dewsvmxbq

Assignment-2

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1. Download the dataset

House Price India dataset is downloaded.

2. Load The dataset

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

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

```
[ ]:            id   Date  number_of_bedrooms  number_of_bathrooms  living_area  \
     0 6762810145 42491                   5                 2.50         3650
     1 6762810635 42491                   4                 2.50         2920
     2 6762810998 42491                   5                 2.75         2910
     3 6762812605 42491                   4                 2.50         3310
     4 6762812919 42491                   3                 2.00         2710
        lot_area number_of_floors waterfront_present number_of_views \
     0      9050  2.0    0      4
     1      4000  1.5    0      0
     2      9480  1.5    0      0
     3      429982.0    0      0 4    4500  1.5    0      0

   condition_of_the_house … Built_Year Renovation_Year  Postal_Code \
     0                      5 …       1921               0      122003
     1                      5 …       1909               0      122004
     2                      3 …       1939               0      122004
     3                      3 …       2001               0      122005
     4                      4 …       1929               0      122006
        Lattitude Longitude living_area_renov lot_area_renov \
     0    52.8645      -114.557   2880  5400
     1    52.8878      -114.470   2470  4000
     2   52.8852  -114.468            2940          6600
     3   52.9532  -114.321            3350         42847
```

```
4   52.9047  -114.485            2060          4500
Number_of_schools_nearby Distance_from_the_airport Price
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]
```

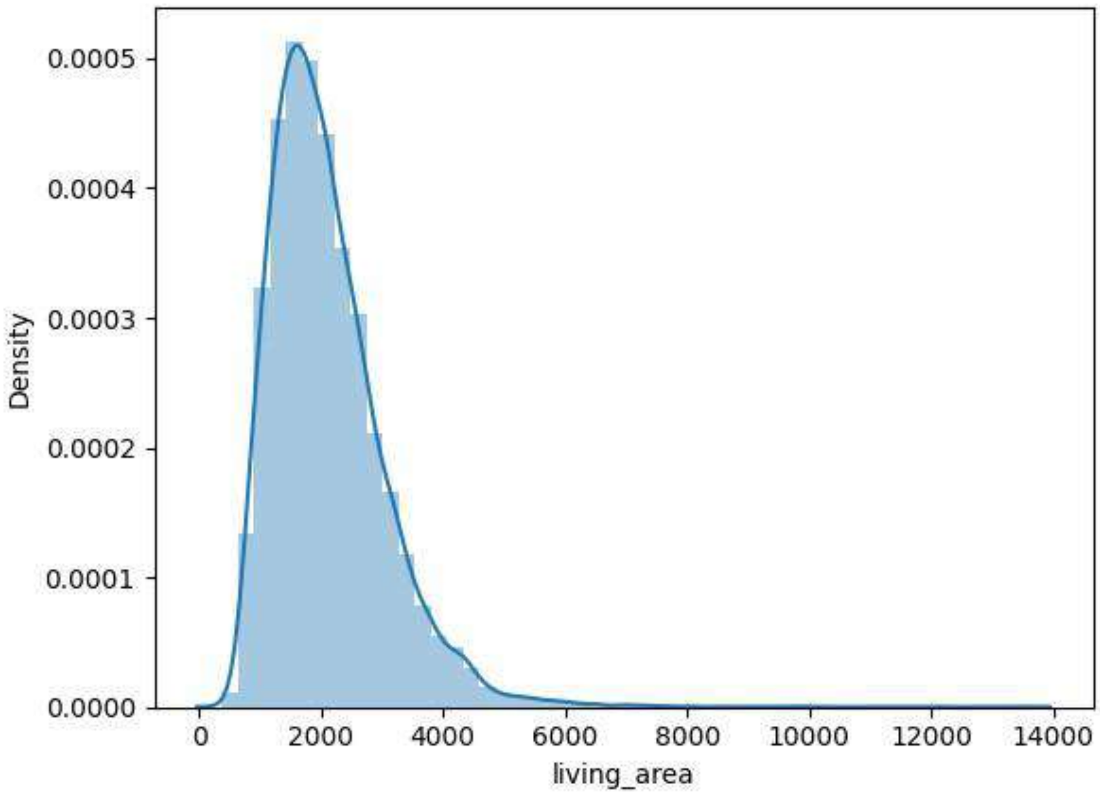
3. Perform the Below Visualizations. Univariate Analysis Bi - Variate Analysis Multivariate Analysis

[ ]:

```python
# Univariate Analysis (Analysis on single feature 'living area')
sns.distplot(df.living_area)
```

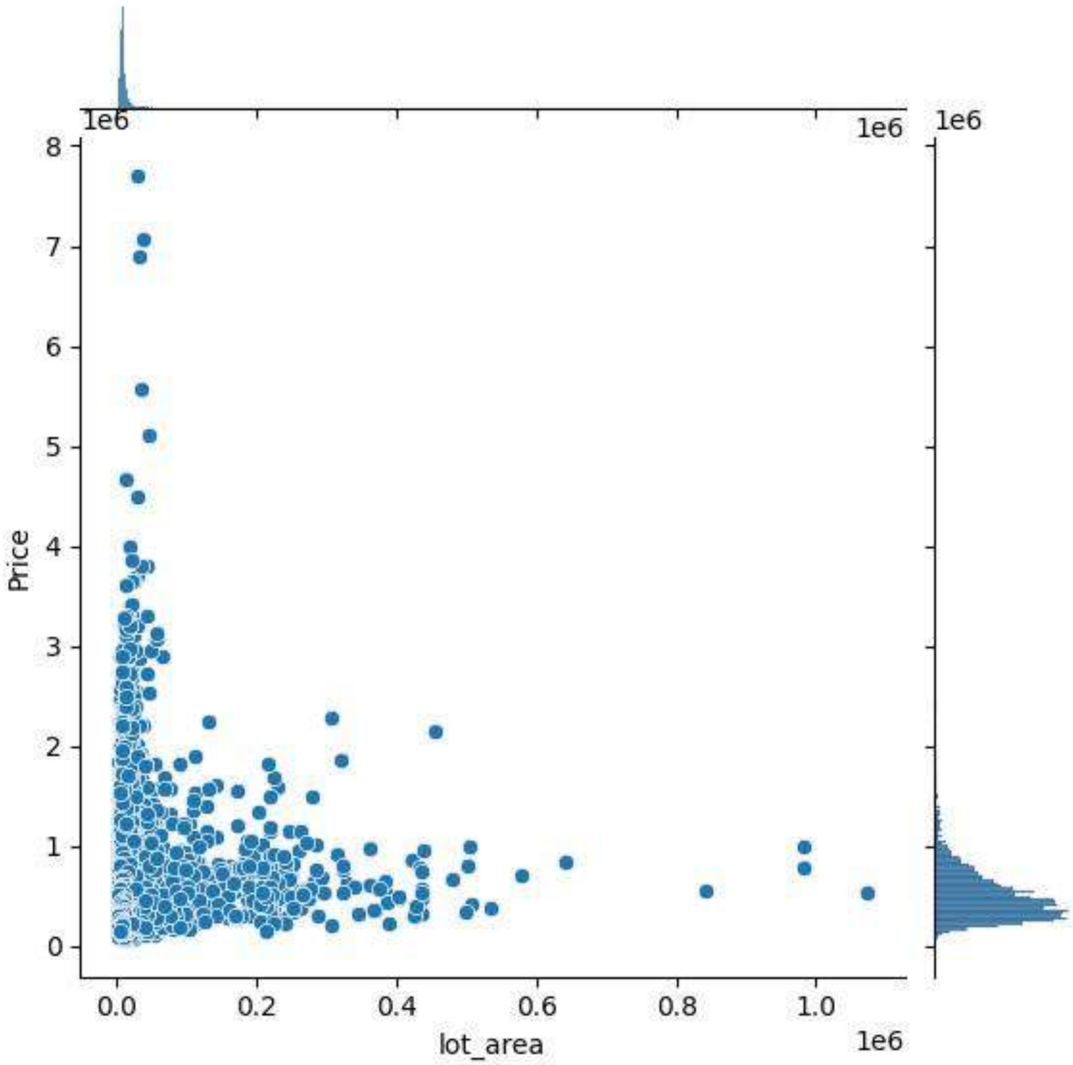
```
<ipython-input-5-18e0bb6416b1>:2: UserWarning:

`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)
```

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



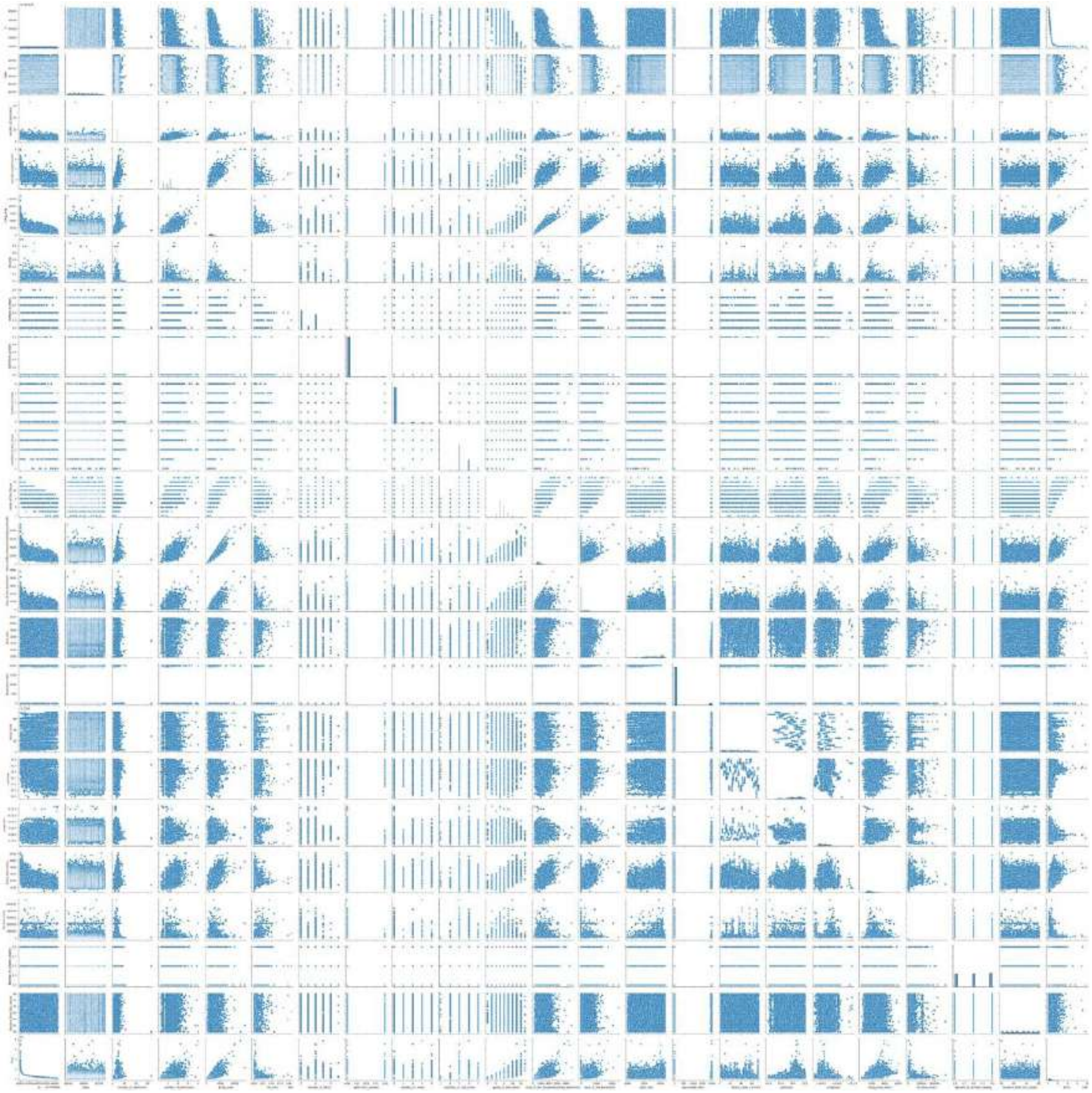
```
[ ]: # Bivariate Analysis (Comparision between 'lot_area' feature and
     'Price') sns.jointplot(x='lot_area',y='Price',data=df)
```

```
[ ]: <seaborn.axisgrid.JointGrid at 0x7eb26f407f40>
```



```
[13]: # Multivariate analysis

      sns.pairplot(df)
```

```
[13]: <seaborn.axisgrid.PairGrid at 0x7eb24ec24e50>
```



4. Perform descriptive statistics on the dataset.

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

```
[11]:                  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   14620.00000014620.000000 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.

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

```
[12]: 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
```

So, we can say that, In the given dataset there are no null values.