



Pre Covid Data Analysis & Insights - AirBnB

By

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Agenda

- **Overview**
- **Objective**
- **Background**
- **Key Findings**
- **Recommendations**
- **Appendix:**
 - **Data sources**
 - **Data methodology**
 - **Data assumptions**



Overview

Airbnb, Inc. is an American company that operates an online marketplace for lodging, primarily homestays for vacation rentals, and tourism activities.

Objective

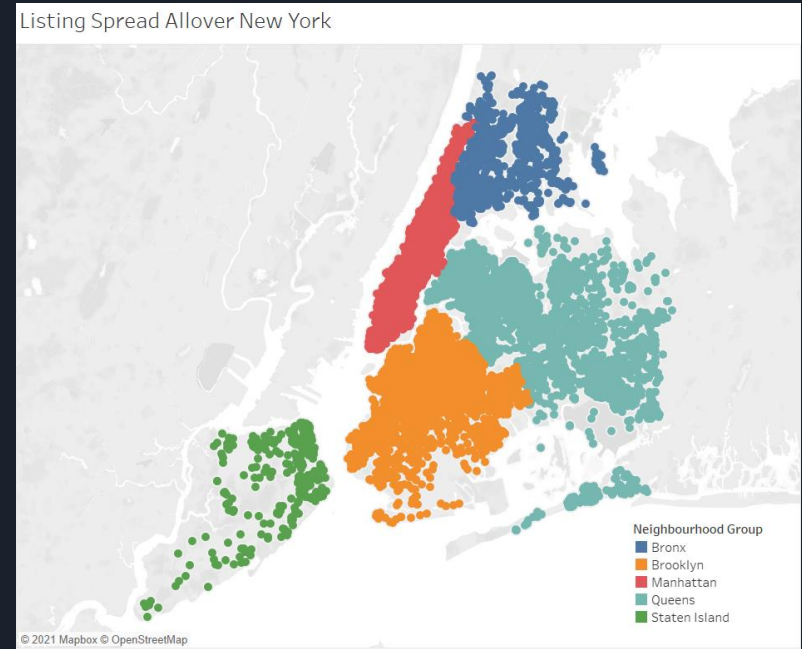
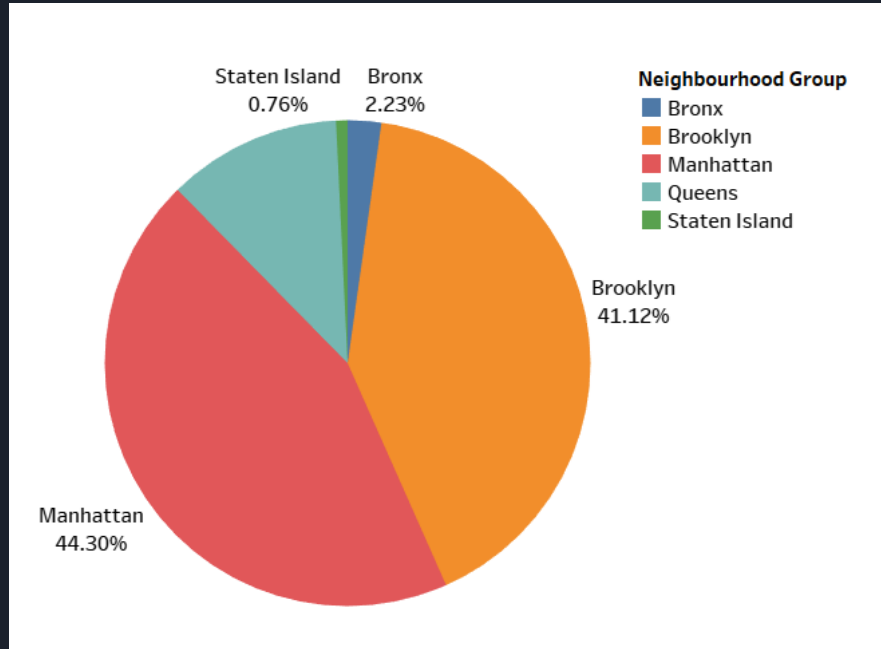
- Extract the key insights and make Business strategies for Post Covid period
- Understand the customer preferences and estimate it for post covid period

Background

- For the past few months, Airbnb has seen a major decline in revenue due to Covid.
- Now that the restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is fully prepared for this change.

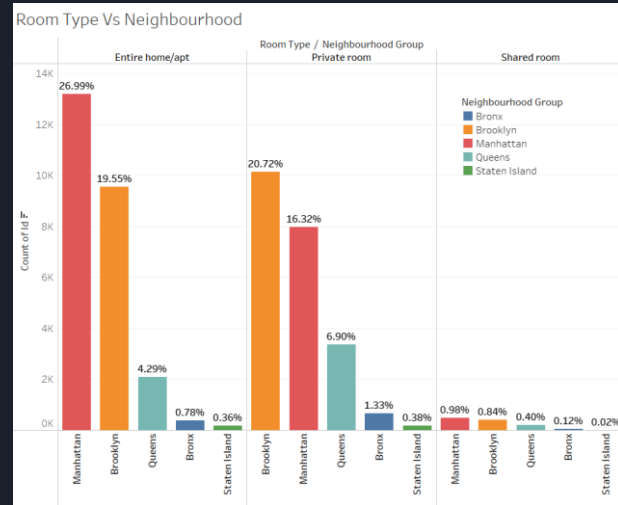
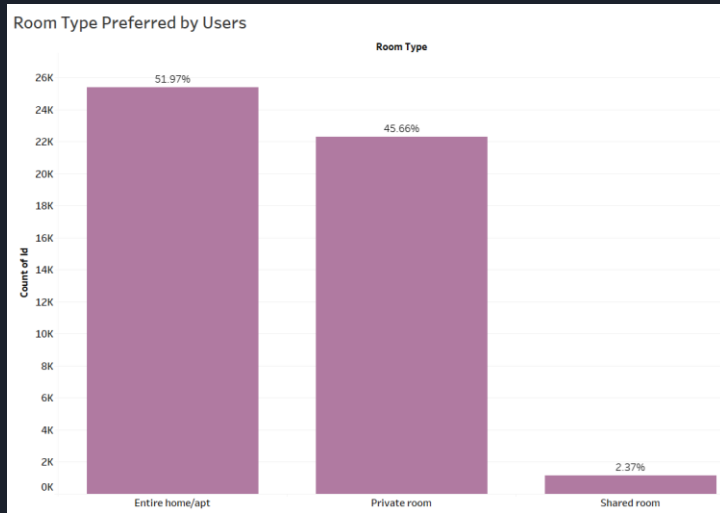
Percentage Of Listing in Neighbourhood Group

- The percentage of listings is high in Manhattan (44.30%) and Brooklyn (41.12%), and both the area cover approx 85% of total listings.
- Staten Island has 0.76% of the listing which is lowest in the neighborhood group.



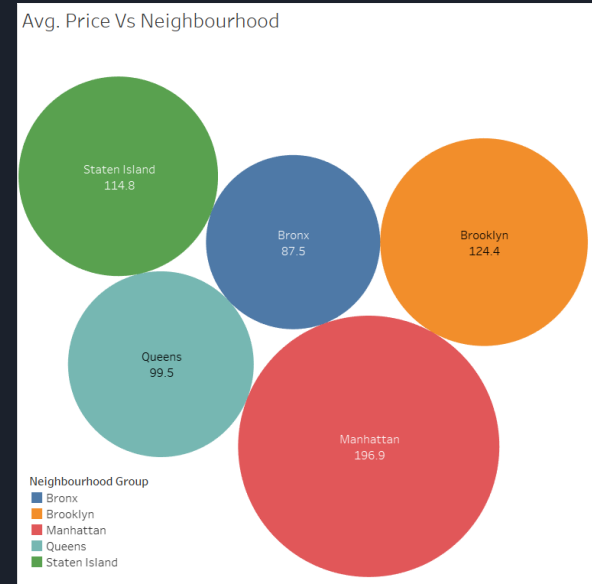
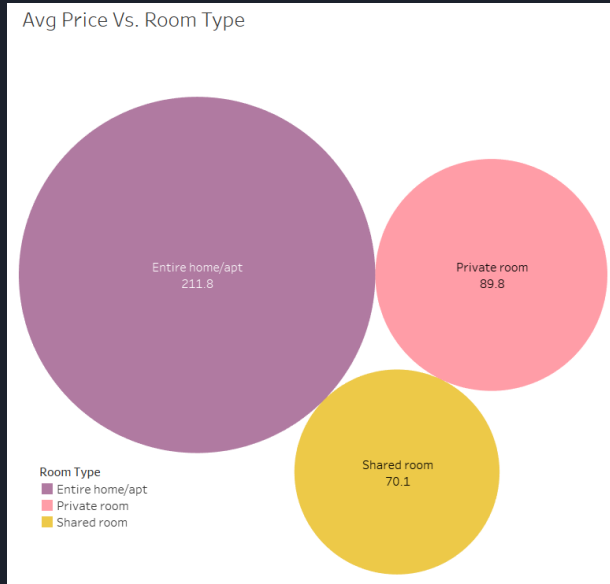
What Type of Rooms Preferred by Users?

- Total three types of room segments are there i.e. Entire home/apt, Private room & Shared Room.
- From the left bar Graph, we can see that the user preferred the Entire home/apt (51.97%) & Private room(45.66%).
- People preferred entire home/apt or private room in top neighborhood i.e. Manhattan & Brooklyn.
- Manhattan has 26.99% home/apt listings and Brooklyn has 20.72% private room listing out of total listings spread in New York.
- We can conclude that people preferred to stay in group/family.



Average Price Of Room Type & Neighbourhood Group

- The avg price/night is higher for the Entire home/apt (211.8) & lowest for the Shared room (70.1)
- The avg price of listed properties is higher (196.9) for the Manhattan area, which is the highest among others. Brooklyn comes second in that list (124.4)
- Avg. Price of the listing is the lowest in Bronx i.e. 87.5

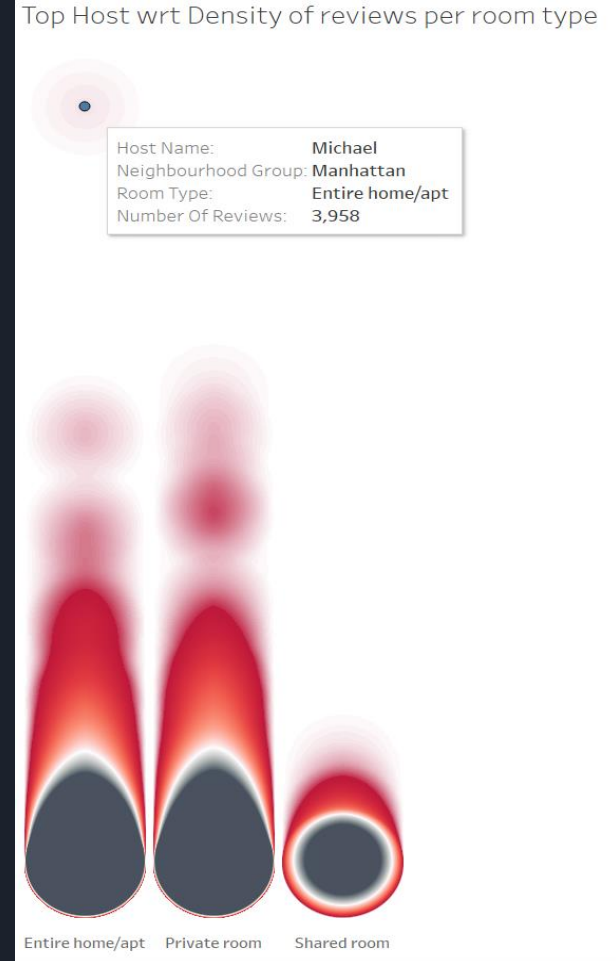


Top Hosts in NYC

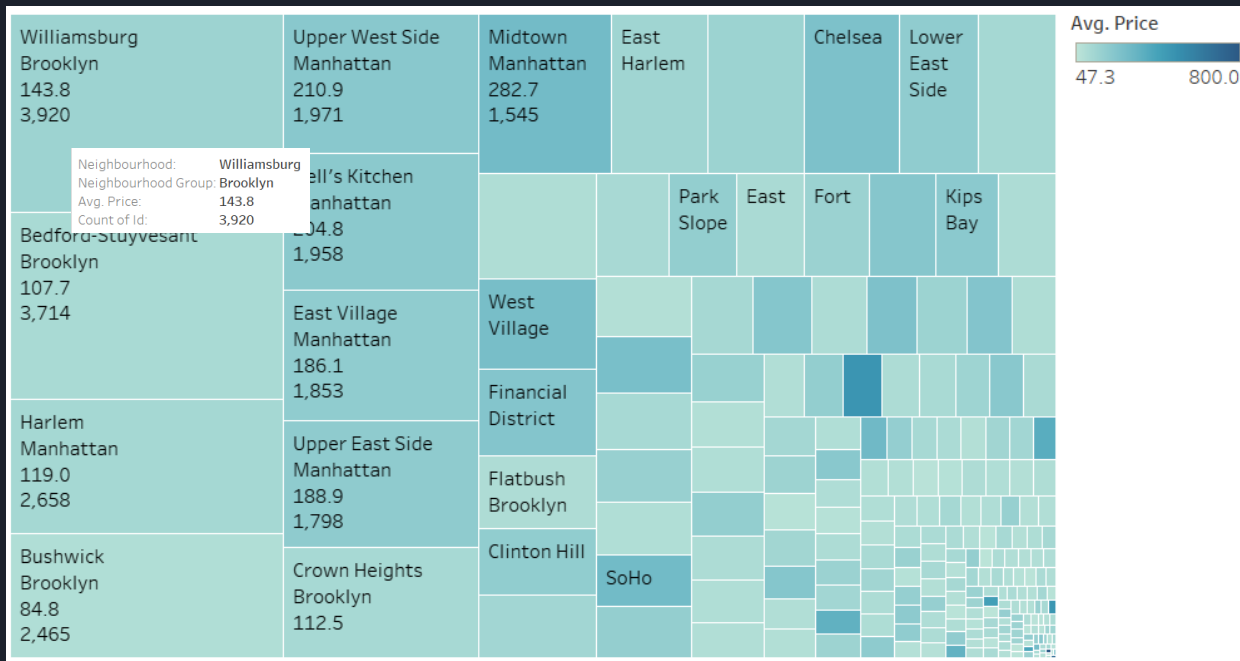
- Maximum density of bookings is for entire home or apartment has taking the reviews into consideration
- Host 'Michael' is the reviewed highest when it comes to Entire Home/Apartment bookings in Manhattan

Top Ten Host With Highest Number Of Listings

Host N..	Count of Id	Number Of Reviews
Michael	417	11,081
David	403	8,103
Sonder (NYC)	327	1,281
John	294	7,223
Alex	279	6,204
Blueground	232	29
Sarah	227	4,579
Daniel	226	4,723
Jessica	205	4,074
Maria	204	4,405



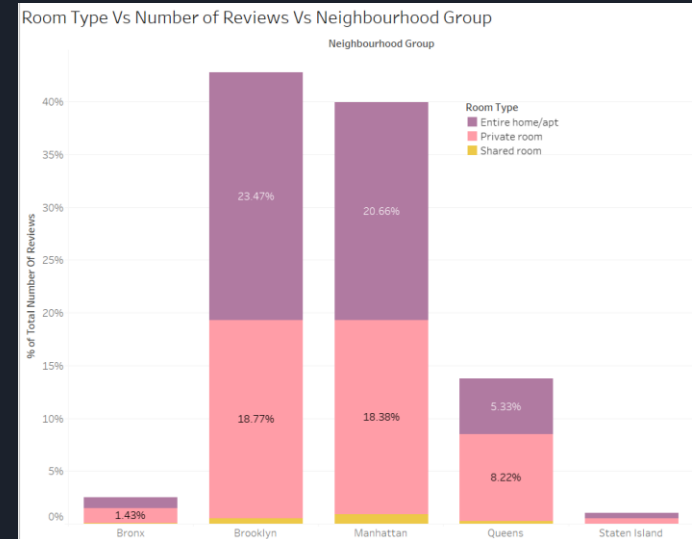
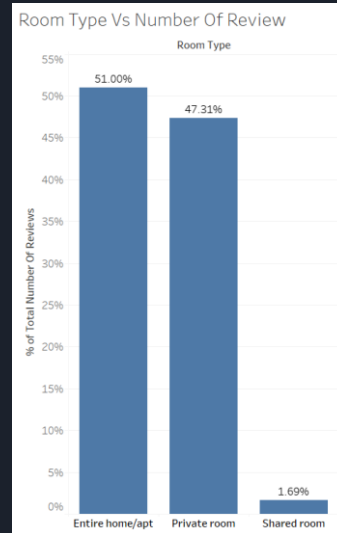
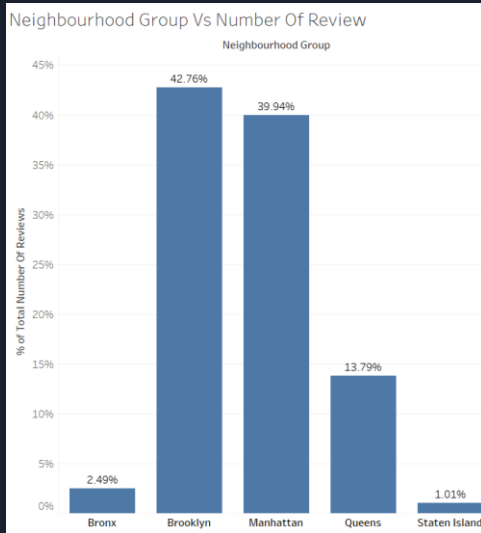
Average Price Of Neighbourhood & Number of Listings



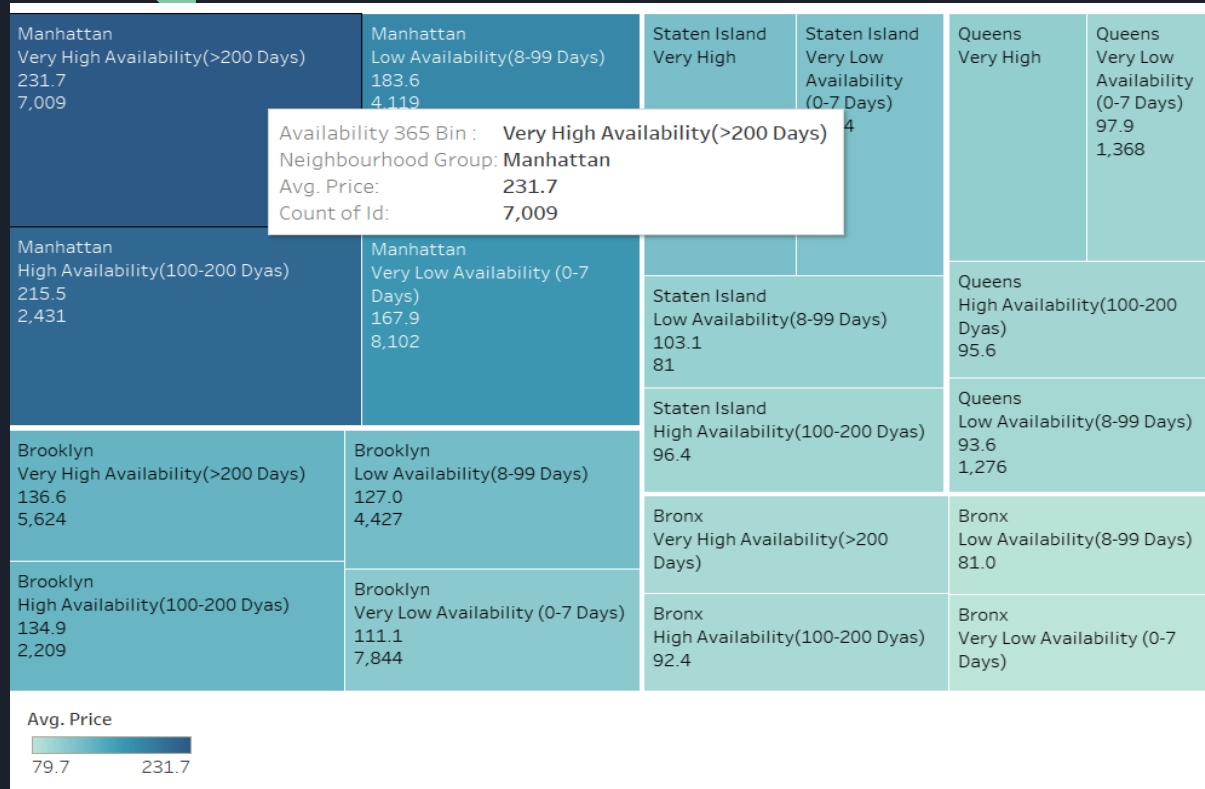
- The Treemap shows neighborhoods with the number of listings and average price. The top of the neighborhood either belongs to manhattan or Brooklyn based on the number of listings.
- Williamsburg of Brooklyn neighborhood group has the highest number of listings 3920 with an avg price 143.8

Preferred Room Type Based On Number Of Reviews

- Brooklyn has received the highest number of reviews i.e 42.76%. Manhattan is in the second position with 39.94% reviews.
- The Entire home/apt received 51.00% reviews, which makes it the most preferable room type.
- And in each neighborhood group Entire home/apt received the highest number of reviews.



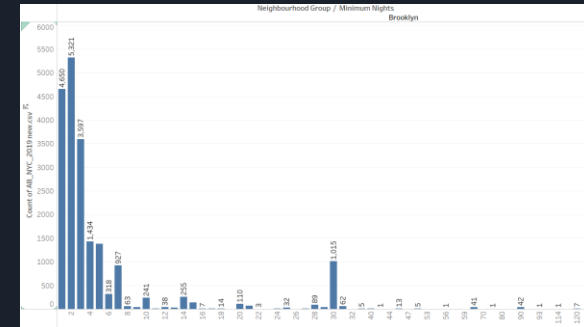
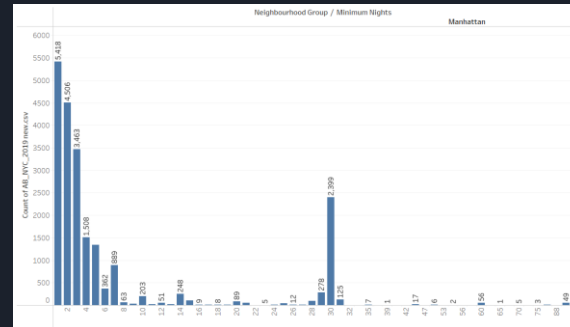
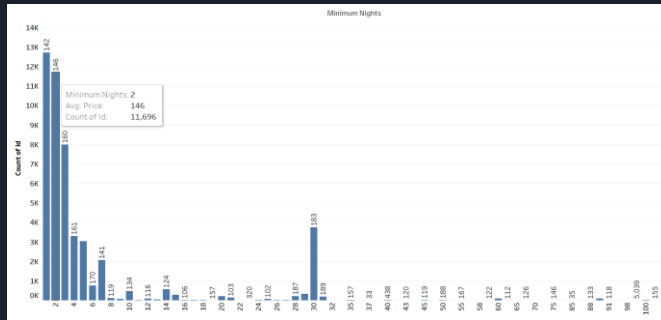
Neighbourhood and their Availability



In Manhattan, Expensive property has available for more numbers of days, they are easily available.

Booking Preference Based on Minimum Nights

- The customer opted to stay with the property that provides a minimum night stay of 1-7.
- We can see that, around 3700 customers also booked the property that offer minimum night 30
- Manhattan & Brooklyn have higher number of booking for 30 days.





Recommendations

- The shared room has a very low percent of shares and is less popular among others we can promote it with discount.
- Manhattan & Brooklyn are both popular among users, we should acquire more private rooms in Manhattan and home/apt in Brooklyn.
- Staten Island & Bronx have fewer listings we should focus to improve the share of listings.
- Hosts like Michael that have high number of reviews and listings in a certain neighbourhood group should be incentivised and promoted further to maintain the density of listings in the specific region



Appendix - Sources

The AirBnB data set contain information such as-

Host information like Host name, Host ID, listing information like id, Latitude, room type, neighbourhood, Longitude, Price, Number of Reviews, Number of Reviews per month.

Here is a snapshot of our data dictionary:

Column	Description
id	listing ID
name	name of the listing
host_id	host ID
host_name	name of the host
neighbourhood_group	location
neighbourhood	area
latitude	latitude coordinates
longitude	longitude coordinates
room_type	listing space type
price	
minimum_nights	amount of nights minimum
number_of_reviews	number of reviews
last_review	latest review
reviews_per_month	number of reviews per month
calculated_host_listings_count	amount of listing per host
availability_365	number of days when listing is available for booking
Dataset Description	



Appendix - Methodology

- We have used python for finding out the null values and the shape of the data.
- We didn't drop any columns as they are not affecting our analysis.
- And for Visualisation purposes, we have used Tableau and performed the EDA, and extract the insights.
- A detailed methodology document is separately attached. please refer to that document for more details.



Appendix - Assumption

- The Price column indicates the price per night for listings and we assume currency is in USD.
- We assumed that the higher number of reviews means the most preferred property.
- The low availability_365 means the property is booked for most of the days, which makes it popular among users.
- We assumed that airbnb is focused primarily at the mentioned neighbourhood groups only and not any other.
- We assumed that post covid restrictions, travel industry will boost.

Thank You