Buy Homes/Properties - REAL ESTATE CAPSTONE PROJECT

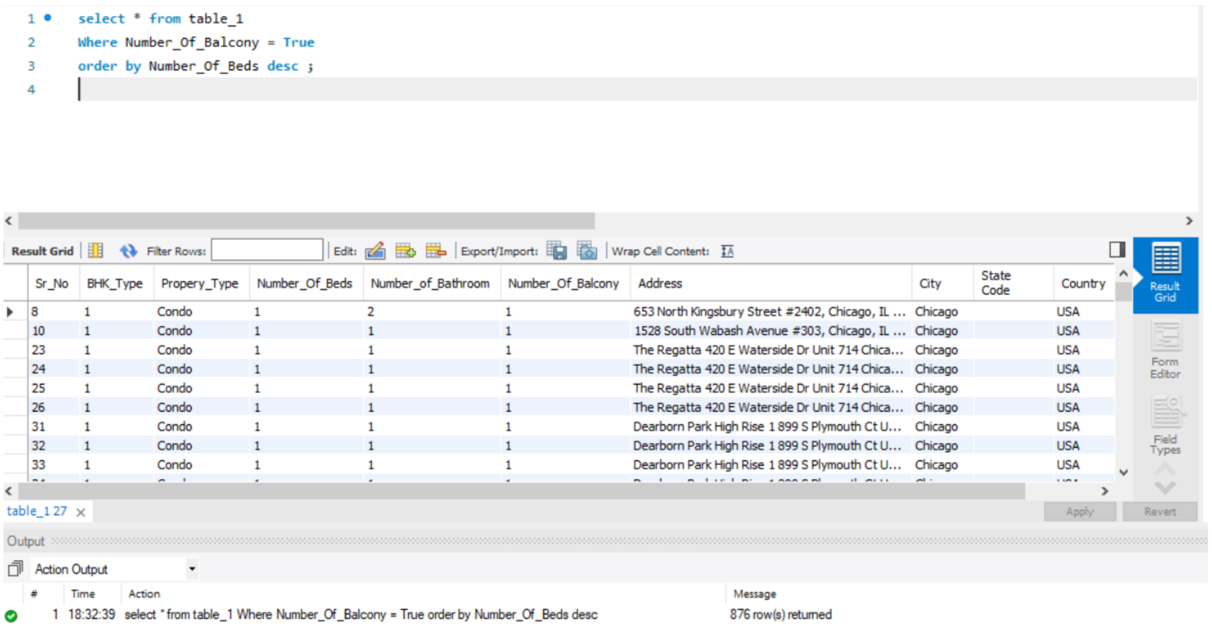
Capstone Project

<u>Phase – 2:-</u>

➢ ***<u>Write the SQL queries :-</u>***

➢ **Table1**

1. Retrieve properties with balconies, sorted by the number of bedrooms in descending order.

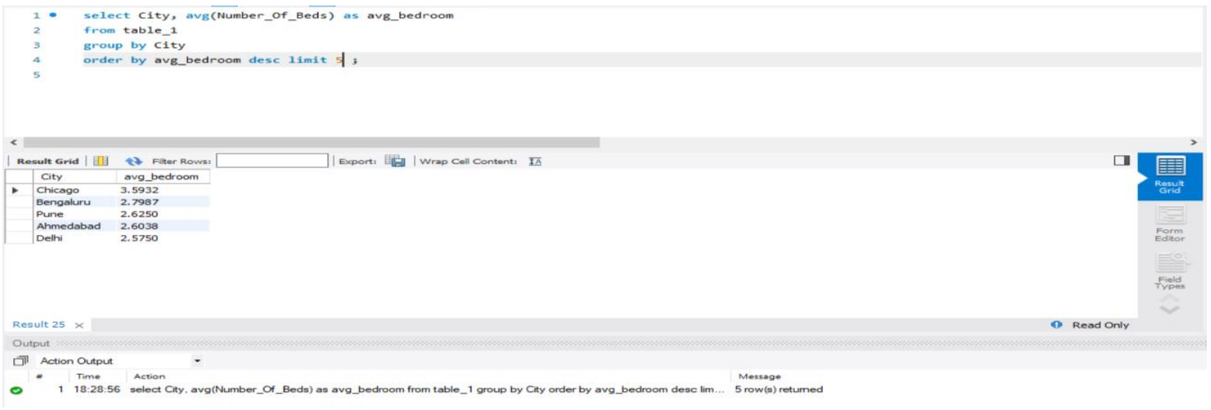


```
select * from table_1
Where Number_Of_Balcony = True
order by Number_Of_Beds desc ;
```

Sr_No	BHK_Type	Propery_Type	Number_Of_Beds	Number_of_Bathroom	Number_Of_Balcony	Address	City	State Code	Country
8	1	Condo	1	2	1	653 North Kingsbury Street #2402, Chicago, IL ...	Chicago		USA
10	1	Condo	1	1	1	1528 South Wabash Avenue #303, Chicago, IL ...	Chicago		USA
23	1	Condo	1	1	1	The Regatta 420 E Waterside Dr Unit 714 Chica...	Chicago		USA
24	1	Condo	1	1	1	The Regatta 420 E Waterside Dr Unit 714 Chica...	Chicago		USA
25	1	Condo	1	1	1	The Regatta 420 E Waterside Dr Unit 714 Chica...	Chicago		USA
26	1	Condo	1	1	1	The Regatta 420 E Waterside Dr Unit 714 Chica...	Chicago		USA
31	1	Condo	1	1	1	Dearborn Park High Rise 1 899 S Plymouth Ct U...	Chicago		USA
32	1	Condo	1	1	1	Dearborn Park High Rise 1 899 S Plymouth Ct U...	Chicago		USA
33	1	Condo	1	1	1	Dearborn Park High Rise 1 899 S Plymouth Ct U...	Chicago		USA

```
#  Time      Action                                                                            Message
1  18:32:39  select * from table_1 Where Number_Of_Balcony = True order by Number_Of_Beds desc  876 row(s) returned
```

2. Find the top 5 cities with the highest average number of bedrooms per property.

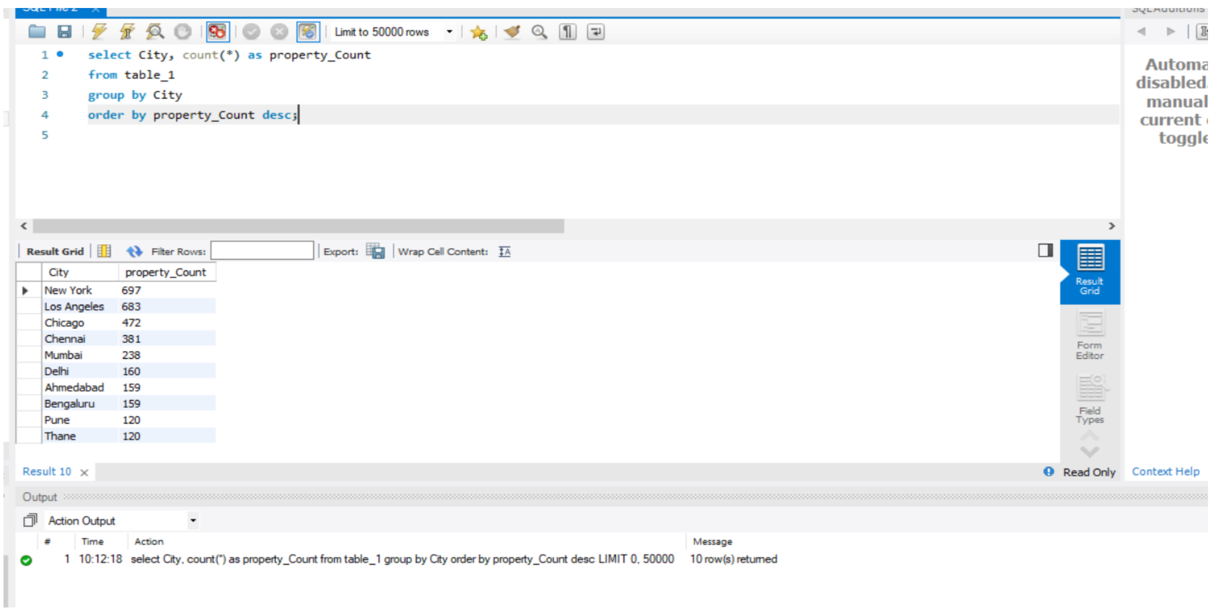


```
select City, avg(Number_Of_Beds) as avg_bedroom
from table_1
group by City
order by avg_bedroom desc limit 5 ;
```

City	avg_bedroom
Chicago	3.5932
Bengaluru	2.7987
Pune	2.6250
Ahmedabad	2.6038
Delhi	2.5750

```
#  Time      Action                                                                                       Message
1  18:28:56  select City, avg(Number_Of_Beds) as avg_bedroom from table_1 group by City order by avg_bedroom desc lim...  5 row(s) returned
```

3. Count the number of properties in each city.

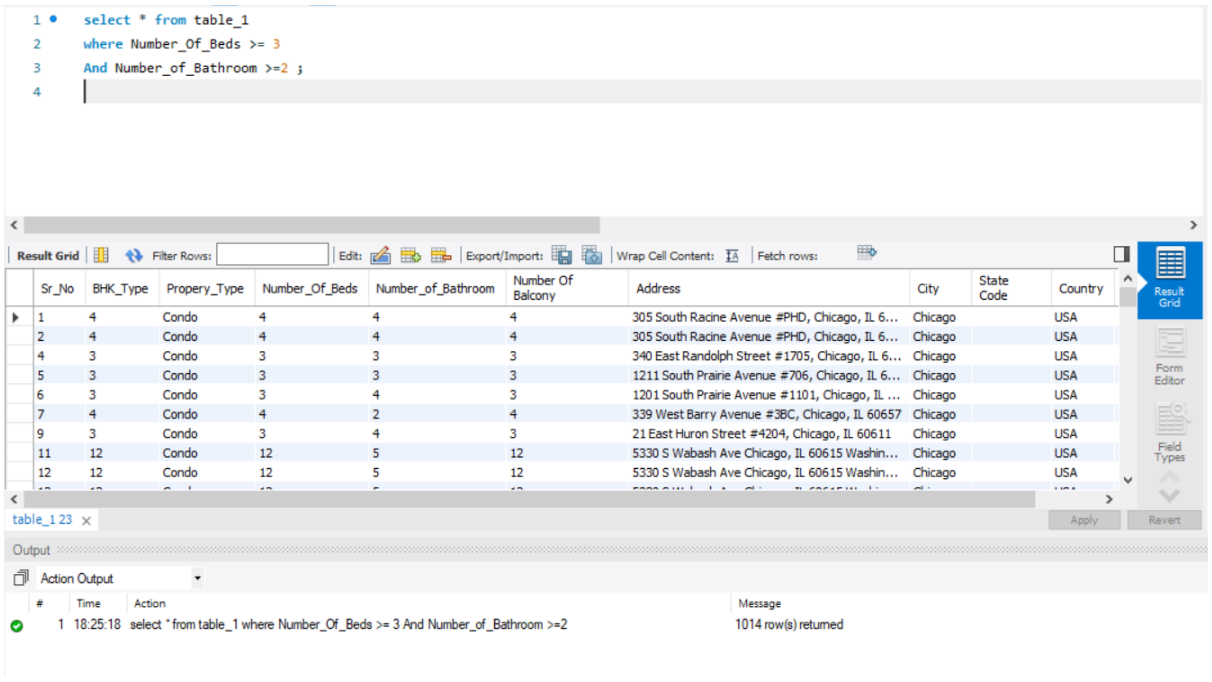


```
select City, count(*) as property_Count
from table_1
group by City
order by property_Count desc;
```

City	property_Count
New York	697
Los Angeles	683
Chicago	472
Chennai	381
Mumbai	238
Delhi	160
Ahmedabad	159
Bengaluru	159
Pune	120
Thane	120

#	Time	Action	Message
1	10:12:18	select City, count(*) as property_Count from table_1 group by City order by property_Count desc LIMIT 0, 50000	10 row(s) returned

4. Retrieve all properties with at least 3 bedrooms and 2 bathrooms.

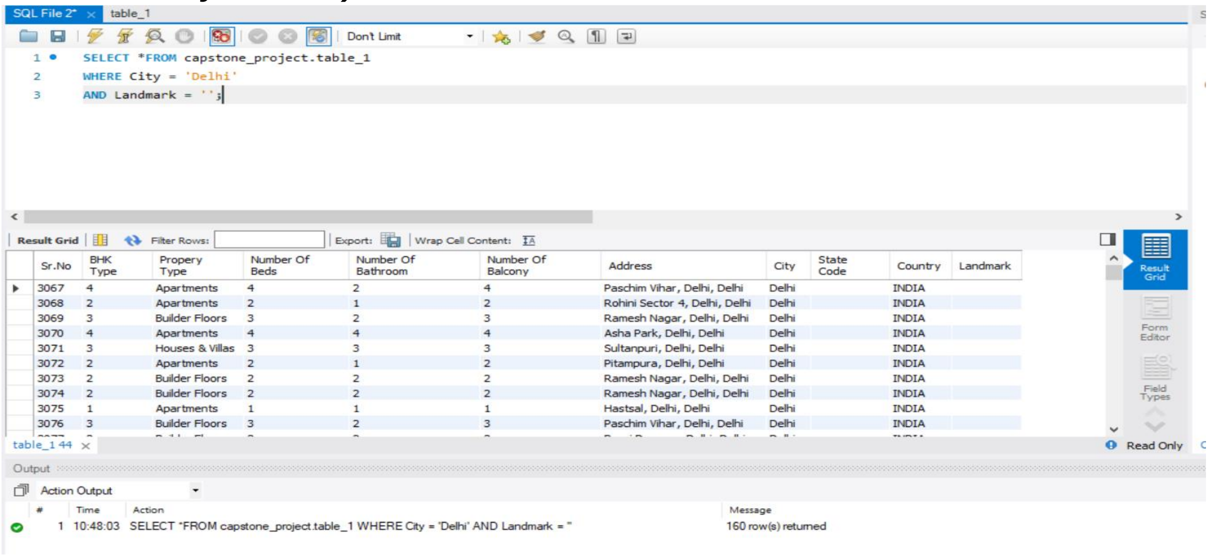


```
select * from table_1
where Number_Of_Beds >= 3
And Number_of_Bathroom >=2 ;
```

Sr_No	BHK_Type	Propery_Type	Number_Of_Beds	Number_of_Bathroom	Number Of Balcony	Address	City	State Code	Country
1	4	Condo	4	4	4	305 South Racine Avenue #PHD, Chicago, IL 6...	Chicago		USA
2	4	Condo	4	4	4	305 South Racine Avenue #PHD, Chicago, IL 6...	Chicago		USA
4	3	Condo	3	3	3	340 East Randolph Street #1705, Chicago, IL 6...	Chicago		USA
5	3	Condo	3	3	3	1211 South Prairie Avenue #706, Chicago, IL 6...	Chicago		USA
6	3	Condo	3	4	3	1201 South Prairie Avenue #1101, Chicago, IL ...	Chicago		USA
7	4	Condo	4	2	4	339 West Barry Avenue #3BC, Chicago, IL 60657	Chicago		USA
9	3	Condo	3	4	3	21 East Huron Street #4204, Chicago, IL 60611	Chicago		USA
11	12	Condo	12	5	12	5330 S Wabash Ave Chicago, IL 60615 Washin...	Chicago		USA
12	12	Condo	12	5	12	5330 S Wabash Ave Chicago, IL 60615 Washin...	Chicago		USA

#	Time	Action	Message
1	18:25:18	select * from table_1 where Number_Of_Beds >= 3 And Number_of_Bathroom >=2	1014 row(s) returned

5. Find properties in a specific City with a certain landmark. (Take City and landmark on your own).



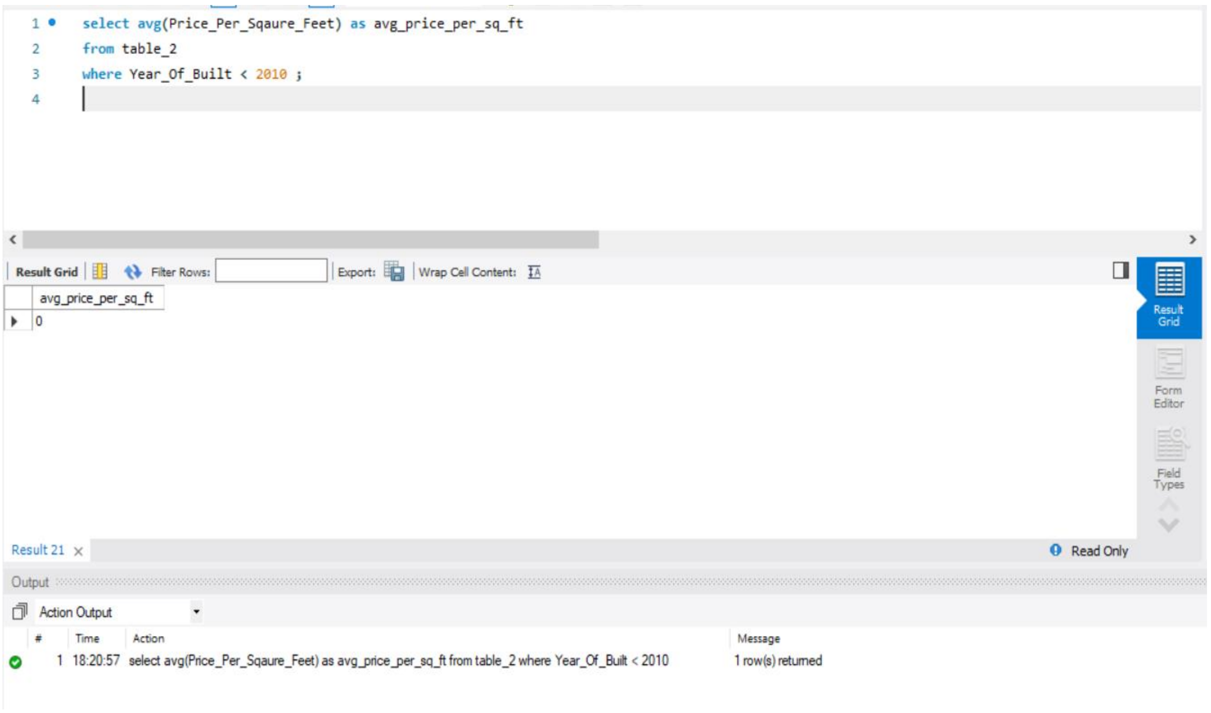
```sql
SELECT *FROM capstone_project.table_1
WHERE City = 'Delhi'
AND Landmark = '';
```

Sr.No	BHK Type	Propery Type	Number Of Beds	Number Of Bathroom	Number Of Balcony	Address	City	State Code	Country	Landmark
3067	4	Apartments	4	2	4	Paschim Vihar, Delhi, Delhi	Delhi		INDIA	
3068	2	Apartments	2	1	2	Rohini Sector 4, Delhi, Delhi	Delhi		INDIA	
3069	3	Builder Floors	3	2	3	Ramesh Nagar, Delhi, Delhi	Delhi		INDIA	
3070	4	Apartments	4	4	4	Asha Park, Delhi, Delhi	Delhi		INDIA	
3071	3	Houses & Villas	3	3	3	Sultanpuri, Delhi, Delhi	Delhi		INDIA	
3072	2	Apartments	2	1	2	Pitampura, Delhi, Delhi	Delhi		INDIA	
3073	2	Builder Floors	2	2	2	Ramesh Nagar, Delhi, Delhi	Delhi		INDIA	
3074	2	Builder Floors	2	2	2	Ramesh Nagar, Delhi, Delhi	Delhi		INDIA	
3075	1	Apartments	1	1	1	Hastsal, Delhi, Delhi	Delhi		INDIA	
3076	3	Builder Floors	3	2	3	Paschim Vihar, Delhi, Delhi	Delhi		INDIA	

```
#  Time      Action                                                                      Message
1  10:48:03  SELECT *FROM capstone_project.table_1 WHERE City = 'Delhi' AND Landmark = ''  160 row(s) returned
```

➢ Table2

1- Calculate the average price per square foot for properties built before 2010.

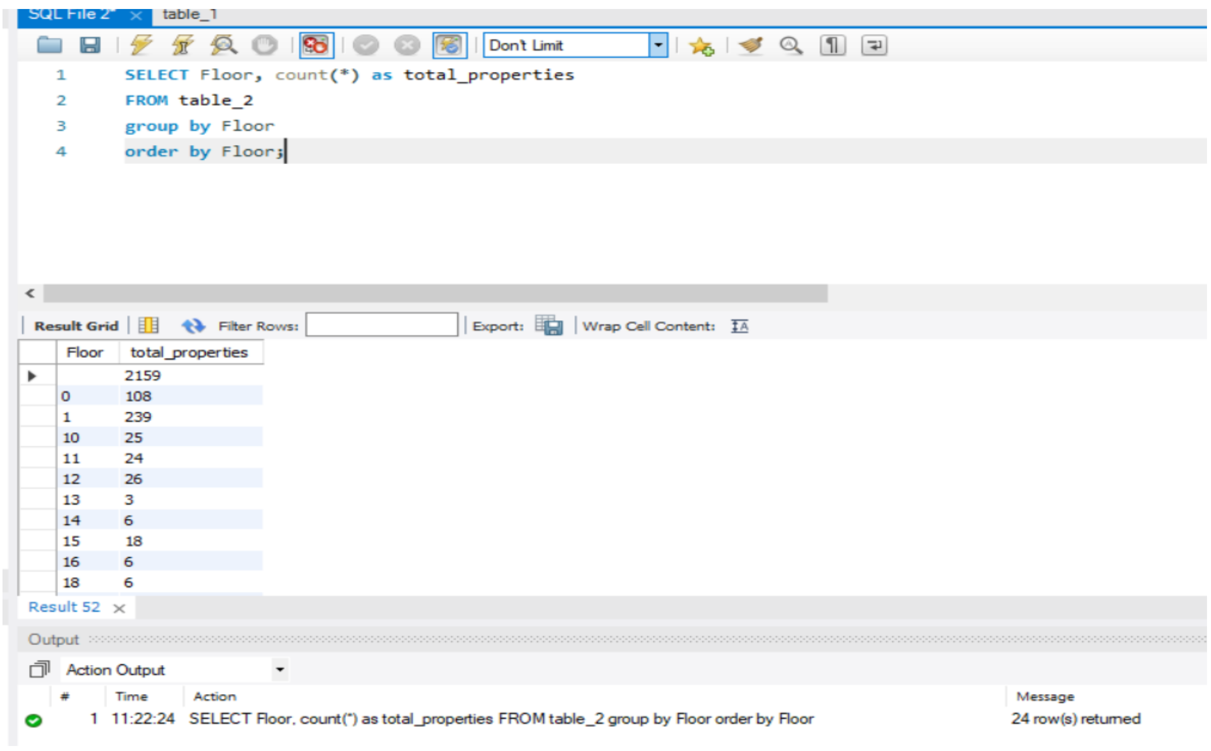


```sql
select avg(Price_Per_Sqaure_Feet) as avg_price_per_sq_ft
from table_2
where Year_Of_Built < 2010 ;
```

avg_price_per_sq_ft
0

```
#  Time      Action                                                                                  Message
1  18:20:57  select avg(Price_Per_Sqaure_Feet) as avg_price_per_sq_ft from table_2 where Year_Of_Built < 2010  1 row(s) returned
```

2- Find the total number of properties on each floor.

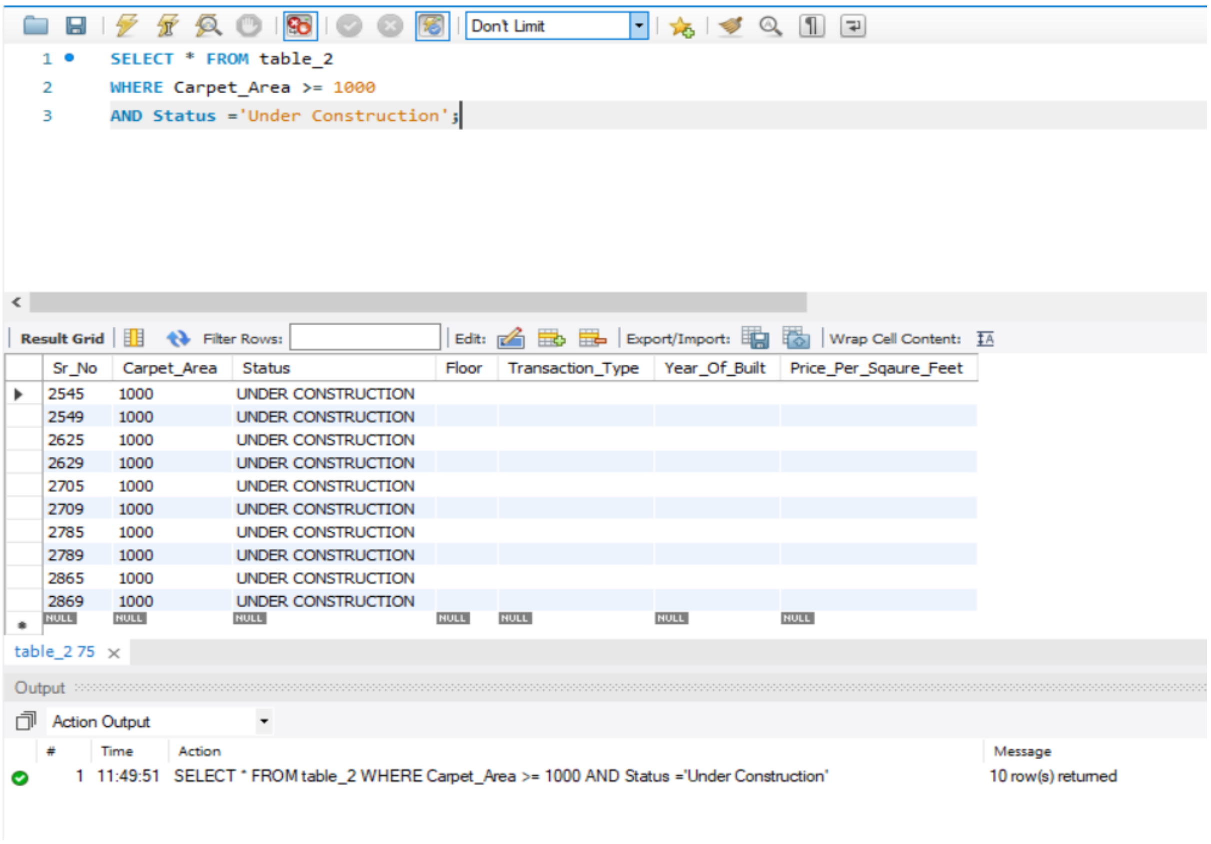


```sql
SELECT Floor, count(*) as total_properties
FROM table_2
group by Floor
order by Floor;
```

Floor	total_properties
	2159
0	108
1	239
10	25
11	24
12	26
13	3
14	6
15	18
16	6
18	6

#	Time	Action	Message
1	11:22:24	SELECT Floor, count(*) as total_properties FROM table_2 group by Floor order by Floor	24 row(s) returned

3- Retrieve properties with a carpet area greater than 1000 square feet and a status of 'Under Construction'.

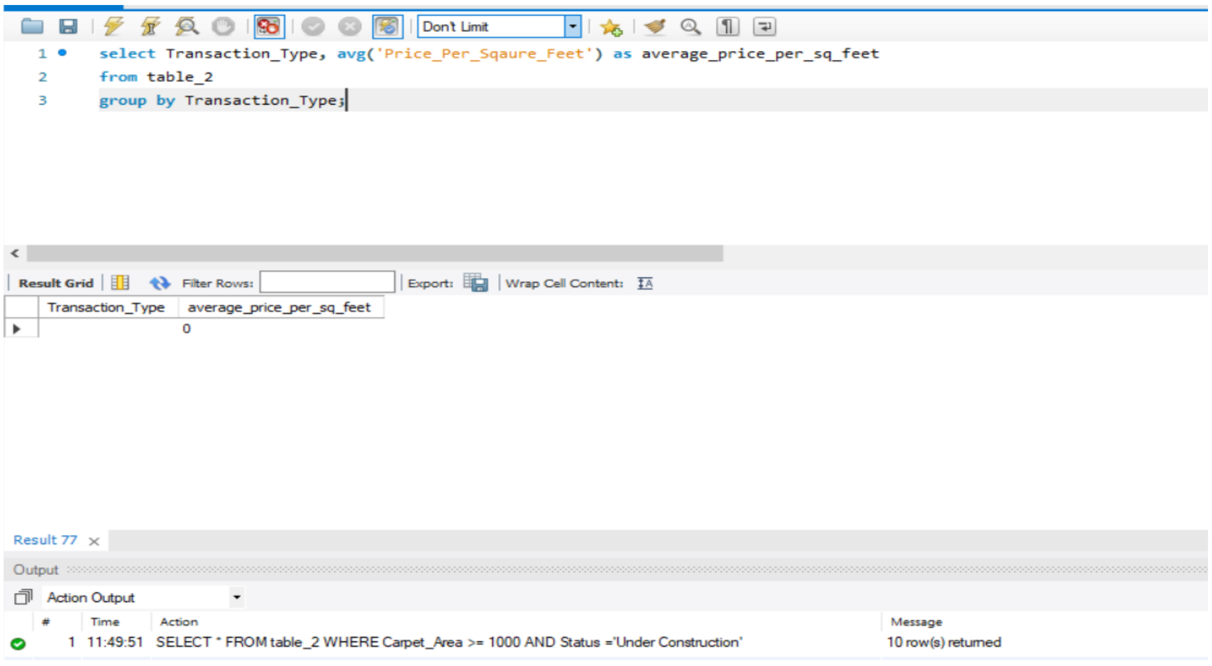


```sql
SELECT * FROM table_2
WHERE Carpet_Area >= 1000
AND Status ='Under Construction';
```

Sr_No	Carpet_Area	Status	Floor	Transaction_Type	Year_Of_Built	Price_Per_Sqaure_Feet
2545	1000	UNDER CONSTRUCTION				
2549	1000	UNDER CONSTRUCTION				
2625	1000	UNDER CONSTRUCTION				
2629	1000	UNDER CONSTRUCTION				
2705	1000	UNDER CONSTRUCTION				
2709	1000	UNDER CONSTRUCTION				
2785	1000	UNDER CONSTRUCTION				
2789	1000	UNDER CONSTRUCTION				
2865	1000	UNDER CONSTRUCTION				
2869	1000	UNDER CONSTRUCTION				
NULL	NULL	NULL	NULL	NULL	NULL	NULL

#	Time	Action	Message
1	11:49:51	SELECT * FROM table_2 WHERE Carpet_Area >= 1000 AND Status ='Under Construction'	10 row(s) returned

4- Calculate the average price per square foot for each transaction type.



```
select Transaction_Type, avg('Price_Per_Sqaure_Feet') as average_price_per_sq_feet
from table_2
group by Transaction_Type;
```

Transaction_Type	average_price_per_sq_feet
	0

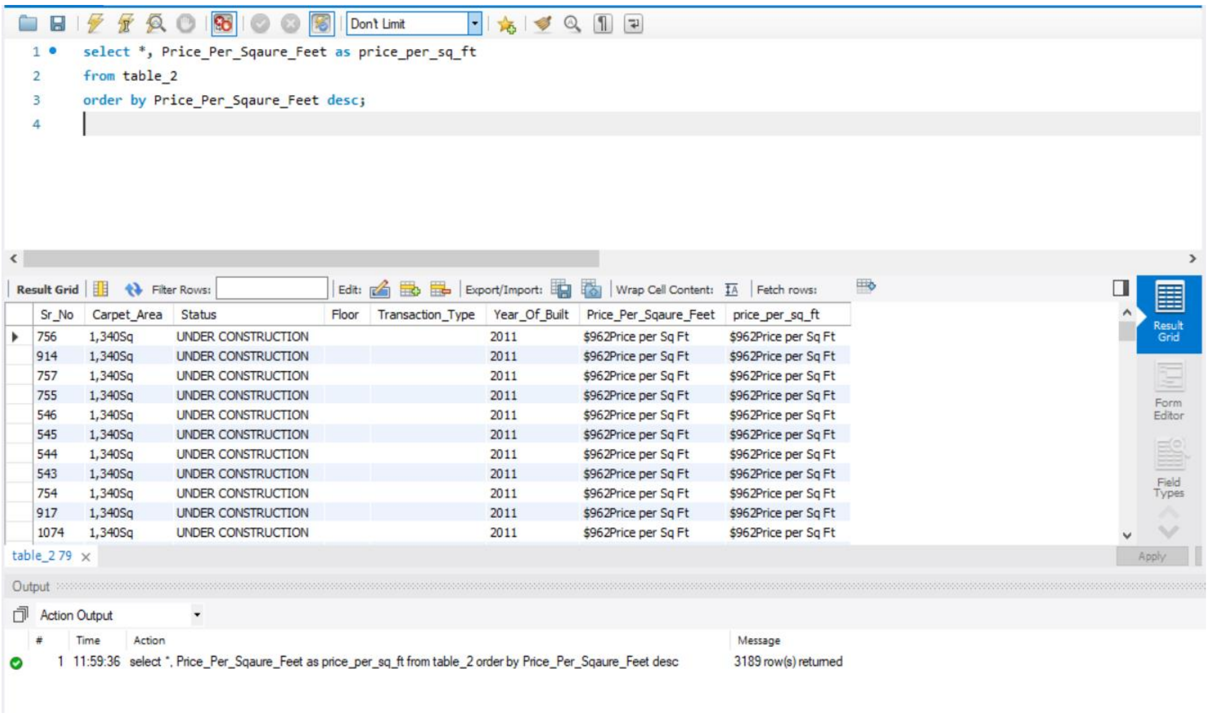
Result 77

Output

Action Output

#	Time	Action	Message
1	11:49:51	SELECT * FROM table_2 WHERE Carpet_Area >= 1000 AND Status ='Under Construction'	10 row(s) returned

5- Find the properties with the highest price per square foot, sorted in descending order.



```
select *, Price_Per_Sqaure_Feet as price_per_sq_ft
from table_2
order by Price_Per_Sqaure_Feet desc;
```

Sr_No	Carpet_Area	Status	Floor	Transaction_Type	Year_Of_Built	Price_Per_Sqaure_Feet	price_per_sq_ft
756	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
914	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
757	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
755	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
546	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
545	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
544	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
543	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
754	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
917	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft
1074	1,340Sq	UNDER CONSTRUCTION			2011	$962Price per Sq Ft	$962Price per Sq Ft

table_2 79

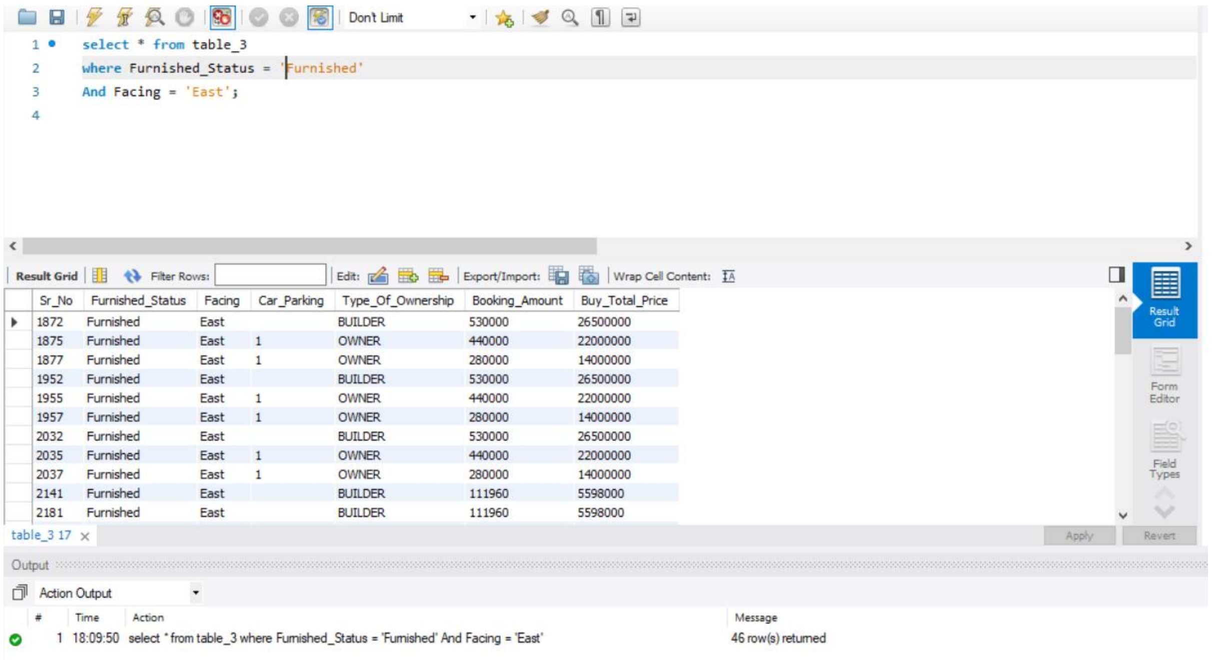
Output

Action Output

#	Time	Action	Message
1	11:59:36	select *, Price_Per_Sqaure_Feet as price_per_sq_ft from table_2 order by Price_Per_Sqaure_Feet desc	3189 row(s) returned

➢ Table3

1- Retrieve all properties with a furnished status of 'Fully Furnished' and a facing direction of 'East'.

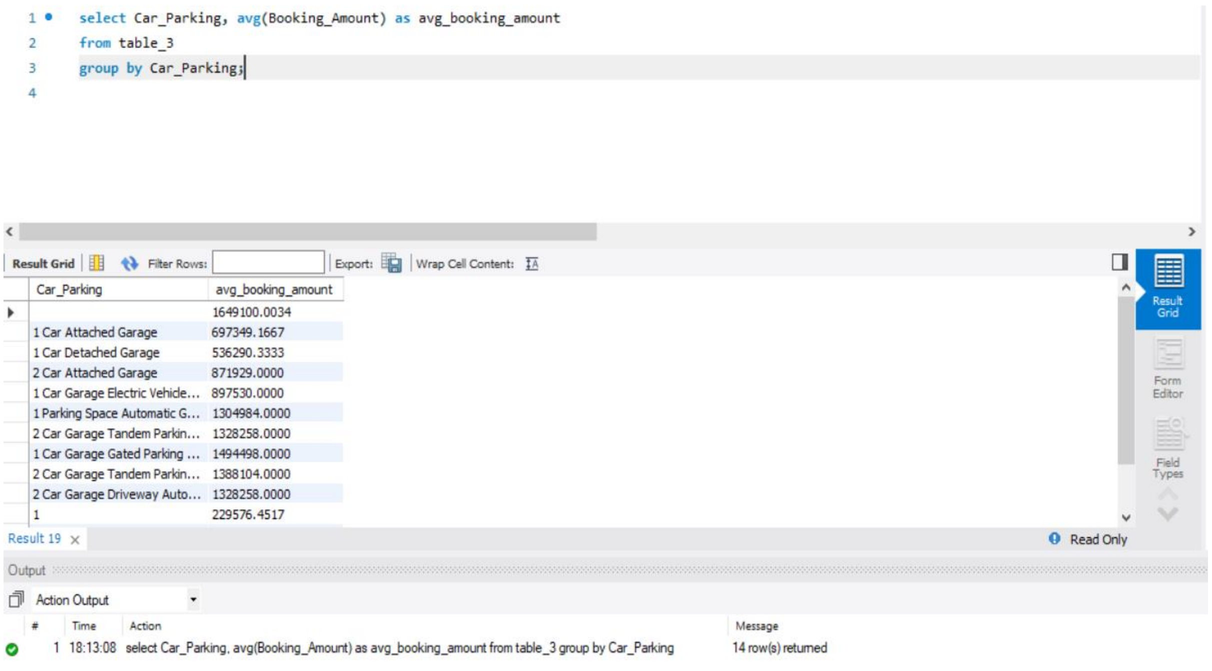


```
select * from table_3
where Furnished_Status = 'Furnished'
And Facing = 'East';
```

Sr_No	Furnished_Status	Facing	Car_Parking	Type_Of_Ownership	Booking_Amount	Buy_Total_Price
1872	Furnished	East		BUILDER	530000	26500000
1875	Furnished	East	1	OWNER	440000	22000000
1877	Furnished	East	1	OWNER	280000	14000000
1952	Furnished	East		BUILDER	530000	26500000
1955	Furnished	East	1	OWNER	440000	22000000
1957	Furnished	East	1	OWNER	280000	14000000
2032	Furnished	East		BUILDER	530000	26500000
2035	Furnished	East	1	OWNER	440000	22000000
2037	Furnished	East	1	OWNER	280000	14000000
2141	Furnished	East		BUILDER	111960	5598000
2181	Furnished	East		BUILDER	111960	5598000

```
#   Time       Action                                                                          Message
1   18:09:50   select * from table_3 where Furnished_Status = 'Furnished' And Facing = 'East'   46 row(s) returned
```

2- Calculate the average booking amount for properties with and without car parking

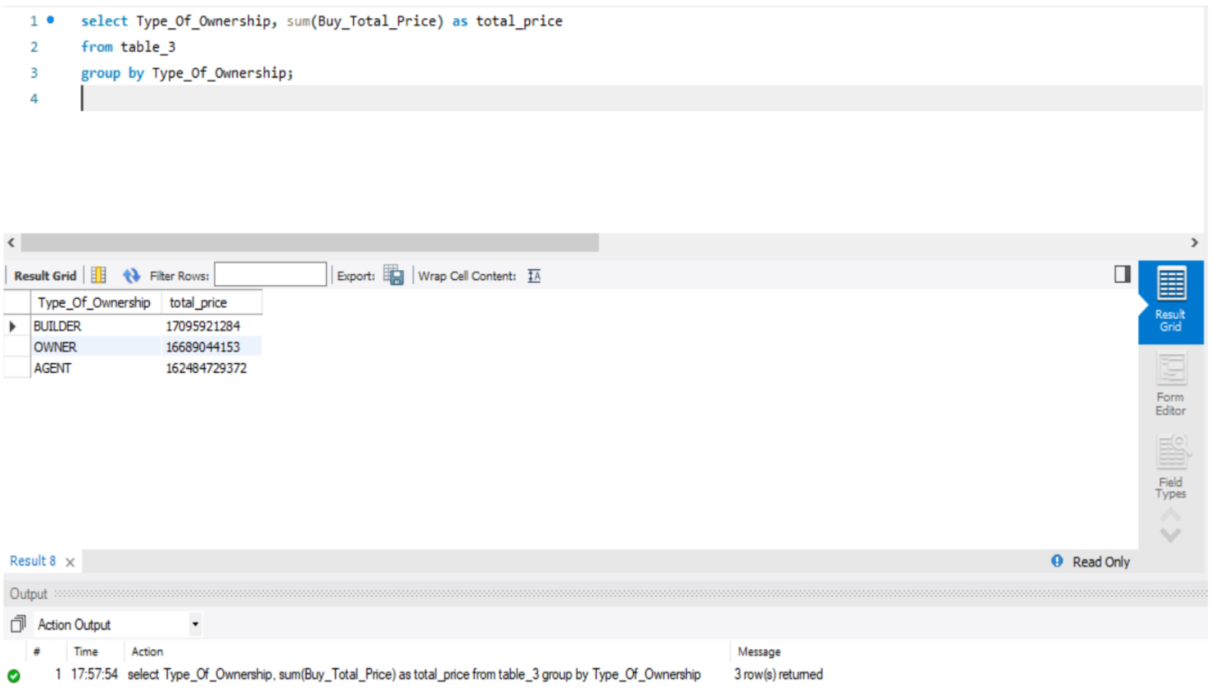


```
select Car_Parking, avg(Booking_Amount) as avg_booking_amount
from table_3
group by Car_Parking;
```

Car_Parking	avg_booking_amount
	1649100.0034
1 Car Attached Garage	697349.1667
1 Car Detached Garage	536290.3333
2 Car Attached Garage	871929.0000
1 Car Garage Electric Vehicle...	897530.0000
1 Parking Space Automatic G...	1304984.0000
2 Car Garage Tandem Parkin...	1328258.0000
1 Car Garage Gated Parking ...	1494498.0000
2 Car Garage Tandem Parkin...	1388104.0000
2 Car Garage Driveway Auto...	1328258.0000
1	229576.4517

```
#   Time       Action                                                                                      Message
1   18:13:08   select Car_Parking, avg(Booking_Amount) as avg_booking_amount from table_3 group by Car_Parking   14 row(s) returned
```

3- Find the total price of properties with different types of ownership.

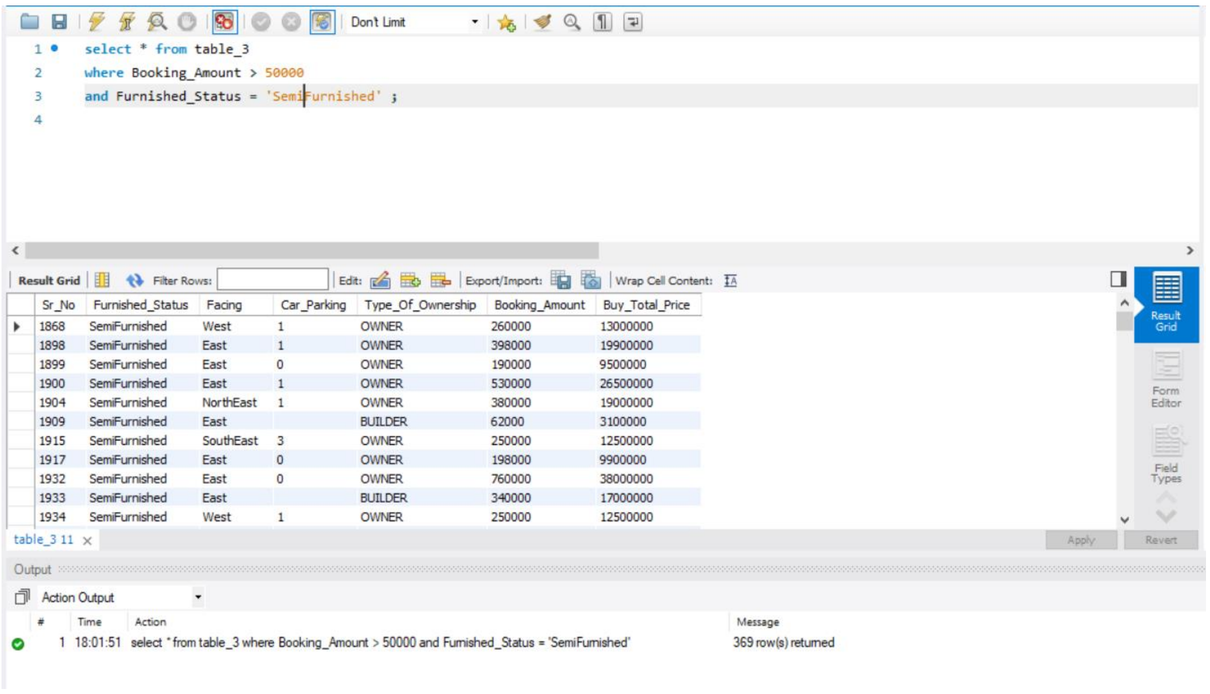


```
select Type_Of_Ownership, sum(Buy_Total_Price) as total_price
from table_3
group by Type_Of_Ownership;
```

Type_Of_Ownership	total_price
BUILDER	17095921284
OWNER	16689044153
AGENT	162484729372

```
#  Time      Action                                                                                          Message
1  17:57:54  select Type_Of_Ownership, sum(Buy_Total_Price) as total_price from table_3 group by Type_Of_Ownership  3 row(s) returned
```

4- Retrieve properties with a booking amount greater than 50000 and a furnished status of 'Semi Furnished'.

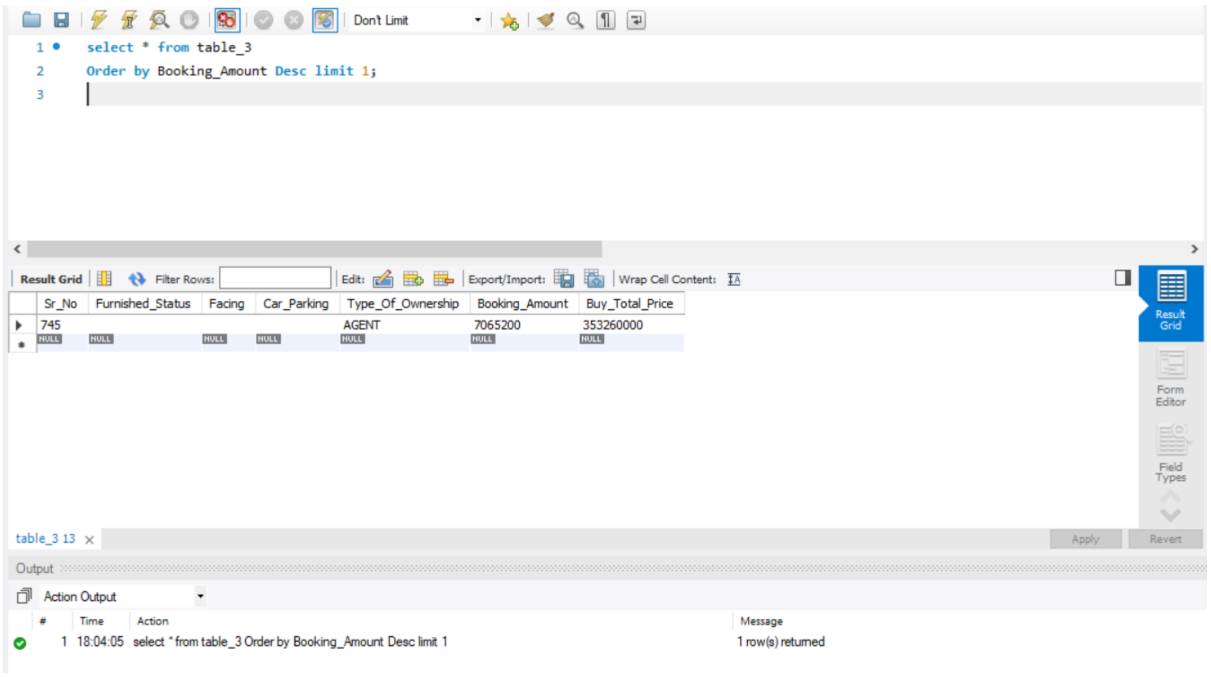


```
select * from table_3
where Booking_Amount > 50000
and Furnished_Status = 'SemiFurnished' ;
```

Sr_No	Furnished_Status	Facing	Car_Parking	Type_Of_Ownership	Booking_Amount	Buy_Total_Price
1868	SemiFurnished	West	1	OWNER	260000	13000000
1898	SemiFurnished	East	1	OWNER	398000	19900000
1899	SemiFurnished	East	0	OWNER	190000	9500000
1900	SemiFurnished	East	1	OWNER	530000	26500000
1904	SemiFurnished	NorthEast	1	OWNER	380000	19000000
1909	SemiFurnished	East		BUILDER	62000	3100000
1915	SemiFurnished	SouthEast	3	OWNER	250000	12500000
1917	SemiFurnished	East	0	OWNER	198000	9900000
1932	SemiFurnished	East	0	OWNER	760000	38000000
1933	SemiFurnished	East		BUILDER	340000	17000000
1934	SemiFurnished	West	1	OWNER	250000	12500000

```
#  Time      Action                                                                                Message
1  18:01:51  select * from table_3 where Booking_Amount > 50000 and Furnished_Status = 'SemiFurnished'  369 row(s) returned
```

5- Find the property with the highest booking amount.



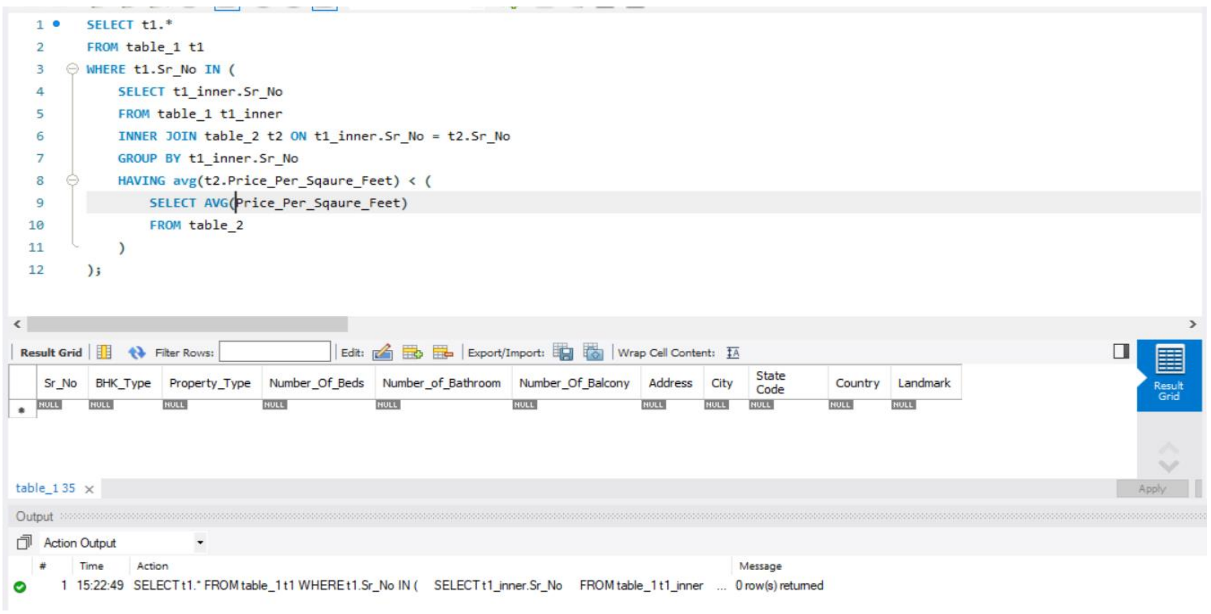
```sql
select * from table_3
Order by Booking_Amount Desc limit 1;
```

	Sr_No	Furnished_Status	Facing	Car_Parking	Type_Of_Ownership	Booking_Amount	Buy_Total_Price
▶	745				AGENT	7065200	353260000
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
#   Time      Action                                                  Message
1   18:04:05  select * from table_3 Order by Booking_Amount Desc limit 1   1 row(s) returned
```

➢ 7 Join SQL Queries using all 3 tables

1- Retrieve properties from table1 that have a higher price per square foot than the average price per square foot in table2

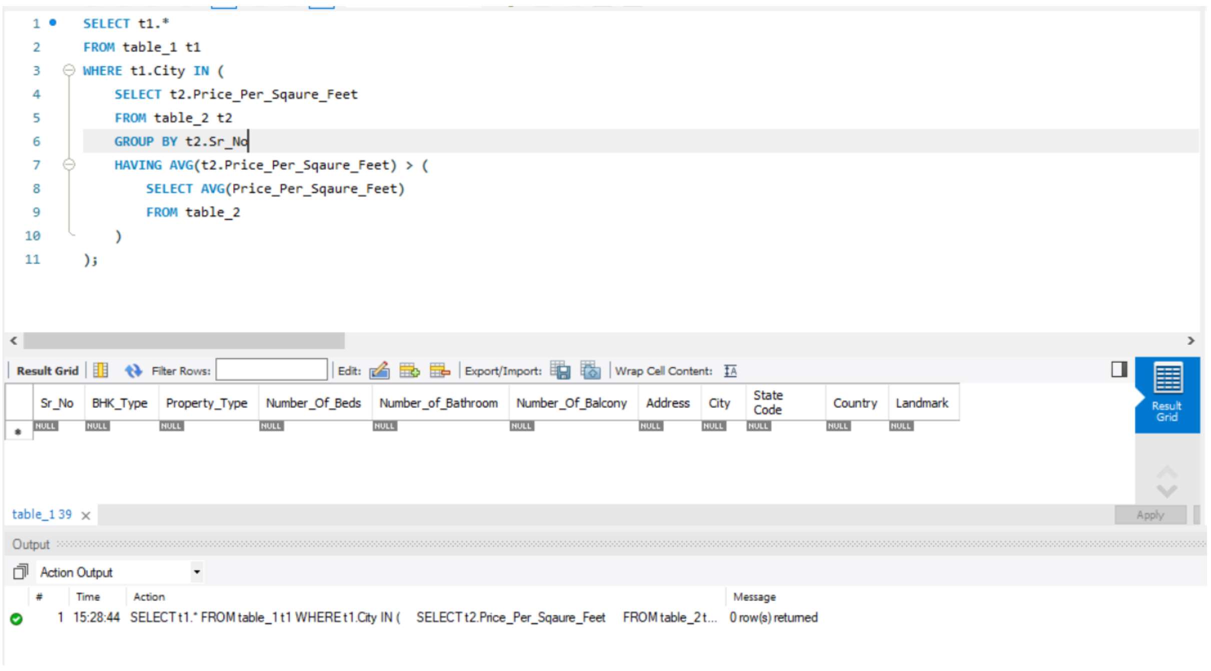


```sql
SELECT t1.*
FROM table_1 t1
WHERE t1.Sr_No IN (
    SELECT t1_inner.Sr_No
    FROM table_1 t1_inner
    INNER JOIN table_2 t2 ON t1_inner.Sr_No = t2.Sr_No
    GROUP BY t1_inner.Sr_No
    HAVING avg(t2.Price_Per_Sqaure_Feet) < (
        SELECT AVG(Price_Per_Sqaure_Feet)
        FROM table_2
    )
);
```

	Sr_No	BHK_Type	Property_Type	Number_Of_Beds	Number_of_Bathroom	Number_Of_Balcony	Address	City	State Code	Country	Landmark
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
#   Time      Action                                                                                    Message
1   15:22:49  SELECT t1.* FROM table_1 t1 WHERE t1.Sr_No IN (    SELECT t1_inner.Sr_No    FROM table_1 t1_inner  ...  0 row(s) returned
```

2- Find the properties in table1 that are located in cities where the average price per square foot in table2 is higher than the overall average price per square foot.



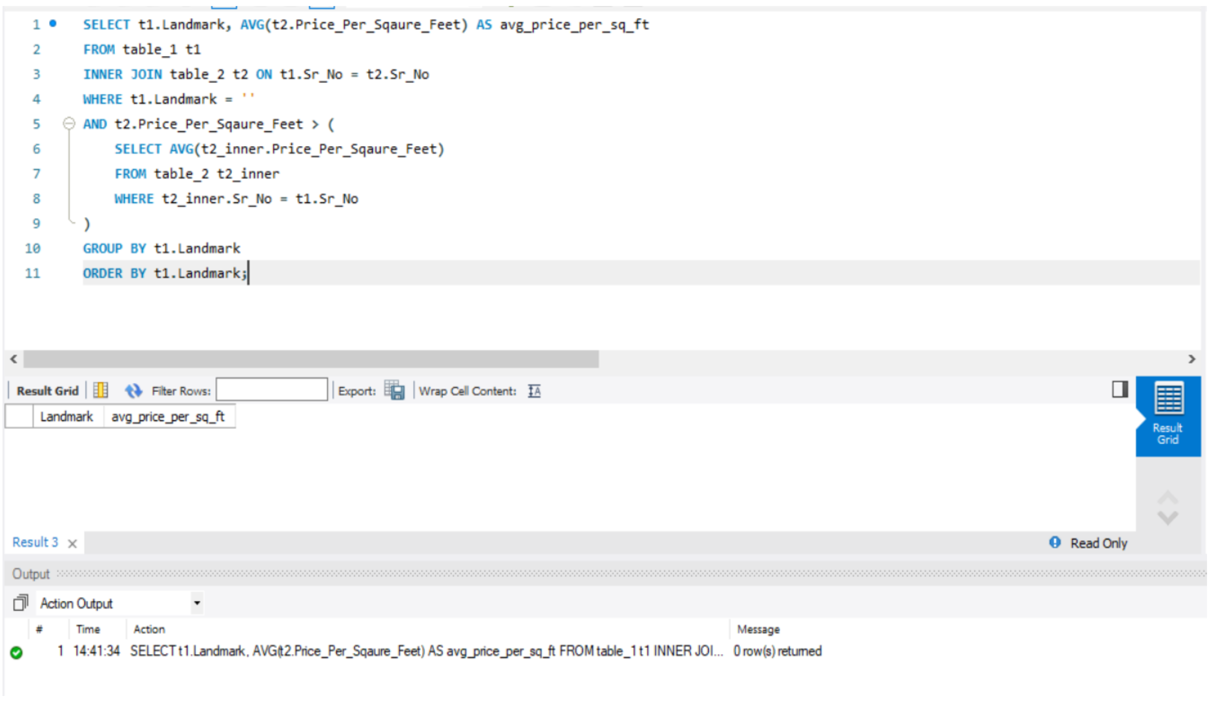
```
SELECT t1.*
FROM table_1 t1
WHERE t1.City IN (
    SELECT t2.Price_Per_Sqaure_Feet
    FROM table_2 t2
    GROUP BY t2.Sr_No
    HAVING AVG(t2.Price_Per_Sqaure_Feet) > (
        SELECT AVG(Price_Per_Sqaure_Feet)
        FROM table_2
    )
);
```

Sr_No	BHK_Type	Property_Type	Number_Of_Beds	Number_of_Bathroom	Number_Of_Balcony	Address	City	State Code	Country	Landmark
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

table_1 39

```
#   Time      Action                                                                              Message
1   15:28:44  SELECT t1.* FROM table_1 t1 WHERE t1.City IN (   SELECT t2.Price_Per_Sqaure_Feet   FROM table_2 t...   0 row(s) returned
```

3- Retrieve properties from table1 with a certain landmark that have a lower price per square foot than the average price per square foot for properties with the same landmark in table2. (Choose landmark on our own)



```
SELECT t1.Landmark, AVG(t2.Price_Per_Sqaure_Feet) AS avg_price_per_sq_ft
FROM table_1 t1
INNER JOIN table_2 t2 ON t1.Sr_No = t2.Sr_No
WHERE t1.Landmark = ''
AND t2.Price_Per_Sqaure_Feet > (
    SELECT AVG(t2_inner.Price_Per_Sqaure_Feet)
    FROM table_2 t2_inner
    WHERE t2_inner.Sr_No = t1.Sr_No
)
GROUP BY t1.Landmark
ORDER BY t1.Landmark;
```

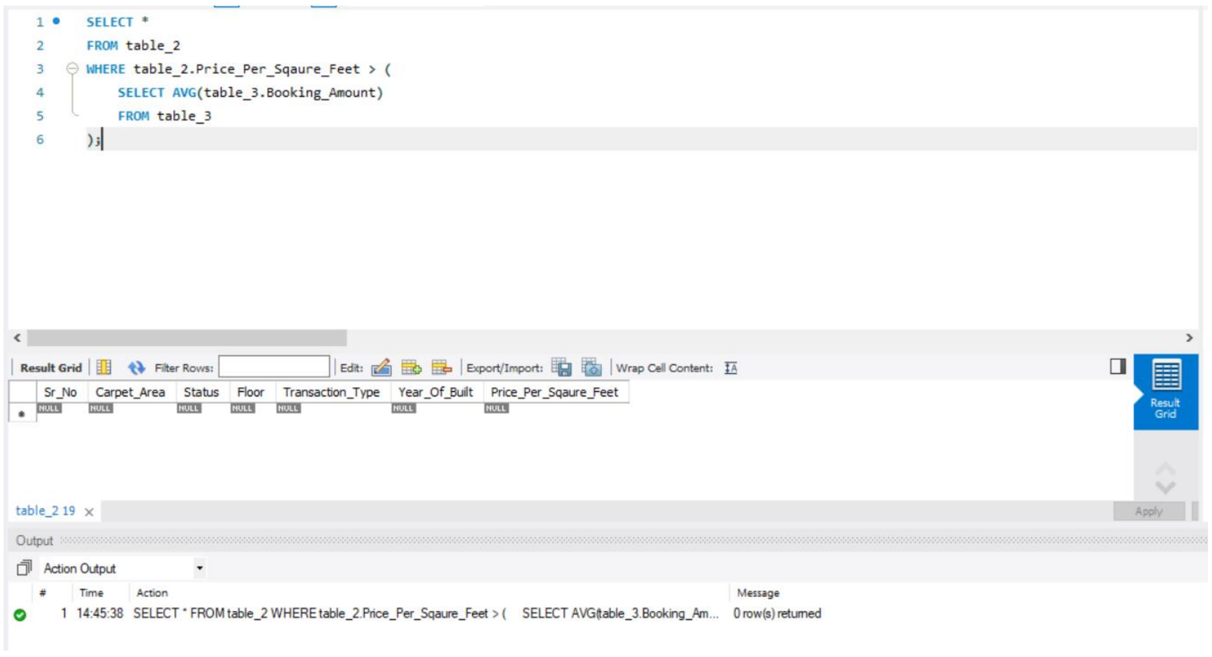
Landmark	avg_price_per_sq_ft

Result 3

Read Only

```
#   Time      Action                                                                                       Message
1   14:41:34  SELECT t1.Landmark, AVG(t2.Price_Per_Sqaure_Feet) AS avg_price_per_sq_ft FROM table_1 t1 INNER JOI...   0 row(s) returned
```

4- Retrieve properties from table2 with a price per square foot higher than the average booking amount in table3

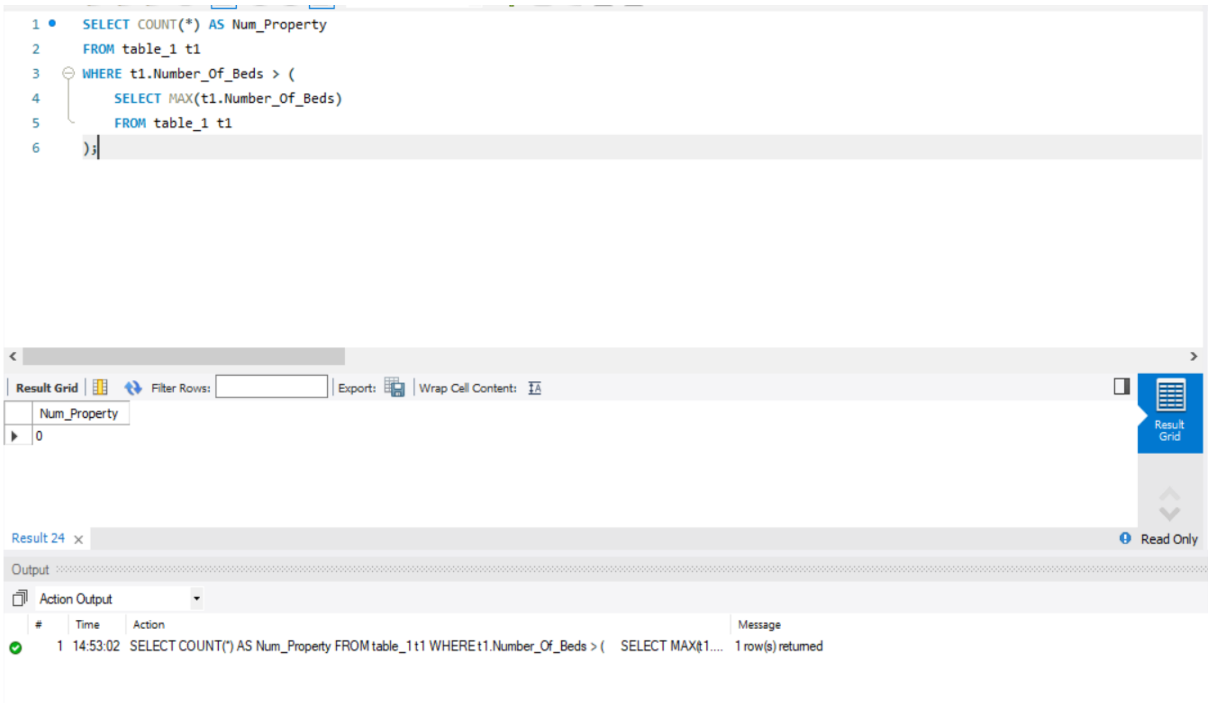


```
SELECT *
FROM table_2
WHERE table_2.Price_Per_Sqaure_Feet > (
    SELECT AVG(table_3.Booking_Amount)
    FROM table_3
);
```

Sr_No	Carpet_Area	Status	Floor	Transaction_Type	Year_Of_Built	Price_Per_Sqaure_Feet
NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
#   Time      Action                                                                                    Message
1   14:45:38  SELECT * FROM table_2 WHERE table_2.Price_Per_Sqaure_Feet > (   SELECT AVG(table_3.Booking_Am...   0 row(s) returned
```

5- Count the number of properties in table1 with more bedrooms than the maximum number of bedrooms in table1

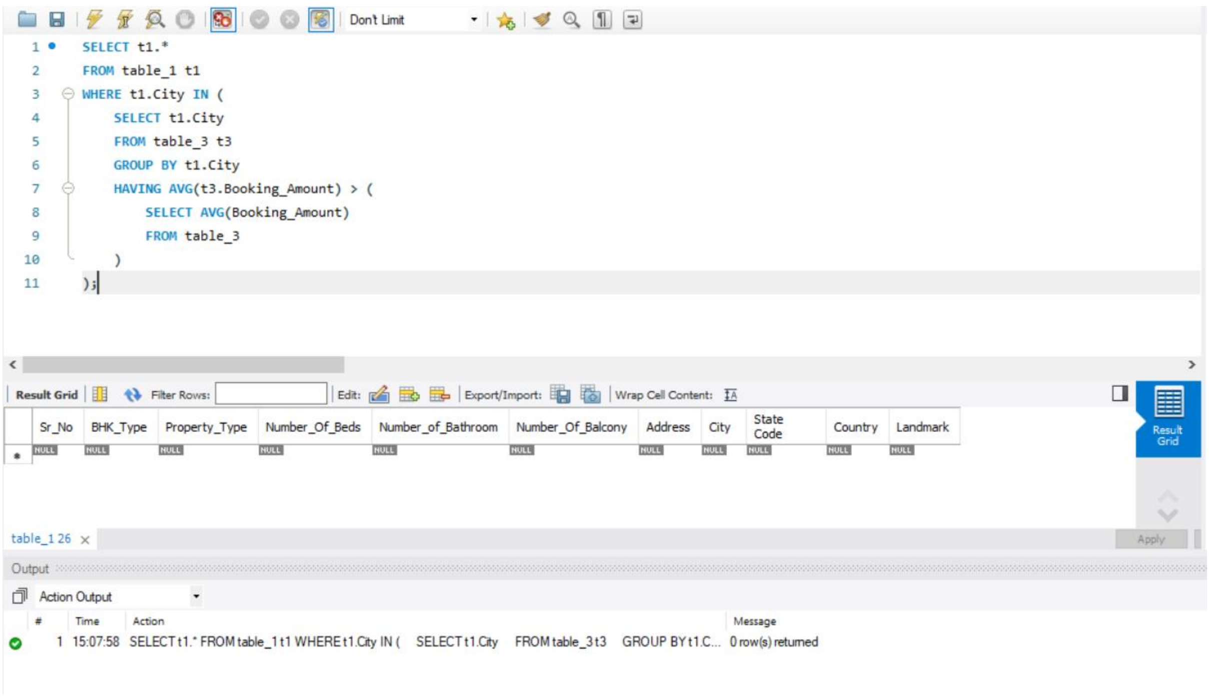


```
SELECT COUNT(*) AS Num_Property
FROM table_1 t1
WHERE t1.Number_Of_Beds > (
    SELECT MAX(t1.Number_Of_Beds)
    FROM table_1 t1
);
```

Num_Property
0

```
#   Time      Action                                                                                     Message
1   14:53:02  SELECT COUNT(*) AS Num_Property FROM table_1 t1 WHERE t1.Number_Of_Beds > (   SELECT MAX(t1....   1 row(s) returned
```

6- Find the cities where the average booking amount in table3 is higher than the overall average booking amount, and retrieve properties from table1 located in those cities



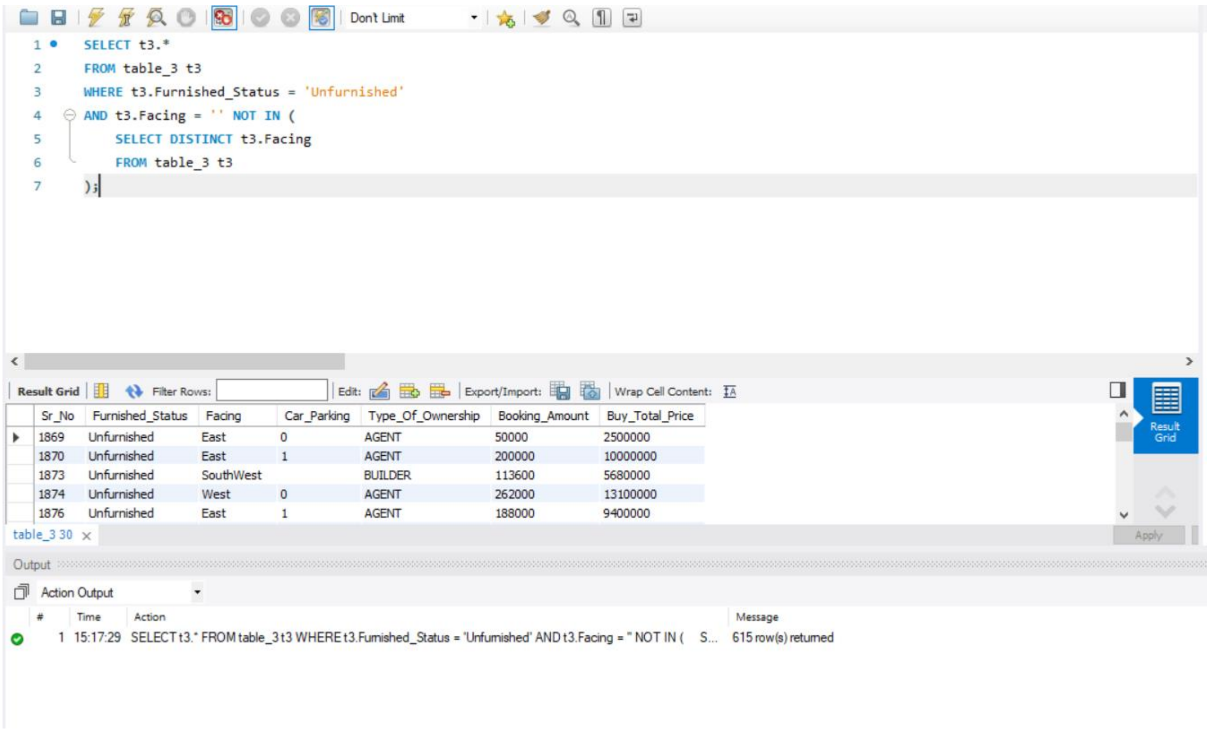
```sql
SELECT t1.*
FROM table_1 t1
WHERE t1.City IN (
    SELECT t1.City
    FROM table_3 t3
    GROUP BY t1.City
    HAVING AVG(t3.Booking_Amount) > (
        SELECT AVG(Booking_Amount)
        FROM table_3
    )
);
```

	Sr_No	BHK_Type	Property_Type	Number_Of_Beds	Number_of_Bathroom	Number_Of_Balcony	Address	City	State Code	Country	Landmark
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

table_1 26

```
#   Time       Action                                                                                        Message
1   15:07:58   SELECT t1.* FROM table_1 t1 WHERE t1.City IN (    SELECT t1.City    FROM table_3 t3    GROUP BY t1.C...   0 row(s) returned
```

7- Retrieve properties from table1 with a furnished status of 'Unfurnished' and a facing direction that does not exist in table3



```sql
SELECT t3.*
FROM table_3 t3
WHERE t3.Furnished_Status = 'Unfurnished'
AND t3.Facing = '' NOT IN (
    SELECT DISTINCT t3.Facing
    FROM table_3 t3
);
```

	Sr_No	Furnished_Status	Facing	Car_Parking	Type_Of_Ownership	Booking_Amount	Buy_Total_Price
▶	1869	Unfurnished	East	0	AGENT	50000	2500000
	1870	Unfurnished	East	1	AGENT	200000	10000000
	1873	Unfurnished	SouthWest		BUILDER	113600	5680000
	1874	Unfurnished	West	0	AGENT	262000	13100000
	1876	Unfurnished	East	1	AGENT	188000	9400000

table_3 30

```
#   Time       Action                                                                                  Message
1   15:17:29   SELECT t3.* FROM table_3 t3 WHERE t3.Furnished_Status = 'Unfurnished' AND t3.Facing = '' NOT IN (    S...   615 row(s) returned
```

-- Phase 2 End --