<p style="text-align:center">**Capstone Project Submission**</p>

Instructions:

i) Please fill in all the required information.

ii) Avoid grammatical errors.

Team Member's Name, Email and Contribution:

Member Name:

- Patan Ismail Ali Khan pathanismailalikhan@gmail.com

Contribution:

- Exploring Data
- Data Wrangling
- Data Cleaning
- Checking for Null Values
- Checking for Duplicate Values
- Analyse listings by Neighbourhood groups
- Analyse listings by Room Type
- Analyse listings by Neighbourhoods
- Performing EDA on dataset
- Visualization of key Insights from dataset

Complete Jupyter Notebook is prepared by combined Collaboration.

Please paste the GitHub Repo link.

Github Link: https://github.com/ismailali121/Airbnb-EDA-Capstone-Project

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Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)

Problem Statement:
Since 2008, guests and hosts have used Airbnb to expand on travelling possibilities and present a more unique, personalized way of experiencing the world. Today, Airbnb became one of a kind service that is used and recognized by the whole world. Data analysis on millions of listings provided through Airbnb is a crucial factor for the company. These millions of listings generate a lot of data that can be analysed 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. This dataset has around 49,000 observations in it with 16 columns and it is a mix of categorical and numeric values. Explore and analyze the data to discover key understandings.

Approaches:
First I started with importing all the necessary libraries such as Numpy, Pandas, Matplotlib and Seaborn. Then I started with understanding the data, what are the columns and type of each column.

After that I performed data processing where I converted the raw data into clean data. Our dataset had 48895 rows and 16 columns. I checked for duplicate and null values and handled the null values in the dataset.

I then started Exploratory Data Analysis on clean dataset, where I have analysed various features to get useful insights. I have used visualizations such as heatmap, bar, pie and scatter plots to get better and meaningful insights from the dataset.

Conclusions:
Most number of Properties are in Manhattan and Brooklyn and most people prefer Brooklyn and Manhattan locations.

Many people prefer Entire home/apt type followed by private rooms and very few people prefer Shared room type. Most people have either vacated or changed the property in the month of June.

Airbnb can increase number of properties in Brooklyn as there is large demand and get higher profits

In Manhattan, Hell's Kitchen and Upper West side have Highest Average Price, Where as in Brooklyn , Williamsburg has the Highest Average Price for all room types. The Maximum price in Queens is very less compared to Manhattan and Brooklyn and its even lower in Bronx.