**Project Documentation: Exploratory Data Analysis of Property Listings**

# **Data Source:**

- Dataset: Listing.csv

- Source: <https://www.kaggle.com/datasets/airbnb/seattle>

# **Project Objective:**

- Conduct an exploratory data analysis of property listings to uncover insights and patterns that can inform the real estate and hospitality industry.

# **Data Cleaning:**

- [Brief description of data cleaning steps taken, such as handling missing values, removing duplicates, and addressing outliers.]

# **Exploratory Data Analysis (EDA):**

- EDA involved several key steps, including data visualization, correlation analysis, and descriptive statistics. Each step provided valuable insights:

# **Key Insights:**

# **Positive Correlation Between Bathrooms and Prices:**

* + 1. The scatter plot distribution with a linear regression analysis revealed a positive correlation between the number of bathrooms and listing prices. This insight suggests that an increase in the number of bathrooms is associated with higher prices.

# **Highly Correlated Attributes:**

Correlation analysis identified highly correlated attributes:

* + 1. Beds and accommodates (0.86 correlation)
    2. Bedrooms and accommodates (0.77 correlation)
    3. Bedrooms and beds (0.75 correlation) These correlations shed light on the relationships between these property attributes.

# **Popularity of Capitol Hill:**

* + 1. Capitol Hill emerged as the most famous neighborhood in the dataset, which presents opportunities for further exploration into its appeal and characteristics.

# **Preference for Houses:**

* + 1. The data indicates that houses are the most popular property type, offering insights into property type preferences among travelers.

# **Strict Cancellation Policies:**

* + 1. A substantial number of listings have strict cancellation policies in place, impacting booking flexibility and host revenue stability.

# **Low Instances of Instant Booking:**

* + 1. The analysis suggests a relatively low prevalence of instant booking, prompting further investigation into potential reasons.

# **Demand for Real Beds:**

* + 1. The data reveals a high demand for real beds, indicating a preference for comfort and quality among travelers.

# **Bedrooms and Price Relationship:**

* + 1. An increase in the number of bedrooms is positively associated with an increase in listing prices, offering valuable information for pricing strategies.

# **Data Visualization:**

- A variety of visualizations, including scatter plots, correlation matrices, and geographic maps, were created to present these insights effectively.

# **Conclusion:**

- These insights offer valuable information for property hosts, travelers, and stakeholders in the real estate and hospitality industry. Understanding the relationships between various attributes, neighborhoods, property types, and booking policies can inform data-driven decision-making.

# **Documentation Date:**

- 24-09-2023