

**Zillow Database Design and SQL Queries** 

### What is the top 5th ranked mortgage amount for each home type and show the provider names

#### **Approach**

) as ex

where amount\_rank = 5;

```
Select property_id, home_type, mortgage_id, mortgage_provider, mortgage_amount from (
select p.property_id, p.home_type, m.mortgage_id, m.mortgage_provider, m.mortgage_amount,
rank() over(partition by home_type order by mortgage_amount DESC) as amount_rank
from property_mortgage m
join property_id= m.property_id
```

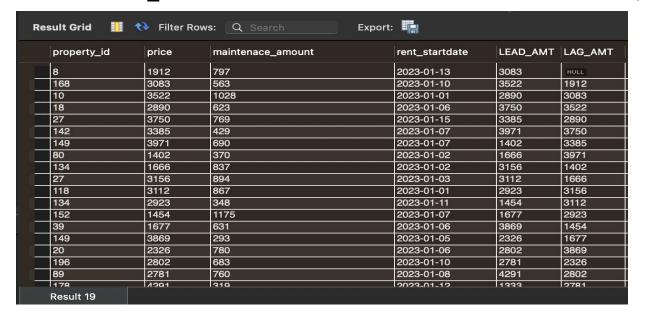


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Result Grid	Note:	Q Search	Export:	
property_id	home_type	mortgage_id	mortgage_provider	mortgage_amount
149	apartment	435	Zillow	4944
8	house	275	Zillow	4967

For each rent property show the rent (price) in the period between 1st Jan and 15th Jan 2023. show current rent and rent on the next day. Also, show the current rent and the rent on previous start date.

#### **Approach**

select p.property\_id, r.price, r.maintenace\_amount, r.rent\_startdate, lead(price) over(order by rent\_id) as LEAD\_AMT, LAG(price) over(order by rent\_id) as LAG\_AMT from rent\_property r inner join property p on p.property\_id = r.property\_id where rent\_startdate between '2023-01-01' and '2023-01-15';





property_id	price	maintenace_amount	rent_startdate	LEAD_AMT	LAG_AM
51	2579	322	2023-01-12	1609	1574
148	1609	611	2023-01-13	3199	2579
33	3199	956	2023-01-02	4119	1609
141	4119	609	2023-01-05	3486	3199
35	3486	738	2023-01-02	2212	4119
16	2212	308	2023-01-09	4150	3486
111	4150	1077	2023-01-02	4222	2212
30	4222	464	2023-01-09	2675	4150
144	2675	844	2023-01-06	1025	4222
59	1025	574	2023-01-01	3491	2675
24	3491	1047	2023-01-12	1450	1025
150	1450	664	2023-01-07	2484	3491
129	2484	715	2023-01-13	4283	1450
175	4283	393	2023-01-14	3095	2484
13	3095	724	2023-01-08	1959	4283
170	1959	1040	2023-01-12	3003	3095
102	3003	232	2023-01-09	4477	1959
118	4477	496	2023-01-11	NULL	3003

For each property show the amenities details show one more column availability when amenities are study room or Home Office "study area available', for garage 'parking space available' else show other. When amenities not available show null values.

### Approach

select p.property\_id, p.home\_type, a.amenities\_id, a.name, case when name = 'Study Room' or 'Home Office' then 'study area available' when name = 'garage' then 'parking space available'

else 'other'
end as Availability
from amenities a
right join property p
on a.property\_id = p.property\_id;



property_id	home_type	listing_stat	name	description
143	apartment	sold	Walk-in Closet	des4
160	apartment	open	Jacuzzi Tub	des1
175	apartment	not available	Jacuzzi Tub	des2
180	apartment	not available	Garage	des3
185	apartment	open	Garage	des2
212	apartment	sold	Jacuzzi Tub	des4
239	apartment	open	Jacuzzi Tub	des3
272	apartment	open	Garage	des4
279	apartment	open	Study Room	des2
288	apartment	open	Jacuzzi Tub	des3
296	apartment	open	Home Theater	des4
372	apartment	not available	Jacuzzi Tub	des3
378	apartment	open	Jacuzzi Tub	des2
385	apartment	open	Study Room	des2
402	apartment	not available	Home Office	des2
403	apartment	not available	Jacuzzi Tub	des2

# Find the rent for each property and find average rent. Find the difference between average rent and the rent show the highest rent first

#### **Approach**

select p.property\_id, p.home\_type, r.rent\_id, r.price, r.rent\_startdate, r.rent\_enddate, avg(price) over(order by price DESC rows between current row and unbounded following) as average\_price,

price - avg(price) over(order by price DESC rows between current row and unbounded

following) as Difference

from property p
left join rent\_property r
on r.property\_id = p.property\_id;



property_id	home_type	rent_id	price	rent_startdate	rent_enddate	average_price	Difference
154	house	343	4492	2022-12-29	2023-04-23	2722.7140	1769.2860
41	house	4	4491	2023-02-11	2023-10-05	2719.1683	1771.8317
176	house	416	4487	2023-01-20	2024-04-21	2715.6104	1771.3896
173	house	187	4481	2023-02-12	2023-10-17	2712.0463	1768.9537
118	apartment	500	4477	2023-01-11	2024-11-01	2708.4798	1768.5202
198	apartment	344	4472	2023-01-12	2024-03-05	2704.9071	1767.0929
104	house	155	4467	2023-03-18	2023-07-15	2701.3300	1765.6700
70	house	473	4450	2023-03-18	2024-06-14	2697.7485	1752.2515
159	apartment	323	4446	2023-02-22	2024-07-27	2694.1870	1751.8130
56	house	411	4422	2023-03-13	2024-02-17	2690.6191	1731.3809
175	apartment	468	4422	2023-04-06	2024-09-11	2687.0857	1734.9143
191	apartment	164	4416	2023-02-13	2023-02-12	2683.5378	1732.4622
175	apartment	163	4406	2023-03-25	2023-09-25	2679.9877	1726.0123
101	apartment	36	4403	2023-01-22	2024-07-08	2676.4435	1726.5565
31	house	68	4400	2022-12-23	2023-10-10	2672.8909	1727.1091
143	apartment	233	4394	2023-03-13	2024-07-23	2669.3299	1724.6701
21	house	333	4385	2023-04-01	2024-08-16	2665.7665	1719.2335
166	apartment	450	4373	2023-02-23	2023-06-08	2662.2070	1710.7930
72	house	21	1350	3U33-U3-U3	2023-05-06	2658 6577	1601 3/123

# Show the all the property \_id and review details with rating ranking top 4 form 10th Sept to 31st Dec 2024

#### **Approach**

Select property\_id, review\_id, rating,review\_date, comments, DENSE\_Ranking from (Select p.property\_id, r.review\_id, r.rating, r.review\_date, r.comments, DENSE\_RANK() OVER( order by rating) as DENSE\_Ranking FROM review r join property p on p.property\_id = r.property\_id) as ex where review\_date between '2024-09-10' and '2024-12-31'and DENSE\_Ranking = 4;



Result Grid	Filter Ro	ows:	Q Search		Export:
property_id	review_id	rating	review_date	comments	DENSE_Ranking
149	163	5	2024-12-01	des2	4
115	415	5	2024-10-27	des1	4
12	153	5	2024-12-22	des2	4
46	382	5	2024-12-23	des4	4
191	431	5	2024-10-13	des2	4
191	451	5	2024-10-19	des4	4

Zillow makes 10% profit on the selling price when property is sold. Show the profit made by zillow for each sold property according to city

#### **Approach**



property_id	city	listing_status	sell_price	Profit
1	Louisville	sold	1893477	189347.7
1	Louisville	sold	1088316	108831.6
1	Louisville	sold	334592	33459.2
1	Louisville	sold	637897	63789.7
1	Louisville	sold	1902638	190263.8
1	Louisville	sold	324629	32462.9
1	Charlotte	sold	1893477	189347.7
1	Charlotte	sold	1088316	108831.6
1	Charlotte	sold	334592	33459.2
1	Charlotte	sold	637897	63789.7
1	Charlotte	sold	1902638	190263.8
1	Charlotte	sold	324629	32462.9
1	Lexington	sold	1893477	189347.7
1	Lexington	sold	1088316	108831.6
1	Lexington	sold	334592	33459.2
1	Lexington	sold	637897	63789.7
1	Lexington	sold	1902638	190263.8
1	Lexington	sold	324629	32462.9
Q	Detroit	eold	526017	52601 7

Number of properties per city and state where properties are available (listing\_status = open)

#### **Approach**

