

## AI-ASSIGNMENT -01

Assignment Date	24 APRIL 2023
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Student Roll Number	923020106002
Maximum Marks	2 Marks

### 01 Importing the required libraries

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
```

### 02 LOAD THE DATASET

```
#READ THE DATASET
```

```
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        42998              2.0              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
```

```
      Latitude  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

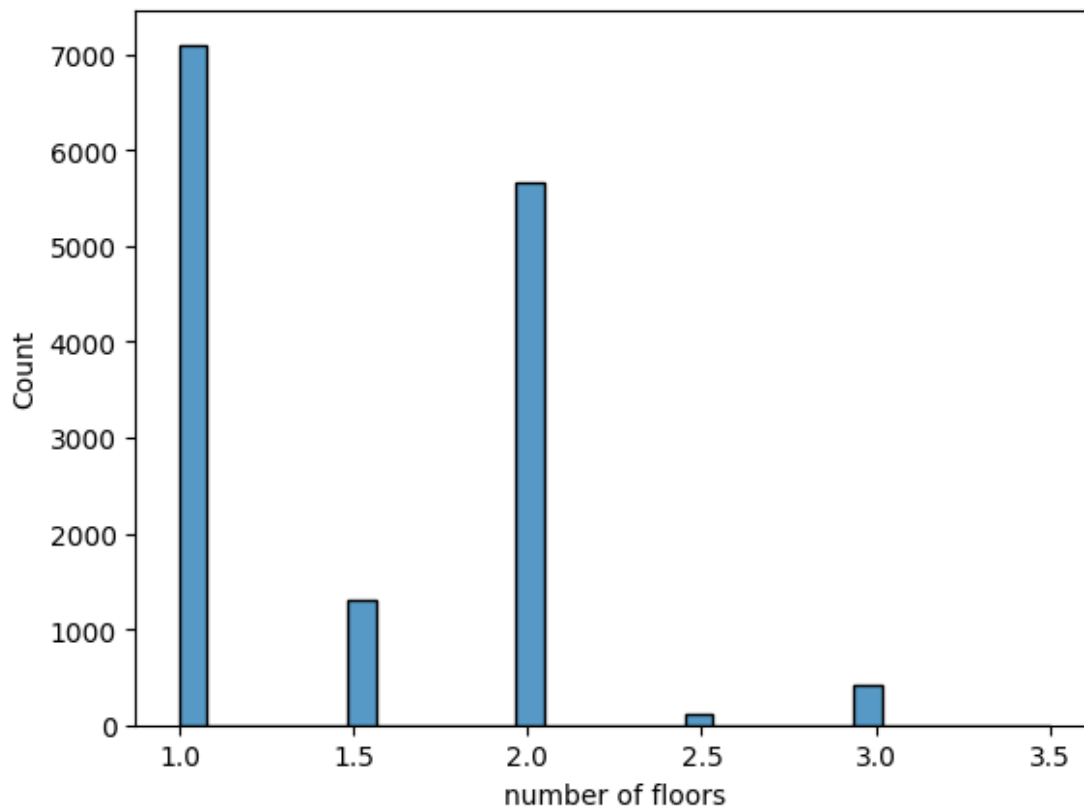
[5 rows x 23 columns]

### 03 Perform the Below Visualizations

# (3a) *Univariate Analysis*

```
sns.histplot(df['number of floors'])
```

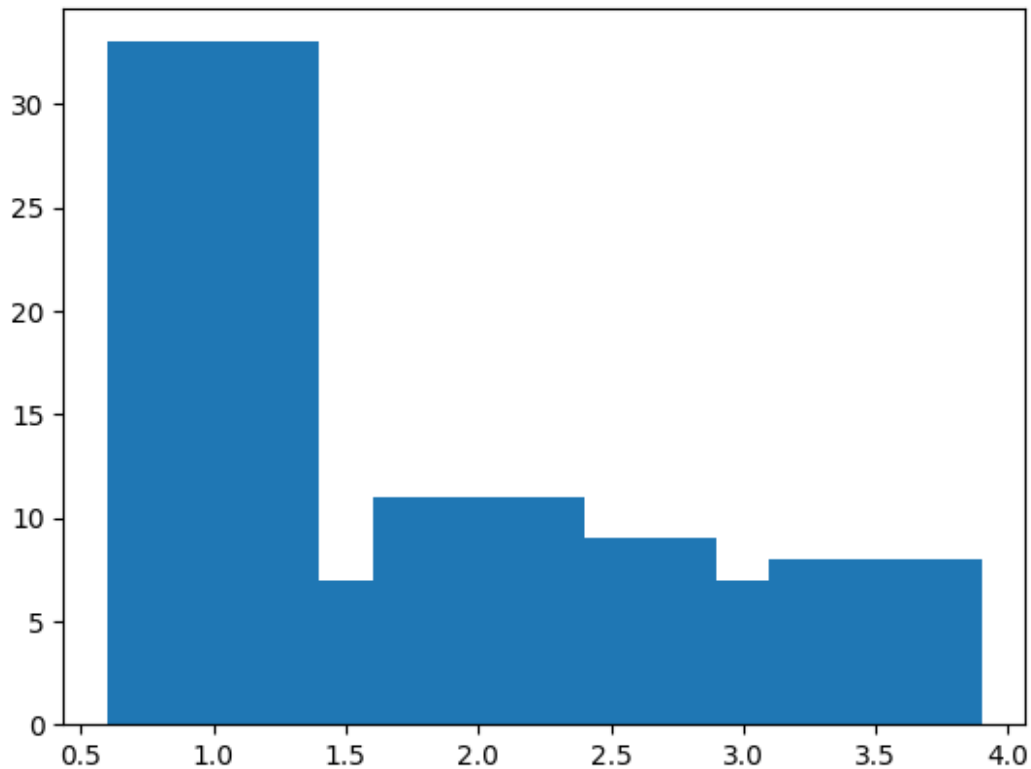
<Axes: xlabel='number of floors', ylabel='Count'>



```
#(3b)Bi - Variate Analysis
```

```
plt.bar(df['number of floors'],df['number of bedrooms'])
```

```
<BarContainer object of 14620 artists>
```



```
# (3c) Multi-Variate Analysis
```

```
import seaborn as sns
```

```
/usr/local/lib/python3.9/dist-packages/seaborn/axisgrid.py:2095: UserWarning:  
The `size` parameter has been renamed to `height`; please update your code.  
warnings.warn(msg, UserWarning)
```

```
<seaborn.axisgrid.PairGrid at 0x7fac541132e0>
```

```
sns.pairplot(df,hue='Built Year',size= 3)
```

```
/usr/local/lib/python3.9/dist-packages/seaborn/axisgrid.py:2095: UserWarning:  
The `size` parameter has been renamed to `height`; please update your code.  
warnings.warn(msg, UserWarning)
```

```
<seaborn.axisgrid.PairGrid at 0x7fac32bff670>
```

## 04 Perform descriptive statistics on the dataset

```
df['living area'].describe()
```

```
count      14620.000000
mean       2098.262996
std        928.275721
min        370.000000
25%       1440.000000
50%       1930.000000
75%       2570.000000
max       13540.000000
Name: living area, dtype: float64
```

```
df['Number of schools nearby'].describe()
```

```
count      14620.000000
mean         2.012244
std         0.817284
min         1.000000
25%         1.000000
50%         2.000000
75%         3.000000
max         3.000000
Name: Number of schools nearby, dtype: float64
```

## 05 Handle the Missing values

```
df.isnull()
```

	id	Date	number of bedrooms	number of bathrooms	living area	\
0	False	False	False	False	False	
1	False	False	False	False	False	
2	False	False	False	False	False	
3	False	False	False	False	False	
4	False	False	False	False	False	
...	...	...	...	...	...	
14615	False	False	False	False	False	
14616	False	False	False	False	False	
14617	False	False	False	False	False	
14618	False	False	False	False	False	
14619	False	False	False	False	False	

	lot area	number of floors	waterfront present	number of views	\
0	False	False	False	False	
1	False	False	False	False	
2	False	False	False	False	
3	False	False	False	False	
4	False	False	False	False	
...	...	...	...	...	
14615	False	False	False	False	

14616	False	False	False	False
14617	False	False	False	False
14618	False	False	False	False
14619	False	False	False	False

	condition of the house	...	Built Year	Renovation Year	Postal Code
\					
0	False	...	False	False	False
1	False	...	False	False	False
2	False	...	False	False	False
3	False	...	False	False	False
4	False	...	False	False	False
...	...	...	...	...	...
14615	False	...	False	False	False
14616	False	...	False	False	False
14617	False	...	False	False	False
14618	False	...	False	False	False
14619	False	...	False	False	False

	Lattitude	Longitude	living_area_renov	lot_area_renov	\
0	False	False	False	False	
1	False	False	False	False	
2	False	False	False	False	
3	False	False	False	False	
4	False	False	False	False	
...	...	...	...	...	
14615	False	False	False	False	
14616	False	False	False	False	
14617	False	False	False	False	
14618	False	False	False	False	
14619	False	False	False	False	

	Number of schools nearby	Distance from the airport	Price
0	False	False	False
1	False	False	False
2	False	False	False
3	False	False	False
4	False	False	False
...	...	...	...
14615	False	False	False
14616	False	False	False
14617	False	False	False
14618	False	False	False
14619	False	False	False

[14620 rows x 23 columns]