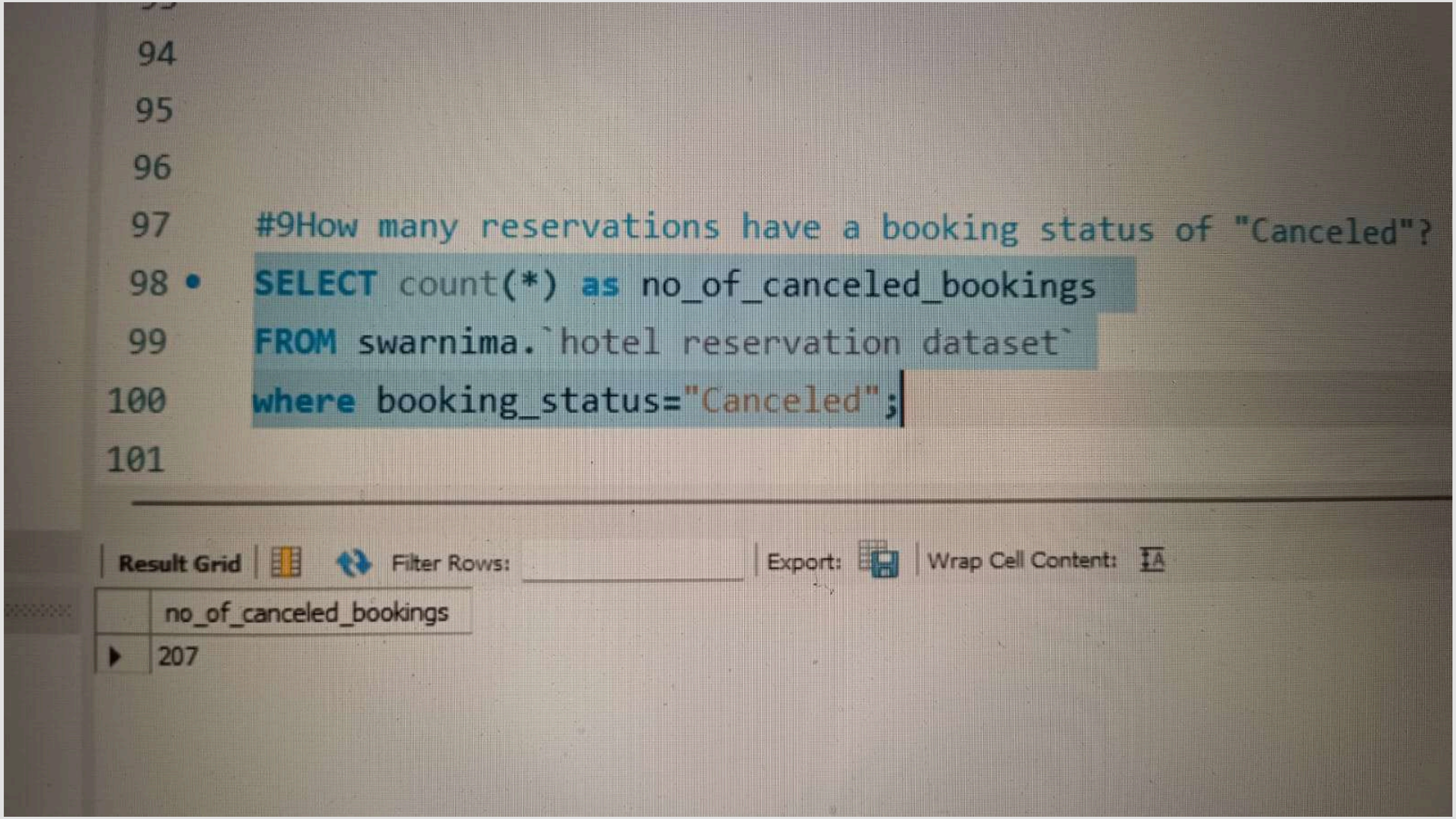

44
45
46 #5What is the most commonly booked room type?
47 • select room_type_reserved, count(*) as room_demand
48 from swarnima.`hotel reservation dataset`
49 group by room_type_reserved
50 order by room_demand desc
51 limit 1;
52
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Fetch rows:
room_type_reserved
room_demand
Room_Type 1
534

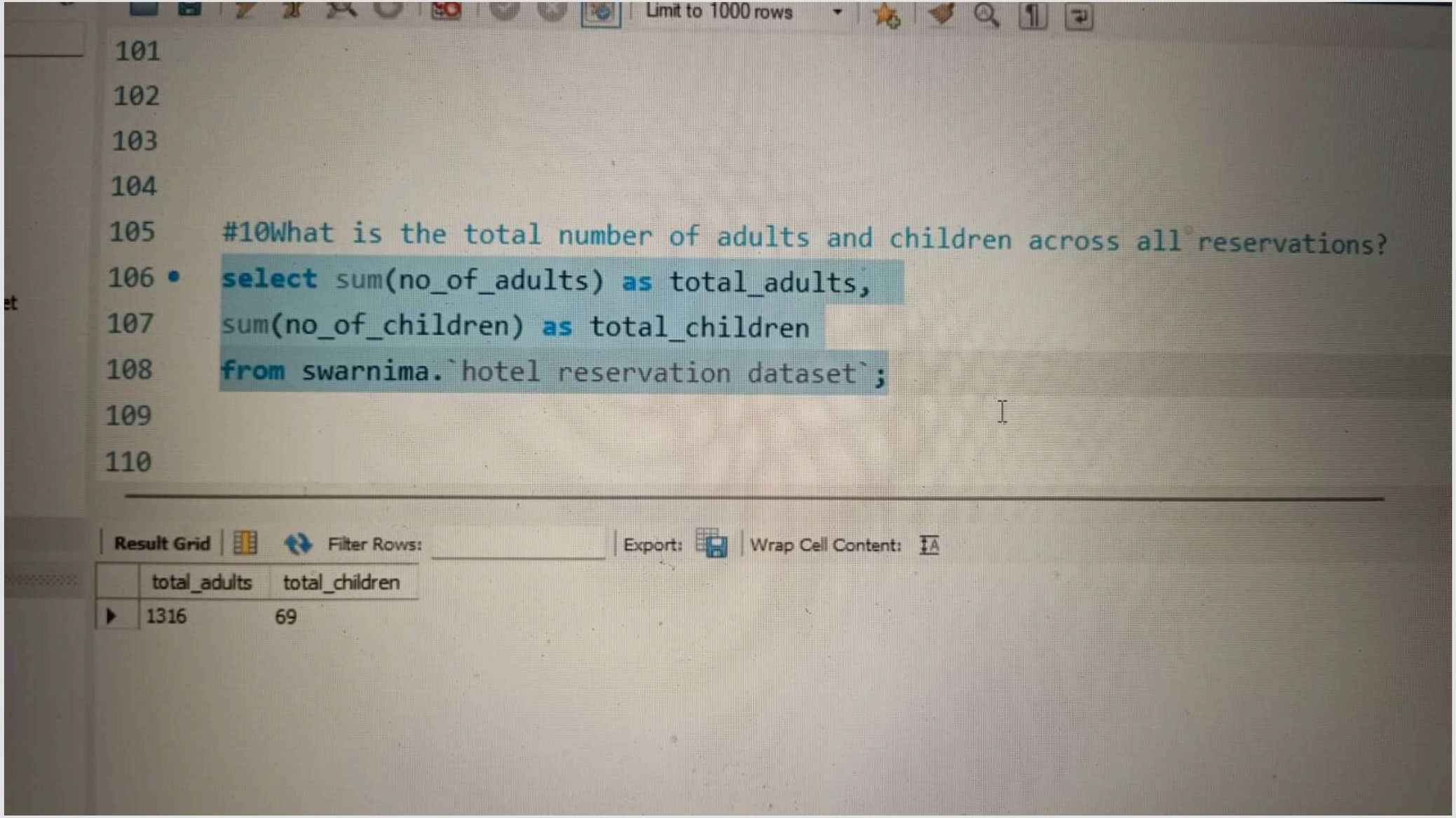

Limit to 1000 rows
52
53
54
55
56
57 #6How many reservations fall on a weekend (no_of_weekend_nights > 0)?
58 • Select count(*) as no_of_weekend_reservations
59 from swarnima.`hotel reservation dataset`
60 where no_of_weekend_nights!=0;
61
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
no_of_weekend_reservations
383

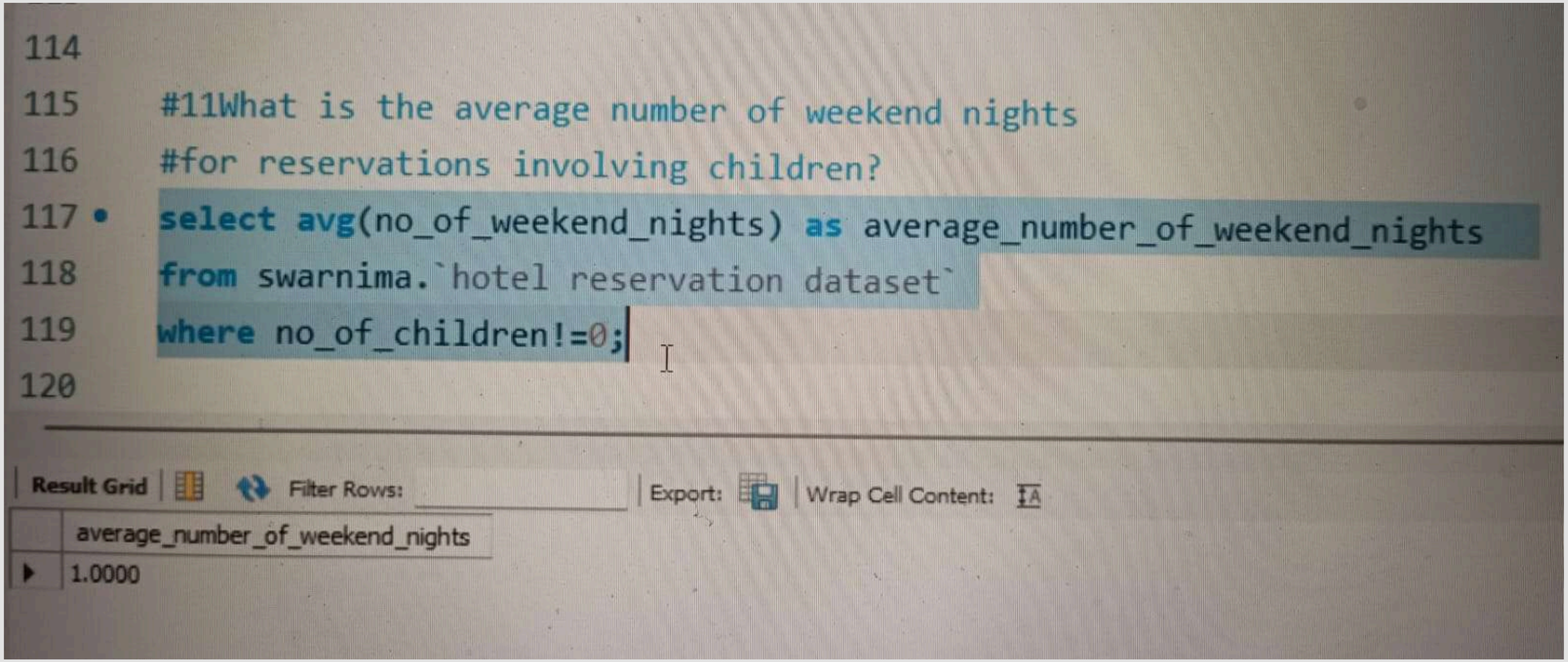

61
62
63
64
65 #7What is the highest and lowest lead time for reservations?
66 • Select lead_time from swarnima.`hotel reservation dataset`
67 order by lead_time desc
68 limit 1;
69
70
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Fetch rows:
lead_time
443


73
74
75
76 • Select lead_time from swarnima.`hotel reservation dataset`
77 order by lead_time
78 limit 1;
79
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Fetch rows:
lead_time
0


SQL File 5*
hotel reservation project*
Limit to 1000 rows
79
80
81
82 #8What is the most common market segment type for reservations?
83 • select market_segment_type, count(*) as market_segment_popularity
84 from swarnima.`hotel reservation dataset`
85 group by market_segment_type
86 order by market_segment_type desc
87 limit 1;
88
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Fetch rows:
market_segment_type
market_segment_popularity
Online
518


94
95
96
97 #9How many reservations have a booking status of "Canceled"?
98 • SELECT count(*) as no_of_canceled_bookings
99 FROM swarnima.`hotel reservation dataset`
100 where booking_status="Canceled";
101
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
no_of_canceled_bookings
207


Limit to 1000 rows
101
102
103
104
105 #10What is the total number of adults and children across all reservations?
106 • select sum(no_of_adults) as total_adults,
107 sum(no_of_children) as total_children
108 from swarnima.`hotel reservation dataset`;
109
110
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
total_adults
total_children
1316
69


114
115 #11What is the average number of weekend nights
116 #for reservations involving children?
117 • select avg(no_of_weekend_nights) as average_number_of_weekend_nights
118 from swarnima.`hotel reservation dataset`
119 where no_of_children!=0;
120
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
average_number_of_weekend_nights
1.0000

```
123
124     #12How many reservations were made in each month of the year?
125 •   select month(str_to_date(arrival_date,'%d-%m-%y')) as month,
126     count(*) as total_reservations
127     from swarnima.`hotel reservation dataset`
128     group by month(str_to_date(arrival_date,'%d-%m-%y'))
129     order by month;
130
```

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

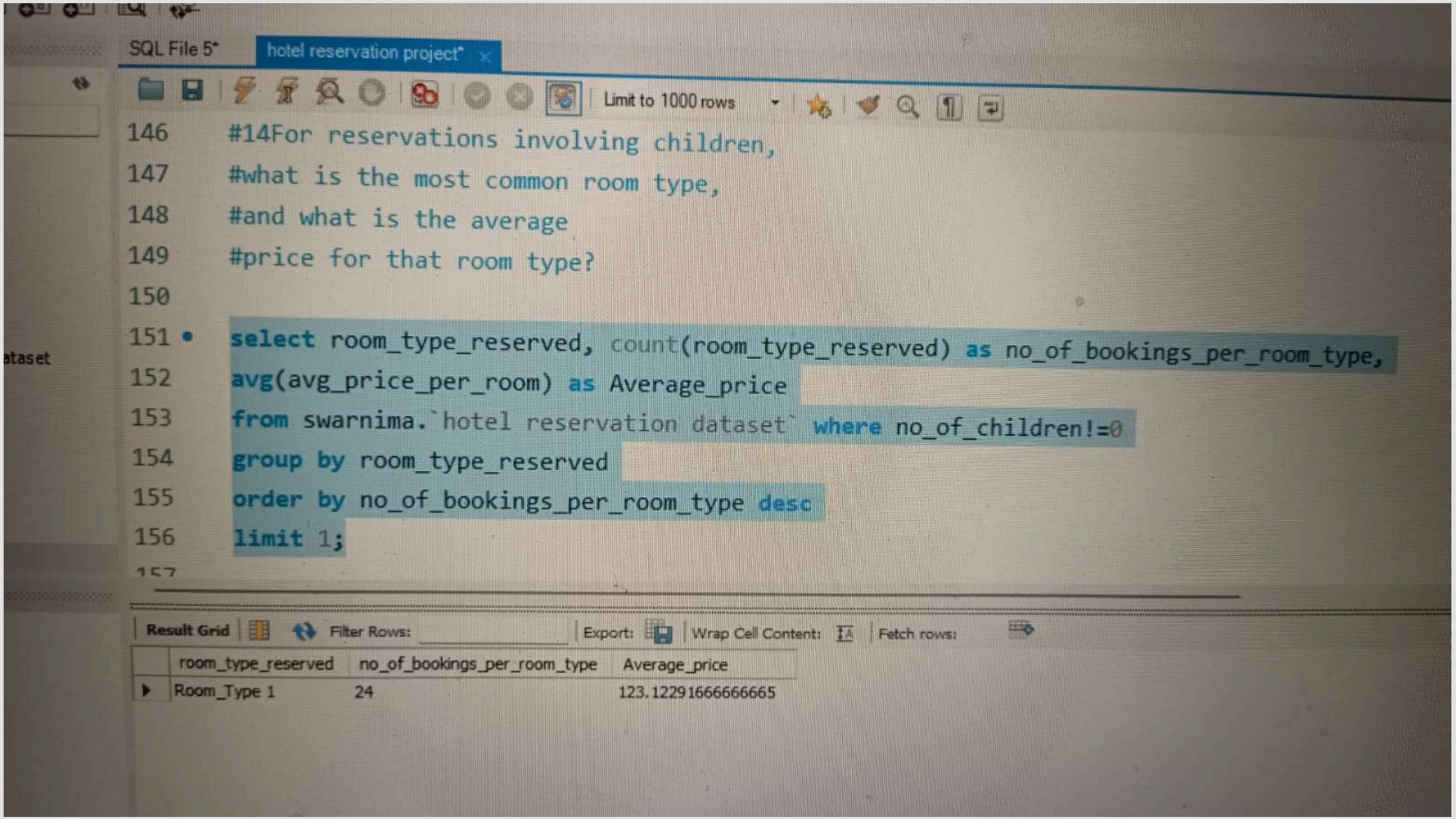
month	total_reservations
1	11
2	28
3	52
4	67
5	55
6	84
7	44
8	70
9	80
10	103
11	54
12	52

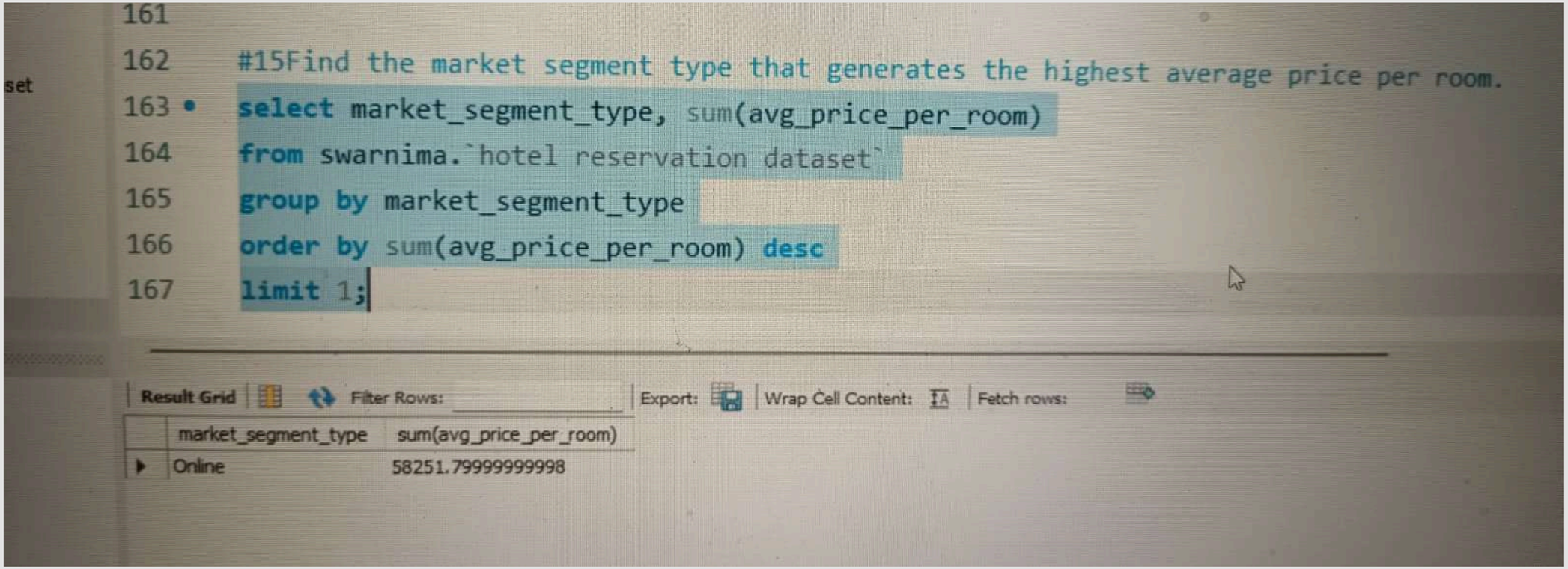
```
131
132
133    #13What is the average number of nights (both weekend and weekday) spent by guests for each room type?
134 •  SET SQL_SAFE_UPDATES = 0;
135 •  alter table swarnima.`hotel reservation dataset` add column total_no_of_nights int;
136 •  update swarnima.`hotel reservation dataset`
137    set total_no_of_nights = no_of_week_nights + no_of_weekend_nights;
138
139 •  select avg(no_of_week_nights) as average_week_nights,
140    avg(no_of_weekend_nights) as average_weekend_nights,
141    avg(total_no_of_nights) as average_total_nights, room_type_reserved
142    from swarnima.`hotel reservation dataset`
143    group by room_type_reserved;
144
```

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

average_week_nights	average_weekend_nights	average_total_nights	room_type_reserved
2.0899	0.7884	2.8783	Room_Type 1
2.7077	1.0923	3.8000	Room_Type 4
2.0000	1.0000	3.0000	Room_Type 2
2.5556	1.0556	3.6111	Room_Type 6
2.5000	0.0000	2.5000	Room_Type 5
1.6667	1.0000	2.6667	Room_Type 7

Result 17


SQL File 5*
hotel reservation project*
Limit to 1000 rows
#14For reservations involving children,
#what is the most common room type,
#and what is the average
#price for that room type?
select room_type_reserved, count(room_type_reserved) as no_of_bookings_per_room_type,
avg(avg_price_per_room) as Average_price
from swarnima.`hotel reservation dataset` where no_of_children!=0
group by room_type_reserved
order by no_of_bookings_per_room_type desc
limit 1;
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Fetch rows:
room_type_reserved
no_of_bookings_per_room_type
Average_price
Room_Type 1
24
123.12291666666665



```
161
162    #15Find the market segment type that generates the highest average price per room.
163 •  select market_segment_type, sum(avg_price_per_room)
164    from swarnima.`hotel reservation dataset`
165    group by market_segment_type
166    order by sum(avg_price_per_room) desc
167    limit 1;
```

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

market_segment_type	sum(avg_price_per_room)
Online	58251.79999999998

THANK-YOU