Airbnb

A Tourist guide, Boston MA

Facts about Airbnb

- Airbnb was founded in 2008 in San Francisco

- It offers lodging for travelers

- It is valued at $31 billion in 2017

- It expects $2.8 billion in revenue in 2017

Boston Airbnb Dataset

- Dataset includes active listings in Boston area during September 2016
- It contains 3 tables:
  - Reviews.csv including unique id for each reviewer and detailed comments
    - 6 columns
    - 68276 rows
  - Listings.csv including full descriptions and average review score
    - 95 columns
    - 3586 rows
  - Calendar.csv including listing id and the price and availability for that day
    - 4 columns
    - 67809 rows

EER DIAGRAM

Traveling to Boston find out best places to stay .

Check points to find a good host:

- ❑ Super host

- ❑ Neighborhood

- ❑ 100% Acceptancy Rate

- ❑ Verified as Trusted host

- ❑ Reviews

What kind of residence are available for tourists?

```sql
select property_type as 'Property Type', count(*) as 'Number of Entrees'
from listings
group by property_type
order by count(*) desc;
```

Property Type	Number of Entrees
Apartment	215
House	129
Condominium	35
Townhouse	11
Bed & Breakfast	10
Loft	3
Villa	1
Entire Floor	1

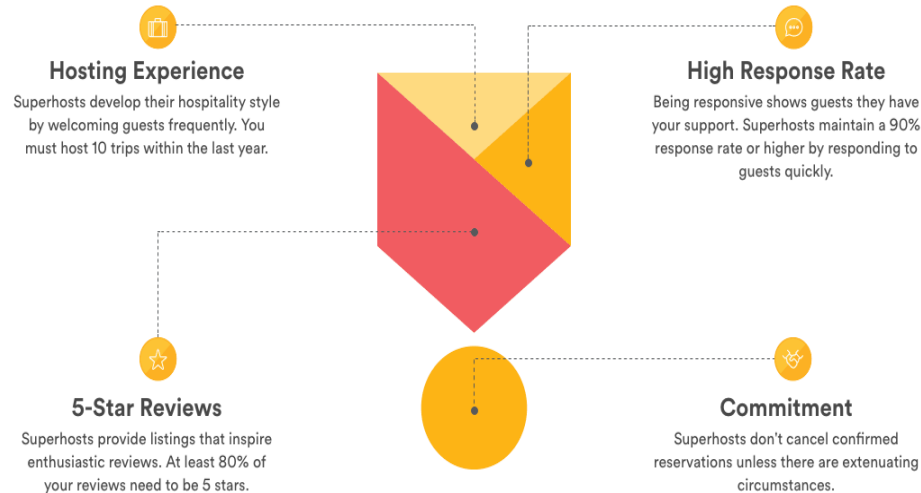Apartments are available in plenty compared to other properties

Identifying newer and experienced hosts

```sql
select l1.host_name as 'Host Name',
'New Host' as 'Host Type','Quick Response',
count(*) as 'Total Count'
from listings l1 where host_since > '2015-01-01'
and host_response_rate = '100%'
group by l1.host_since having count(*)>=2
union
select l2.host_name as 'Host Name',
'Experienced Host' as 'Host Type',
'Quick Response',count(*) as 'Total Count'
from listings l2 where host_since < '2015-01-01'
and host_response_rate = '100%'
group by l2.host_since having count(*)>=2;
```

Host Name	Host Type	Quick Response	Total Count
Susan	New Host	Quick Response	4
Derian	New Host	Quick Response	4
Josefa	Experienced Host	Quick Response	4
Lisa	Experienced Host	Quick Response	4
Minor	Experienced Host	Quick Response	5
Cynthia	Experienced Host	Quick Response	4
Jason	Experienced Host	Quick Response	4

Will A Superhost Have A Better Price And More Reviews?

Superhost is a title given to hosts who are more experienced and have good overall ratings

Hosting Experience
Superhosts develop their hospitality style by welcoming guests frequently. You must host 10 trips within the last year.

High Response Rate
Being responsive shows guests they have your support. Superhosts maintain a 90% response rate or higher by responding to guests quickly.

5-Star Reviews
Superhosts provide listings that inspire enthusiastic reviews. At least 80% of your reviews need to be 5 stars.

Commitment
Superhosts don't cancel confirmed reservations unless there are extenuating circumstances.

Pricing Comparison Between Superhosts And Non-superhosts

```sql
select 'superhost', round(avg(c.price),2) as average_price
from calendar_update1 c
join listings l
on c.listing_id=l.id
where  l.host_is_superhost='t' and c.available='t'
union
select 'non_superhost', round(avg(c.price),2) as average_price
from calendar_update1 c
join listings l
on c.listing_id=l.id
where  l.host_is_superhost='f' and c.available='t';
```

▶ The code unions two results from two queries. One is for the average price of superhosts' listings; the other is for the average price of non-superhosts' listings.

Result Analysis

▶ The result shows being a superhost have advantage in pricing

▶ On average, superhosts' listings are priced 5% higher than those of non-superhosts

▶ Reason behind could be

  ▶ Superhosts are more familiar with the market and their guests, better at pricing

  ▶ More return guests

  ▶ Incoming guests are willing to pay more to ensure a better stay

superhost	average_price
superhost	217.87
non_superhost	207.14

Comparison of Number Of Reviews Between Superhosts and Non-superhosts

```sql
select 'super_host',count(*) as number_of_listings
from listings
where  host_is_superhost='t' and zipcode<>''
union
select 'non_super_host',count(*) as number_of_listings
from listings
where  host_is_superhost='f' and zipcode<>'' ;
```

▶ Query to check the number of listings under superhosts and non-superhosts respectively

Cont'd

```sql
select  'super_host', count(r.comments) as number_of_comments
from listings l
join `reviews_updated 7` r
on l.id=r.listing_id
where  l.host_is_superhost='t' and l.zipcode<>'' and r.comments!=' '
union
select  'non_super_host', count(r.comments) as number_of_comments
from listings l
join `reviews_updated 7` r
on l.id=r.listing_id
where  l.host_is_superhost='f' and l.zipcode<>'' and r.comments!=' ';
```

▶ Query to check the number of comments left for superhosts and non-superhosts respectively

Result Analysis

▶ On average, for superhosts, 45 reviews per listing. for non-superhost, 15 reviews for listings;

▶ In conclusion, for hosts, being a superhost can allow you to have a slightly better price and get more reviews from guests;for guests, the superhost title is an appealing factor.

▶ Number of two kinds of hosts

super_host	number_of_listings
super_host	406
non_super_host	3115

▶ Number of reviews they get

super_host	number_of_comments
super_host	18228
non_super_host	48605

▶ Review rate: 18228/406=44.9 (s)

▶ 48605/3115=15.4(n)

Summary of 4 months Hosts bookings from Sep 16 to Dec 16.

```sql
select l.host_name,
case c.available
when 'f' then 'Booked'
else 'Not Booked'
end as availablity
,count(c.available), extract(month from c.date) As Month
from calendar c join listings l on c.listing_id=l.id
where c.date between '2016-09-01' and '2016-12-31'
group by l.host_name , c.available, extract(month from c.date)
order by 4,1 ;
```

Results:R-38

host_name	availability	Count	Month
Andrea	Booked	4	9
Andrea	Not Booked	21	9
Linda	Booked	17	9
Linda	Not Booked	8	9
Meghna	Booked	21	9
Meghna	Not Booked	4	9
Phil	Booked	11	9
Phil	Not Booked	14	9
Virginia	Booked	25	9
Andrea	Booked	2	10
Andrea	Not Booked	29	10
Deborah	Booked	5	10
Deborah	Not Booked	5	10
Linda	Booked	9	10
Linda	Not Booked	22	10
Meghna	Booked	20	10
Meghna	Not Booked	11	10
Phil	Booked	3	10
Phil	Not Booked	28	10
Virginia	Booked	31	10

host_name	availability	Count	Month
Andrea	Not Booked	30	11
Deborah	Not Booked	30	11
Linda	Booked	5	11
Linda	Not Booked	25	11
Meghna	Booked	22	11
Meghna	Not Booked	8	11
Phil	Booked	11	11
Phil	Not Booked	19	11
Virginia	Booked	30	11
Andrea	Not Booked	31	12
Deborah	Booked	27	12
Deborah	Not Booked	4	12
Linda	Not Booked	31	12
Meghna	Booked	19	12
Meghna	Not Booked	12	12
Phil	Booked	21	12
Phil	Not Booked	10	12
Virginia	Booked	31	12

Observations:In given 4 months most booked and least Hosts are:

September:
Most Booked: Virginia
Least Booked: Andrea

October:
Most Booked: Virginia
Least Booked: Andrea

November:
Most Booked: Virginia
Least Booked: Deborah

December:
Most Booked: Virginia
Least Booked: Linda

Check availability for 5 days between 10th Dec16 and 20th Dec16.Total price <$500 and trusted host.

```sql
select date_format(c.date,'%d-%m-%Y') as CheckIn_Date,
date_format(DATE_ADD(c.date, INTERVAL 5 DAY),'%d-%m-%Y')
as Checkout_date ,c.listing_id,c.price as Price_per_day,c.price*5
as Total_Price,l.property_type,host_name,concat(street,' ',city)
as address,room_type from calendar c
join listings l on c.listing_id=l.id
where c.date between '2016-12-10' and '2016-12-20'
and date_format(DATE_ADD(c.date, INTERVAL 5 DAY),'%d-%m-%Y')
<'2016-12-20' and (c.price*5)<500
and available='t' and host_identity_verified='t'
group by l.host_name
order by c.date  ;
```

Results:R-2

CheckIn_Date	Checkout_date	listing_id	Price_per_day	Total_Price	property_type	host_name	address	room_type
15-12-2016	20-12-2016	3075044	65	325	Apartment	Andrea	Pinehurst Street, Boston, MA 02131, United States Boston	Private room
15-12-2016	20-12-2016	7651065	79	395	House	Linda	Durnell Avenue, Boston, MA 02131, United States Boston	Private room

Observations:Two hosts are available between 10th and 20th Dec 16 to book for 5 days with prices $325 and $395.available property types are Apartment and House.Both with private room.Both are available from 15th of Dec to 20th dec.

Find instantly bookable place in Boston city on September 4th that accommodates more than 3 guests with the host acceptance more than 50.

```sql
SELECT  l.host_acceptance_rate, c.date,
l.accommodates,  l.host_id, l.host_name, l.instant_bookable,
l.availability_365,l.city
FROM listings l JOIN calendar c
WHERE l.city='boston' AND l.accommodates>3 AND c.date='2017-09-04'
AND l.host_acceptance_rate>50 AND availability_365>260 AND l.instant_bookable='t';
```

>

Results: R-15

host_acceptance_rate	date	accommodates	host_id	host_name	instant_bookable	availability_365	city
100%	2017-09-04	6	37177446	Nelson And Marlene	t	353	Boston
100%	2017-09-04	6	1498417	Chad	t	290	Boston
78%	2017-09-04	6	11487565	Josefa	t	364	Boston
100%	2017-09-04	5	24584716	Miriam	t	299	Boston
100%	2017-09-04	5	25932315	Heriberto	t	305	Boston
100%	2017-09-04	6	24584716	Miriam	t	298	Boston
100%	2017-09-04	4	31655122	Bonnie	t	296	Boston
100%	2017-09-04	5	28975718	Thomas	t	349	Boston
100%	2017-09-04	4	31340713	Kama	t	325	Boston
100%	2017-09-04	5	2355815	Francine	t	338	Boston
100%	2017-09-04	4	31340713	Kama	t	338	Boston
100%	2017-09-04	4	31340713	Kama	t	341	Boston
99%	2017-09-04	6	9410008	Jason	t	329	Boston
100%	2017-09-04	5	49726270	Judith	t	338	Boston
100%	2017-09-04	5	5578043	Dror	t	286	Boston

Observations: 15 places are available in Boston city that accommodates more than 3 people, and those places are instantly bookable, available more than 260 days every year, are also available on September 4th.

Find good hosts who've been hosting for more than 4 years, have flexible cancellation terms with reasonable price per night, no security deposit and ratings more than 90%.

```sql
1 • SELECT host_since, price,host_listings_count,security_deposit,
2   review_scores_rating,cancellation_policy
3   FROM listings
4   WHERE host_since>'2011' AND host_listings_count>2 AND price<85
5   AND review_scores_rating>90 AND cancellation_policy='flexible' AND security_deposit<100;
```

Results:R-14

host_since	price	host_listings_count	security_deposit	review_scores_rating	cancellation_policy
3/17/2014	40	3		99	flexible
3/17/2014	45	3		100	flexible
3/17/2014	45	3		97	flexible
4/15/2014	65	4		100	flexible
4/13/2016	35	3		100	flexible
4/13/2016	35	3		98	flexible
6/2/2014	70	4		92	flexible
9/24/2014	55	10		93	flexible
9/24/2014	80	10		96	flexible
9/6/2015	55	5		93	flexible
5/27/2014	45	6		100	flexible
8/21/2016	45	3		93	flexible
7/29/2013	60	3		97	flexible
7/9/2014	45	4		100	flexible

Observations: There are only 14 hosts with affordable pricing, flexible cancellation policy, good reviews and who've hosting for more than 4 years