EDA CAPSTONE PROJECT-1

AI

AIRBNB NYC

TEAM DATA ENTHUSIAST ALGORTHIM

ASHISH

VIVEK

RAVI
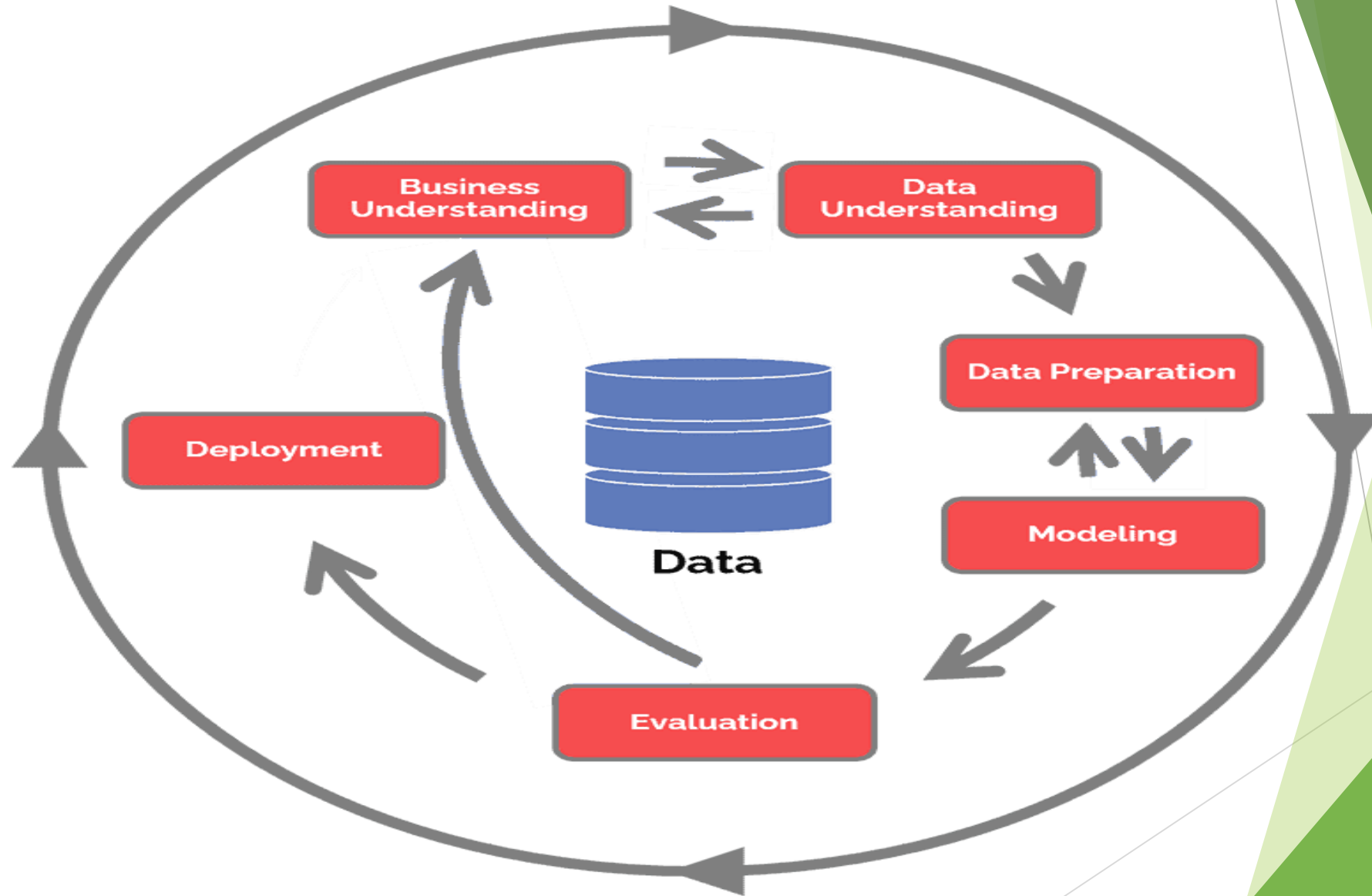
WHAT IS AIRBNB

- **Airbnb, Inc.** is an American company that operates an online marketplace for lodging, primarily homestay for vacation rentals, and tourism activities. Based in San Francisco, California,

- the platform is accessible via website and mobile app.Airbnb does not own any of the listed properties; instead, it profits by receiving commission from each booking. The company was founded in 2008 by Brian Chesky, Nathan Blecharczyk, and Joe Gebbia. Airbnb is a shortened version of its original name, AirBedandBreakfast.com.

- The company has been criticized for enabling bait-and-switch scams, being involved in West Bank settlements, possibly driving up home rents and creating nuisances for those living near leased properties.

- The company is regulated by many jurisdictions, including the European Union and cities such as San Francisco and New York City.

DESCRIPTION OF DATA

The dataset comprises of three main tables:

listings - Detailed listings data showing 96 atttributes for each of the listings. Some of the attributes used in the analysis are price (continuous), longitude (continuous), latitude (continuous), listing_type (categorical), is_superhost (categorical), neighbourhood (categorical), ratings (continuous) among others.

reviews - Detailed reviews given by the guests with 6 attributes. Key attributes include date (datetime), listing_id (discrete), reviewer_id (discrete) and comment (textual).

calendar - Provides details about booking for the next year by listing. Four attributes in total including listing_id (discrete), date (datetime), available (categorical) and price (continuous).

Problem statement of Airbnb

- The acronym Airbnb SWOT stands for strength, weakness, threats and opportunities. It is a useful tool that is widely used for strategic planning and management in many organizations. It is effectively used in building strategies for the organization to maintain its competitiveness in the market. It is simple yet powerful tool that help the organization in identifying its existing resources, capabilities, deficiencies, the existing opportunities and threats prevailing in the market.

- It is a strategic planning framework that is commonly used to evaluate the organization, a plan, business or any other project. It helps in determine the organizational and environmental factors that could affect the decision to be made.

- It is carried out to analyze the position of an organization in in the market compare to its competitors and the major factors that are affecting the competitiveness before crafting any business strategy.

Overview of airbnb

▶ Since its launch in 2007, the Airbnb online marketplace has experienced very rapid growth, with now over ten million nights of cumulative bookings worldwide.

▶ The top 10 countries which have active listings are Paris, London, New York, Rio de Janeiro, Los Angeles, Barcelona, Rome, Copenhagen, Sydney and Amsterdam. London has over 40,000 places to stay just behind New York 43,000 listings and the densest city Paris with 68,000 places.

▶ Airbnb managed to pull a lot of attention from both academics as well as practitioners as a sharing platform network in the hospitality industry which able to attract a large number of participants both sides of its two sided.

These columns are considered out of scope for in this analysis right way

► These columns are considered out of scope for in this analysis right way – calculated_host_listings_count, require_guest_phone_verification, require_guest_profile_picture, cancellation_policy, instant_bookable, jurisdiction_names, last_review, first_review, number_of_reviews, calendar_last_scraped, availability_365, availability_90, availability_60, availability_30, calendar_updated, extra_people, guests_included, street, host_has_profile_pic, host_picture_url, host_thumbnail_url, host_about, host_url, xl_picture_url,, neighborhood_overview.

What can we learn about different hosts and areas ?

	host_name	neighbourhood_group	calculated_host_listings_count
13217	Sonder (NYC)	Manhattan	327
1834	Blueground	Manhattan	232
1833	Blueground	Brooklyn	232
7275	Kara	Manhattan	121
7480	Kazuya	Queens	103

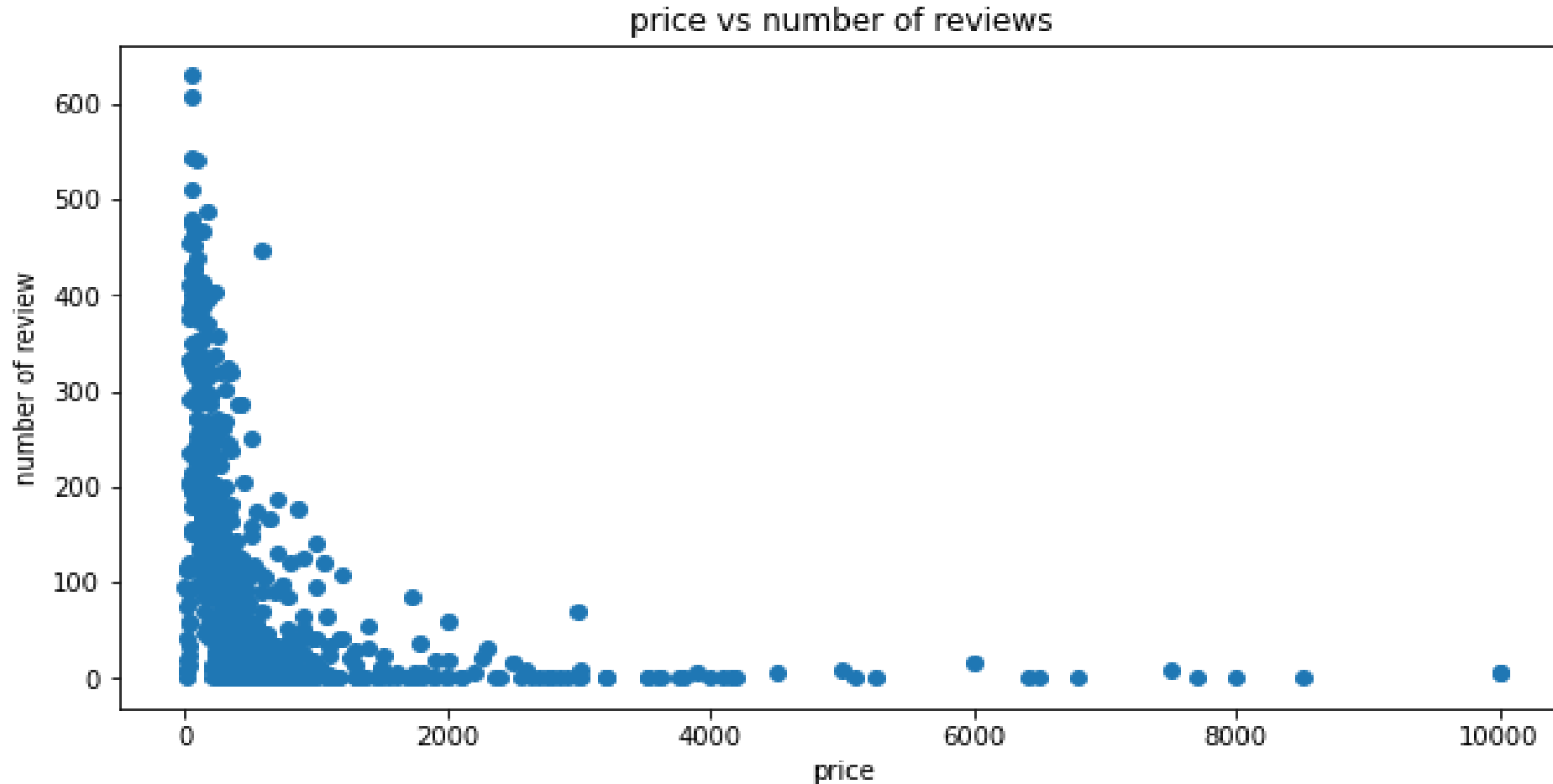*According to this data most number is listing form the Manhettan, sonder,bluegroung ,David and michael

2.What can we learn form the prediction(ex:location, prices,reviews,etc)

area vs no of reviews
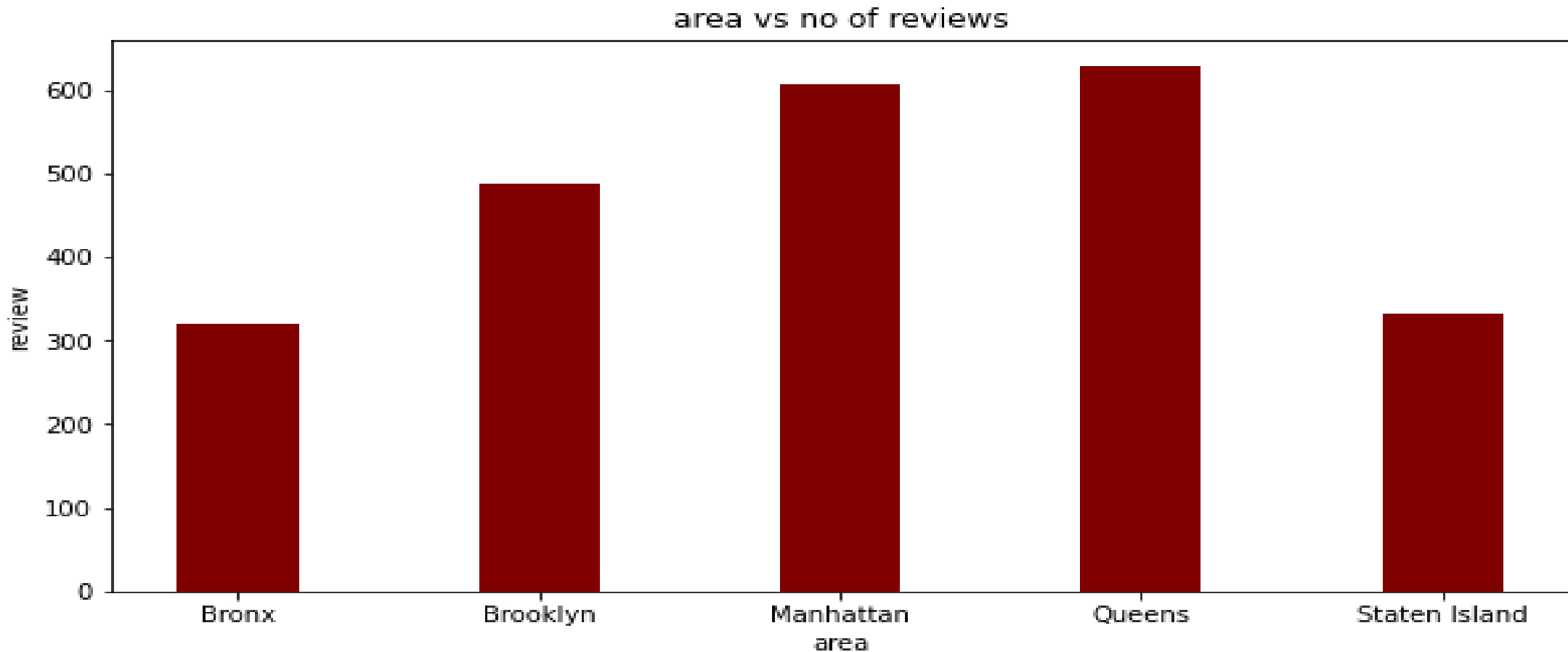
2.What can we learn form predictions? (ex:locations,prices,reviews,etc)? (con)

price vs number of reviews

So we can say that most of the people prefer to stay in place where the price is less.

3.Which hotels are busiest and why?

|	host_name	host_id	room_type	number_of_reviews
10279	Dona	47621202	Private room	629
17708	Jj	4734398	Private room	607
25566	Maya	37312959	Private room	543
6235	Carol	2369681	Private room	540
8947	Danielle	26432133	Private room	510
3950	Asa	12949460	Entire home/apt	488
37748	Wanda	792159	Private room	480
22499	Linda	2680820	Private room	474
8625	Dani	42273	Entire home/apt	467
2942	Angela	23591164	Private room	466

DONA,JI, MAYA,CAROL,DANIELLE ARE BUSIEST HOTEL .BECAUSE THSE HOTS KISTED ROOM TYPE AS ENTIRE HOME AND PRIVATE ROOM IS PREFERREDBY MOSTNO.OF PEOPLES

BUSIEST HOTELS

busiest hosts
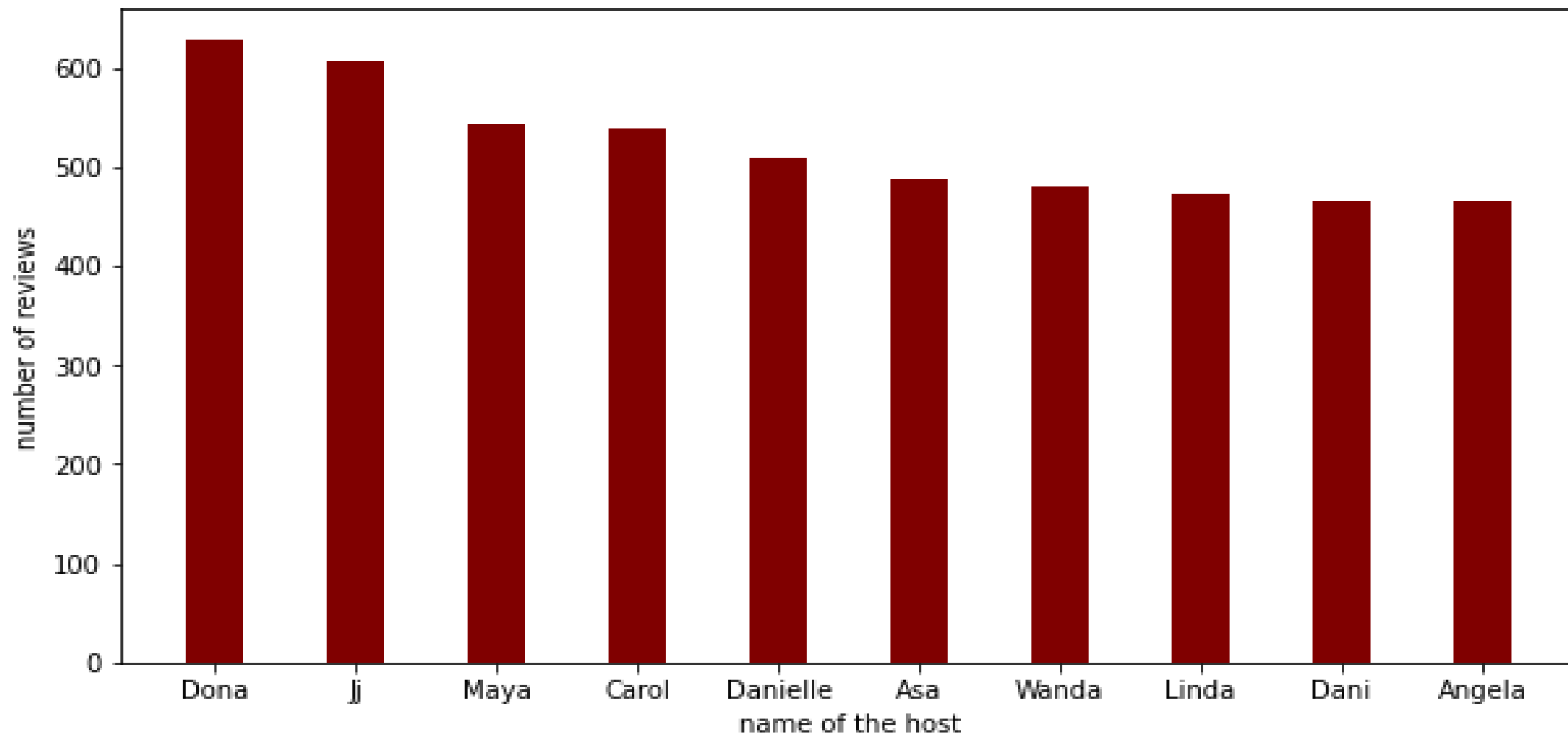
4.Is there is any noticeable difference of traffic among different areas and what could be the reason for it?

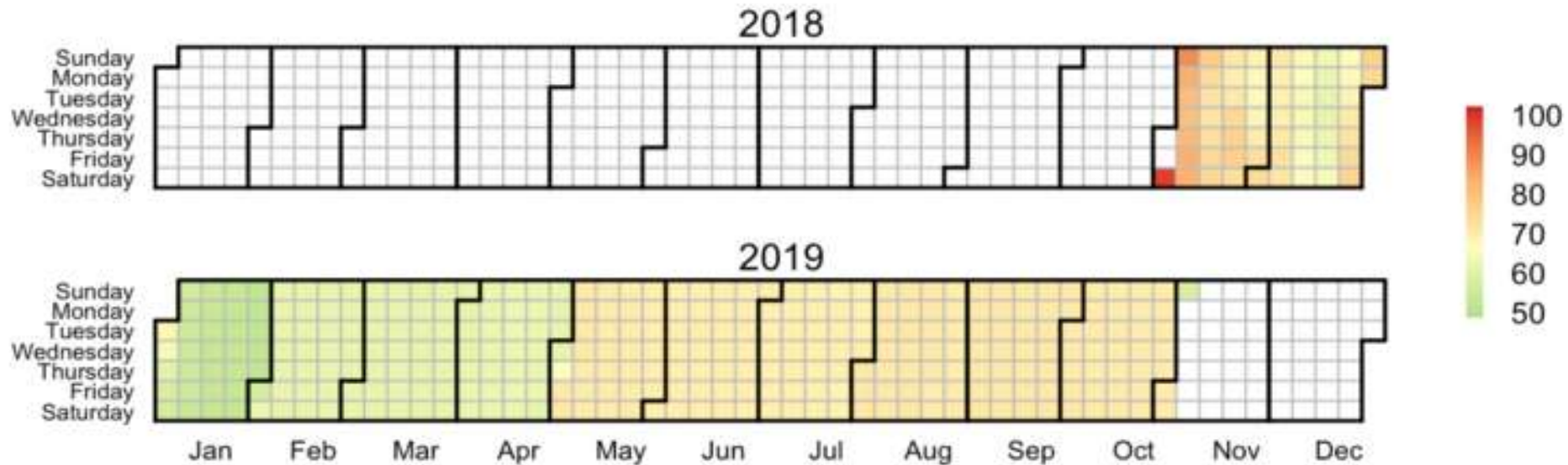|	neighbourhood_group	room_type	minimum_nights
6	Manhattan	Entire home/apt	13199
4	Brooklyn	Private room	10132
3	Brooklyn	Entire home/apt	9559
7	Manhattan	Private room	7982
10	Queens	Private room	3372
9	Queens	Entire home/apt	2096
1	Bronx	Private room	652
8	Manhattan	Shared room	480
5	Brooklyn	Shared room	413
0	Bronx	Entire home/apt	379
11	Queens	Shared room	198
13	Staten Island	Private room	188
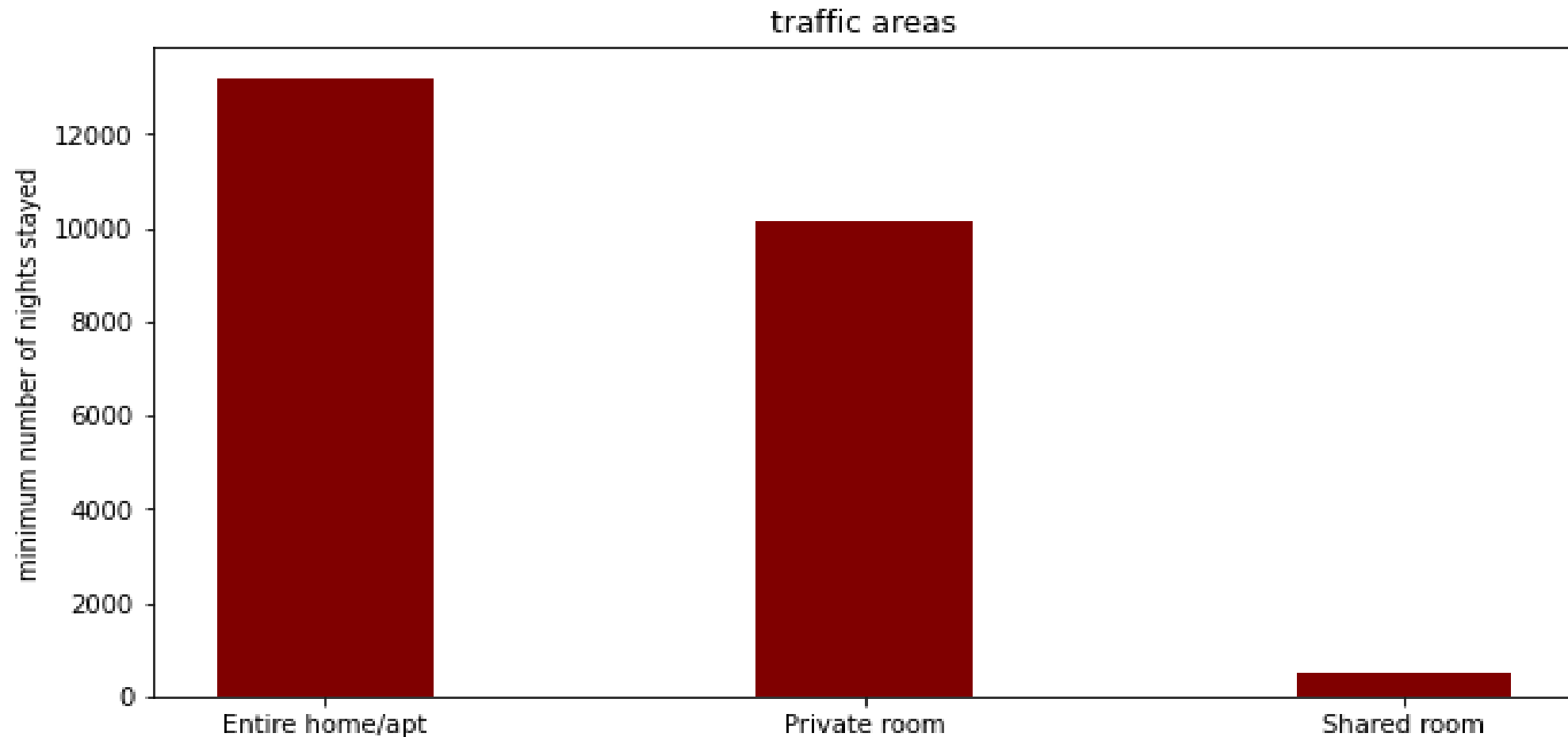
From the above analysis we can stay that people are preferring Entire home/apt pr private room which are present in manhattan, Brooklyn, queens and people are preferlisting which are less in price.

► It can be inferred that January tends to be the quietest, and the occupancy rate increases as we progress through the year. This ties up with the results from the analysis of the number of reviews (indicative of the demand) that shows an increasing trend across the year.

Calendar Heat Map of Occupancy (Percentage) by Month

According to the analysis, listings that only accommodate two people occupied the most significant proportion of accommodation types at 55.9%. The portion of four-person accommodations held close to one-third, followed by three-person accommodations, which made up approximately 9% of the listings. The smallest percentage shown consisted of one and six-person accommodations, respectively around 2%.

Top 5 Accommodations for Airbnb in Amsterdam
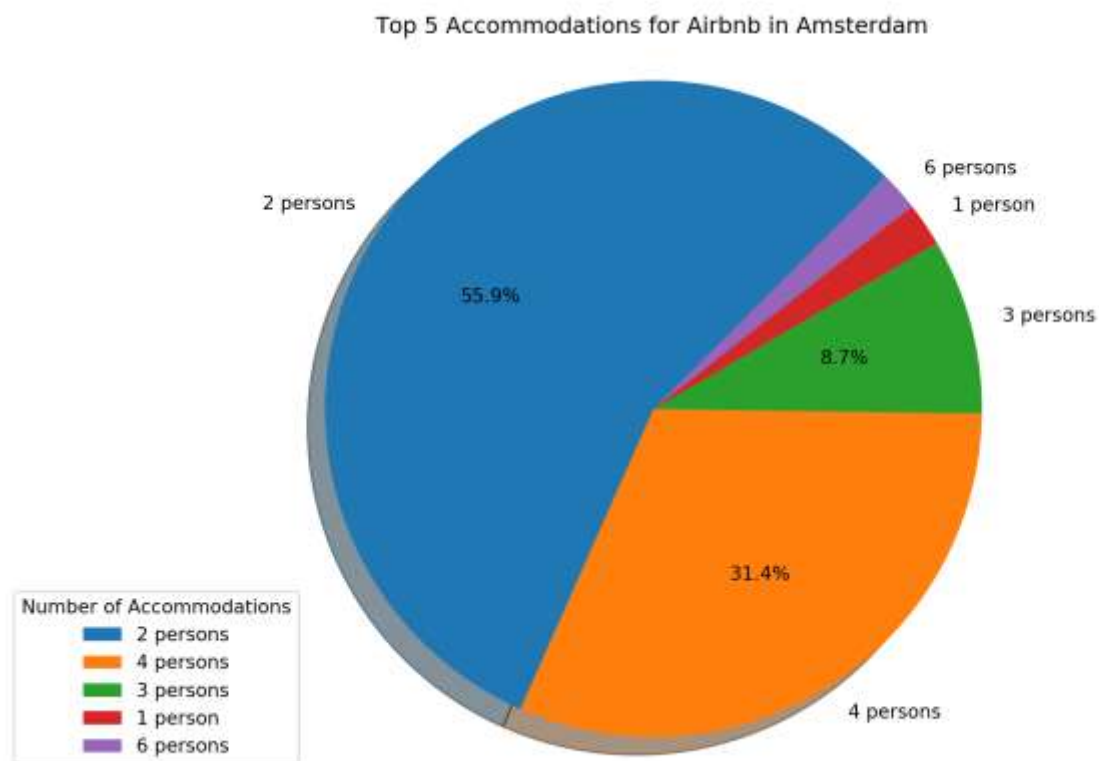
Room Type

According to the results, approximately 79% of Airbnb hosts rent their entire home or apartment, while 20% of hosts rent a single room. The remaining proportion of hosts offer an option to rent a shared room with their guest.

Room Type Breakdown for Airbnb in Amsterdam
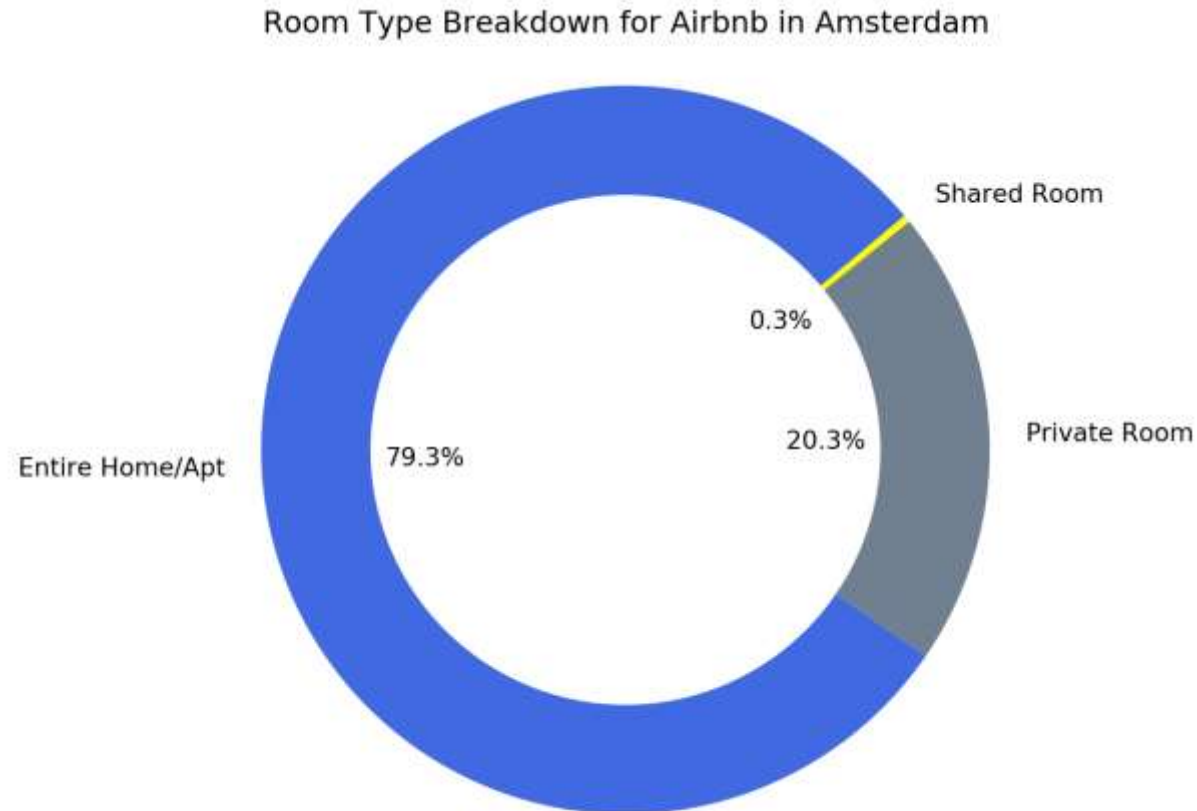
CHALLENGES FACED

▶ READING THE DATA SET AND UNDERSTANDINGTHE MEANING OF SOME COLUMNS.

▶ FOR ANSWERING SOME OF THE QUESTIONS WE HAD TO UNDERSTAND THE BUSINESS MODEL OF AIRBNB THAT HOW THEY WORKED.

▶ HANDLING NaN VALUES,NULL VALUES AND DUPLICATES.

▶ DESIGNING MUTIPLES VISUALIZALTIONTO SUMMARIZE THE INFORMATION IN THE DATA SET AND SUCCESFULLY COMMUNICATE THE RESULT AND TEND TO THE READER.

CONCLUSION

- THE PEOPLE WHO PREFER TO STAY IN ENTIRE HOME OR APT THEY ARE GOING TO STAY BIT LONGER IN THAT PARTICULAR NEIGHBOURHOOD ONLY.

- THE PEOPLE WHO PREFER TO STAY IN PRIVATE ROOM THEY WON'T STAY LONGER AS COMPARED TO HOME OR APT.

- MOST OF THE PEOPLE PREFER TO STAY IN LESS PRICE.

- IT THERE ARE MORE NUMBER OF REVIEWS FOR OARTICULAR NEIGHBOURHOOD GROUP THAT MEAN THAT PLACE IS TOURIST PLACE.

- IF THE PEOPLE ARE NOT STAYING MORE THAN ONE NIGHT MEANS THEY ARE LESS TRAVELLLERS.

THANK YOU