p3vvfsajo

September 6, 2023

2. Load the dataset.

[1]:
```
import pandas as pd
import matplotlib.pyplot as plt
from matplotlib import rcParams
import seaborn as sns
```

[28]:
```
df = pd.read_csv('/content/House Price India.csv')
df.head()
```

[28]:

	id	Date	number of bedrooms	number of bathrooms	living_area	lot_area	number_of_floors	waterfront present	number_of_views	condition of the house	…	Built Year	Renovation_Year	Postal_Code	Lattitude	Longitude	living_area_renov	lot_area_renov	Number of schools nearby	Distance from the airport	Price
0	6762810145	42491	5	2.50	3650	9050	2.0	0	4	5	…	1921	0	122003	52.8645	-114.557	2880	5400			
1	6762810635	42491	4	2.50	2920	4000	1.5	0	0	5	…	1909	0	122004	52.8878	-114.470	2470	4000			
2	6762810998	42491	5	2.75	2910	9480	1.5	0	0	3	…	1939	0	122004	52.8852	-114.468	2940	6600			
3	6762812605	42491	4	2.50	3310	42998	2.0	0	0	3	…	2001	0	122005	52.9532	-114.321	3350	42847			
4	6762812919	42491	3	2.00	2710	4500	1.5	0	0	4	…	1929	0	122006	52.9047	-114.485	2060	4500			

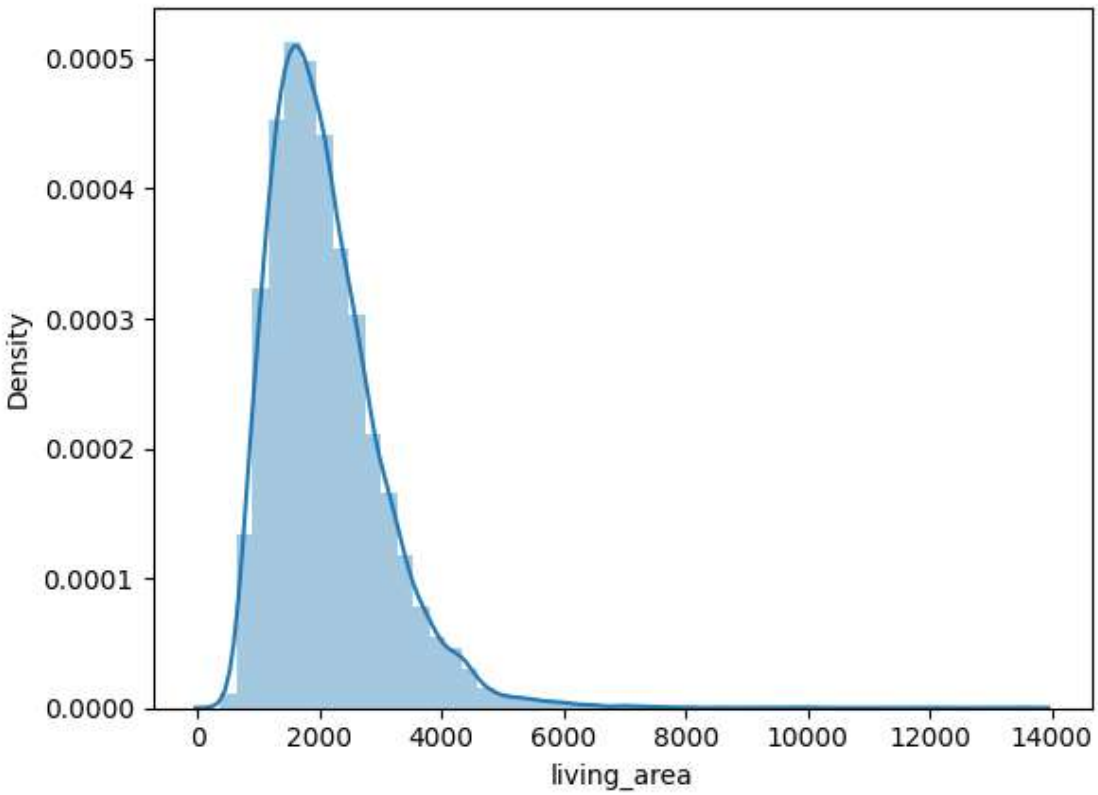
```
0                          2                          58  2380000
1                          2                          51  1400000
2                          1                          53  1200000
3                          3                          76   838000
4                          1                          51   805000

[5 rows x 23 columns]
```

3. Perform the Below Visualizations. 1. Univariate Analysis 2. Bi - Variate Analysis 3.Multivariate Analysis

[29]:
```
# Univariate Analysis (Analysis on single feature 'living area')
sns.distplot(df.living_area)
```

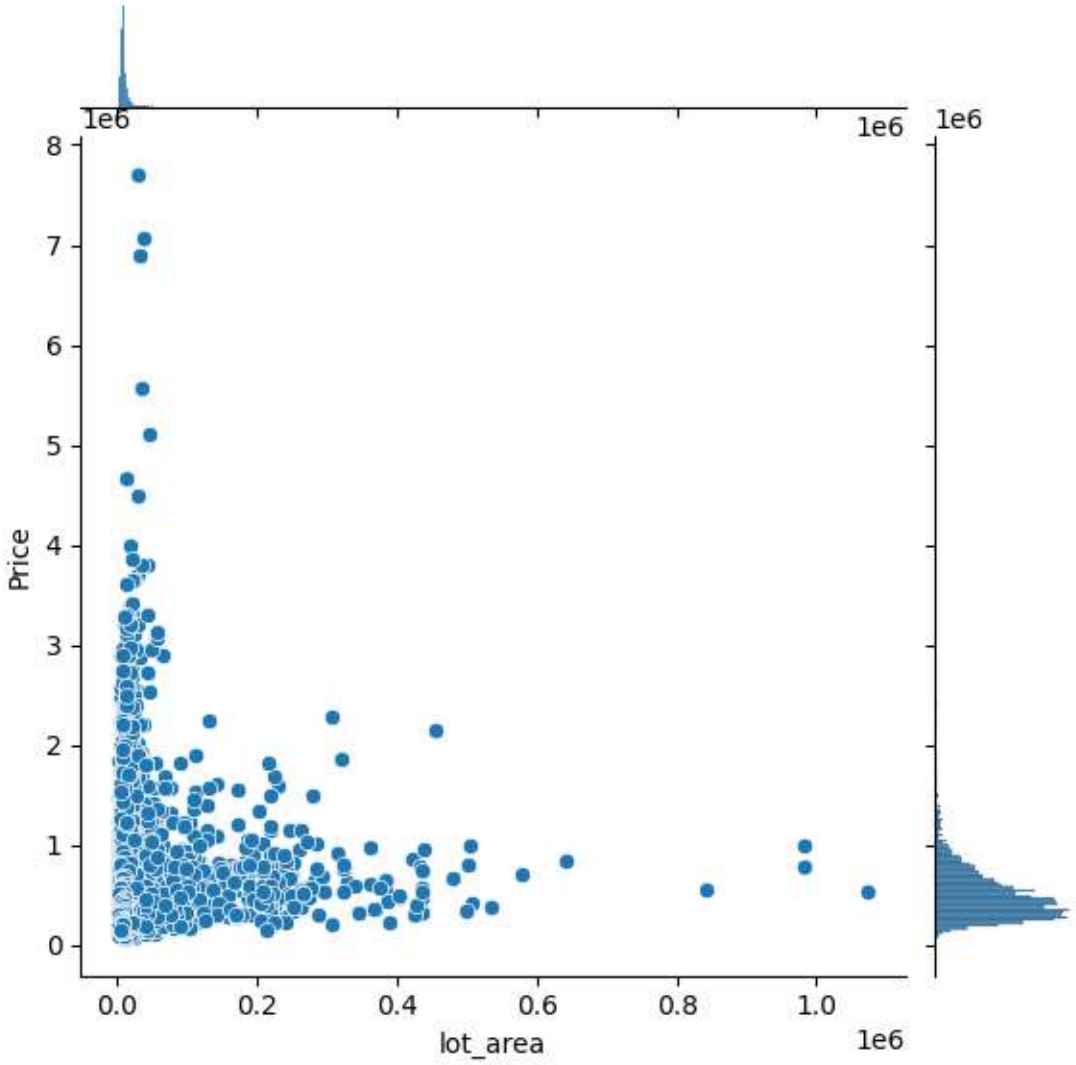
```
<ipython-input-29-18e0bb6416b1>:2: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(df.living_area)
```

[29]:
```
<Axes: xlabel='living_area', ylabel='Density'>
```



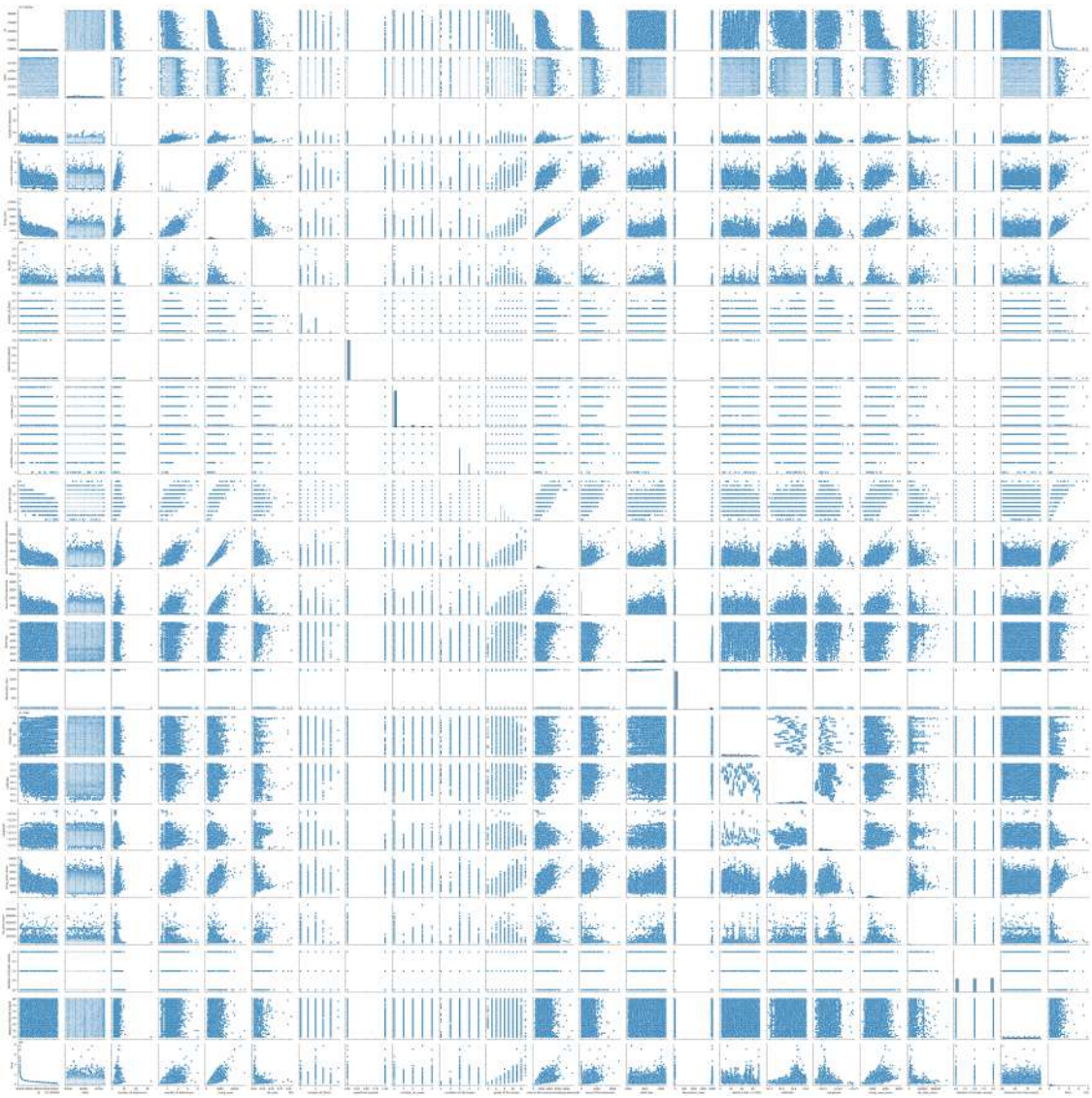
[33]:
```
# Bivariate Analysis (Comparision between 'lot_area' feature and 'Price')
sns.jointplot(x='lot_area',y='Price',data=df)
```

[33]: <seaborn.axisgrid.JointGrid at 0x789966ec4670>



[34]:
```
# Multivariate analysis
sns.pairplot(df)
```

[34]: <seaborn.axisgrid.PairGrid at 0x789948a02dd0>



4. Perform descriptive statistics on the dataset.

[35]:
```
df.describe()
```

[35]:

	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
max                    80.000000  7.700000e+06

[8 rows x 23 columns]
```

5. Handle the Missing values.

[36]:
```
df.isnull().any() #Checking is there any null values in our dataset
```

[36]:
```
id                                      False
Date                                    False
number of bedrooms                      False
number of bathrooms                     False
living_area                             False
lot_area                                False
number_of_floors                        False
waterfront present                      False
number_of_views                         False
condition of the house                  False
grade of the house                      False
Area of the house(excluding basement)   False
Area of the basement                    False
Built Year                              False
Renovation_Year                         False
Postal_Code                             False
Lattitude                               False
Longitude                               False
living_area_renov                       False
lot_area_renov                          False
Number of schools nearby                False
Distance from the airport               False
Price                                   False
dtype: bool
```

Conclusion : In the given dataset there are no null values.