Airbnb NYC 2019 Data Analysis

📌 Overview

This project analyzes Airbnb listings in New York City for the year 2019. Using publicly available data, it explores trends in pricing, availability, location distribution, and other features of short-term rentals. The analysis is conducted in Python using a Jupyter Notebook.

📁 Project Structure

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```
├── Airbnb_Analysis.ipynb   # Main Jupyter Notebook with code and analysis
├── Airbnb NYC 2019.csv     # Dataset containing NYC Airbnb listings for 2019
└── README.md               # Project documentation
```

📊 Dataset

The dataset (Airbnb NYC 2019.csv) contains information on over **48,000** Airbnb listings, including:

- **Listing details:** name, host ID, host name, room type, price, minimum nights
- **Location:** neighbourhood group (borough), neighbourhood, latitude, longitude
- **Engagement:** number of reviews, last review date, reviews per month
- **Host activity:** calculated host listings count, availability over the year

Source: Inside Airbnb

🛠️ Tools & Libraries

The analysis uses:

- **Python 3**
- **pandas** – data manipulation
- **numpy** – numerical operations
- **matplotlib** & **seaborn** – data visualization
- **Jupyter Notebook** – interactive development

🔍 Analysis Highlights

The notebook covers:

1. **Data Cleaning** – handling missing values, correcting datatypes
2. **Exploratory Data Analysis (EDA)** – summary statistics and feature distributions
3. **Geospatial Insights** – borough-wise and neighbourhood-wise trends
4. **Price Analysis** – how prices vary by location and room type

5. **Availability & Reviews** – seasonal and popularity patterns

📈 **Key Insights**

- Manhattan and Brooklyn dominate the NYC Airbnb market.
- Entire homes/apartments tend to be significantly more expensive than private rooms.
- Certain neighbourhoods show extreme outlier prices, requiring careful filtering in analysis.
- Availability varies widely, with some listings open year-round and others seasonally.