```python
#To import the required libraries
import pandas as pd
import seaborn as sns
import numpy as np

# To read The csv file
df = pd.read_csv("/content/House Price India.csv")

# display dataframe
df
```

```
                id   Date  number of bedrooms  number of bathrooms  \
0      6762810145  42491                   5                 2.50
1      6762810635  42491                   4                 2.50
2      6762810998  42491                   5                 2.75
3      6762812605  42491                   4                 2.50
4      6762812919  42491                   3                 2.00
...           ...    ...                 ...                  ...
14615  6762830250  42734                   2                 1.50
14616  6762830339  42734                   3                 2.00
14617  6762830618  42734                   2                 1.00
14618  6762830709  42734                   4                 1.00
14619  6762831463  42734                   3                 1.00

       living area  lot area  number of floors  waterfront present  \
0             3650      9050               2.0                   0
1             2920      4000               1.5                   0
2             2910      9480               1.5                   0
3             3310     42998               2.0                   0
4             2710      4500               1.5                   0
...            ...       ...               ...                 ...
14615         1556     20000               1.0                   0
14616         1680      7000               1.5                   0
14617         1070      6120               1.0                   0
14618         1030      6621               1.0                   0
14619          900      4770               1.0                   0

       number of views  condition of the house  ...  Built Year  \
0                    4                       5  ...        1921
1                    0                       5  ...        1909
2                    0                       3  ...        1939
3                    0                       3  ...        2001
4                    0                       4  ...        1929
...                ...                     ...  ...         ...
14615                0                       4  ...        1957
14616                0                       4  ...        1968
14617                0                       3  ...        1962
14618                0                       4  ...        1955
14619                0                       3  ...        1969
```

```
       Renovation Year  Postal Code  Lattitude  Longitude
living_area_renov  \
0                    0       122003    52.8645   -114.557
2880
1                    0       122004    52.8878   -114.470
2470
2                    0       122004    52.8852   -114.468
2940
3                    0       122005    52.9532   -114.321
3350
4                    0       122006    52.9047   -114.485
2060
...                ...          ...        ...        ...
...
14615                0       122066    52.6191   -114.472
2250
14616                0       122072    52.5075   -114.393
1540
14617                0       122056    52.7289   -114.507
1130
14618                0       122042    52.7157   -114.411
1420
14619             2009       122018    52.5338   -114.552
900

       lot_area_renov  Number of schools nearby  Distance from the
airport  \
0                5400                         2
58
1                4000                         2
51
2                6600                         1
53
3               42847                         3
76
4                4500                         1
51
...               ...                       ...
...
14615           17286                         3
76
14616            7480                         3
59
14617            6120                         2
64
14618            6631                         3
54
14619            3480                         2
55
```

```
         Price
0      2380000
1      1400000
2      1200000
3       838000
4       805000
...        ...
14615   221700
14616   219200
14617   209000
14618   205000
14619   146000

[14620 rows x 23 columns]
```

```
# To display the descriptive statistics of given DataFrame
df.describe()
```

```
                 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]
```

```
# handling missing values
df.isnull().sum()
```

```
# here it shows that , there is no null values.
# so don't need to handle the missing values in given DataFrame
```

```
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
Longitude                                   0
living_area_renov                           0
lot_area_renov                              0
Number of schools nearby                    0
Distance from the airport                   0
Price                                       0
dtype: int64
```

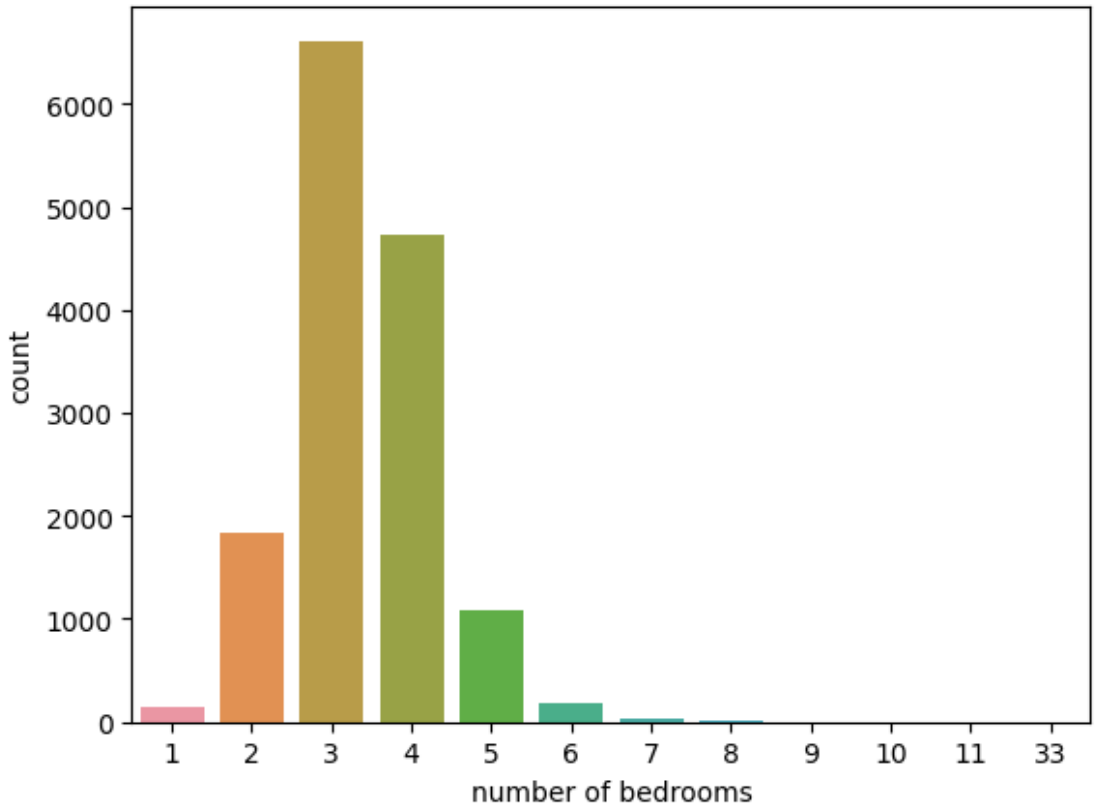
```
df.isnull().any()
```

```
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
```

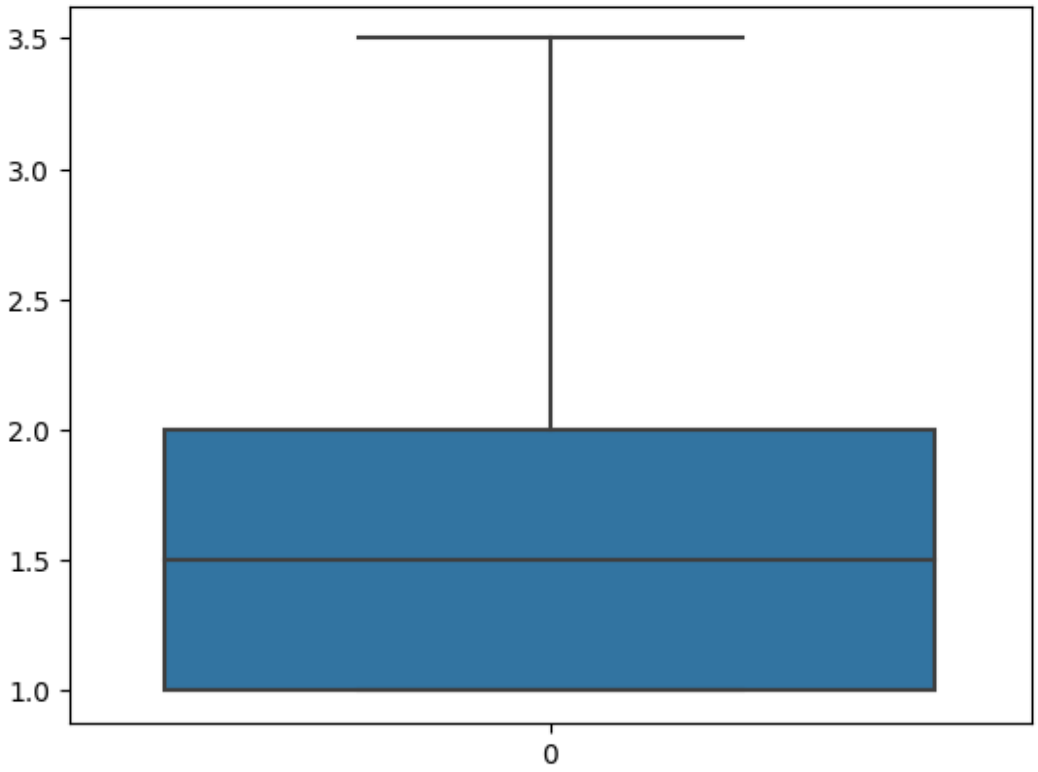
```
# Univariate Data Visualization
# 1.)
sns.countplot(x=df['number of bedrooms'])
```

```
<Axes: xlabel='number of bedrooms', ylabel='count'>
```



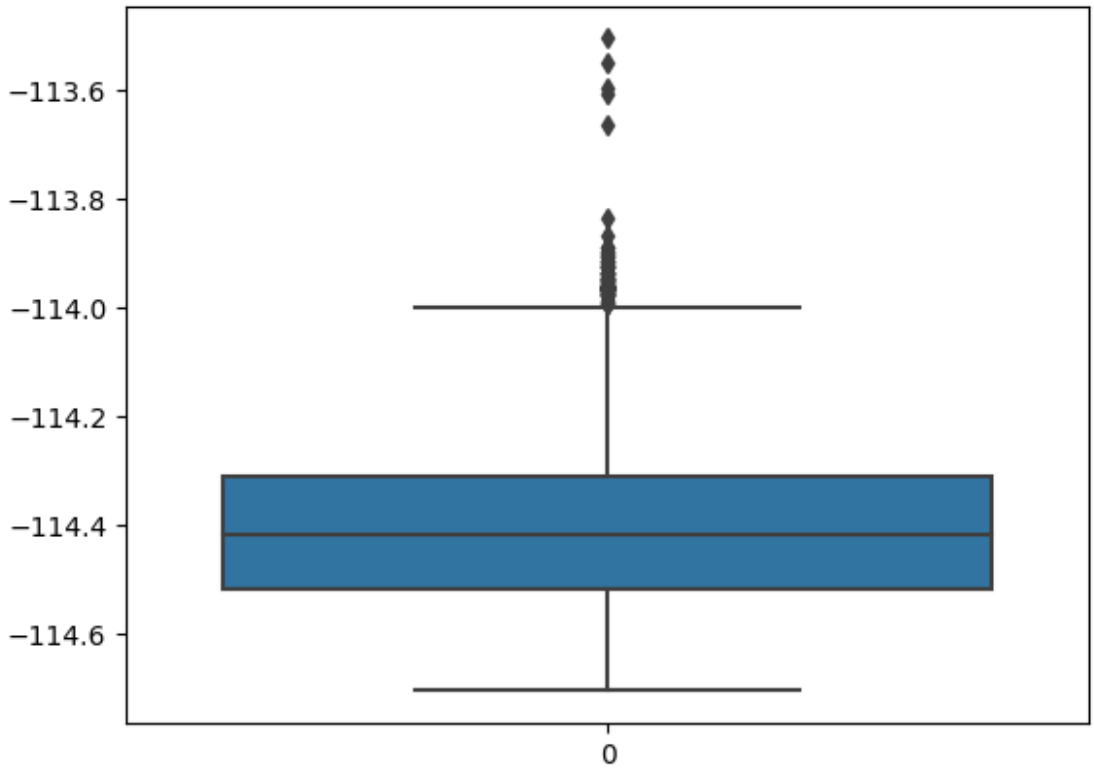

```
# 2.)
sns.boxplot(df['number of floors'])
```

```
<Axes: >
```



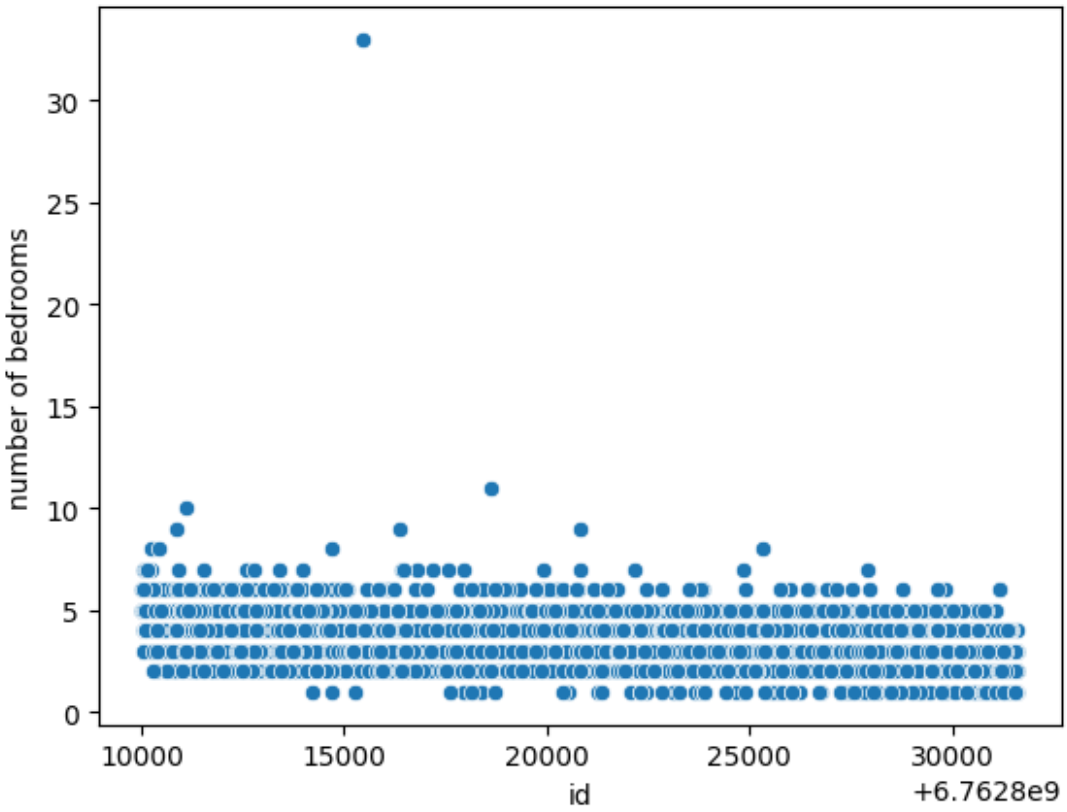

```
# 3.)
sns.boxplot(df['Longitude'])
```

```
<Axes: >
```



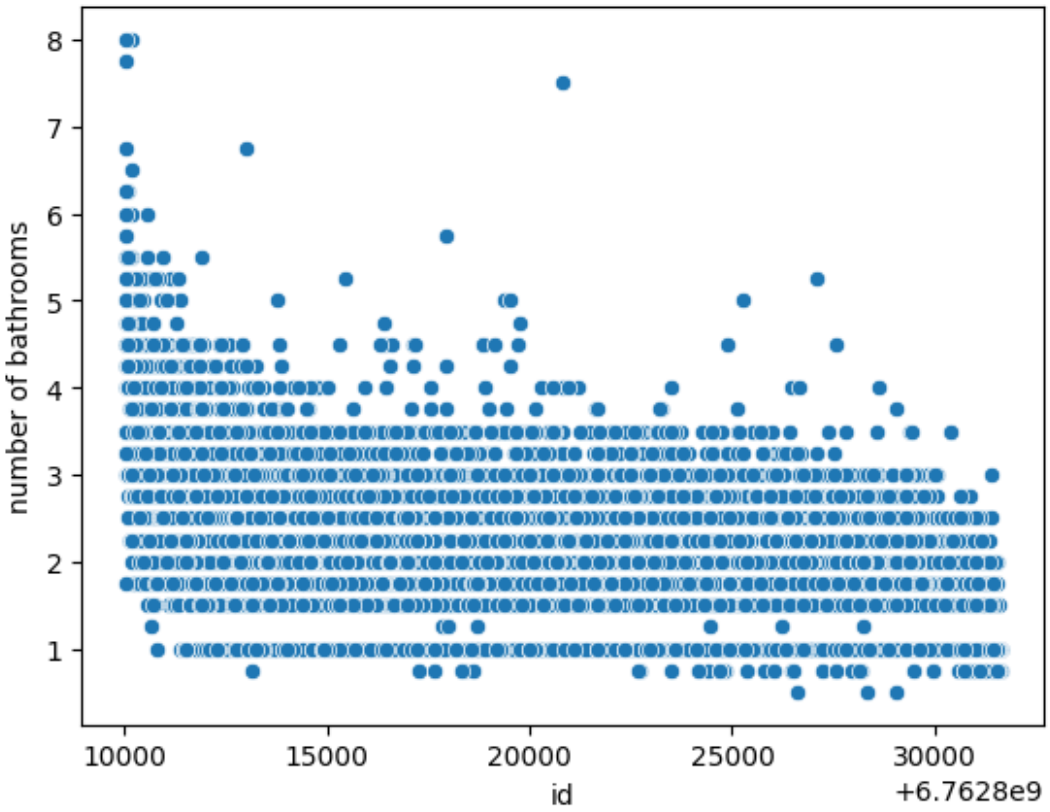

```
# Bi - Variate Data Visualization
# 1.)

sns.scatterplot(x=df['id'],y=df['number of bedrooms'])
```

```
<Axes: xlabel='id', ylabel='number of bedrooms'>
```



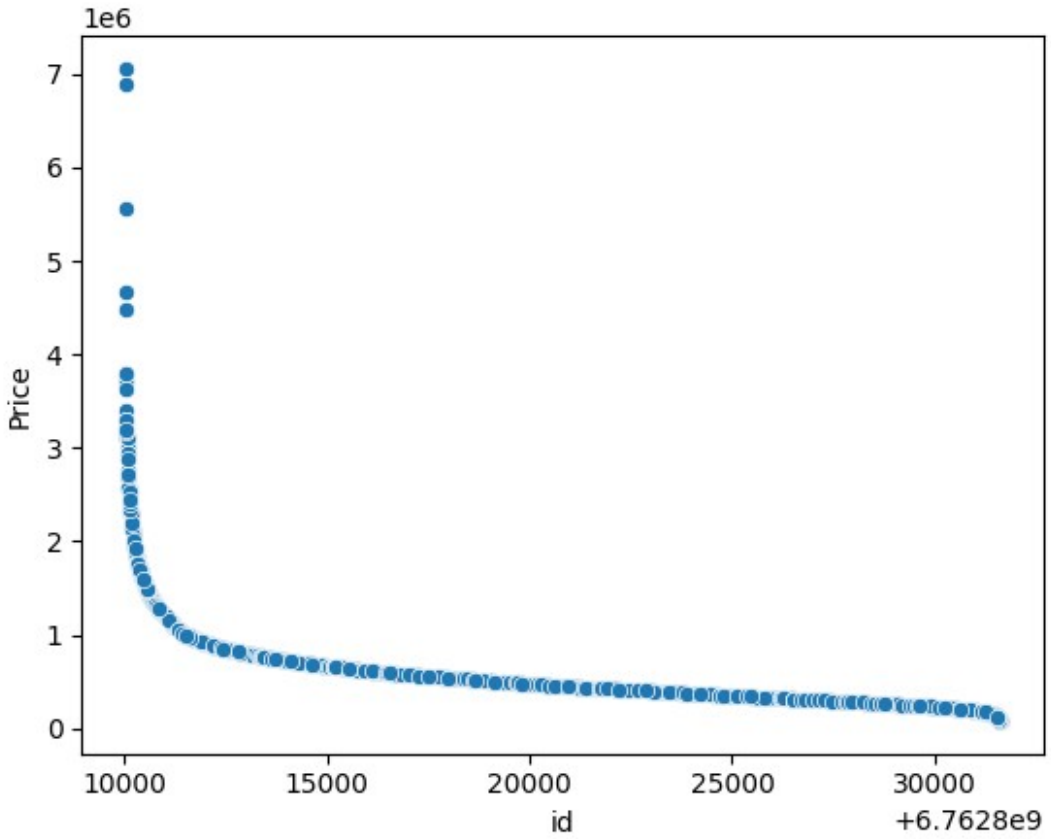

```
#2.)
sns.scatterplot(x=df['id'],y=df['number of bathrooms'])
```

```
<Axes: xlabel='id', ylabel='number of bathrooms'>
```



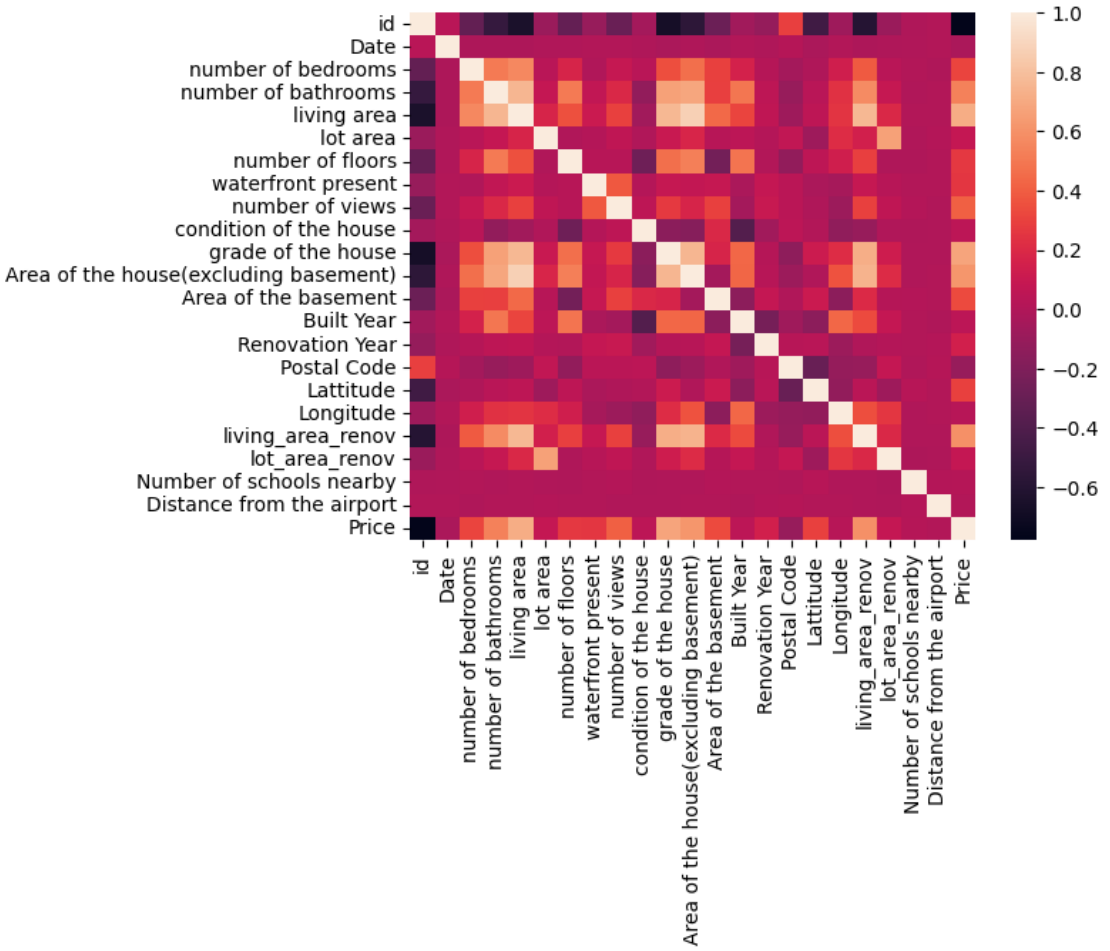

```
# 3.)
sns.scatterplot(x=df['id'],y=df['Price'])
```

```
<Axes: xlabel='id', ylabel='Price'>
```




```
# Multivariate Data Visualization
sns.heatmap(df.corr())
```

```
<Axes: >
```


id
Date
number of bedrooms
number of bathrooms
living area
lot area
number of floors
waterfront present
number of views
condition of the house
grade of the house
Area of the house(excluding basement)
Area of the basement
Built Year
Renovation Year
Postal Code
Lattitude
Longitude
living_area_renov
lot_area_renov
Number of schools nearby
Distance from the airport
Price
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4
−0.6