Assignment 3

1. **Take any dataset of your own from Kaggle/Kdnuggets, and apply Data analytics and Data visualization using Pandas, Matplotlib, and Seaborn. Do various kinds of EDA analytics.**

Data set

POSTED_B	UNDER_CC	RERA	BHK_NO.	BHK_OR_R	SQUARE_F	READY_TO	RESALE	ADDRESS	LONGITUD	LATITUDE	TARGET(PRICE_IN_LACS)
Owner	0	0	2	BHK	1300.24	1	1	Ksfc Layou	12.9699	77.598	55
Dealer	0	0	2	BHK	1275	1	1	Vishwesh	12.2745	76.6446	51
Owner	0	0	2	BHK	933.16	1	1	Jigani,Ban	12.778	77.6322	43
Owner	0	1	2	BHK	929.921	1	1	Sector-1 V	28.6423	77.3445	62.5
Dealer	1	0	2	BHK	999.009	0	1	New Town	22.5922	88.4849	60.5
Owner	0	0	3	BHK	1250	1	1	South Chit	10.0333	76.2826	42
Dealer	0	0	3	BHK	1495.05	1	1	Sodala,Jai	26.9163	75.7956	66.5
Owner	0	1	3	BHK	1181.01	1	1	Kharar,Mo	30.74	76.65	52
Dealer	0	1	2	BHK	1040	1	1	Bileshival	13.0542	77.674	41.6
Owner	0	1	2	BHK	879.121	1	1	Chromepe	12.9516	80.141	36
Owner	0	0	3	BHK	1350.31	1	1	Deshband	26.7242	88.3264	35
Dealer	0	0	2	BHK	1333.01	1	1	Hebbal,Ba	13.0403	77.5913	110
Owner	0	0	2	BHK	927.178	1	1	Garebhavi	12.9699	77.598	48
Owner	0	1	2	BHK	1122.17	1	1	Sector-119	28.5877	77.4031	62
Owner	0	0	1	BHK	649.984	1	1	sanjay na	13.0352	77.5772	20
Dealer	1	1	3	BHK	1394.12	0	1	Sector-150	28.4296	77.4817	71.1
Owner	0	0	3	BHK	1800.08	1	1	Jharapada	20.2753	85.8624	85
Dealer	1	1	3	BHK	2124.9	0	1	Konanaku	12.8855	77.5638	180
Owner	0	0	2	BHK	1100	1	1	Nagpur Rc	21.1539	79.0831	22
Dealer	0	1	3	BHK	2178.65	1	1	Kogilu,Bar	13.0924	77.6135	120
Owner	0	0	2	BHK	881.144	1	1	Poonamal	13.05	80.11	45
Dealer	0	0	2	BHK	944.882	1	1	Undri,Pun	18.4527	73.931	42
Dealer	0	1	3	BHK	1310.15	1	1	Sector-134	28.5041	77.3816	55
Dealer	0	0	1	BHK	630.001	1	1	Bandra (W	19.0544	72.8406	300
Dealer	0	0	2	BHK	1219.81	1	1	Narendra	21.1058	79.0785	50
Owner	0	0	2	BHK	780.142	1	1	Kudgat,Ko	22.5411	88.3378	27.5
Owner	0	0	3	BHK	1600	1	1	Sain Vihar	28.636	77.4337	46
Dealer	0	0	2	BHK	1180.41	1	1	Sector-115	30.7129	76.6486	22.9
Owner	1	0	2	BHK	1000	0	1	Mohan As	24.48	86.7	39

Program

```
# Importing necessary libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Creating a DataFrame from the provided data
data = {
    "POSTED_BY": ["Owner", "Dealer", "Owner", "Owner", "Dealer"],
    "UNDER_CONSTRUCTION": [0, 0, 0, 1, 0],
    "RERA": [0, 0, 0, 0, 0],
    "BHK_NO.": [2, 2, 2, 2, 2],
    "BHK_OR_RK": ["BHK", "BHK", "BHK", "BHK", "BHK"],
    "SQUARE_FT": [1300.236407, 1275, 933.1597222, 929.9211427, 999.009247],
    "READY_TO_MOVE": [1, 1, 1, 1, 0],
    "RESALE": [1, 1, 1, 1, 1],
    "ADDRESS": ["Ksfc Layout, Bangalore", "Vishweshwara Nagar, Mysore", "Jigani, Bangalore", "Sector-1 Vaishali, Ghaziabad", "New Town, Kolkata"],
    "LONGITUDE": [12.96991, 12.274538, 12.778033, 28.6423, 22.5922],
    "LATITUDE": [77.59796, 76.644605, 77.632191, 77.3445, 88.484911],
    "TARGET(PRICE_IN_LACS)": [55, 51, 43, 62.5, 60.5]
}
```

```
df = pd.DataFrame(data)

# Displaying the first few rows of the DataFrame
print(df.head())

# Basic statistics of numerical columns
print(df.describe())

# Checking for missing values
print(df.isnull().sum())

# Visualizing the distribution of 'TARGET(PRICE_IN_LACS)'
plt.figure(figsize=(10, 6))
sns.histplot(df['TARGET(PRICE_IN_LACS)'], bins=10, kde=True)
plt.title('Distribution of Price')
plt.xlabel('Price (in Lacs)')
plt.ylabel('Frequency')
plt.show()
```

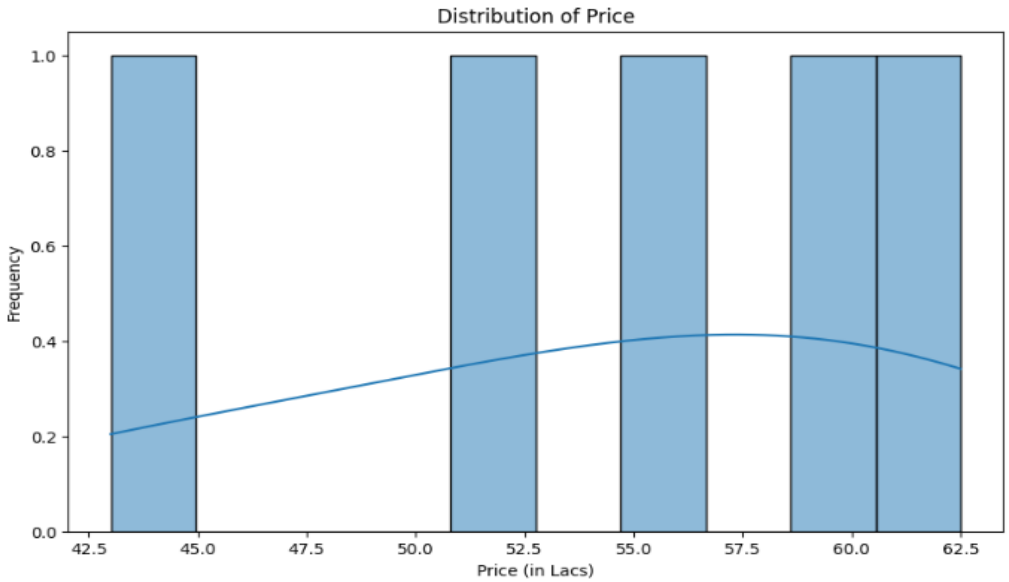
```
# Visualizing the relationship between 'SQUARE_FT' and 'TARGET(PRICE_IN_LACS)'
plt.figure(figsize=(10, 6))
sns.scatterplot(x='SQUARE_FT', y='TARGET(PRICE_IN_LACS)', data=df)
plt.title('Price vs Square Feet')
plt.xlabel('Square Feet')
plt.ylabel('Price (in Lacs)')
plt.show()

# Visualizing the count of 'POSTED_BY'
plt.figure(figsize=(8, 5))
sns.countplot(x='POSTED_BY', data=df)
plt.title('Count of Posted By')
plt.xlabel('Posted By')
plt.ylabel('Count')
plt.show()

# Visualizing the count of 'UNDER_CONSTRUCTION'
plt.figure(figsize=(8, 5))
sns.countplot(x='UNDER_CONSTRUCTION', data=df)
plt.title('Count of Under Construction')
plt.xlabel('Under Construction')
plt.ylabel('Count')
plt.show()
```

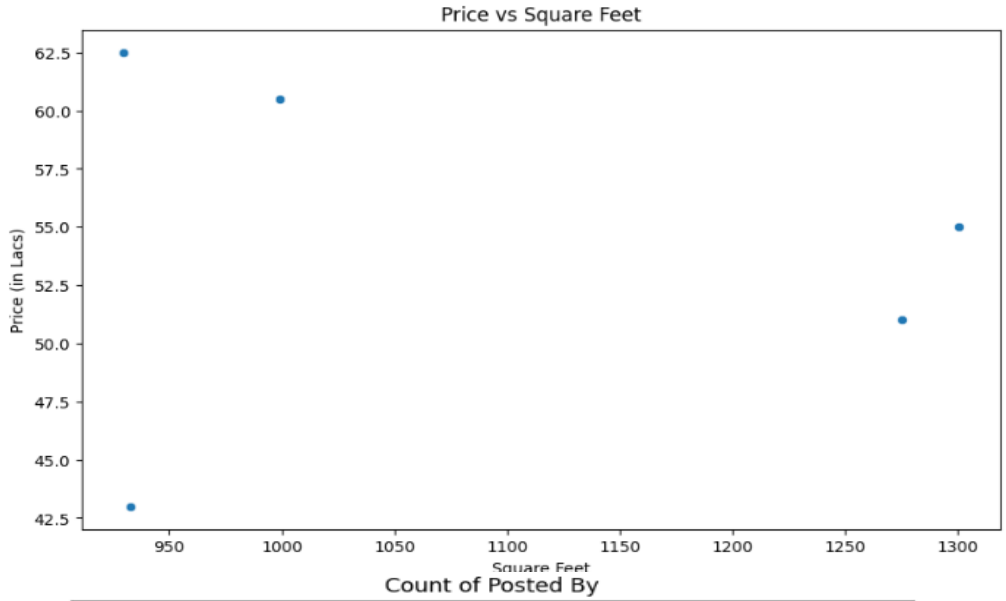
```
  POSTED_BY  UNDER_CONSTRUCTION  RERA  BHK_NO. BHK_OR_RK    SQUARE_FT  \
0     Owner                   0     0        2       BHK  1300.236407
1    Dealer                   0     0        2       BHK  1275.000000
2     Owner                   0     0        2       BHK   933.159722
3     Owner                   1     0        2       BHK   929.921143
4    Dealer                   0     0        2       BHK   999.009247

   READY_TO_MOVE  RESALE                      ADDRESS  LONGITUDE   LATITUDE  \
0              1       1       Ksfc Layout, Bangalore  12.969910  77.597960
1              1       1   Vishweshwara Nagar, Mysore  12.274538  76.644605
2              1       1           Jigani, Bangalore  12.778033  77.632191
3              1       1  Sector-1 Vaishali, Ghaziabad  28.642300  77.344500
4              0       1            New Town, Kolkata  22.592200  88.484911

   TARGET(PRICE_IN_LACS)
0                   55.0
1                   51.0
2                   43.0
3                   62.5
4                   60.5
```

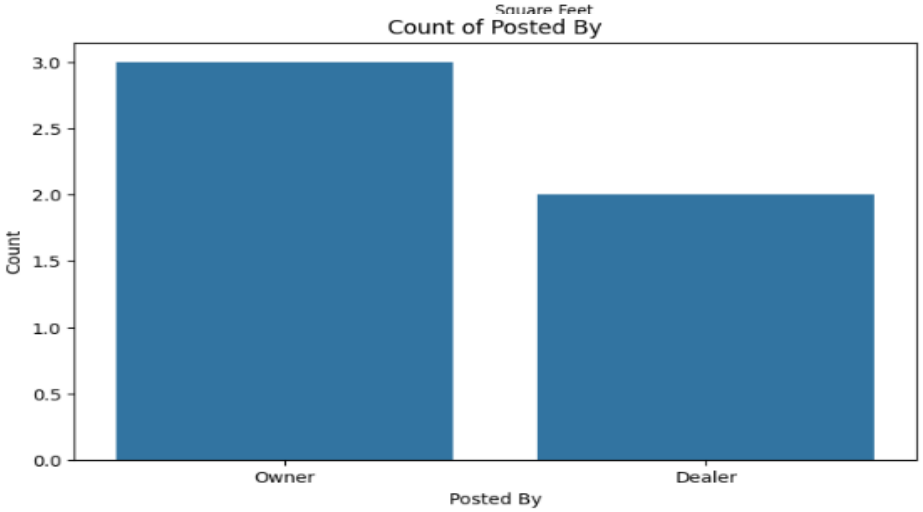
	UNDER_CONSTRUCTION	RERA	BHK_NO.	SQUARE_FT	READY_TO_MOVE	RESALE
count	5.000000	5.0	5.0	5.000000	5.000000	5.0
mean	0.200000	0.0	2.0	1087.465304	0.800000	1.0
std	0.447214	0.0	0.0	184.997063	0.447214	0.0
min	0.000000	0.0	2.0	929.921143	0.000000	1.0
25%	0.000000	0.0	2.0	933.159722	1.000000	1.0
50%	0.000000	0.0	2.0	999.009247	1.000000	1.0
75%	0.000000	0.0	2.0	1275.000000	1.000000	1.0
max	1.000000	0.0	2.0	1300.236407	1.000000	1.0

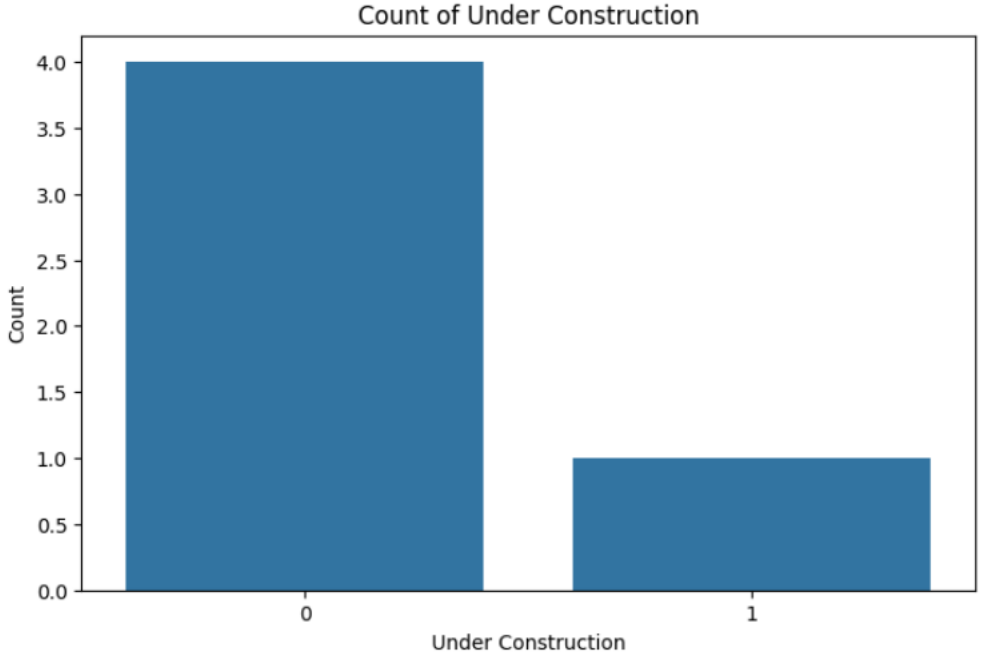
	LONGITUDE	LATITUDE	TARGET(PRICE_IN_LACS)
count	5.000000	5.000000	5.000000
mean	17.851396	79.540833	54.400000
std	7.409253	5.015631	7.821445
min	12.274538	76.644605	43.000000
25%	12.778033	77.344500	51.000000
50%	12.969910	77.597960	55.000000
75%	22.592200	77.632191	60.500000
max	28.642300	88.484911	62.500000

```
POSTED_BY                0
UNDER_CONSTRUCTION       0
RERA                     0
BHK_NO.                  0
BHK_OR_RK                0
SQUARE_FT                0
READY_TO_MOVE            0
RESALE                   0
ADDRESS                  0
LONGITUDE                0
LATITUDE                 0
TARGET(PRICE_IN_LACS)    0
dtype: int64
```




Price vs Square Feet
Price (in Lacs)
62.5
60.0
57.5
55.0
52.5
50.0
47.5
45.0
42.5
950
1000
1050
1100
1150
1200
1250
1300
Square Feet


Count of Posted By
Count
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Owner
Dealer
Posted By


Count of Under Construction
Count
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
1
Under Construction