

Capstone Project

Airbnb Bookings Analysis

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What Is Airbnb?

- Airbnb, as in “Air Bed and Breakfast,” is a service that lets property owners rent out their spaces to travellers looking for a place to stay.
- Airbnb is an online marketplace that connects people who want to rent out their homes with people who are looking for accommodations in that locale. It currently covers more than 100,000 cities and 220 countries worldwide.
- Our main objective is to find out the key metrics that influence the listing of properties on the platform.
- We have found out the distribution of every Airbnb listing based on their location, including their price range, room type, listing name, and other related factors.
- We have analyzed this dataset from different angles and have come up with interesting insights.

Objective

The reason behind choosing this specific project is to understand the importance of this business strategy, relationship between various factors affecting it and analyzing them for the scope of improvement.

Agenda:

1. Defining Problem Statement
2. Understanding the imported Data
3. Exploratory Data Analysis
4. Obtaining Critical Insights

Data Summary

We have observed that there are total 49,000 observations with various types of field in our dataset as listed below:

- **Id** - It provides a unique id to each listing in the dataset.
- **Name** -It describes the property in a concise manner.
- **Host id** - It is used to ascertain the ownership of a certain individual
- **Host name** - It is the name of the property owner
- **Neighbourhood group** - It basically categorizes neighbourhood into five groups Bronx, Brooklyn, Manhattan, Staten Islands and Queens
- **Neighbourhood** - It designates the location of a property.

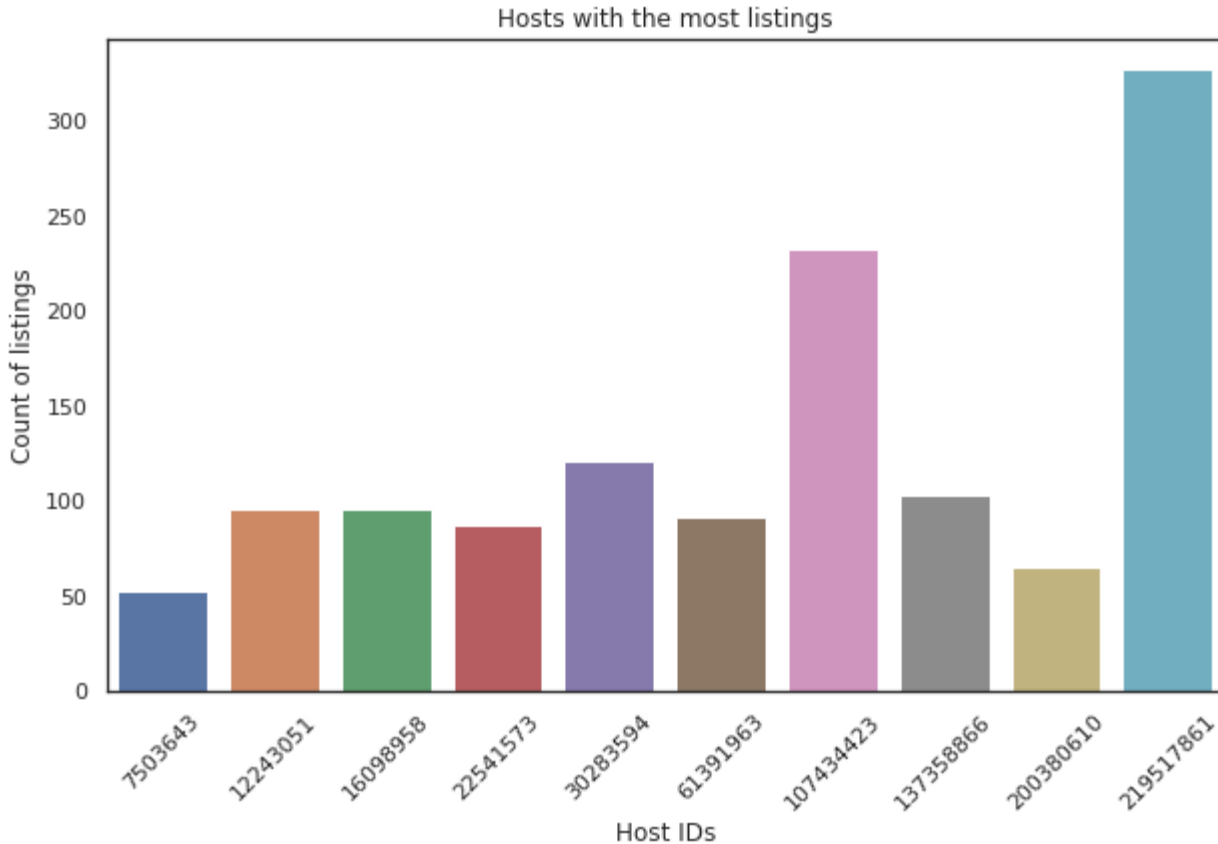
Data Summary

- **Latitude** - It Specifies the Latitude of the property
- **Longitude** - It denotes the Longitude of the property
- **Room type** - It classifies the type of property into Private Room, Shared Room and Entire Apartment
- **Price** - It provides the price of each listed property
- **Minimum Nights** - It gives the minimum night one needs to pay for in the property
- **Number of reviews** - It is used to ascertain the number of reviews received by a property
- **Reviews per month** - It denotes the number of reviews per month
- **Calculated host listings count** - It corresponds to the number of properties hosted by the unique host id
- **Availability 365** - The number of days the property is available in a year

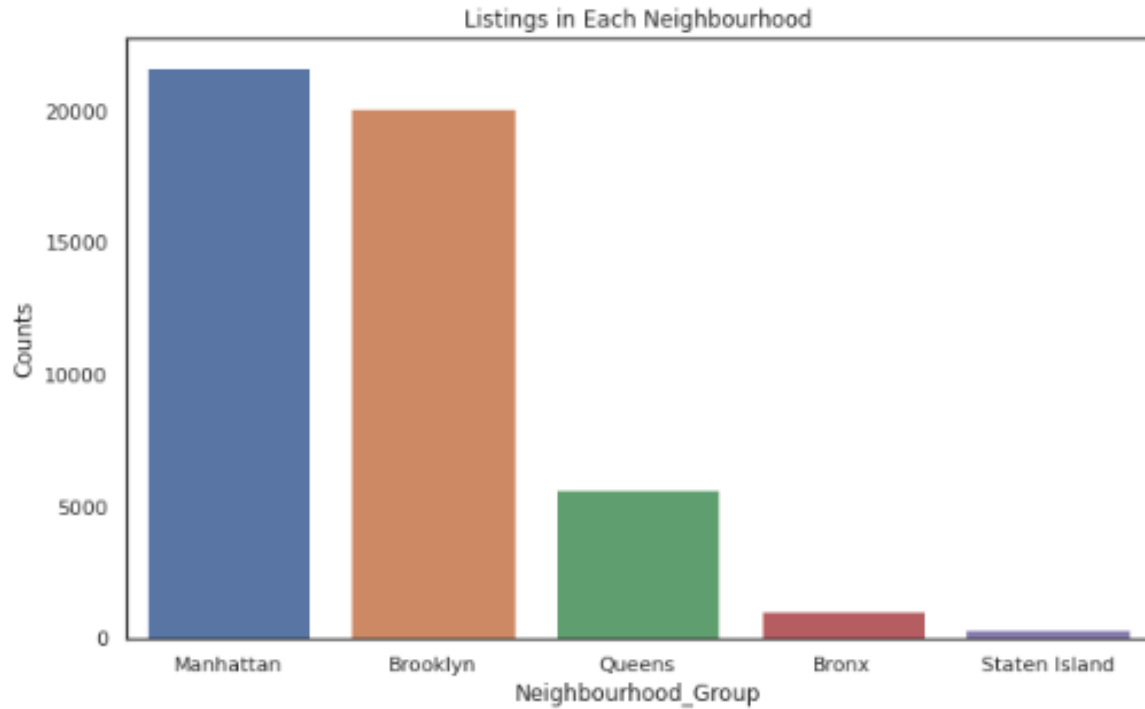
Data Analysis and problem solutions

- Our main objective is to find out the key metrics that influence the listing of properties on the platform. For this, we will explore and visualize the dataset from Airbnb.
- We have analyzed the data and according to data set we came across few problems.
- We will be finding out the distribution of every Airbnb listing based on their location, including their price range, room type, listing name, and other related factors.
- Some of the methods such as Pandas, Numpy, Matplotlib are required for the problem solving.

Exploratory Data Analysis

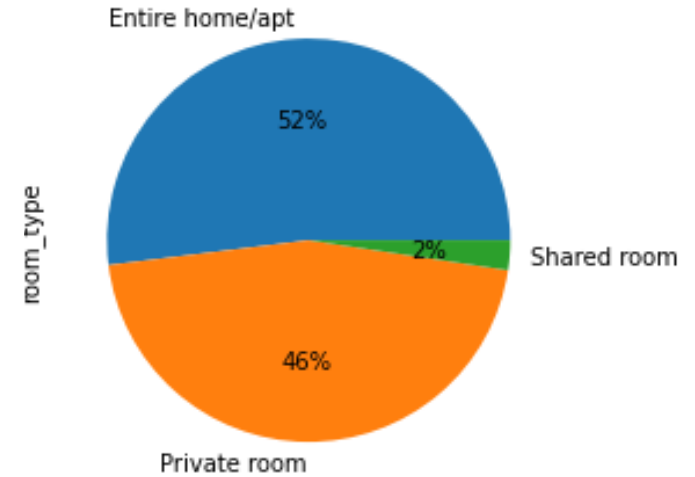
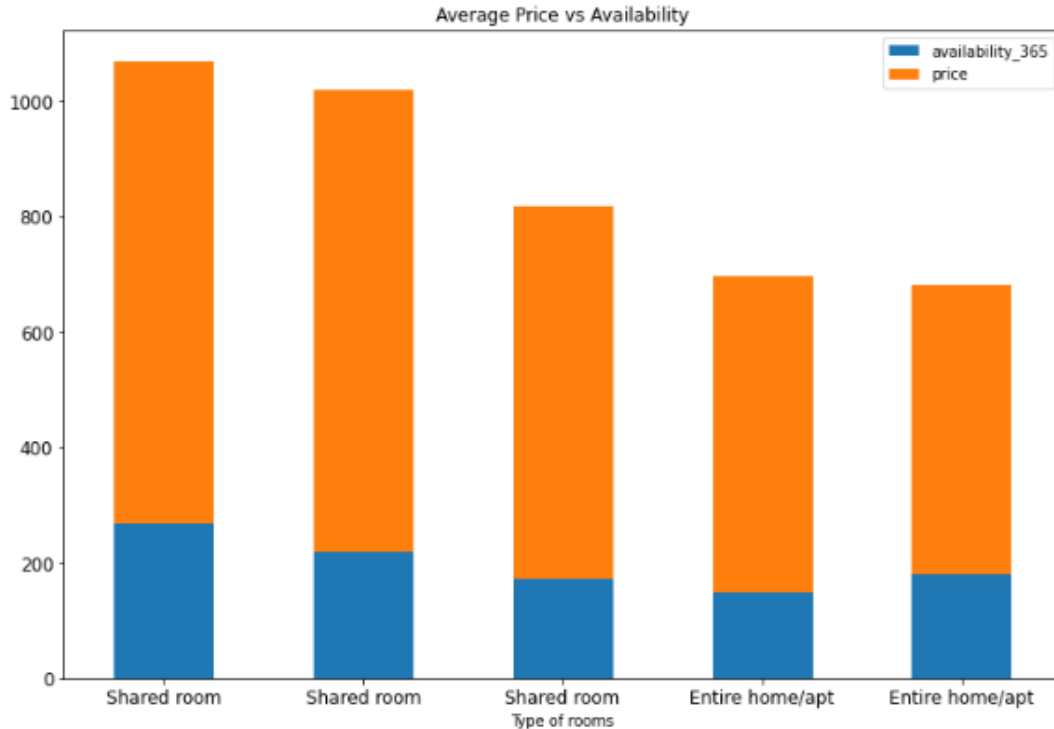


Exploratory Data Analysis



Exploratory Data Analysis

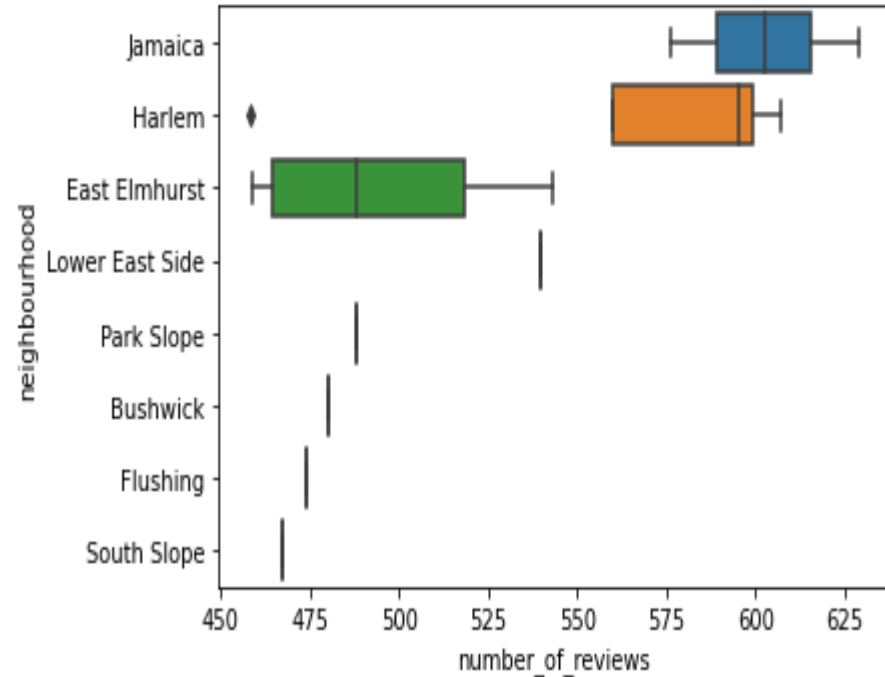
Which room type have maximum preference?



Exploratory Data Analysis

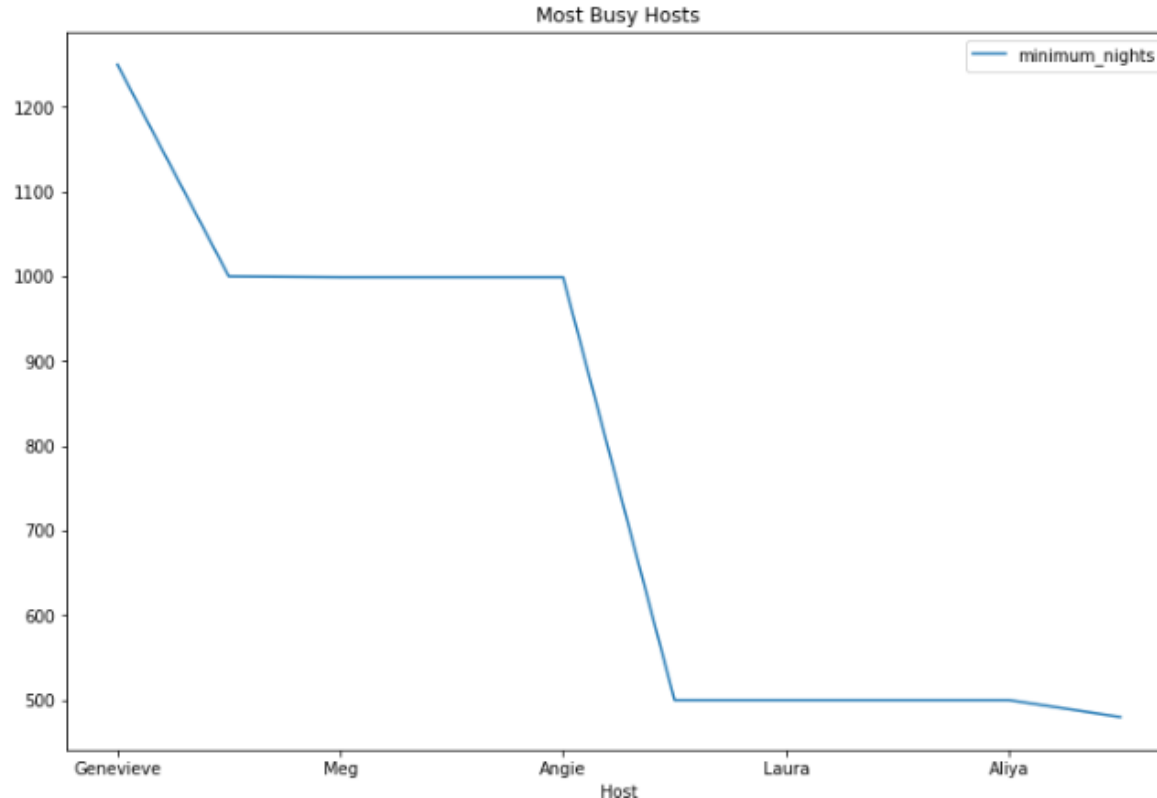
Which property is more preferred by the guests?

- The most preferred neighbourhood is Jamaica in Queens, followed by Harlem in Manhattan.
- The East Elmhurst in Queens is most common choice.
- Park Slope, Bushwick, South Slope in Brooklyn being are least preferred.



Exploratory Data Analysis

Which hosts are the busiest and why?



Conclusions

- The room type distribution analysis concluded that there are more demands for private rooms and flats/apartments. So, the company must focus on merging more property owners with these types of rooms.
- The prices and reviews showing the major contribution of customers for the affordable category.
- Queens is the most expensive neighbourhood group followed by Brooklyn and Manhattan.
- Based on the Collab study we concluded that the Manhattan and Bronx can be major business centers with Airbnb with private rooms and the price category must be medium/affordable.

Conclusions

- The most busy hosts are Genevieve, Peter and Meg.
- 'Queens', 'Staten Island', 'Manhattan', 'Brooklyn' and 'Bronx' are the most preferred neighbourhood groups.
- The most preferred room type is Entire home/apt in Manhattan due to average price range.