```
from google.colab import files


uploaded = files.upload()
```

Choose Files House Price India.csv.zip

- **House Price India.csv.zip**(application/x-zip-compressed) - 491826 bytes, last modified: 4/9/2025 - 100% done

```
Saving House Price India csv zip to House Price India csv zip
```

```
import zipfile
import os



with zipfile.ZipFile("House Price India.csv.zip", 'r') as zip_ref:
    zip_ref.extractall("house_price_data")



os.listdir("house_price_data")
```

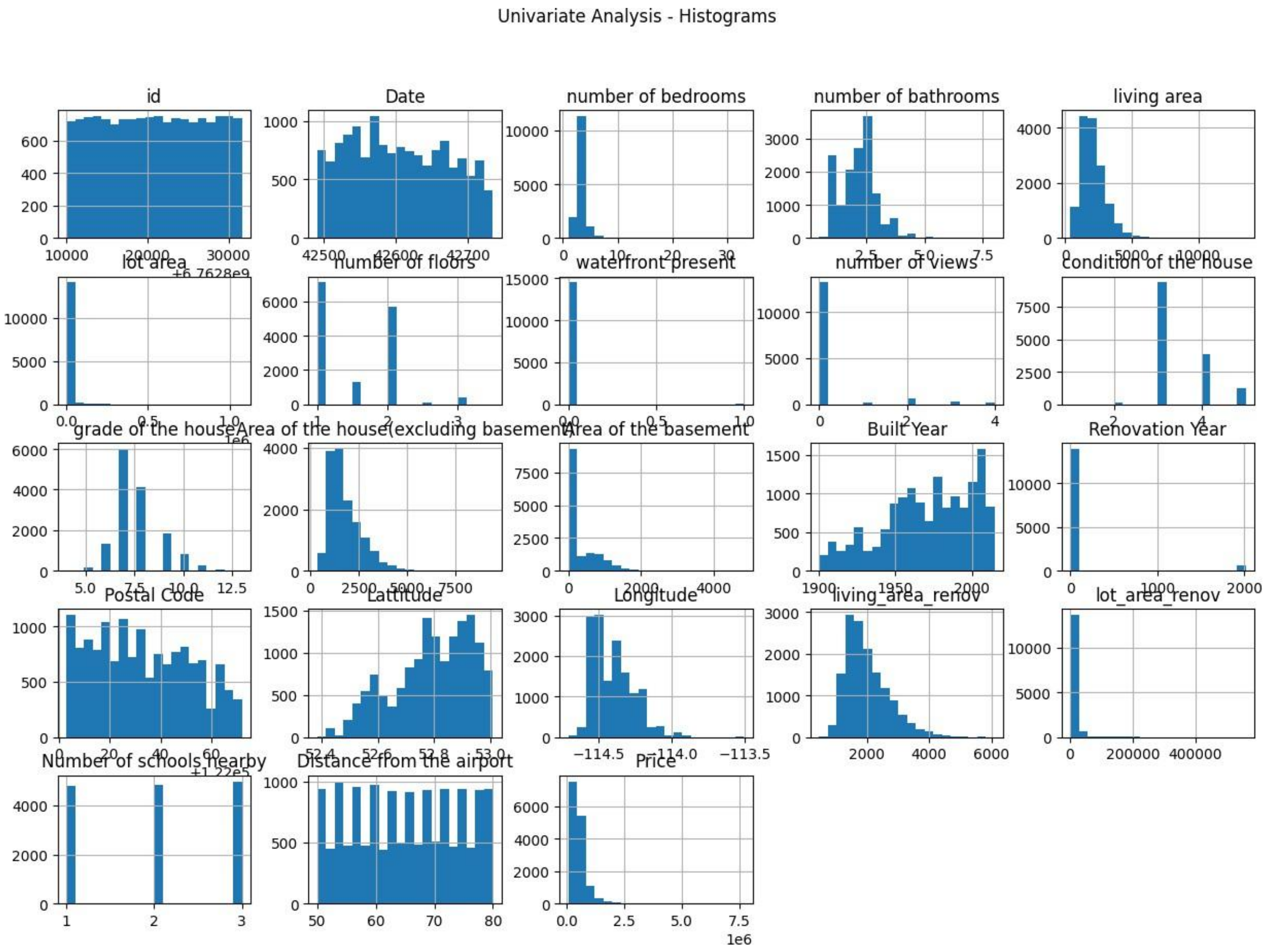
```
['House Price India.csv']
```

```
import pandas as pd


df = pd.read_csv("house_price_data/House Price India.csv")
df.head()
```

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of floors	waterfront present	number of views
0	6762810145	42491	5	2.50	3650	9050	2.0	0	4
1	6762810635	42491	4	2.50	2920	4000	1.5	0	0
2	6762810998	42491	5	2.75	2910	9480	1.5	0	0
3	6762812605	42491	4	2.50	3310	42998	2.0	0	0
4	6762812919	42491	3	2.00	2710	4500	1.5	0	0

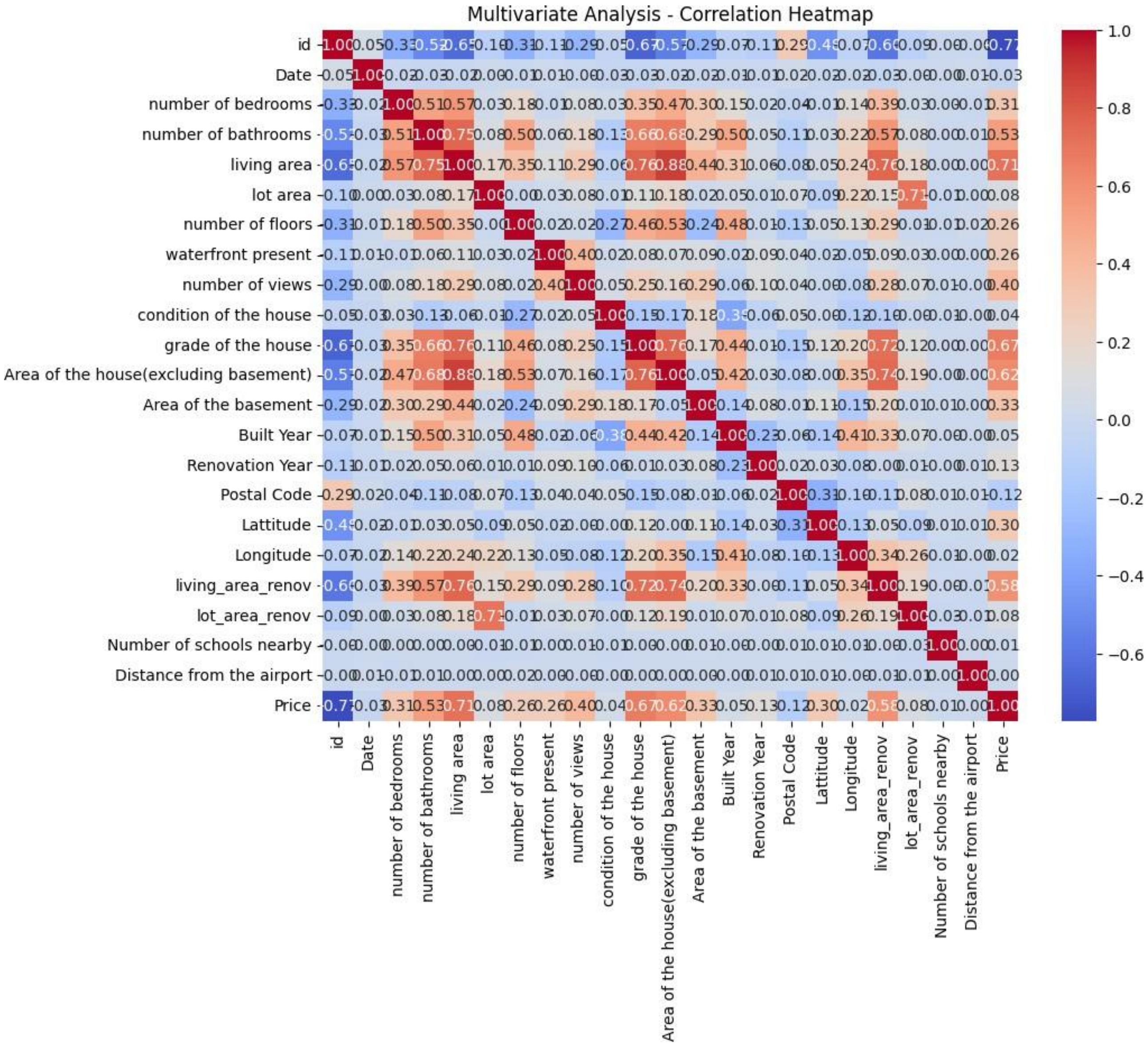
5 rows × 23 columns

```
import seaborn as sns
import matplotlib.pyplot as plt


df.select_dtypes(include='number').hist(bins=20, figsize=(15,10))
plt.suptitle("Univariate Analysis - Histograms")
plt.show()
```



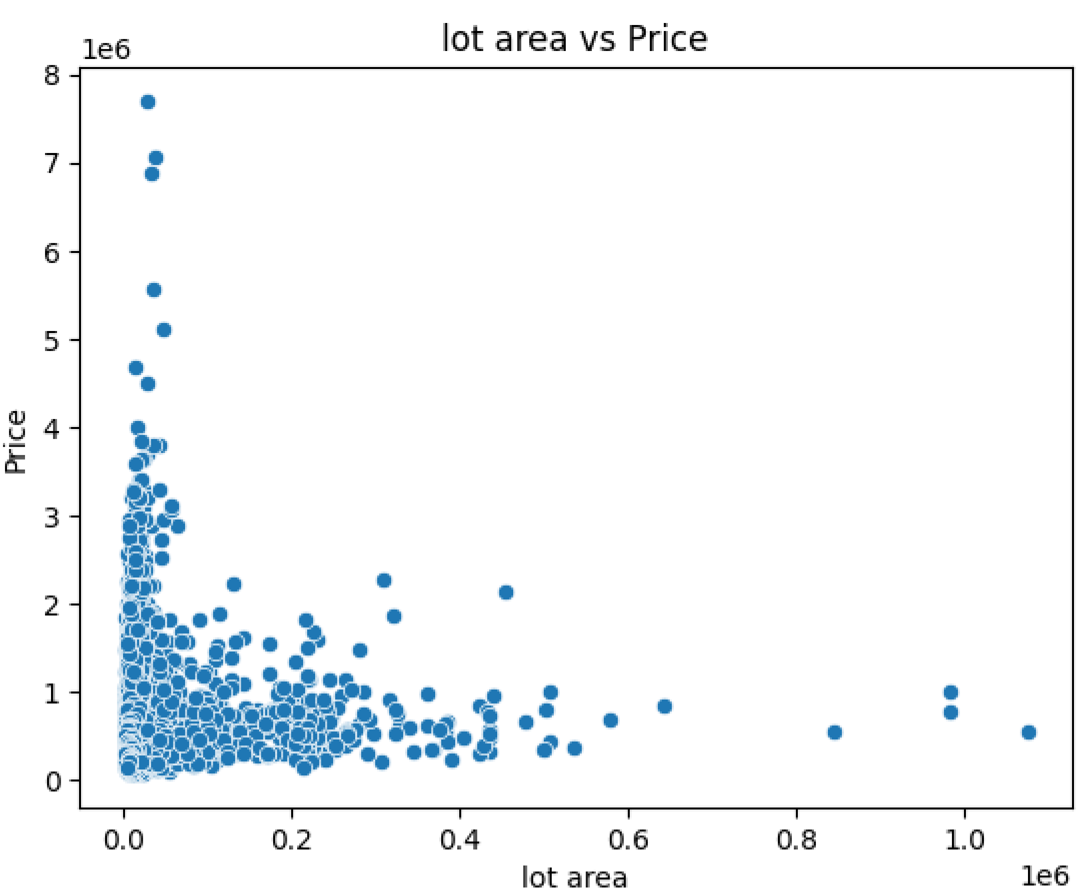
```
categorical_cols = df.select_dtypes(include='object').columns
for col in categorical_cols:
    plt.figure(figsize=(6,4))
    sns.countplot(data=df, x=col)
    plt.title(f'Univariate - {col}')
    plt.xticks(rotation=45)
    plt.tight_layout()
    plt.show()
```

```
plt.figure(figsize=(10,8))
sns.heatmap(df.corr(), annot=True, cmap='coolwarm', fmt=".2f")
plt.title("Multivariate Analysis - Correlation Heatmap")
plt.show()
```

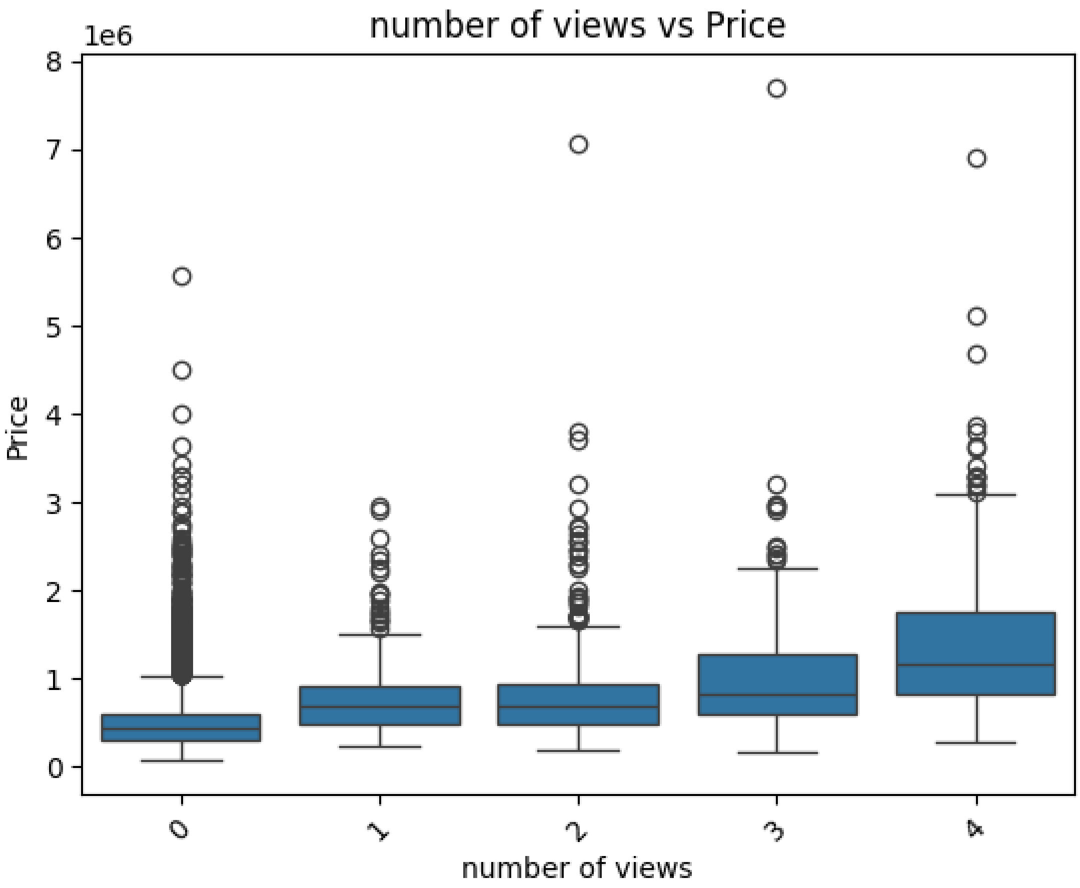


```
if 'lot area' in df.columns and 'Price' in df.columns:
    sns.scatterplot(data=df, x='lot area', y='Price')
    plt.title('lot area vs Price')
```

```
        plt.show()
    else:
        print("Check: Columns names 'lot area' or 'Price' do not exist")
```



```
    if 'number of views' in df.columns and 'Price' in df.columns:
        sns.boxplot(data=df, x='number of views', y='Price')
        plt.title('number of views vs Price')
        plt.xticks(rotation=45)
        plt.show()
    else:
        print("Check: Column names 'number of views' or 'Price' do not exist")
```



```
desc_stats = df.describe(include='all')
print(desc_stats)
```

```
                 id          Date  number of bedrooms  number of bathrooms  \
count  1.462000e+04  14620.000000        14620.000000         14620.000000
mean   6.762821e+09  42604.538646            3.379343             2.129583
std    6.237575e+03     67.347991            0.938719             0.769934
min    6.762810e+09  42491.000000            1.000000             0.500000
25%    6.762815e+09  42546.000000            3.000000             1.750000
50%    6.762821e+09  42600.000000            3.000000             2.250000
75%    6.762826e+09  42662.000000            4.000000             2.500000
max    6.762832e+09  42734.000000           33.000000             8.000000

        living area      lot area  number of floors  waterfront present  \
count  14620.000000  1.462000e+04      14620.000000        14620.000000
mean    2098.262996  1.509328e+04          1.502360            0.007661
std      928.275721  3.791962e+04          0.540239            0.087193
min      370.000000  5.200000e+02          1.000000            0.000000
25%     1440.000000  5.010750e+03          1.000000            0.000000
50%     1930.000000  7.620000e+03          1.500000            0.000000
75%     2570.000000  1.080000e+04          2.000000            0.000000
max    13540.000000  1.074218e+06          3.500000            1.000000

       number of views  condition of the house  ...    Built Year  \
count     14620.000000            14620.000000  ...  14620.000000
mean          0.233105                3.430506  ...   1970.926402
std           0.766259                0.664151  ...     29.493625
min           0.000000                1.000000  ...   1900.000000
25%           0.000000                3.000000  ...   1951.000000
```

```
50%          0.000000                   3.000000  ...   1975.000000
75%          0.000000                   4.000000  ...   1997.000000
max          4.000000                   5.000000  ...   2015.000000

       Renovation Year   Postal Code     Lattitude     Longitude  \
count     14620.000000  14620.000000  14620.000000  14620.000000
mean         90.924008 122033.062244     52.792848   -114.404007
std         416.216661     19.082418      0.137522      0.141326
min           0.000000 122003.000000     52.385900   -114.709000
25%           0.000000 122017.000000     52.707600   -114.519000
50%           0.000000 122032.000000     52.806400   -114.421000
75%           0.000000 122048.000000     52.908900   -114.315000
max        2015.000000 122072.000000     53.007600   -113.505000

       living_area_renov  lot_area_renov  Number of schools nearby  \
count       14620.000000    14620.000000              14620.000000
mean         1996.702257    12753.500068                  2.012244
std           691.093366    26058.414467                  0.817284
min           460.000000      651.000000                  1.000000
25%          1490.000000     5097.750000                  1.000000
50%          1850.000000     7620.000000                  2.000000
75%          2380.000000    10125.000000                  3.000000
max          6110.000000   560617.000000                  3.000000

       Distance from the airport         Price
count               14620.000000  1.462000e+04
mean                   64.950958  5.389322e+05
std                     8.936008  3.675324e+05
min                    50.000000  7.800000e+04
25%                    57.000000  3.200000e+05
50%                    65.000000  4.500000e+05
75%                    73.000000  6.450000e+05
```

```
missing_values = df.isnull().sum()
print("Missing values:\n", missing_values)
```

```
Missing values:
 id                                        0
Date                                      0
number of bedrooms                        0
number of bathrooms                       0
living area                               0
lot area                                  0
number of floors                          0
waterfront present                        0
number of views                           0
condition of the house                    0
grade of the house                        0
Area of the house(excluding basement)     0
Area of the basement                      0
Built Year                                0
Renovation Year                           0
Postal Code                               0
Lattitude                                 0
```

https://colab.research.google.com/drive/1AjBbfymRS4rMaDJQD0gDyaoaowx8CR3d?usp=sharing