

Exploring Airbnb Insights through SQL Analysis and Python Word Clouds for Paris city

1. Top 10 listings with the highest number of reviews and their average review ratings, along with the host details.

```
SELECT listing_id, host_id, host_name, name, number_of_reviews,
review_scores_rating
FROM listings
ORDER BY number_of_reviews DESC, review_scores_rating DESC
LIMIT 10;
```

	listing_id	host_id	host_name	name	number_of_reviews	review_scores_rating
▶	26244787	98020850	Lionel	Double/Twin Room, close to Opera and the Lou...	2524	4.85
	17222007	84901734	Alexandra	Sweet & cosy room next to Canal Saint Martin ♥	2052	4.72
	41020735	315206797	Les Piaules	Bed in Dorm of 8 Beds "The Big One" in Paris	1647	4.61
	35145338	264483496	Hotel De L'Aqueduc	Nice Room for 2 people	1433	4.29
	40194697	309707704	The People Paris Bercy	Comfortable bed in shared rooms of 8 in Paris 12e	1420	4.7
	32518543	98087989	Arthur	Hotel Boronali *** - Double room in Montmartre	1352	4.44
	846954	3125405	Maguy	Gde chambre ds grand appart. Salle de bain pri...	1004	4.76
	32057469	183489963	Naim	Sweet Little Room near St Martin Canal	986	4.42
	1249964	6811343	Mike	A Journey Into The Heart Of Paris	947	4.86
	35242476	264941340	Marine	Superb room for two	835	4.74

2. Count of listings by room type, along with the average price and average review rating for each room type.

```
SELECT room_type,
COUNT (room_type) AS count,
AVG (price) AS average_price,
AVG (review_scores_rating) AS average_rating
FROM listings
GROUP BY room_type;
```

	room_type	count	average_price	average_rating
▶	Entire home/apt	48350	174.66680455015512	4.617659076453401
	Private room	7172	136.92763524818739	4.60409618573797
	Shared room	289	101.62975778546713	4.325571428571428
	Hotel room	915	327.6612021857924	4.572162554426707

3. Top 20 listings of type 'Entire home/apt' sorted by the number of reviews and review ratings.

```
SELECT *
FROM listings
WHERE room_type = 'Entire home/apt'
ORDER BY number_of_reviews DESC, review_scores_rating DESC
LIMIT 20;
```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accommodates	bathrooms	bedrooms	beds	amenities	price	number_of_rev	review_scores	instant_bookable	reviews_per_mo
2488829	https://...	Place d...	Studio in ...	12737796	https://...	Axel	within an hour	Entire home/apt	2	1	1	1	["Bed linens", "...	88	804	4.64	f	7.33
35065	https://...	Lovely ...	A very ni...	150876	https://...	Benoit	within an hour	Entire home/apt	2	2	1	1	["Bed linens", "...	199	771	4.69	f	5.04
5724631	https://...	AMAZI...	This char...	2107478	https://...	Philippe	within an hour	Entire home/apt	2	1		1	["Heating", "Re...	153	719	4.43	f	7.41
3622007	https://...	Art Stu...	A charmin...	15998479	https://...	Tatiana	within an hour	Entire home/apt	2	1		1	["Self check-in",...	80	705	4.44	t	7.33
5678736	https://...	Studio ...	Situated i...	12737796	https://...	Axel	within an hour	Entire home/apt	2	1	1	1	["15" HDTV wi...	93	687	4.7	f	7.07
1070274	https://...	Studio ...	Modern s...	5888840	https://...	Home Rental	within an hour	Entire home/apt	3	1	1	1	["Bed linens", "...	65	666	4.78	f	5.55
4911410	https://...	OPERA...	7 minutes...	12694474	https://...	Come In Host	within an hour	Entire home/apt	5	1	2	3	["First aid kit", ...	254	662	4.71	f	6.69
8313266	https://...	Marais ...	Studio 20...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1		1	["First aid kit", ...	135	647	4.84	f	7.34
4381461	https://...	Stylish ...	Stylish re...	22749152	https://...	Roxane	within an hour	Entire home/apt	4	2	1	2	["Bed linens", "...	207	609	4.75	f	5.97
11710116	https://...	Place d...	NO ARRI...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1	1	1	["Bed linens", "...	119	607	4.8	f	7.26
193632	https://...	Charmi...	The ...	777533	https://...	Celine	within an hour	Entire home/apt	2	1		1	["TV with stand...	105	603	4.65	t	4.32
6921651	https://...	Champ...	Rue du F...	12694474	https://...	Come In Host	within an hour	Entire home/apt	5	1	2	3	["First aid kit", ...	286	596	4.83	f	6.39
9194001	https://...	1Bedro...	in a 1830'...	21887707	https://...	Vincent	within an hour	Entire home/apt	5	1	1	2	["First aid kit", ...	197	582	4.87	f	7.09
780445	https://...	Modér...	The ...	1743966	https://...	Pierre & Leticia	within an hour	Entire home/apt	2	1		1	["First aid kit", ...	74	578	4.8	f	4.66
17594732	https://...	Le Hau...	This quiet...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1		1	["First aid kit", ...	145	568	4.87	f	7.86
2013051	https://...	Small c...	The ...	3524873	https://...	Tony		Entire home/apt	2	1		1	["Self check-in",...	65	568	4.37	f	5.04
12736301	https://...	MONT...	In a buildi...	12694474	https://...	Come In Host	within an hour	Entire home/apt	7	1	2	5	["First aid kit", ...	276	559	4.92	f	7.27
7074843	https://...	ideal p...	1 bedroo...	37094752	https://...	David	within an hour	Entire home/apt	2	1	1	1	["Heating", "Ho...	93	557	4.23	f	5.95
2343894	https://...	Large ...	Studio ap...	11969499	https://...	Patrick & Fra...	within an hour	Entire home/apt	2	1		1	["Bed linens", "...	105	554	4.89	f	5.03
4894506	https://...	Spacio...	In a 19th ...	613864	https://...	Lucas	within an hour	Entire home/apt	6	2	1	3	["First aid kit", ...	88	543	4.71	f	5.46

4. Find hosts with the highest number of listings.

```
SELECT host_id, host_name, COUNT(listing_id) AS total_listings
FROM listings
GROUP BY host_id, host_name
ORDER BY total_listings DESC;
```

host_id	host_name	total_listings
314994947	Blueground	447
50978178	Sebastien	230
50502817	Pierre De WeHost	214
7642792	Ludovic	196
440295601	Gaelle	195
33889201	Veeve	182
458533553	Joffrey	165
26981054	Cédric	156
402191311	GuestReady	141
6053288	Anna	131
51567288	Sweet Inn	106
460047164	Alexandre	104
2107478	Philippe	95
435014515	Bervini Paris	94
1112584	IntoParis	92
440992832	Joffrey	91
440992928	Joffrey	91
21630783	Pierre	88
374553401	Checkmyguest	87
147018685	Les Patios Du Ma...	86
5027164	International Ho...	85
479175248	Joffrey	80
152242	Delphine	79
486198067	Andreas	75
374552379	Joffrey	74
479170945	Joffrey	74
193397737	Mtp	71

5. Count the number of listings by room type, along with the count of instant booking and non-instant booking listings.

```
SELECT room_type, COUNT(*),  
COUNT(CASE WHEN instant_bookable = 't' THEN 1 END) AS instant_booking,  
COUNT(CASE WHEN instant_bookable = 'f' THEN 1 END) AS non_instant_booking  
FROM listings  
GROUP BY room_type;
```

	room_type	COUNT(*)	instant_booking	non_instant_booking
▶	Entire home/apt	48350	10511	37839
	Private room	7172	2491	4681
	Shared room	289	82	207
	Hotel room	915	804	111

6. Calculate the average price and average review rating for listings with different instant booking options.

```
SELECT instant_bookable,  
AVG(price) AS avg_price,  
AVG(review_scores_rating) AS average_rating  
FROM listings  
GROUP BY instant_bookable;
```

	instant_bookable	avg_price	average_rating
▶	f	154.5449133946496	4.644709902531912
	t	225.80436347926266	4.516831918195921

7. Determine the average price for each room type and the overall average price.

```
SELECT room_type, AVG(price) AS category_avg,  
(SELECT AVG(price) FROM listings) AS total_avg  
FROM listings  
GROUP BY room_type;
```

	room_type	category_avg	total_avg
▶	Entire home/apt	174.66680455015512	171.99107992807532
	Private room	136.92763524818739	171.99107992807532
	Shared room	101.62975778546713	171.99107992807532
	Hotel room	327.6612021857924	171.99107992807532

8. Identify hosts with the highest price variance across their listings.

```
SELECT host_id, MAX(price) - MIN(price) AS price_variance
FROM listings
GROUP BY host_id
ORDER BY price_variance DESC
LIMIT 5;
```

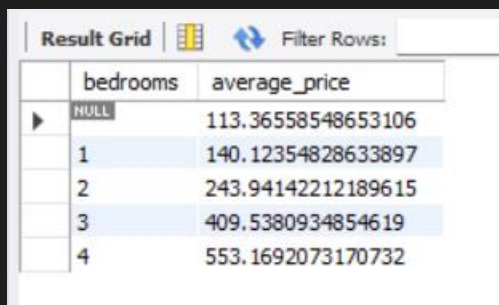


The screenshot shows a 'Result Grid' with a 'Filter Rows' button. The table has two columns: 'host_id' and 'price_variance'. The data is as follows:

host_id	price_variance
342052277	92810
440992639	9204
479175248	9189
2107478	7952
400123061	7071

9. Calculate the average price per bedroom for listings in Paris.

```
SELECT bedrooms, AVG(price) AS average_price
FROM listings
GROUP BY bedrooms
ORDER BY bedrooms
LIMIT 5;
```

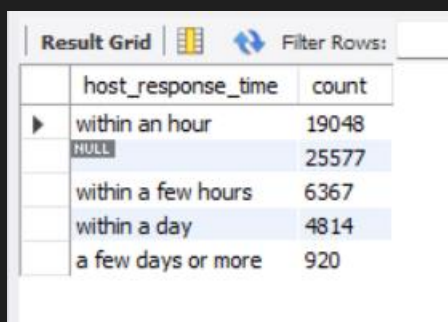


The screenshot shows a 'Result Grid' with a 'Filter Rows' button. The table has two columns: 'bedrooms' and 'average_price'. The data is as follows:

bedrooms	average_price
NULL	113.36558548653106
1	140.12354828633897
2	243.94142212189615
3	409.5380934854619
4	553.1692073170732

10. Analyse the count of listings based on host response time.

```
SELECT host_response_time, COUNT(*) AS count
FROM listings
GROUP BY host_response_time;
```



The screenshot shows a 'Result Grid' with a 'Filter Rows' button. The table has two columns: 'host_response_time' and 'count'. The data is as follows:

host_response_time	count
within an hour	19048
NULL	25577
within a few hours	6367
within a day	4814
a few days or more	920

11. Determine the total count and percentage of instant booking listings.

```
SELECT COUNT(*) AS total_listings,
COUNT(CASE WHEN instant_bookable = 't' THEN 1 END) AS
instant_booking_listings,
COUNT(CASE WHEN instant_bookable = 't' THEN 1 END) / COUNT(*) * 100
AS instant_booking_percentage
FROM listings;
```

	total_listings	instant_booking_listings	instant_booking_percentage
	56726	13888	24.4826

12. Retrieve the top 20 listings with instant booking and high review ratings, sorted by the number of reviews.

```
SELECT *
FROM listings
WHERE instant_bookable = 't' AND review_scores_rating >= 4.5
ORDER BY number_of_reviews DESC
LIMIT 20;
```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accomm	bathrooms	bedrooms	beds	amenities	price	number_of_reviews	review_scores_rating	instant_bookable	reviews_per_month
26244787	https://...	Double/T...	 The spa...	98020850	https://w...	Lionel	within an hour	Hotel room	2	1	1	HALL	['First ai...	364	2524	4.85	t	49.55
41020735	https://...	Bed in Dor...	Welcome to ...	315206797	https://w...	Les Piales	within an hour	Shared room	1	1	1	1	['First ai...	41	1647	4.61	t	44.19
35242476	https://...	Superb ro...	In order to g...	264941340	https://w...	Marine	within an hour	Hotel room	2	1	1	1	['First ai...	210	835	4.74	t	18.24
38891995	https://...	Hotel Aug...	Standard Do...	293659364	https://w...	Hôtel Augus...	within an hour	Private room	2	1	1	1	['Heatin...	213	772	4.81	t	19.33
6406706	https://...	Charming ...	Welcome! T...	22980352	https://w...	Alix	within an hour	Private room	2	1	1	1	['Bed lin...	78	730	4.75	t	7.75
31868079	https://...	Room & Pool	 ...	188661433	https://w...	Lisa	within an hour	Hotel room	2	1	1	1	['First ai...	150	680	4.86	t	14.22
35590372	https://...	Double Cl...	 The spa...	254056482	https://w...	Fabienne	within an hour	Hotel room	2	1	1	HALL	['TV wit...	150	659	4.77	t	14.88
29581287	https://...	Romantic ...	Enjoy a sple...	220895636	https://w...	Yohann	within an hour	Hotel room	2	1	1	HALL	['First ai...	227	645	4.71	t	12.48
193632	https://...	Charming ...	 The spa...	777533	https://w...	Celine	within an hour	Entire home/apt	2	1	1	HALL	['TV wit...	105	603	4.65	t	4.32
35590371	https://...	Single Room	 The spa...	254056482	https://w...	Fabienne	within an hour	Hotel room	1	1	1	HALL	['TV wit...	129	572	4.78	t	12.82
18305959	https://...	Warm atm...	Located in t...	126446227	https://w...	Hotel Villath...	within an hour	Hotel room	2	1	1	1	['Bed lin...	229	571	4.65	t	8.02
41227843	https://...	Superb Ro...	In order to g...	264673636	https://w...	Hotel	within an hour	Private room	2	1	1	1	['First ai...	249	563	4.79	t	14.95
1369349	https://...	Splendid t...	 The spa...	7425562	https://w...	Martine	within an hour	Entire home/apt	3	1	1	2	['Hair dr...	115	528	4.89	t	4.53
38748871	https://...	Hotel Aca...	Standard Do...	293601363	https://w...	Hôtel Acadia...	within an hour	Private room	2	1	1	1	['Heatin...	221	520	4.69	t	12.92
371299	https://...	New Apar...	 The spa...	1870265	https://w...	Thomas	within an hour	Entire home/apt	2	1	1	HALL	['Pets al...	200	517	4.73	t	3.88
13365586	https://...	LE MARAI...	Newly remo...	75864321	https://w...	Christine	within an hour	Entire home/apt	2	1	1	1	['First ai...	150	508	4.92	t	6.25
35157584	https://...	Superb Ro...	In order to g...	98753435	https://w...	Hotel	within an hour	Hotel room	2	1	1	1	['First ai...	244	507	4.72	t	11.4
17917735	https://...	Beautiful r...	The BOB en...	122830437	https://w...	Bob Hotel	within an hour	Hotel room	2	1	1	1	['Bed lin...	232	499	4.8	t	6.9
9446428	https://...	Lovely Stu...	Rare, in one...	110077	https://w...	Guepard	within an hour	Entire home/apt	2	1	1	HALL	['TV wit...	119	497	4.78	t	5.62
21810459	https://...	Arty Room	With this ne...	126393293	https://w...	Hotel Exquis	within an hour	Hotel room	2	1	1	1	['First ai...	261	489	4.71	t	7.56

13. Retrieve the top 20 listings with low prices and high review ratings.

```
SELECT *
FROM listings
WHERE price < 150 AND review_scores_rating >= 4.5
ORDER BY number_of_reviews DESC
LIMIT 20;
```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accommodates	bathrooms	bedrooms	beds	amenities	price	number_of_reviews	review_scores_rating	instant_bookable	reviews_per_month
17222007	https://...	Sweet ...	The ro...	84901734	https://...	Alexandra	within an hour	Private room	2	1	1	1	["First ai...	147	2052	4.72	f	28.79
41020735	https://...	Bed in D...	Welco...	315206797	https://...	Les Piaules	within an hour	Shared room	1	1	1	1	["First ai...	41	1647	4.61	t	44.19
40194697	https://...	Comfort...	Kick yo...	309707704	https://...	The People Pari...	within an hour	Shared room	1	1	1	1	["Bed lin...	42	1420	4.7	f	35.41
846954	https://...	Gde cha...	Chamb...	3125405	https://...	Maguy	within an hour	Private room	2	1	1	1	["Bed lin...	58	1004	4.76	f	8.08
1249964	https://...	A Journ...	You ar...	6811343	https://...	Mike	within an hour	Private room	2	1	1	1	["Bed lin...	149	947	4.86	f	8.01
2488829	https://...	Place d...	Studio ...	12737796	https://...	Axel	within an hour	Entire home/apt	2	1	1	1	["Bed lin...	88	804	4.64	f	7.33
8532948	https://...	Comfort...	You will...	44927614	https://...	Emmanuelle Et ...	within an hour	Private room	2	1	1	1	["Bed lin...	53	739	4.63	f	8.15
6406706	https://...	Charmin...	Welco...	22980352	https://...	Alix	within an hour	Private room	2	1	1	1	["Bed lin...	78	730	4.75	t	7.75
5678736	https://...	Studio P...	Situate...	12737796	https://...	Axel	within an hour	Entire home/apt	2	1	1	1	["15\" H...	93	687	4.7	f	7.07
1070274	https://...	Studio ...	Moder...	5888840	https://...	Home Rental	within an hour	Entire home/apt	3	1	1	1	["Bed lin...	65	666	4.78	f	5.55
8313266	https://...	Marais ...	Studio ...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1	1	1	["First ai...	135	647	4.84	f	7.34
1250856	https://...	Beauf...	Th...	6815789	https://...	Grégoire	within an hour	Private room	1	1	1	1	["Pets all...	53	630	4.67	f	5.37
11034796	https://...	Bedroo...	In a be...	5726467	https://...	Gilbert	within an hour	Private room	2	1	1	1	["Bed lin...	77	616	4.91	f	7.44
753143	https://...	A NICE ...	Th...	1606856	https://...	Vincent	within a few hours	Private room	2	1	1	1	["Heatin...	40	611	4.56	f	5.28
3734970	https://...	Located...	Place B...	14430379	https://...	Sylvain Et Dalla	within a day	Private room	5	2	2	3	["Host g...	110	608	4.58	f	5.86
11710116	https://...	Place d...	NO AR...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1	1	1	["Bed lin...	119	607	4.8	f	7.26
391189	https://...	Cosy qu...	Th...	1956466	https://...	Philippe	within a few hours	Private room	2	1	1	1	["Bed lin...	61	605	4.82	f	4.62
193632	https://...	Charmin...	Th...	777533	https://...	Celine	within an hour	Entire home/apt	2	1	1	1	["TV wit...	105	603	4.65	t	4.32
2247629	https://...	Bedroo...	Small b...	11478362	https://...	Tara	within an hour	Private room	1	2	1	1	["Pets all...	37	597	4.52	f	5.4
2173772	https://...	Quiet R...	Please ...	11089079	https://...	R. Romy	within an hour	Private room	1	1	1	1	["Hair dr...	55	593	4.64	f	5.35

14. Find listings that accommodate 2 people and have at least 2 beds.

```
SELECT *
FROM listings
WHERE accommodates = 2 AND beds >= 2
ORDER BY number_of_reviews DESC;
```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accommodates	bathrooms	bedrooms	beds	amenities	price	number_of_reviews	review_scores_rating	instant_bookable	reviews_per_month
38900228	https://...	Hotel ...	Standar...	293720140	https://...	Hôtel 348***	within an hour	Private room	2	1	1	2	["Heatin...	220	475	4.74	t	11.65
11494876	https://...	2-sing...	Located i...	60526741	https://...	Annie	within an hour	Private room	2	1	1	2	["First ai...	55	401	4.36	t	4.88
836235	https://...	Apert...	Apartme...	4371103	https://...	Laurent	within an hour	Entire home/apt	2	1	1	2	["TV wit...	82	396	4.8	f	3.25
7709877	https://...	Paris 2...	5minutes...	37825130	https://...	Agnes	within an hour	Private room	2	2	1	2	["Bed lin...	38	351	4.41	f	3.81
38926307	https://...	Hotel ...	Standar...	293686921	https://...	Hôtel Joke ***	within an hour	Private room	2	1	1	2	["Heatin...	183	347	4.81	t	8.5
6849340	https://...	Quiet ...	You will ...	9753529	https://...	Marie-Pascale	within a few hours	Private room	2	1	1	2	["First ai...	99	344	4.94	f	3.67
390984	https://...	AMAZI...	This Rom...	1955579	https://...	Olivier	within an hour	Entire home/apt	2	1	1	2	["Pets al...	231	341	4.95	t	2.61
549941	https://...	Heart ...	Paris Ce...	2694418	https://...	Emmanuel	within a day	Entire home/apt	2	1	1	2	["Bed lin...	122	322	4.77	f	2.49
5365988	https://...	A bedr...	Come to ...	13807284	https://...	Laure	within an hour	Private room	2	1	1	2	["Patio ...	40	319	4.61	t	3.27
23923988	https://...	Lovely...	Cozy be...	27886914	https://...	Guillaume	within an hour	Private room	2	2	1	2	["First ai...	71	319	4.56	t	5.28
2860869	https://...	Lovely...	Pretty st...	14625263	https://...	Marine	within an hour	Entire home/apt	2	1	1	2	["Bed lin...	99	317	4.8	f	3
15188742	https://...	Ideal f...	New apa...	48929719	https://...	Rémi	within an hour	Entire home/apt	2	1	1	2	["Pets al...	130	309	4.78	f	4.07
8102244	https://...	DOUB...	The Yi B...	42782996	https://...	Suqin	within an hour	Private room	2	1	1	2	["Bed lin...	194	307	4.28	f	3.35
22979	https://...	Stayin...	Th...	89023	https://...	Lisa	within a few hours	Private room	2	2	1	2	["Heatin...	70	296	4.88	f	1.9
1666262	https://...	Beaut...	The char...	3679440	https://...	Florence	within an hour	Entire home/apt	2	1	1	2	["Bed lin...	95	296	4.71	t	2.57
12257692	https://...	Paris 7...	Located i...	2050464	https://...	Kimiko	within an hour	Private room	2	1	1	2	["First ai...	140	290	4.88	f	3.44
1200592	https://...	Lovely...	Location ...	5627537	https://...	Chris	within an hour	Entire home/apt	2	1	1	2	["Bed lin...	116	286	4.62	f	2.41
862444	https://...	Lofty ...	Th...	4520573	https://...	Corto	within an hour	Entire home/apt	2	1	1	2	["Bed lin...	110	280	4.64	f	2.32
32677659	https://...	Belle c...	Cette be...	51950575	https://...	Paduka	within an hour	Private room	2	1	1	2	["First ai...	166	277	4.59	t	5.73
314294	https://...	Charm...	Th...	1614865	https://...	Carole	within a few hours	Entire home/apt	2	1	1	2	["Bed lin...	95	273	4.87	f	2.05
6976581	https://...	Roma...	Our calm...	7288337	https://...	Meenu & Manu	within an hour	Entire home/apt	2	1	1	2	["Heatin...	117	265	4.89	f	2.83
21669978	https://...	Cham...	Chambre...	157614222	https://...	Hando	within an hour	Private room	2	1	1	2	["Self ch...	69	264	4.51	t	4.07
30149280	https://...	Lovely...	Chambre...	27886914	https://...	Guillaume	within an hour	Private room	2	2	1	2	["First ai...	72	256	4.51	t	4.93

15. Retrieve the top 10 listings with the highest prices.

```
SELECT *
FROM listings
ORDER BY price DESC
LIMIT 10;
```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accommodates	bathrooms	bedrooms	beds	amenities	price	number_of_reviews	review_scores_rating	instant_bookable	reviews_per_month
44587494	https://...	Citadi...	Idéal pour ...	342052277	https://...	Adrien	within an hour	Entire home/apt	2	1	NULL	1	["Bed lin...	93000	7	2.86	t	0.24
33521511	https://...	Studi...	Studio cal...	10469459	https://...	Yaniss	within an hour	Entire home/apt	4	1	NULL	2	["Clothin...	64406	10	4.4	f	0.21
7447891	https://...	indisp...	Petit appa...	33264663	https://...	Valquiria	a few days or more	Entire home/apt	2	1	1	1	["TV", "...	30000	2	5	f	0.38
681023000000000000	https://...	Studi...	Logement ...	425457902	https://...	Astrid	within an hour	Entire home/apt	2	1	NULL	2	["Cleani...	25836	3	4.67	f	0.49
720336000000000000	https://...	Supé...	L'ensemble...	480344085	https://...	Kaïd	within a day	Private room	2	2	1	1	["Bed lin...	21564	0	NULL	f	NULL
41682013	https://...	Appa...	NULL	149823675	https://...	Xia	NULL	Private room	6	1	3	3	["Heatin...	12000	1	1	f	0.07
557849000000000000	https://...	Char...	This cosy ...	444138334	https://...	Joffrey	NULL	Entire home/apt	6	1	3	3	["Bed lin...	11600	11	4	f	0.85
615781000000000000	https://...	Char...	This flat is ...	437852947	https://...	Joffrey	NULL	Entire home/apt	8	1	1	1	["Bed lin...	11600	0	NULL	f	NULL
598346000000000000	https://...	Char...	This flat is ...	437852947	https://...	Joffrey	NULL	Entire home/apt	4	1	1	1	["Refrig...	11600	0	NULL	f	NULL
572260000000000000	https://...	Paris ...	Simplifiez-...	5383225	https://...	Guillaume	NULL	Entire home/apt	4	1	1	2	["First ai...	10000	1	5	f	0.09

16. Retrieve the 10 listings with the lowest prices, excluding zero prices.

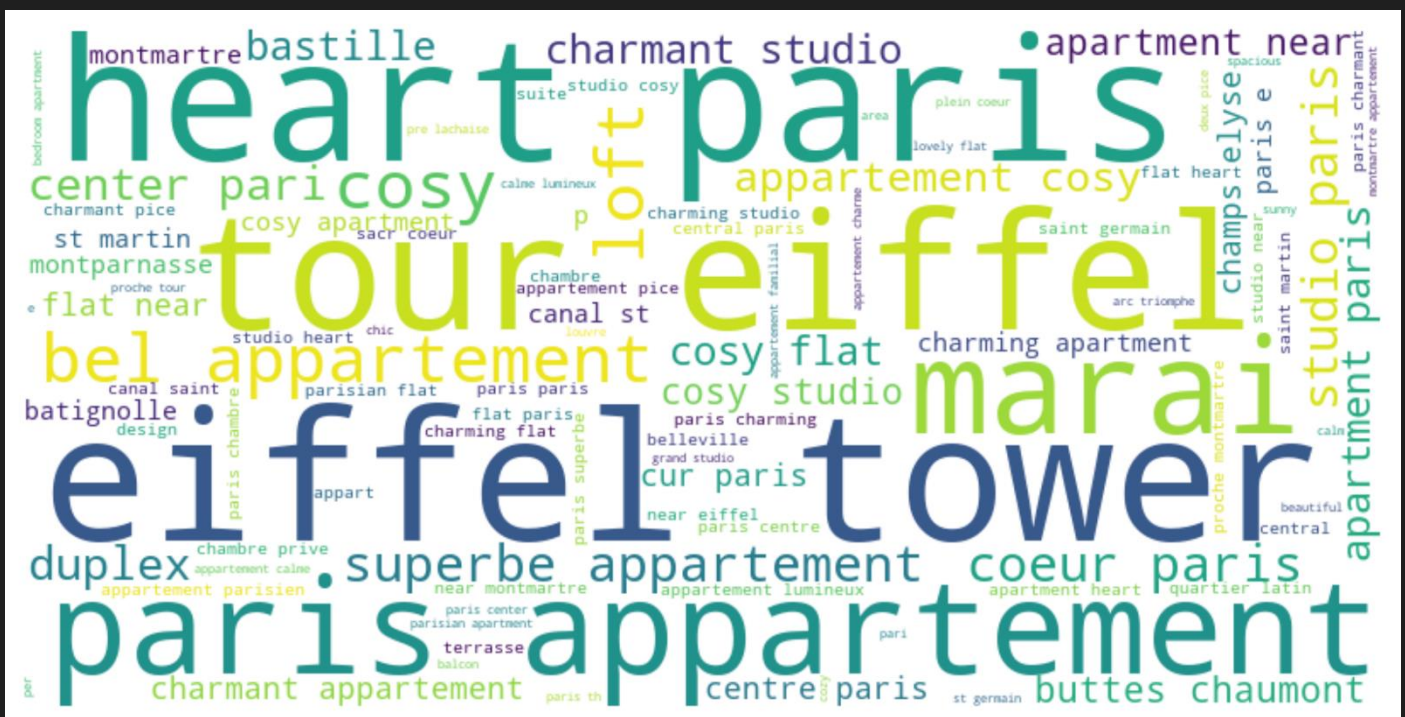
```
SELECT *
FROM listings
WHERE price != 0
ORDER BY price ASC
LIMIT 10;
```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accommodate	bathrooms	bedrooms	beds	amenities	price	number_of_revi	review_scores_rating	instant_bookabl	reviews_per_mont
7433116	https://...	Bright...	The apart...	8606449	https://...	Lorris	NULL	Private room	2	1	1	1	["Heating", ...	8	1	5	f	0.01
3666224	https://...	Home...	Hello, <br ...	17424928	https://...	Lucile	NULL	Private room	1	1	1	1	[]	8	1	4	f	0.01
4348122	https://...	Amazi...	This bright...	22570934	https://...	Hugo	NULL	Entire home/apt	2	1	1	1	["Heating", ...	9	0	NULL	f	NULL
18353334	https://...	Cosy ...	2 pièces/2...	18713062	https://...	Maxime	NULL	Private room	2	1	1	2	["Heating", ...	9	1	5	f	0.02
12971022	https://...	100%...	Mon logem...	71364396	https://...	Denis	NULL	Private room	2	1	1	1	["First aid ki...	9	0	NULL	f	NULL
18996379	https://...	carlito...	lovely flat ...	132516112	https://...	Carlitos	NULL	Shared room	1	1	1	1	["Hair dryer...	10	2	5	t	0.03
13854174	https://...	Studio...	5 min walk...	14273900	https://...	Lovis	NULL	Entire home/apt	3	1	NULL	1	["Pets allow...	10	0	NULL	f	NULL
22350527	https://...	Appar...	Appartem...	163428999	https://...	Thomas	NULL	Entire home/apt	4	1	NULL	1	["Heating", ...	10	0	NULL	t	NULL
21883031	https://...	Cham...	Appartem...	142012798	https://...	Jonathan	NULL	Private room	1	1	1	1	["Heating", ...	10	0	NULL	f	NULL
11352142	https://...	Appar...	Blablalba	5305760	https://...	Adrien	NULL	Entire home/apt	4	1	2	2	["First aid ki...	10	1	5	f	0.01

Name column WordCloud

```
SELECT listing_id, name FROM listings;
```

listing_id	name
5396	Explore the heart of old Paris
7397	MARAIS - 2ROOMS APT - 2/4 PEOPLE
7964	Sunny apartment with balcony
9359	Cozy, Central Paris: WALK or VELIB EVERYWHERE !
9952	Paris petit coin douillet
10586	Studio 7 Montmartre
10588	Studio 10 Montmartre
11265	Elegant apartment in Montmartre
11487	Heart of Paris, brand new apartment.
81870	Saint Germain Musee d'orsay
11798	Loft very charming in Paris
84820	Bird's nest in Montmartre: Sun/view all over Paris
247764	apartment next to canal st martin
12268	Faubourg Saint Antoine-chambrecalme
248869	Loft Baron
12452	Voltaire Charm
250378	Kids Welcome Apartment "Le Marais"
252049	Grand appartement, 2 chambres, 2 salles de bain
252095	2-room apt Buttes-Chaumont 436 P²
86053	Charmful flat facing a gothic church
12887	Bedroom & Terrace, Heart of Paris
87481	ST Germain 1 bed High ceiling ,AC and LIFT
90790	ROMANTIC STUDIO/APT MARAIS/PICASSO
91139	Romantic Flat on mews, 1 Bedrm
252525	charming bedroom near metro OPERA
253877	Montmartre Moulin Rouge Constance
256643	Lovely apt, rue Oberkampf Paris 11




```
SELECT listing_id, description FROM listings;
```



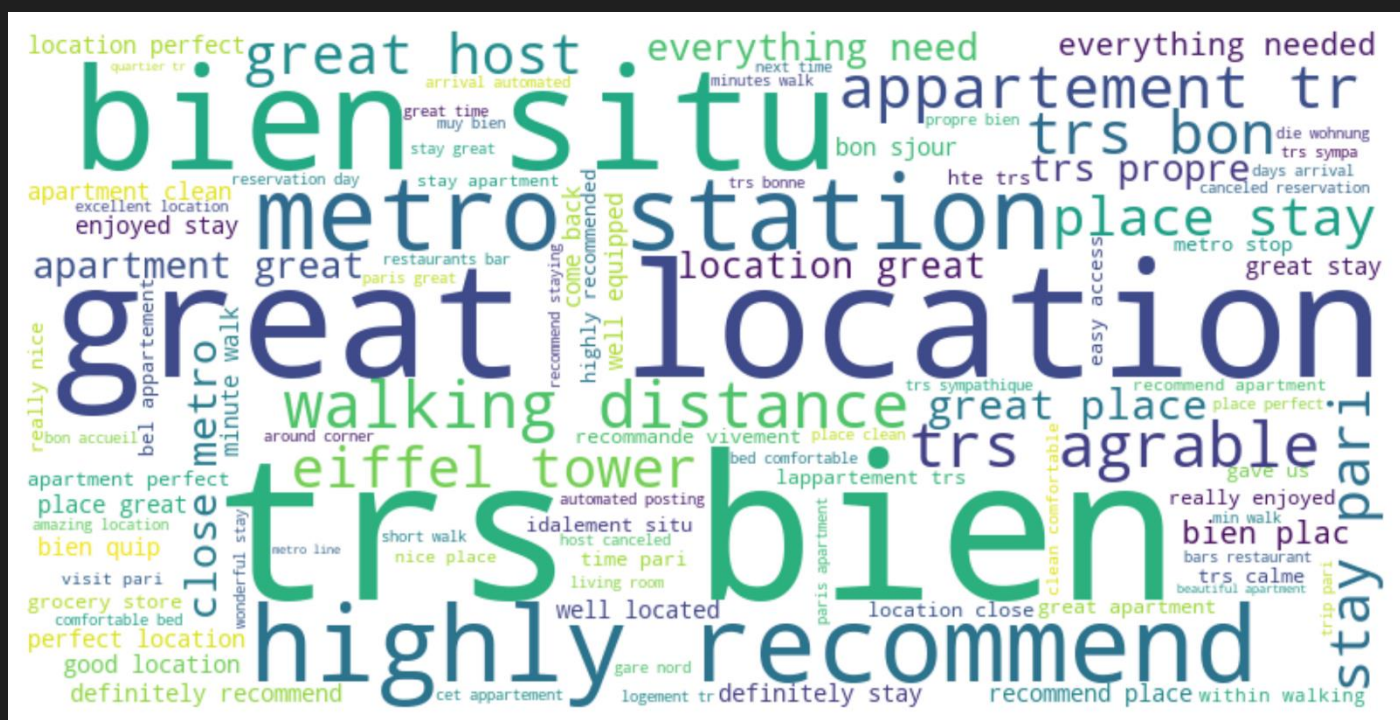
```
SELECT listing_id, amenities FROM listings;
```

[illegible]

Reviews WordCloud

```
SELECT listing_id, comments FROM reviews;
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	listing_id	comments			
▶	5396	Perfect location!! Nasrine was a delight and made the whole process very easy. We also had a p...			
	5396	This is a nice place in a great location in Paris, and the woman helping the owner was very kind to...			
	5396	Nice studio, very dean, very quiet, in a great neighbourhood. Close to everything and very safe...			
	5396	Superb location, great studio. A slice of Paris that is the real thing. Wonderful host. ...			
	5396	Perfect place to be in Paris, walking home every night past Notre Dame and across the river thro...			
	5396	Wonderful hosts - very accommodating, friendly and responsive. The apartment was perfectly si...			
	5396	Best location in Paris - very privy location and walking distance to everything! The apartment is s...			
	5396	Just a short walk from several Metro stations, Notre Dame, Hotel de Ville, left bank, thus central ...			
	5396	I can not imagine a better location to stay in Paris. And the value of this apartment is outstandin...			
	5396	I always stay on the Ile Saint Louis when I am in Paris (where I spend 4-6 weeks per year every ...			
	5396	Great studio in a perfect location. In the very center of old Paris and all things but very quiet. Ve...			
	5396	Air b & b review Clean, cozy, good location, accommodating and helpful hosts, well s...			
	5396	Fantastic location, quiet, dean, great place for 2 people. Host is responsive to questions in a tim...			
	5396	If you will be out all day sight-seeing in Paris, then this apartment can be a fine rental. It's re-fini...			
	5396	My boyfriend and I stayed here last May. This location is hard to beat. Perfect location - We onl...			
	5396	Cozy apartment in a great location! I would definitely stay here again the next time I'm in Paris.			
	5396	A wonderful experience! The studio was exactly as the pictures described. we were met on time ...			
	5396	As virtually all the reviews note, the apartment is in a great location, dean and quiet. Highly rec...			
	5396	Amazing in every way! (Location, amenities, host, etc..) I loved walking home every day down ...			
	5396	I had a great stay in Borzou's apartment; the location was such that I used the Metro much less t...			
	5396	Perfect studio in a prefect location! It was so quiet, which was important for me to be able ...			
	5396	An amazing studio with everything you need, wonderful location and very private, quiet and dea...			
	5396	I had a peaceful 3-week stay in Borzou's cozy studio. Compared to other studio apartments I've ...			
	5396	I stayed at Borzou's flat for 10 days in March and couldn't have asked for a thing. All was perfect...			
	5396	I visit Paris for a few weeks each year, and I typically stay in this neighborhood because it is suc...			
	5396	We had a really great time at Borzou's apartment. Everything worked very well. The location is s...			
	5396	This was my second stay at Borzou's apartment. It's the perfect spot right in the heart of the cit...			



17. Count positive reviews, calculate average price, and group them by host.

```
SELECT COUNT(*) AS positive_reviews, listings.host_id,  
       listings.host_name, AVG(listings.price)  
FROM reviews INNER JOIN listings ON  
       listings.listing_id = reviews.listing_id  
WHERE LOWER(reviews.comments) REGEXP '(great|perfect|trs bien|highly  
       recommend|bien situ|fantastic|incredible)'  
GROUP BY listings.host_id , listings.host_name  
ORDER BY positive_reviews DESC  
LIMIT 20;
```

	positive_reviews	host_id	host_name	AVG(listings.price)
▶	2690	402191311	GuestReady	186.25315985130112
	2569	95389398	Laurent And Lis...	220.08330089529
	2099	59915865	Mathilde	313.2429728442115
	2082	50978178	Sebastien	227.83045148895292
	1999	2107478	Philippe	260.37168584292147
	1860	68254005	Élise & Sébastien	493.3258064516129
	1695	26981054	Cédric	295.5362831858407
	1588	46443228	Xavier	170.2374055415617
	1541	14581565	Jean-Pierre	137.43478260869566
	1484	30685353	Elodie	163.98517520215634
	1474	9304128	Louise	384.9457259158752
	1324	22563088	Yankel	155.75075528700907
	1315	156775524	Merveil	402.23117870722433
	1257	21271697	Angie & Chris A...	160.54415274463008
	1230	12694474	Come In Host	265.3349593495935
	1203	7642792	Ludovic	278.1737323358271
	1203	7140390	Michel	301.546965918537
	1154	12136845	Alexandre	361.8457538994801
	1144	28313443	Michael & Johanna	290.5638111888112
	1118	2526137	Gilian	223.71198568872987

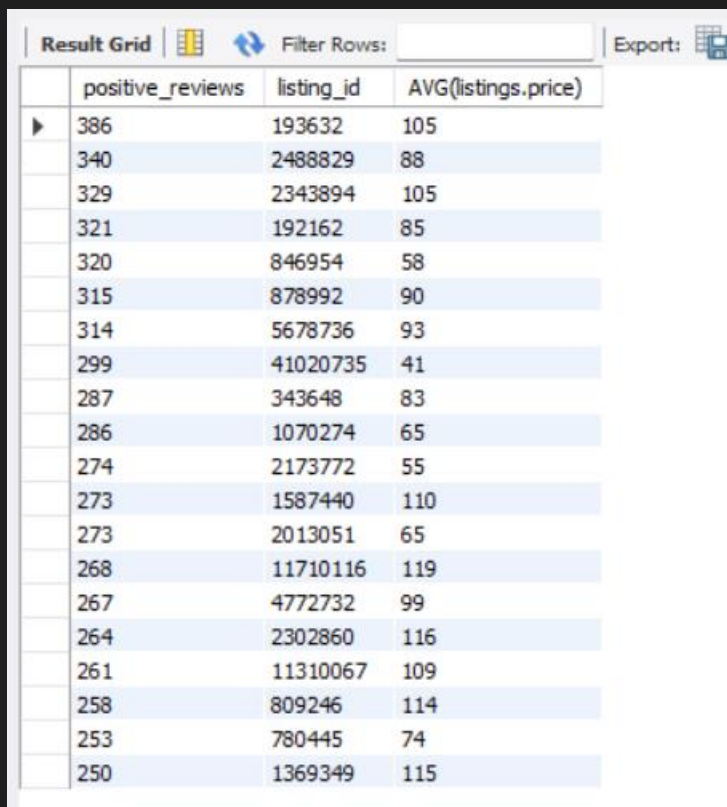
18. Count negative reviews, calculate average price, and group them by host.

```
SELECT COUNT(*) AS negative_reviews, listings.host_id,  
       listings.host_name, AVG(listings.price)  
FROM reviews INNER JOIN listings ON  
       listings.listing_id = reviews.listing_id  
WHERE LOWER(reviews.comments) REGEXP '(dirty|bad|problem)'  
GROUP BY listings.host_id , listings.host_name  
ORDER BY negative_reviews DESC  
LIMIT 20;
```

	negative_reviews	host_id	host_name	AVG(listings.price)
▶	259	402191311	GuestReady	181.06177606177607
	252	50978178	Sebastien	225.47222222222223
	238	95389398	Laurent And Lis...	213.42857142857142
	232	2107478	Philippe	232.73275862068965
	221	26981054	Cédric	285.03619909502265
	182	59915865	Mathilde	299.4945054945055
	142	226958437	OpenFlats	214.04929577464787
	139	7642792	Ludovic	235.36690647482015
	137	11593703	Pick A Flat	223.62773722627736
	129	440992928	Joffrey	215.1705426356589
	112	22563088	Yankel	157.88392857142858
	102	30685353	Elodie	163.19607843137254
	99	46443228	Xavier	164.37373737373738
	93	440992832	Joffrey	321.60215053763443
	93	28313443	Michael & Johanna	287.03225806451616
	92	156775524	Merveil	396.4891304347826
	87	7140390	Michel	292.3103448275862
	84	117297906	Michel Et Amina	118.38095238095238
	81	496382899	Joffrey	242.80246913580248
	79	479175248	Joffrey	281.9367088607595

19. Count positive reviews and calculate average price for listings with a maximum price of \$120.

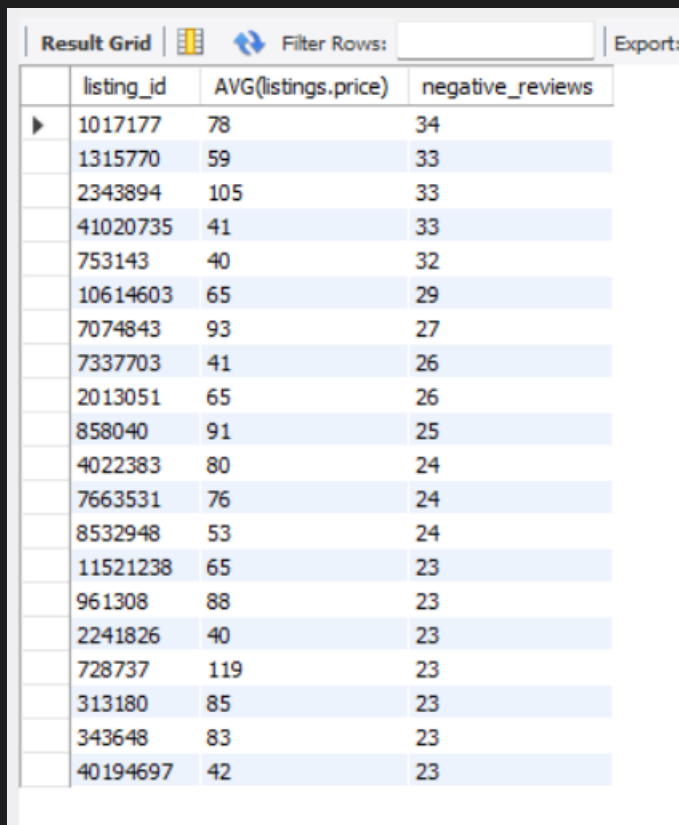
```
SELECT COUNT(*) AS positive_reviews, reviews.listing_id,  
       AVG(listings.price)  
FROM reviews INNER JOIN listings ON  
       listings.listing_id = reviews.listing_id  
WHERE LOWER(reviews.comments) REGEXP '(great|perfect|trs bien|highly  
       recommend|bien situ|fantastic|incredible)'  
       AND listings.price < 120  
GROUP BY reviews.listing_id  
ORDER BY positive_reviews DESC  
LIMIT 20;
```



	positive_reviews	listing_id	AVG(listings.price)
▶	386	193632	105
	340	2488829	88
	329	2343894	105
	321	192162	85
	320	846954	58
	315	878992	90
	314	5678736	93
	299	41020735	41
	287	343648	83
	286	1070274	65
	274	2173772	55
	273	1587440	110
	273	2013051	65
	268	11710116	119
	267	4772732	99
	264	2302860	116
	261	11310067	109
	258	809246	114
	253	780445	74
	250	1369349	115

20. Count negative reviews and calculate average price for listings with a maximum price of \$120.

```
SELECT reviews.listing_id, AVG(listings.price),  
       SUM(CASE WHEN LOWER(comments) REGEXP '(dirty|bad|problem)' THEN 1  
               ELSE 0 END) AS negative_reviews  
FROM reviews INNER JOIN listings ON  
       listings.listing_id = reviews.listing_id  
WHERE listings.price < 120  
GROUP BY reviews.listing_id  
ORDER BY negative_reviews DESC  
LIMIT 20;
```



	listing_id	AVG(listings.price)	negative_reviews
▶	1017177	78	34
	1315770	59	33
	2343894	105	33
	41020735	41	33
	753143	40	32
	10614603	65	29
	7074843	93	27
	7337703	41	26
	2013051	65	26
	858040	91	25
	4022383	80	24
	7663531	76	24
	8532948	53	24
	11521238	65	23
	961308	88	23
	2241826	40	23
	728737	119	23
	313180	85	23
	343648	83	23
	40194697	42	23



21. Find listings with specific amenities, high review ratings, and prices below \$150.

```
SELECT *
FROM listings
WHERE LOWER(amenities) REGEXP '(hot water|kitchen|wifi)'
AND review_scores_rating >= 4.5
AND price < 150
ORDER BY number_of_reviews DESC;
```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accommodate	bathrooms	bedrooms	beds	amenities	price	number_of_reviews	review_scores_rating	instant_bookable	reviews_per_month
17222007	https://...	Sweet...	The room i...	84901734	https://...	Alexandra	within an hour	Private room	2	1	1	1	["First aid ki...	147	2052	4.72	f	28.79
41020735	https://...	Bed in...	Welcome t...	315206797	https://...	Les Plaules	within an hour	Shared room	1	1	1	1	["First aid ki...	41	1647	4.61	t	44.19
40194697	https://...	Comf...	Kick your j...	309707704	https://...	The People Pari...	within an hour	Shared room	1	1	1	1	["Bed linens...	42	1420	4.7	f	35.41
846954	https://...	Gde c...	Chambre ...	3125405	https://...	Maguy	within an hour	Private room	2	1	1	1	["Bed linens...	58	1004	4.76	f	8.08
1249964	https://...	A Jou...	You are lo...	6811343	https://...	Mike	within an hour	Private room	2	1	1	1	["Bed linens...	149	947	4.86	f	8.01
2488829	https://...	Place ...	Studio in t...	12737796	https://...	Axel	within an hour	Entire home/apt	2	1	1	1	["Bed linens...	88	804	4.64	f	7.33
8532948	https://...	Comf...	You will be...	44927614	https://...	Emmanuelle Et ...	within an hour	Private room	2	1	1	1	["Bed linens...	53	739	4.63	f	8.15
6406706	https://...	Char...	Welcome! ...	22980352	https://...	Alix	within an hour	Private room	2	1	1	1	["Bed linens...	78	730	4.75	t	7.75
5678736	https://...	Studio...	Situated in...	12737796	https://...	Axel	within an hour	Entire home/apt	2	1	1	1	["15" "HOT...	93	687	4.7	f	7.07
1070274	https://...	Studio...	Modern st...	5888840	https://...	Home Rental	within an hour	Entire home/apt	3	1	1	1	["Bed linens...	65	666	4.78	f	5.55
8313266	https://...	Marai...	Studio 20...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1	1	1	["First aid ki...	135	647	4.84	f	7.34
1250856	https://...	Beauti...	The s...	6815789	https://...	Grégoire	within an hour	Private room	1	1	1	1	["Pets allow...	53	630	4.67	f	5.37
11034796	https://...	Bedro...	In a beaut...	57264667	https://...	Gilbert	within an hour	Private room	2	1	1	1	["Bed linens...	77	616	4.91	f	7.44
753143	https://...	A NIC...	The s...	1606856	https://...	Vincent	within a few hours	Private room	2	1	1	1	["Heating", ...	40	611	4.56	f	5.28
3734970	https://...	Locat...	Place Bret...	14430379	https://...	Sylvain Et Dalla	within a day	Private room	5	2	2	3	["Host gree...	110	608	4.58	f	5.86
11710116	https://...	Place ...	NO ARRIV...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1	1	1	["Bed linens...	119	607	4.8	f	7.26
391189	https://...	Cosy ...	The s...	1956466	https://...	Philippe	within a few hours	Private room	2	1	1	1	["Bed linens...	61	605	4.82	f	4.62
193632	https://...	Char...	The s...	777533	https://...	Celine	within an hour	Entire home/apt	2	1	1	1	["TV with st...	105	603	4.65	t	4.32
2247629	https://...	Bedro...	Small bedr...	11478362	https://...	Tara	within an hour	Private room	1	2	1	1	["Pets allow...	37	597	4.52	f	5.4
2173772	https://...	Quiet ...	Please tak...	11089079	https://...	R. Romy	within an hour	Private room	1	1	1	1	["Hair dryer...	55	593	4.64	f	5.35
780445	https://...	Moder...	The s...	1743966	https://...	Pierre & Leticia	within an hour	Entire home/apt	2	1	1	1	["First aid ki...	74	578	4.8	f	4.66
35590371	https://...	Single...	The s...	254056482	https://...	Fabienne	within an hour	Hotel room	1	1	1	1	["TV with st...	129	572	4.78	t	12.82
17594732	https://...	Le Ha...	This quiet ...	14581565	https://...	Jean-Pierre	within an hour	Entire home/apt	2	1	1	1	["First aid ki...	145	568	4.87	f	7.86
2343894	https://...	Large ...	Studio app...	11969499	https://...	Patrick & Franck	within an hour	Entire home/apt	2	1	1	1	["Bed linens...	105	554	4.89	f	5.03

22. Count positive reviews for listings with specific amenities (wifi and hot water).

```
SELECT COUNT(*) AS positive_reviews, reviews.listing_id
FROM reviews INNER JOIN listings ON
    listings.listing_id = reviews.listing_id
WHERE LOWER(amenities) LIKE '%wifi%'
    AND LOWER(amenities) LIKE '%hot water%'
    AND LOWER(reviews.comments)
        REGEXP '(great|perfect|trs bien|highly recommend|bien
            situ|fantastic|incredible)'
GROUP BY reviews.listing_id
ORDER BY positive_reviews DESC;
```

Result Grid   Filter Rows:		
	positive_reviews	listing_id
▶	747	17222007
	657	26244787
	535	1249964
	438	35065
	386	193632
	378	32518543
	357	371299
	340	2488829
	336	3371766
	335	5724631
	334	4911410
	330	8313266
	329	2343894
	321	192162
	320	35242476
	320	846954
	317	2412144
	315	878992
	315	6921651
	314	5678736
	312	2005815
	299	41020735
	286	1070274
	276	12736301
	274	2173772
	273	1587440
	268	11710116

23. Count total reviews and positive reviews for each listing.

```
SELECT listing_id,  
       COUNT(*) AS total_reviews,  
       SUM(CASE WHEN LOWER(comments) REGEXP '(great|perfect|trs bien|highly  
           recommend|bien situ|fantastic|incredible)' THEN 1 ELSE 0 END)  
       AS positive_reviews  
FROM reviews  
GROUP BY listing_id  
ORDER BY total_reviews DESC;
```

	listing_id	total_reviews	positive_reviews
▶	26244787	2402	657
	17222007	1831	747
	41020735	1269	299
	40194697	1264	228
	32518543	1203	378
	35145338	1128	262
	22666855	1028	284
	846954	960	320
	1249964	922	535
	35242476	823	320
	2488829	777	340
	35065	749	438
	24745583	713	124
	5724631	712	335
	6406706	708	198
	8532948	705	166
	3622007	688	243
	2412144	685	317
	5678736	663	314
	1070274	655	286
	4911410	649	334
	35590372	646	190
	8313266	627	330
	1250856	613	246
	4381461	608	180
	25788058	606	175
	38891995	605	156

24. Retrieve listings with specific criteria, including room type, price, beds, instant booking, and positive reviews.

```

WITH FilteredReviews AS (
    SELECT listing_id
    FROM reviews
    WHERE LOWER(comments) REGEXP '(great|perfect|trs bien|highly
recommend|bien situ|fantastic|incredible)'
)
SELECT *
FROM listings
WHERE room_type = 'Entire home/apt'
    AND price <= 150
    AND beds >= 2
    AND instant_bookable = 't'
    AND listing_id IN (SELECT listing_id FROM FilteredReviews)
ORDER BY number_of_reviews DESC
LIMIT 20;

```

listing_id	listing_url	name	description	host_id	host_url	host_name	host_response_time	room_type	accommodate	bathrooms	bedrooms	beds	amenities	price	number_of_revie	review_scores_ratr	instant_bookabl	reviews_per_mont
1369349	https://...	Splen...	The s...	7425562	https://...	Martine	within an hour	Entire home/apt	3	1	1	2	[Hair dryer...	115	528	4.89	t	4.53
18930121	https://...	GRAN...	Grand stu...	6468570	https://...	Philippe	within an hour	Entire home/apt	4	1	1	2	[Bed linens...	100	409	4.82	t	5.86
2114433	https://...	Herita...	This authe...	2526137	https://...	Gilan	within an hour	Entire home/apt	4	1	1	3	[Bed linens...	139	387	4.83	t	3.52
1355020	https://...	Small ...	Very good...	7270727	https://...	Emmanuel	within an hour	Entire home/apt	4	1	1	2	[Self check...	146	360	4.55	t	3.11
27741792	https://...	Atelle...	Découvrez...	209447651	https://...	Farah	within an hour	Entire home/apt	4	1	1	2	[First aid ki...	119	341	4.69	t	6.13
590712	https://...	Bastill...	In a love...	2914853	https://...	Anne	within an hour	Entire home/apt	3	1	1	2	[Heating", ...	150	332	4.71	t	2.58
16584190	https://...	2 piéc...	2 pièces d...	57765537	https://...	Anne	within an hour	Entire home/apt	4	1	1	2	[Pets allow...	142	332	4.86	t	4.78
17792329	https://...	Pavillo...	Parisian st...	43406695	https://...	Maksym	within an hour	Entire home/apt	3	1	NULL	2	[Bed linens...	127	326	4.83	t	4.52
15294019	https://...	Practi...	Fully reno...	26922139	https://...	Franck	within an hour	Entire home/apt	4	2	NULL	2	[First aid ki...	101	310	4.25	t	3.97
15837585	https://...	Orsay...	Exception...	3950352	https://...	Bea	within an hour	Entire home/apt	4	1	1	2	[Bed linens...	121	309	4.52	t	4
1475524	https://...	2 roo...	Charming ...	6461858	https://...	Isabelle	within an hour	Entire home/apt	3	1	1	2	[Hair dryer...	68	304	4.33	t	2.82
2001888	https://...	Mont...	Heart of M...	9364525	https://...	Sandrine	within an hour	Entire home/apt	4	1	1	2	[Bed linens...	141	298	4.71	t	2.64
1666262	https://...	Beauti...	The charm...	3679440	https://...	Florence	within an hour	Entire home/apt	2	1	NULL	2	[Bed linens...	95	296	4.71	t	2.57
26936774	https://...	Loge...	studio cha...	202678049	https://...	Stanley	within an hour	Entire home/apt	4	1	NULL	2	[First aid ki...	147	293	4.17	t	5.48
13070722	https://...	Fiat in...	My accom...	3631877	https://...	Pierre	within an hour	Entire home/apt	5	1	1	3	[First aid ki...	92	280	4.43	t	3.39
16013578	https://...	A cha...	Your apart...	22103545	https://...	Patrick & Nathalie	within an hour	Entire home/apt	4	1	1	2	[First aid ki...	139	271	4.8	t	3.78
2787020	https://...	Cozy ...	This beaut...	12663300	https://...	Elodie	within an hour	Entire home/apt	3	1	NULL	2	[Bed linens...	95	267	4.49	t	2.58
11535688	https://...	B&B B...	In the hea...	13315394	https://...	Vanessa	within an hour	Entire home/apt	4	1	1	2	[Bed linens...	95	265	4.92	t	3.21
2485119	https://...	Super...	This charm...	7638834	https://...	Houda & Nabil	NULL	Entire home/apt	4	1	NULL	2	[Heating", ...	89	257	4.6	t	2.36
8097866	https://...	appar...	Appar 2 pi...	42761856	https://...	Alain	within an hour	Entire home/apt	4	1	1	2	[TV with st...	129	256	4.76	t	2.83