In [1]:
```python
import pandas as pd
import numpy as np
```

In [2]:
```python
data = pd.read_csv('lab_assess.csv')
data.head()
```

Out[2]:

	Area	Transaction_type	Floors	BHK	Furnished_status	link	City	price
0	1250.0	Resale	2	5	Furnished	https://www.99acres.com/5-bhk-bedroom-farm-hou...	Manali	3500.0
1	158.0	New Property	1	5	Unfurnished	https://www.magicbricks.com/propertyDetails/5-...	Manali	60.0
2	140.0	Resale	1	4	Unfurnished	https://www.olx.in/item/4bhk-flat-for-sale-iid...	Shimla	85.0
3	78.0	Resale	2	2	SemiFurnished	https://www.olx.in/item/one-rk1-bhk2-bhk-flats...	Shimla	30.0
4	40.0	Resale	1	1	Unfurnished	https://www.magicbricks.com/propertyDetails/1-...	Shimla	22.5

In [3]:
```python
data['Area'] = (data['Area'] - data['Area'].min()) / (data['Area'].max() - data['Area'].min())
data.head()
# standardise the variable Area
```

Out[3]:

	Area	Transaction_type	Floors	BHK	Furnished_status	link	City	price
0	0.137690	Resale	2	5	Furnished	https://www.99acres.com/5-bhk-bedroom-farm-hou...	Manali	3500.0
1	0.014648	New Property	1	5	Unfurnished	https://www.magicbricks.com/propertyDetails/5-...	Manali	60.0
2	0.012620	Resale	1	4	Unfurnished	https://www.olx.in/item/4bhk-flat-for-sale-iid...	Shimla	85.0
3	0.005634	Resale	2	2	SemiFurnished	https://www.olx.in/item/one-rk1-bhk2-bhk-flats...	Shimla	30.0
4	0.001352	Resale	1	1	Unfurnished	https://www.magicbricks.com/propertyDetails/1-...	Shimla	22.5

In [4]:
```python
data['Transaction_type'] = data['Transaction_type'].map({'Resale' : 0 , 'New Property' : 1})
data.head()
# encoding the variable Transaction_type
```

Out[4]:

	Area	Transaction_type	Floors	BHK	Furnished_status	link	City	price
0	0.137690	0	2	5	Furnished	https://www.99acres.com/5-bhk-bedroom-farm-hou...	Manali	3500.0
1	0.014648	1	1	5	Unfurnished	https://www.magicbricks.com/propertyDetails/5-...	Manali	60.0
2	0.012620	0	1	4	Unfurnished	https://www.olx.in/item/4bhk-flat-for-sale-iid...	Shimla	85.0
3	0.005634	0	2	2	SemiFurnished	https://www.olx.in/item/one-rk1-bhk2-bhk-flats...	Shimla	30.0
4	0.001352	0	1	1	Unfurnished	https://www.magicbricks.com/propertyDetails/1-...	Shimla	22.5

In [5]:
```python
data['Furnished_status'] = data['Furnished_status'].map({'Unfurnished' : 0 , 'SemiFurnished' : 1 , 'Furnished' :
data
# encoding the variable Furnished_status
```

Out[5]:

	Area	Transaction_type	Floors	BHK	Furnished_status	link	City	price
0	0.137690	0	2	5	2	https://www.99acres.com/5-bhk-bedroom-farm-hou...	Manali	3500.0
1	0.014648	1	1	5	0	https://www.magicbricks.com/propertyDetails/5-...	Manali	60.0
2	0.012620	0	1	4	0	https://www.olx.in/item/4bhk-flat-for-sale-iid...	Shimla	85.0
3	0.005634	0	2	2	1	https://www.olx.in/item/one-rk1-bhk2-bhk-flats...	Shimla	30.0
4	0.001352	0	1	1	0	https://www.magicbricks.com/propertyDetails/1-...	Shimla	22.5
5	0.005183	0	1	2	1	https://www.magicbricks.com/propertyDetails/2-...	Manali	22.0
6	0.020507	0	4	10	2	https://www.magicbricks.com/propertyDetails/10...	Shimla	500.0
7	0.009465	1	1	3	2	https://www.olx.in/item/3-bhk-for-sale-furnish...	Shimla	56.0
8	0.014310	0	3	2	0	https://www.99acres.com/residential-land-plot-...	Manali	45.0
9	0.008338	0	2	7	1	https://www.magicbricks.com/propertyDetails/7-...	Shimla	400.0
10	0.000000	0	3	1	2	https://www.magicbricks.com/propertyDetails/30...	Shimla	25.0
11	0.011493	0	2	8	2	https://www.magicbricks.com/propertyDetails/8-...	Manali	162.0
12	0.019380	0	1	5	2	https://www.magicbricks.com/propertyDetails/5-...	Manali	73.0
13	1.000000	0	1	5	0	https://www.99acres.com/5-bhk-bedroom-independ...	Manali	75.0
14	0.015662	1	1	3	1	https://www.olx.in/item/newly-built-3bhk-for-s...	Shimla	71.6
15	0.011493	1	1	2	2	https://www.magicbricks.com/propertyDetails/2-...	Shimla	65.0
16	0.010366	0	1	3	2	https://www.magicbricks.com/propertyDetails/3-...	Shimla	80.0
17	0.014986	1	1	3	1	https://www.olx.in/item/3bhk-luxuries-apartmen...	Shimla	57.0
18	0.095775	0	2	1	2	https://www.magicbricks.com/propertyDetails/1-...	Manali	50.0
19	0.009352	0	3	3	1	https://www.magicbricks.com/propertyDetails/3-...	Shimla	95.0
20	0.003279	0	1	2	1	https://www.magicbricks.com/propertyDetails/2-...	Manali	45.0
21	0.010366	0	1	4	1	https://www.magicbricks.com/propertyDetails/4-...	Shimla	310.0
22	0.008338	0	1	2	1	https://www.magicbricks.com/propertyDetails/2-...	Shimla	60.0

In [6]:
```
data['City'] = data['City'].map({'Manali' : 0 , 'Shimla' : 1})
data
# encoding the variable City
```

Out[6]:

	Area	Transaction_type	Floors	BHK	Furnished_status	link	City	price
0	0.137690	0	2	5	2	https://www.99acres.com/5-bhk-bedroom-farm-hou...	0	3500.0
1	0.014648	1	1	5	0	https://www.magicbricks.com/propertyDetails/5-...	0	60.0
2	0.012620	0	1	4	0	https://www.olx.in/item/4bhk-flat-for-sale-iid...	1	85.0
3	0.005634	0	2	2	1	https://www.olx.in/item/one-rk1-bhk2-bhk-flats...	1	30.0
4	0.001352	0	1	1	0	https://www.magicbricks.com/propertyDetails/1-...	1	22.5
5	0.005183	0	1	2	1	https://www.magicbricks.com/propertyDetails/2-...	0	22.0
6	0.020507	0	4	10	2	https://www.magicbricks.com/propertyDetails/10...	1	500.0
7	0.009465	1	1	3	2	https://www.olx.in/item/3-bhk-for-sale-furnish...	1	56.0
8	0.014310	0	3	2	0	https://www.99acres.com/residential-land-plot-...	0	45.0
9	0.008338	0	2	7	1	https://www.magicbricks.com/propertyDetails/7-...	1	400.0
10	0.000000	0	3	1	2	https://www.magicbricks.com/propertyDetails/30...	1	25.0
11	0.011493	0	2	8	2	https://www.magicbricks.com/propertyDetails/8-...	0	162.0
12	0.019380	0	1	5	2	https://www.magicbricks.com/propertyDetails/5-...	0	73.0
13	1.000000	0	1	5	0	https://www.99acres.com/5-bhk-bedroom-independ...	0	75.0
14	0.015662	1	1	3	1	https://www.olx.in/item/newly-built-3bhk-for-s...	1	71.6
15	0.011493	1	1	2	2	https://www.magicbricks.com/propertyDetails/2-...	1	65.0
16	0.010366	0	1	3	2	https://www.magicbricks.com/propertyDetails/3-...	1	80.0
17	0.014986	1	1	3	1	https://www.olx.in/item/3bhk-luxuries-apartmen...	1	57.0
18	0.095775	0	2	1	2	https://www.magicbricks.com/propertyDetails/1-...	0	50.0
19	0.009352	0	3	3	1	https://www.magicbricks.com/propertyDetails/3-...	1	95.0
20	0.003279	0	1	2	1	https://www.magicbricks.com/propertyDetails/2-...	0	45.0
21	0.010366	0	1	4	1	https://www.magicbricks.com/propertyDetails/4-...	1	310.0
22	0.008338	0	1	2	1	https://www.magicbricks.com/propertyDetails/2-...	1	60.0

In [7]:
```python
data['BHK'] = (data['BHK'] - data['BHK'].min()) / (data['BHK'].max() - data['BHK'].min())
data
# standardise the variable Area
```
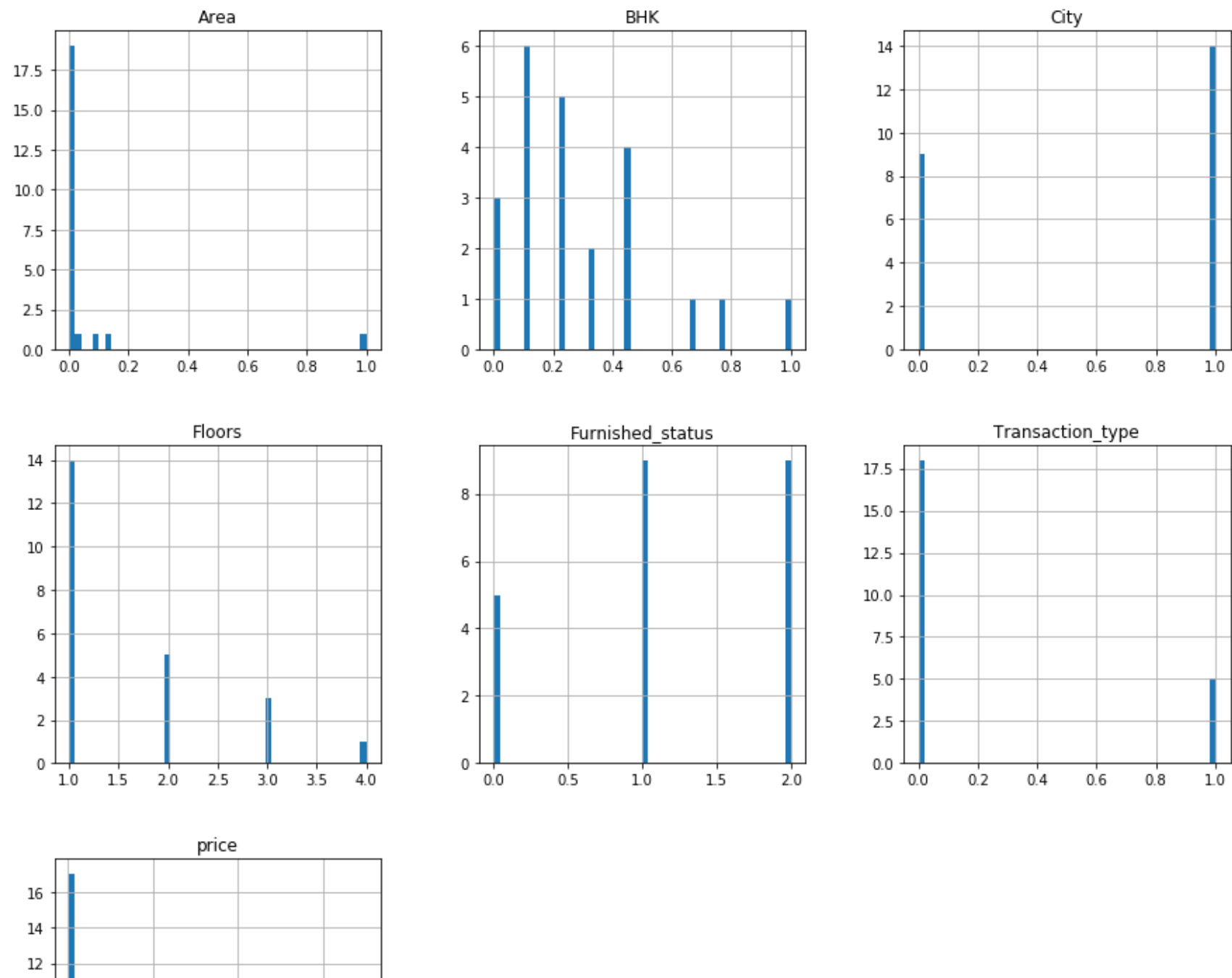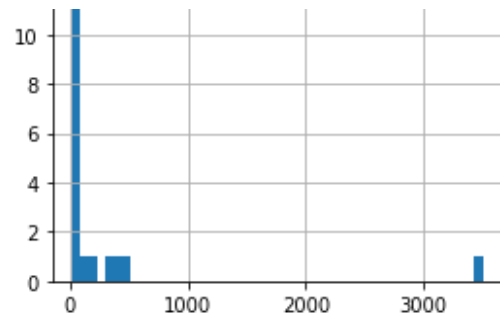
Out[7]:

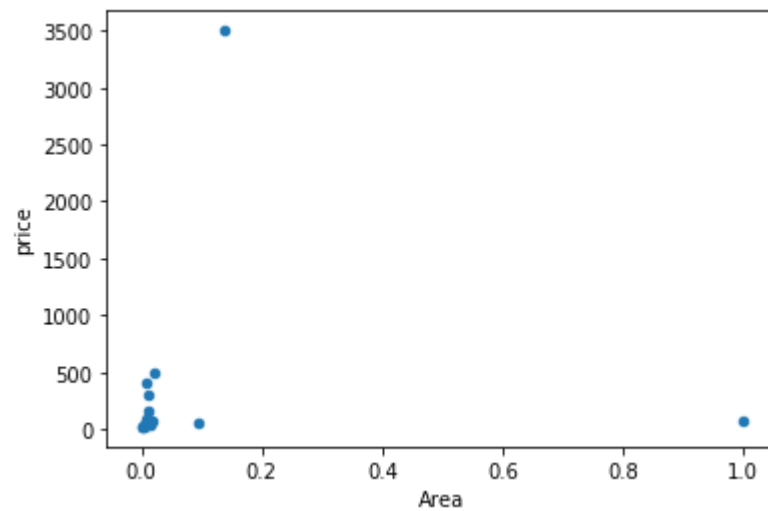|	Area	Transaction_type	Floors	BHK	Furnished_status	link	City	price
0	0.137690	0	2	0.444444	2	https://www.99acres.com/5-bhk-bedroom-farm-hou...	0	3500.0
1	0.014648	1	1	0.444444	0	https://www.magicbricks.com/propertyDetails/5-...	0	60.0
2	0.012620	0	1	0.333333	0	https://www.olx.in/item/4bhk-flat-for-sale-iid...	1	85.0
3	0.005634	0	2	0.111111	1	https://www.olx.in/item/one-rk1-bhk2-bhk-flats...	1	30.0
4	0.001352	0	1	0.000000	0	https://www.magicbricks.com/propertyDetails/1-...	1	22.5
5	0.005183	0	1	0.111111	1	https://www.magicbricks.com/propertyDetails/2-...	0	22.0
6	0.020507	0	4	1.000000	2	https://www.magicbricks.com/propertyDetails/10...	1	500.0
7	0.009465	1	1	0.222222	2	https://www.olx.in/item/3-bhk-for-sale-furnish...	1	56.0
8	0.014310	0	3	0.111111	0	https://www.99acres.com/residential-land-plot-...	0	45.0
9	0.008338	0	2	0.666667	1	https://www.magicbricks.com/propertyDetails/7-...	1	400.0
10	0.000000	0	3	0.000000	2	https://www.magicbricks.com/propertyDetails/30...	1	25.0
11	0.011493	0	2	0.777778	2	https://www.magicbricks.com/propertyDetails/8-...	0	162.0
12	0.019380	0	1	0.444444	2	https://www.magicbricks.com/propertyDetails/5-...	0	73.0
13	1.000000	0	1	0.444444	0	https://www.99acres.com/5-bhk-bedroom-independ...	0	75.0
14	0.015662	1	1	0.222222	1	https://www.olx.in/item/newly-built-3bhk-for-s...	1	71.6
15	0.011493	1	1	0.111111	2	https://www.magicbricks.com/propertyDetails/2-...	1	65.0
16	0.010366	0	1	0.222222	2	https://www.magicbricks.com/propertyDetails/3-...	1	80.0
17	0.014986	1	1	0.222222	1	https://www.olx.in/item/3bhk-luxuries-apartmen...	1	57.0
18	0.095775	0	2	0.000000	2	https://www.magicbricks.com/propertyDetails/1-...	0	50.0
19	0.009352	0	3	0.222222	1	https://www.magicbricks.com/propertyDetails/3-...	1	95.0
20	0.003279	0	1	0.111111	1	https://www.magicbricks.com/propertyDetails/2-...	0	45.0
21	0.010366	0	1	0.333333	1	https://www.magicbricks.com/propertyDetails/4-...	1	310.0
22	0.008338	0	1	0.111111	1	https://www.magicbricks.com/propertyDetails/2-...	1	60.0

Plotting the Graphs

In [8]:
```python
import matplotlib.pyplot as plt
```

```
In [9]: data.hist(bins=50, figsize=(15,15))
        plt.show()
```

In [10]:
```python
data.plot(x='Area', y = 'price', kind='scatter')
plt.show()
```
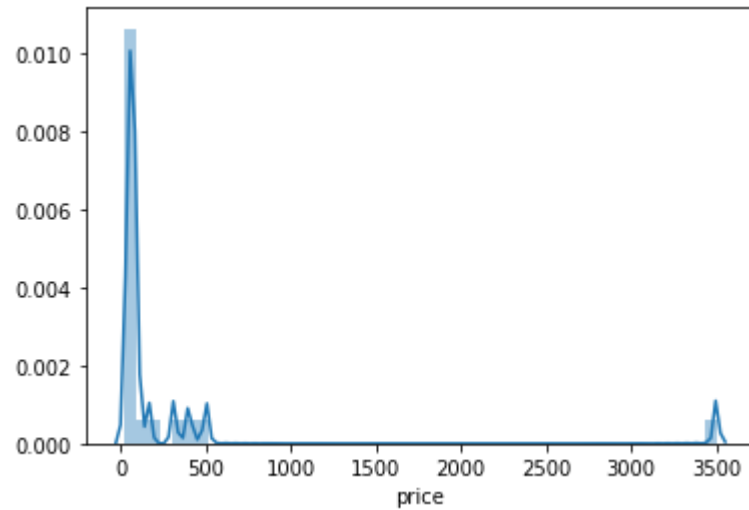

In [11]:
```python
import seaborn as sns
```

In [12]: `sns.distplot(data['price'])`

Out[12]: `<matplotlib.axes._subplots.AxesSubplot at 0x1795db51a88>`

In [13]: `sns.distplot(data['Area'])`

Out[13]: `<matplotlib.axes._subplots.AxesSubplot at 0x1795b2229c8>`