

Capstone Project-1

Airbnb Booking Analysis

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Introduction

Airbnb is an American company that operates an online marketplace for lodging, primarily homestays for vacation rentals, and tourism activities. Based in San Francisco, California. 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. Since 2008, guests and hosts have used Airbnb to expand on traveling possibilities and present a more unique, personalized way of experiencing the world. Today, Airbnb has become one of a kind service that is used and recognized by the whole world.



Problem Statement

Airbnb generates a lot of data - data that can be analyzed and used for security, business decisions, understanding of customers' and providers' (hosts) behavior and performance on the platform, guiding marketing initiatives, implementation of innovative additional services and much more.

Explore and analyze the data to discover key understandings:

- What can we learn about different hosts and areas
- What can we learn from predictions(ex: locations, prices, reviews..etc
- Which hosts are the busiest and why??
- Is there any noticeable difference of traffic among different areas and what could be the reason for it??

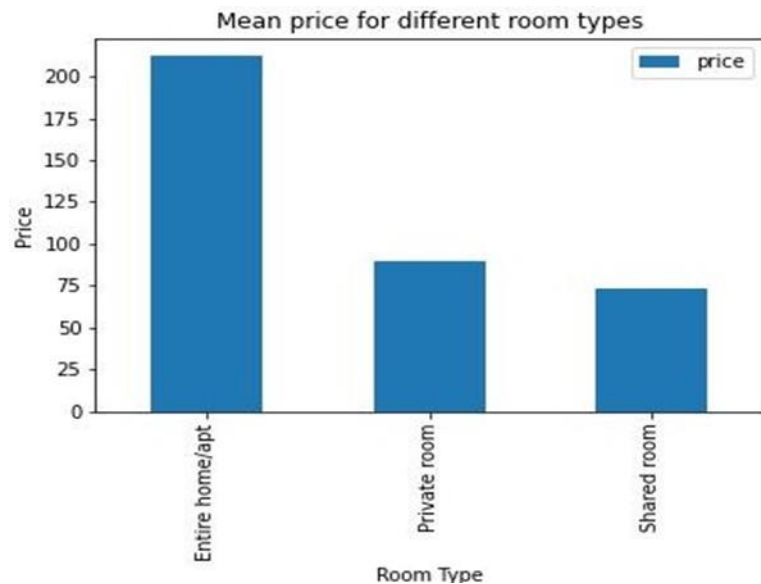
Data Pipeline

- Data overview
- Treating null values
- Dropping unimportant data
- Data sanity check
- Dealing with outliers
- Perform EDA

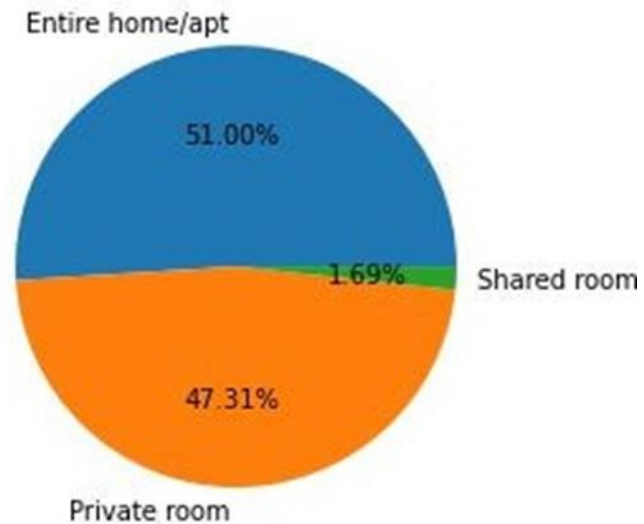
Data Summary

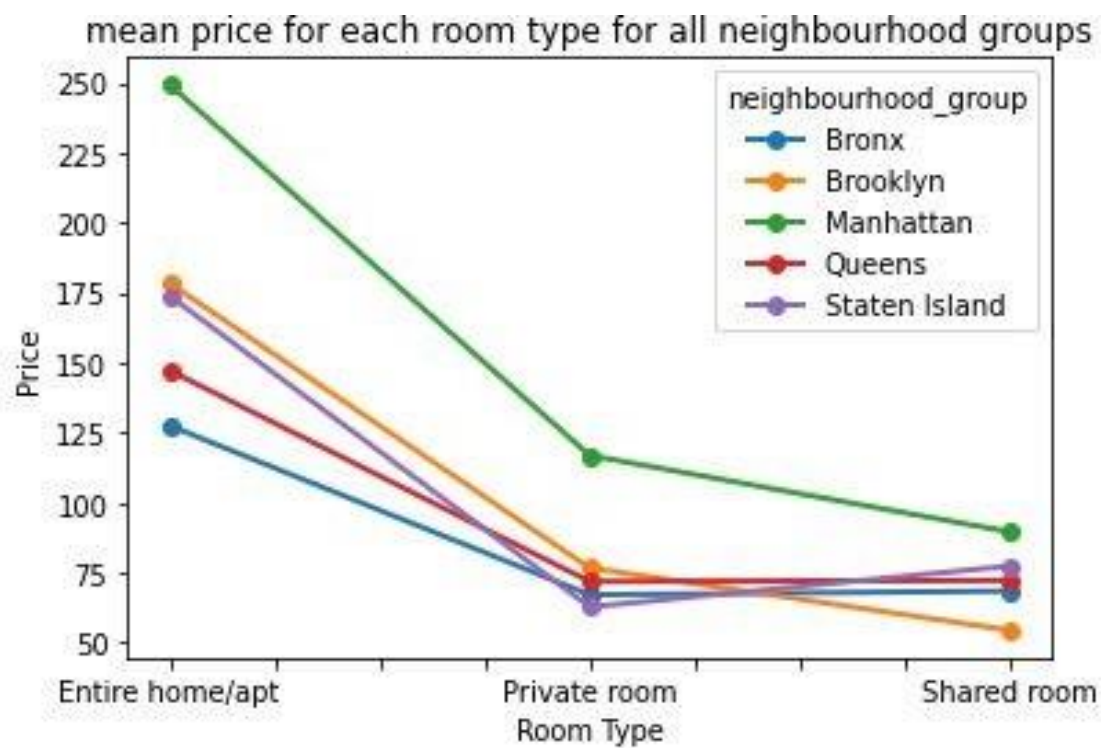
- Data set- Airbnb NYC 2019 - contains observations of bookings done in 5 neighbourhood groups in New York City through Airbnb.
- Rows- 48895
- Columns- 16
- Room types - Entire homes/apt, private rooms, shared rooms
- Neighbourhood groups- Manhattan, Queens, Staten Island, Bronx, Brooklyn

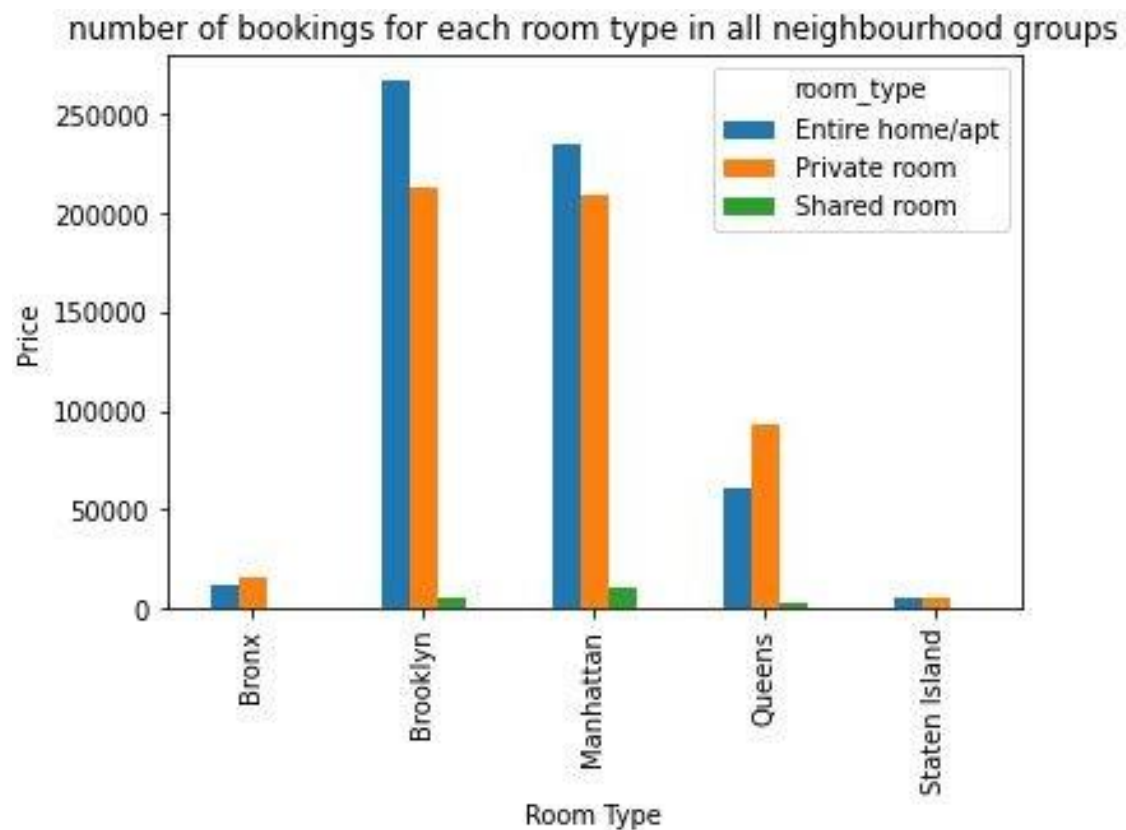
Booking analysis based on price and the most booked/wished room type



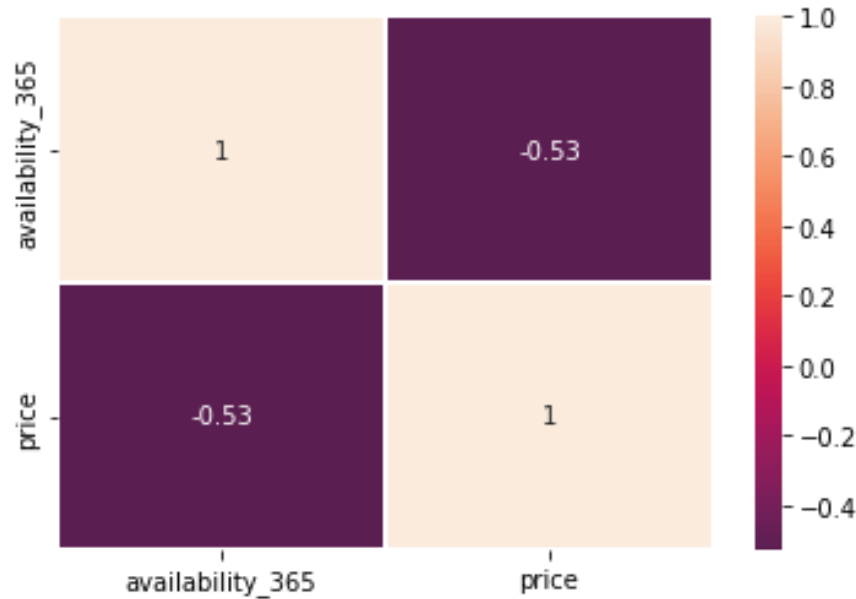
which room type is booked the most



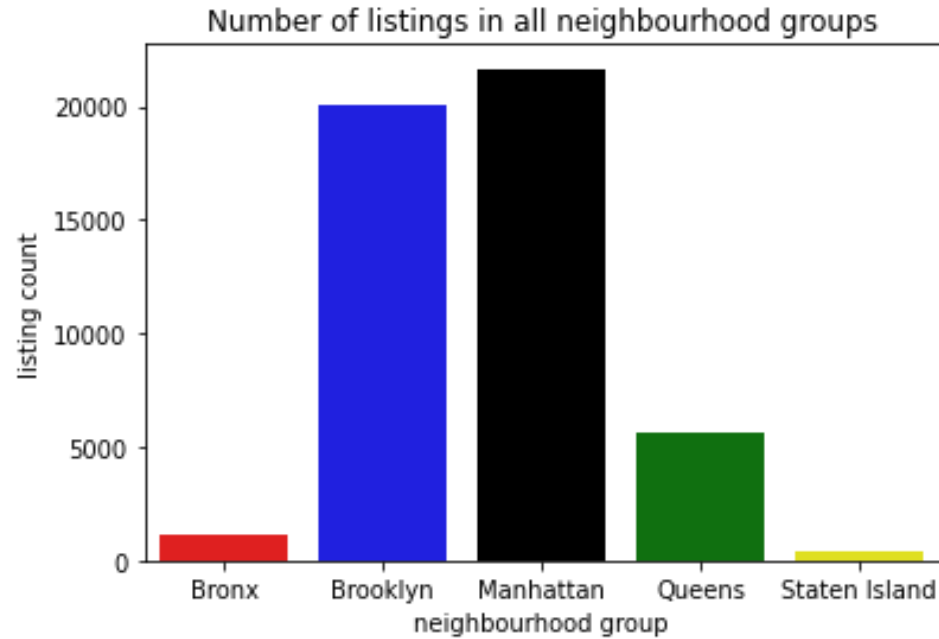




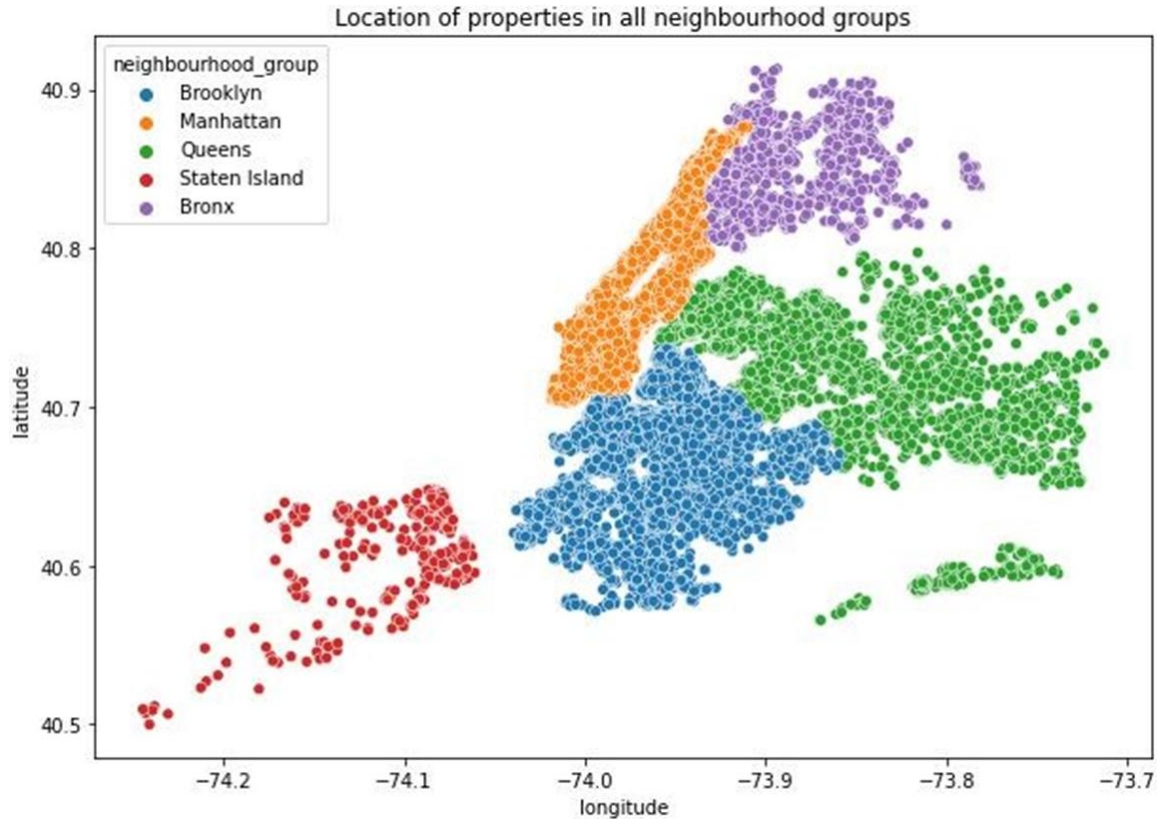
Price-availability correlation

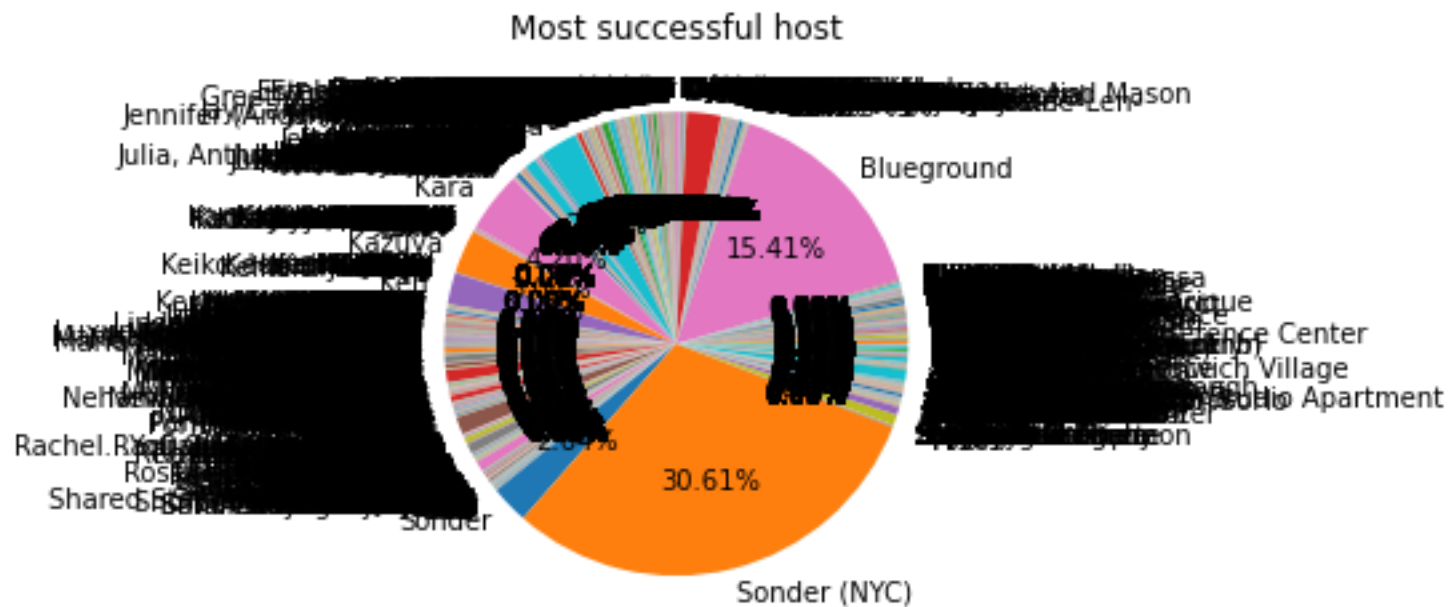


Properties Listing



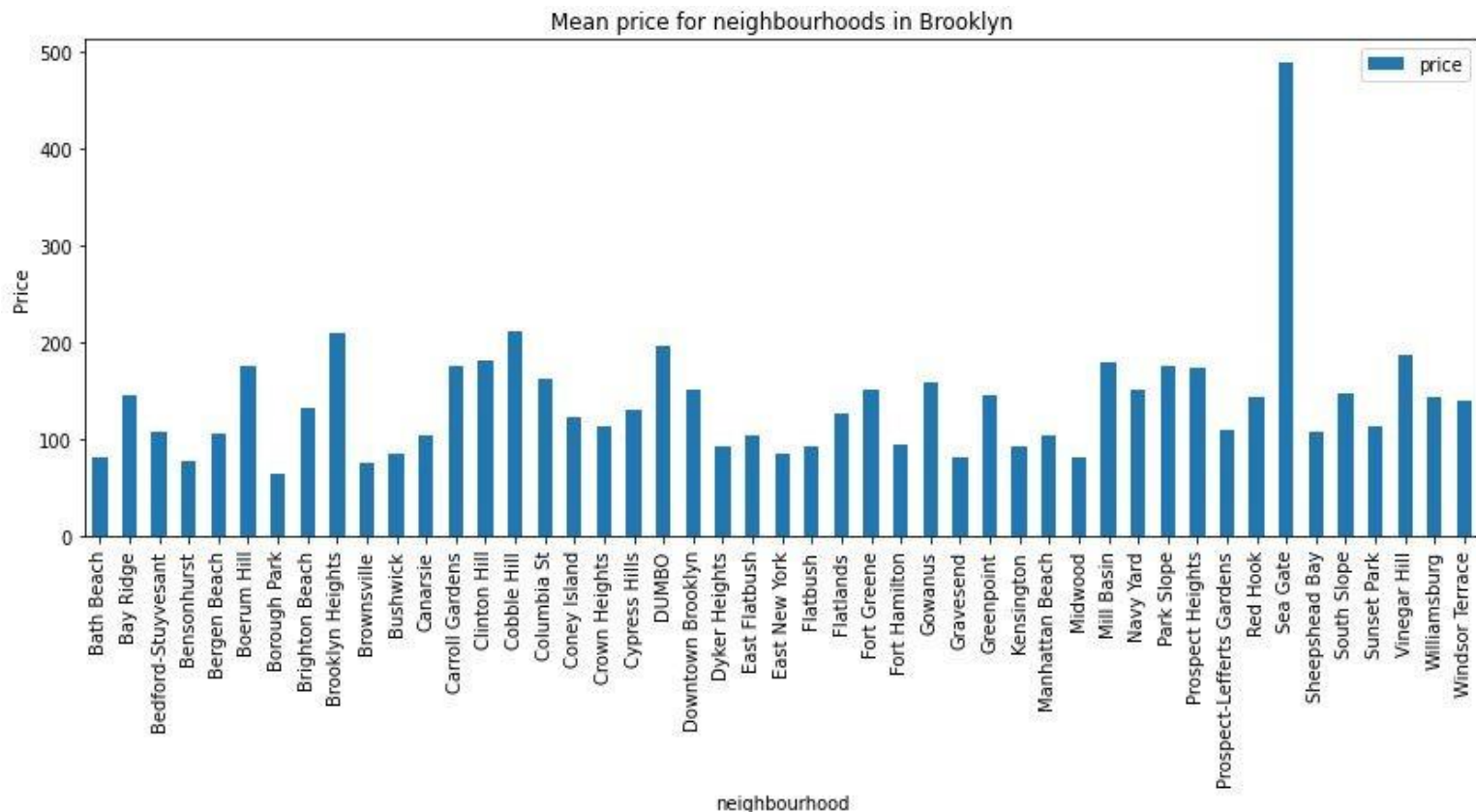
Property listing density



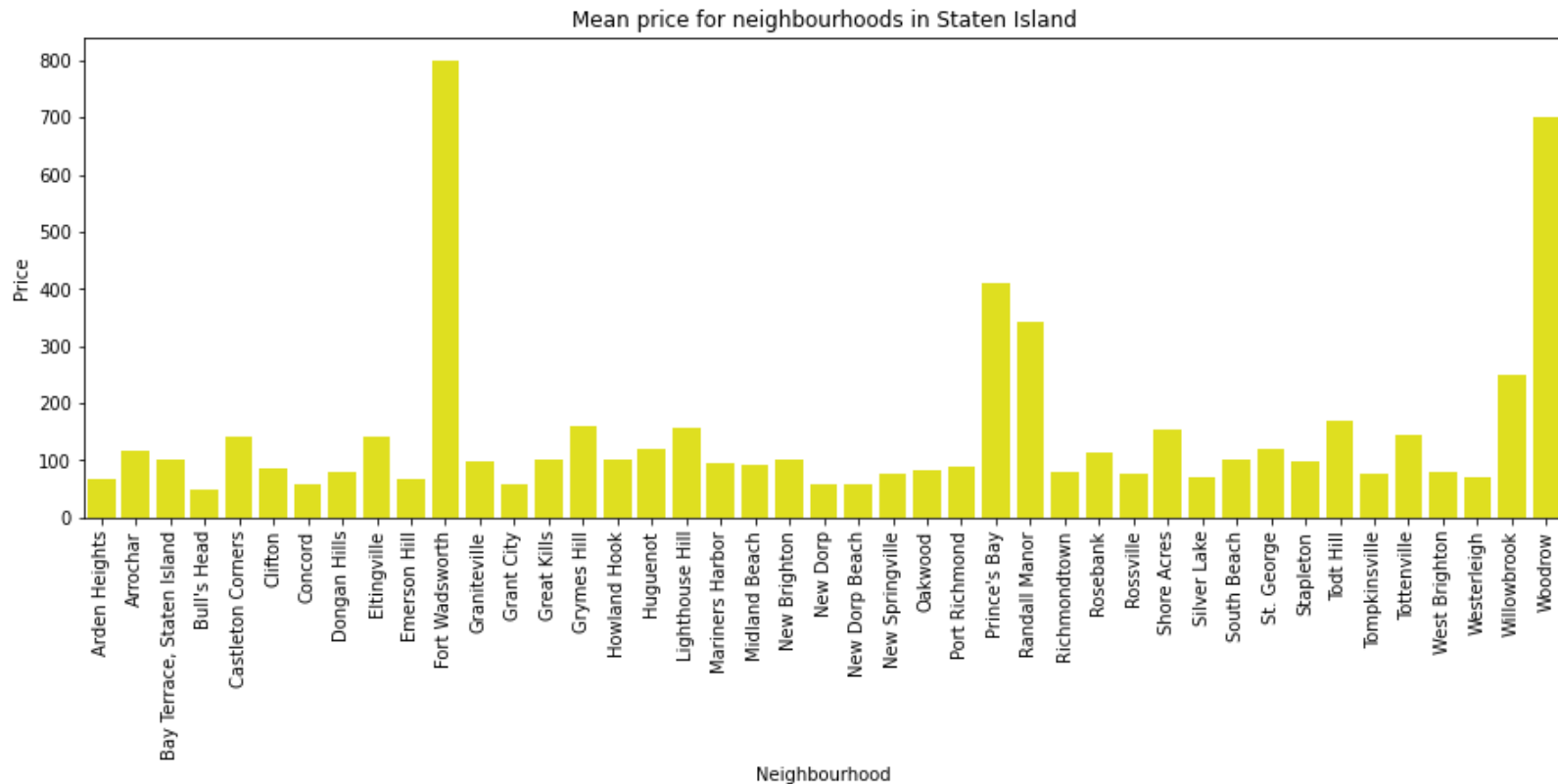


Most Expensive Neighborhoods

Brooklyn

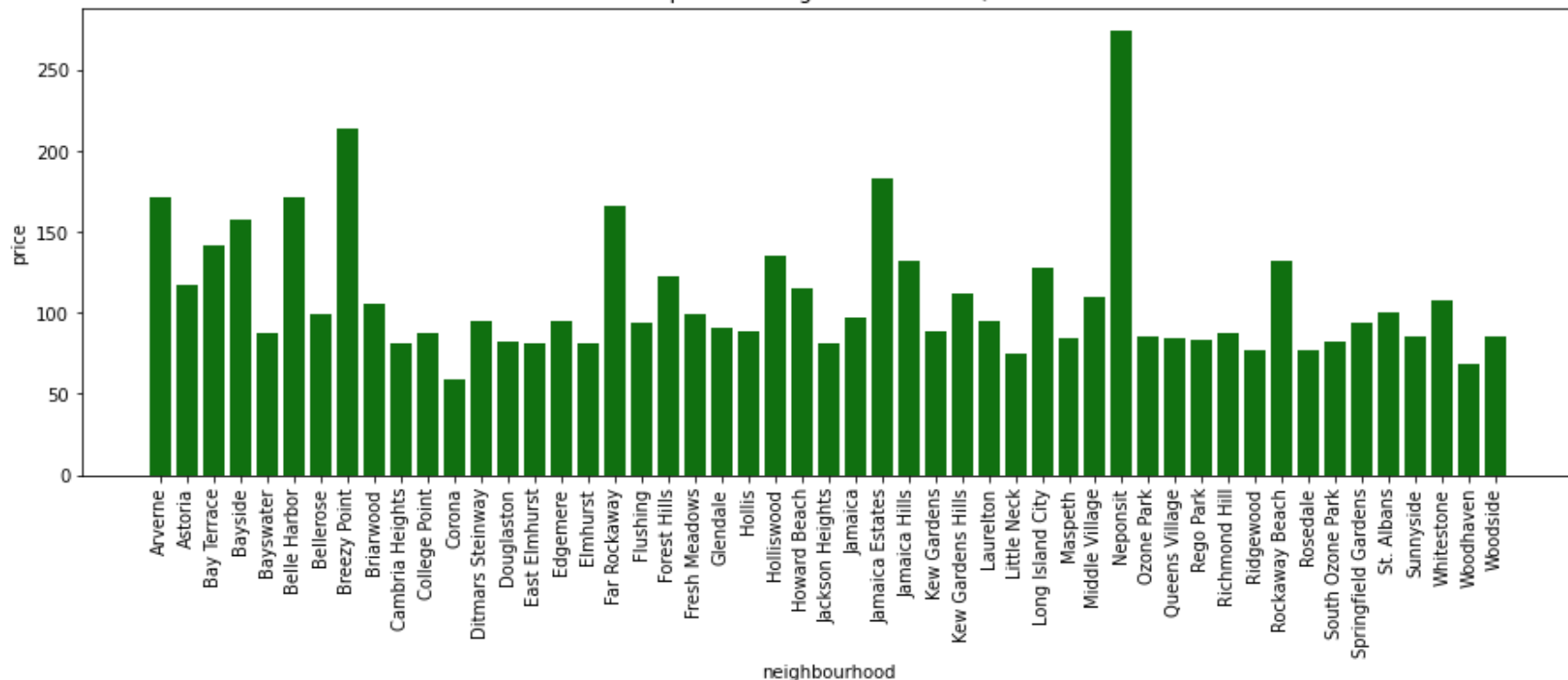


Staten Island

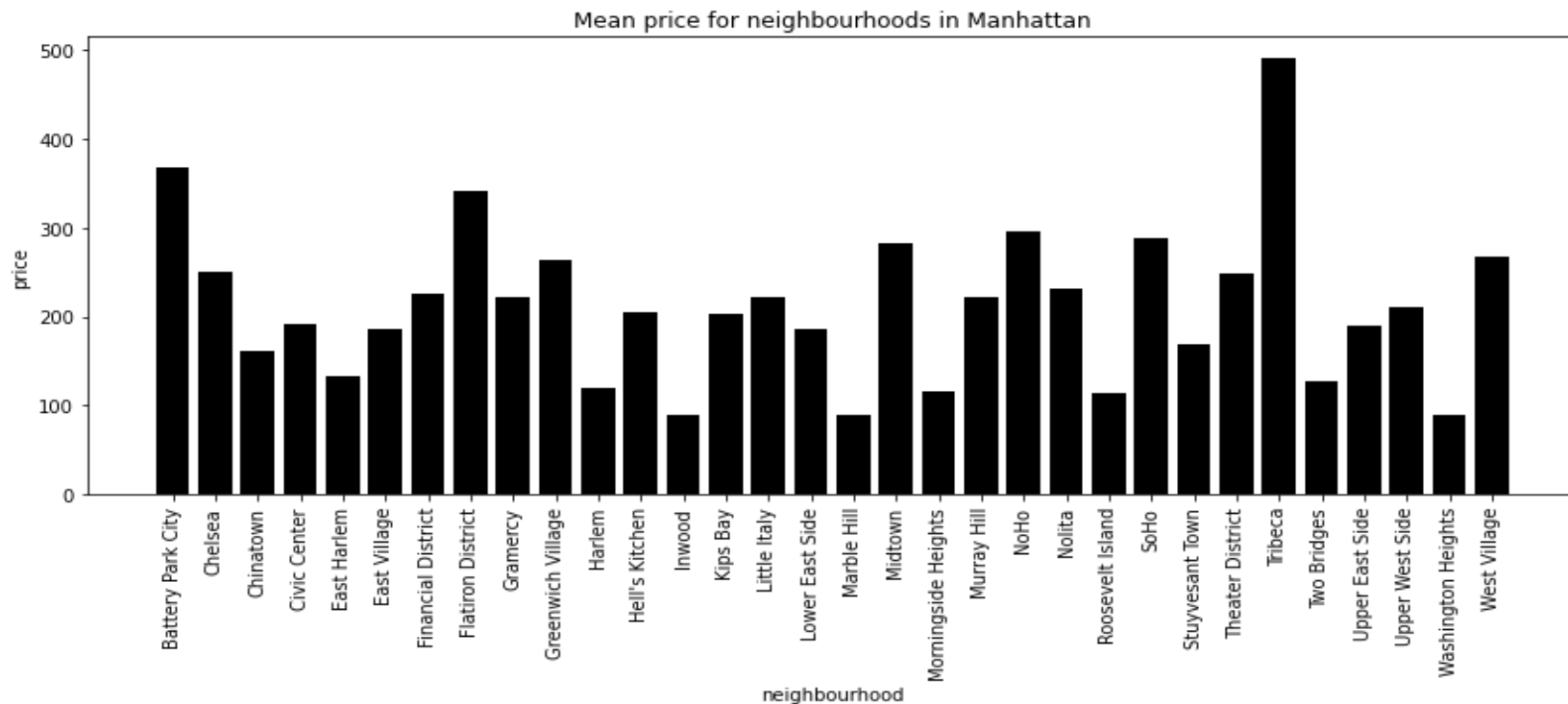


Queens

Mean price for neighbourhoods in Queens

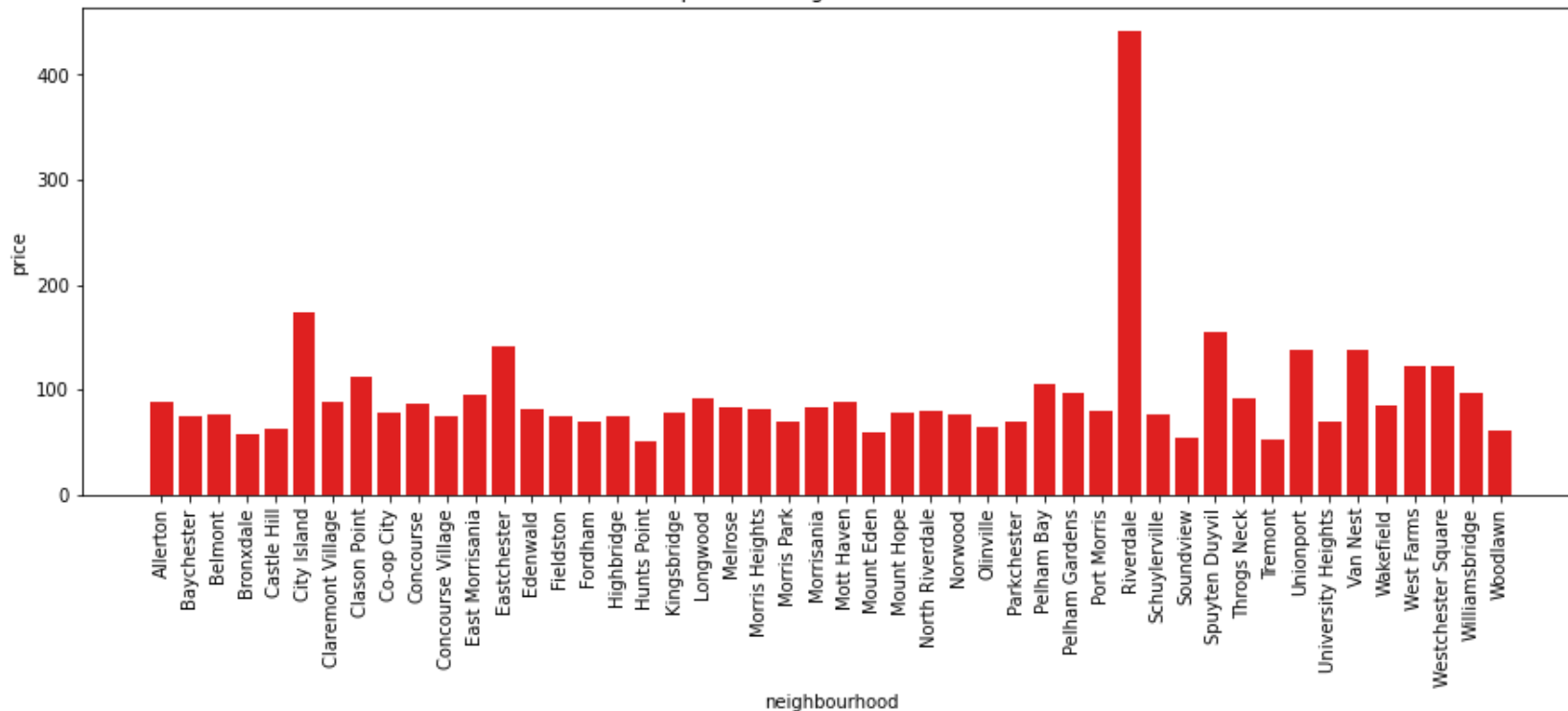


Manhattan



Bronx

Mean price for neighbourhoods in Bronx



Conclusion

- Entire home/apt is the most expensive and yet get the most traffic.
- Private room is second highest in terms of booking which suggests people value their privacy.
- Manhattan is the most expensive Neighbourhood group and Brooklyn gets the most traffic.
- Price have a negative correlation with availability.
- Sonder(NYC) is the most successful host, who only caters in Manhattan and only lists apartments and private rooms.
- Most expensive neighbourhoods-
 - I. The most expensive neighbourhood in Brooklyn is Sea Gate.
 - II. The most expensive neighbourhood in Manhattan is Tribeca.
 - III. The most expensive neighbourhood in Queens is Neponsit.
 - IV. The most expensive neighbourhood in Staten Island is Fort Wadsworth.
 - V. The most expensive neighbourhood in Bronx is Riverdale.

Thank You