```python
import pandas as pd
```

```python
data = pd.read_csv('hp_data.csv')
data.head(2)
```

	place	built	sqft	sale	yearsOld	floor	totalFloor	bhk	price
0	BTM Layout	Super built-up Area	1450	Resale	5	1	4	1	6300000
1	Yelahanka	Super built-up Area	2190	Resale	5	3	5	3	11500000

```python
data.shape
```

```
(3500, 9)
```

```python
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 3500 entries, 0 to 3499
Data columns (total 9 columns):
 #   Column      Non-Null Count  Dtype
---  ------      --------------  -----
 0   place       3500 non-null   object
 1   built       3500 non-null   object
 2   sqft        3500 non-null   int64
 3   sale        3500 non-null   object
 4   yearsOld    3500 non-null   int64
 5   floor       3500 non-null   int64
 6   totalFloor  3500 non-null   int64
 7   bhk         3500 non-null   int64
 8   price       3500 non-null   int64
dtypes: int64(6), object(3)
memory usage: 246.2+ KB
```

```python
data.isnull().sum()
```

```
place         0
built         0
sqft          0
sale          0
yearsOld      0
floor         0
totalFloor    0
bhk           0
price         0
dtype: int64
```

```python
data.describe()
```

	sqft	yearsOld	floor	totalFloor	bhk	price
count	3500.000000	3500.000000	3500.000000	3500.000000	3500.000000	3.500000e+03
mean	1538.163143	7.602000	4.197714	6.371429	4.197714	8.067807e+06
std	416.264178	3.803196	4.782410	4.461808	4.782410	4.984973e+06
min	1019.000000	1.000000	1.000000	4.000000	1.000000	3.800000e+06
25%	1200.000000	5.000000	1.000000	4.000000	1.000000	4.800000e+06
50%	1543.000000	5.000000	3.000000	4.000000	3.000000	6.600000e+06
75%	1784.000000	10.000000	4.000000	5.000000	4.000000	1.050000e+07
max	4856.000000	15.000000	18.000000	29.000000	18.000000	4.750000e+07

In [7]:

```python
from sklearn.preprocessing import OneHotEncoder, LabelEncoder
label_encoder = LabelEncoder()
data["place"] = label_encoder.fit_transform(data["place"])

# or you can use another type of encoders
encoder = OneHotEncoder(sparse=False, drop='first')
data["place"] = encoder.fit_transform(data[["place"]])
```

```
/usr/local/lib/python3.10/dist-packages/sklearn/preprocessing/_encoders.py:868: FutureWar
ning: `sparse` was renamed to `sparse_output` in version 1.2 and will be removed in 1.4.
`sparse_output` is ignored unless you leave `sparse` to its default value.
  warnings.warn(
```

In [8]:

```python
data
```

Out[8]:

	place	built	sqft	sale	yearsOld	floor	totalFloor	bhk	price
0	0.0	Super built-up Area	1450	Resale	5	1	4	1	6300000
1	0.0	Super built-up Area	2190	Resale	5	3	5	3	11500000
2	0.0	Super built-up Area	1019	Resale	1	2	5	2	3800000
3	1.0	Super built-up Area	1857	Resale	15	4	5	4	10500000
4	0.0	Super built-up Area	2190	Resale	5	3	5	3	11500000
...	...	...	...	...	...	...	...	...	...
3495	0.0	Super built-up Area	1019	Resale	1	2	5	2	3800000
3496	0.0	Super built-up Area	1450	Resale	5	1	4	1	6300000
3497	0.0	Super built-up Area	1330	Resale	10	1	4	1	7350000
3498	0.0	Built-up Area	1200	Resale	10	1	4	1	4800000
3499	0.0	Super built-up Area	1019	Resale	1	2	5	2	3800000

3500 rows × 9 columns

In [9]:

```python
X=data[['place','sqft','yearsOld','floor','bhk']]
y=data[['price']]
```

In [10]:

```python
X
```

Out[10]:

place	sqft	yearsOld	floor	bhk

	place	sqft	yearsOld	floor	bhk
0	0.0	1450	5	3	3
1	0.0	2190	5	3	3
2	0.0	1019	1	2	2
3	1.0	1857	15	4	4
4	0.0	2190	5	3	3
...	...	...	...	...	...
3495	0.0	1019	1	2	2
3496	0.0	1450	5	1	1
3497	0.0	1330	10	1	1
3498	0.0	1200	10	1	1
3499	0.0	1019	1	2	2

3500 rows × 5 columns

In [11]:

```
y
```

Out[11]:

	price
0	6300000
1	11500000
2	3800000
3	10500000
4	11500000
...	...
3495	3800000
3496	6300000
3497	7350000
3498	4800000
3499	3800000

3500 rows × 1 columns

In [12]:

```
from sklearn.model_selection import train_test_split
X_train,X_test,y_train,y_test = train_test_split(X,y,random_state=1)
```

In [13]:

```
X_train
```

Out[13]:

	place	sqft	yearsOld	floor	bhk
2619	0.0	1200	10	1	1
2411	0.0	1019	1	2	2
2271	1.0	1857	15	4	4
250	0.0	1100	5	3	3
720	0.0	1200	10	1	1
...	...	...	...	...	...

	place	sqft	yearsOld	floor	bhk
2763	0.0	1784	5	18	18
905	0.0	1330	10	1	1
1096	0.0	1543	10	3	3
235	0.0	2475	5	15	15
1061	0.0	1200	10	1	1

2625 rows × 5 columns

In [14]:

```
X_train.shape
```

Out[14]:

```
(2625, 5)
```

In [15]:

```
y_train
```

Out[15]:

	price
2619	4800000
2411	3800000
2271	10500000
250	4900000
720	4800000
...	...
2763	7900000
905	7350000
1096	4025000
235	29300000
1061	4800000

2625 rows × 1 columns

In [16]:

```
y_train.shape
```

Out[16]:

```
(2625, 1)
```

In [17]:

```
X_test
```

Out[17]:

	place	sqft	yearsOld	floor	bhk
1322	0.0	2190	5	3	3
975	1.0	1857	15	4	4
3085	0.0	2190	5	3	3
1263	0.0	1200	10	1	1
1533	0.0	1100	5	3	3

	place	sqft	yearsOld	floor	bhk
1498	0.0	1330	10	1	1
1907	0.0	1450	5	1	1
1504	0.0	1784	5	18	18
525	0.0	1450	5	1	1
2330	0.0	1672	10	6	6

875 rows × 5 columns

In [18]:

```python
X_test.shape
```

Out[18]:

```
(875, 5)
```

In [19]:

```python
y_test.shape
```

Out[19]:

```
(875, 1)
```

In [20]:

```python
from sklearn.linear_model import LinearRegression
```

In [21]:

```python
model = LinearRegression()
model
```

Out[21]:

```
▼ LinearRegression
LinearRegression()
```

In [22]:

```python
model.fit(X_train,y_train)
```

Out[22]:

```
▼ LinearRegression
LinearRegression()
```

In [31]:

```python
c=model.intercept_
c
```

Out[31]:

```
array([-7167676.13505903])
```

In [24]:

```python
m=model.coef_
m
```

Out[24]:

```
array([[-1.71379258e+06,  9.36583948e+03,  1.32262942e+05,
         6.45083699e+02,  6.45083699e+02]])
```

```
In [25]:
y_predict = model.predict(X_test)
y_predict
```

Out[25]:

```
array([[14008697.53765169],
       [10500000.00000003],
       [14008697.53765169],
       [ 5395250.82979467],
       [ 3799932.50541916],
       [ 3799932.50541916],
       [10225519.22010281],
       [10500000.00000003],
       [ 7075395.9883124 ],
       [ 2510957.5712047 ],
       [10500000.00000003],
       [ 6612809.96207928],
       [ 5395250.82979467],
       [ 5395250.82979467],
       [10500000.00000003],
       [16910817.60877849],
       [ 7075395.9883124 ],
       [10225519.22010281],
       [10225519.22010281],
       [16910817.60877849],
       [ 5395250.82979467],
       [ 3799932.50541916],
       [ 3799932.50541916],
       [ 9822377.90092598],
       [ 3799932.50541916],
       [ 3799932.50541916],
       [ 5395250.82979467],
       [ 3799932.50541916],
       [ 6612809.96207928],
       [ 2510957.5712047 ],
       [10225519.22010281],
       [ 2510957.5712047 ],
       [14008697.53765169],
       [10225519.22010281],
       [ 2510957.5712047 ],
       [ 6612809.96207928],
       [ 5395250.82979467],
       [ 7075395.9883124 ],
       [14008697.53765169],
       [ 7075395.9883124 ],
       [ 6612809.96207928],
       [ 2510957.5712047 ],
       [ 5395250.82979467],
       [ 9822377.90092598],
       [ 9822377.90092598],
       [ 9822377.90092598],
       [ 3799932.50541916],
       [14008697.53765169],
       [ 7075395.9883124 ],
       [ 2510957.5712047 ],
       [ 5395250.82979467],
       [ 5395250.82979467],
       [10500000.00000003],
       [ 8610314.10592633],
       [ 3799932.50541916],
       [ 3799932.50541916],
       [ 8610314.10592633],
       [ 6612809.96207928],
       [14008697.53765169],
       [ 6612809.96207928],
       [ 7075395.9883124 ],
       [10225519.22010281],
       [ 9822377.90092598],
       [ 8610314.10592633],
       [ 8610314.10592633],
       [10500000.00000003],
```

[7075395.9883124],
[14008697.53765169],
[3799932.50541916],
[8610314.10592633],
[14008697.53765169],
[10500000.00000003],
[7075395.9883124],
[9822377.90092598],
[10500000.00000003],
[7075395.9883124],
[3799932.50541916],
[7075395.9883124],
[9822377.90092598],
[9822377.90092598],
[2510957.5712047],
[9822377.90092598],
[10500000.00000003],
[2510957.5712047],
[2510957.5712047],
[14008697.53765169],
[2510957.5712047],
[7075395.9883124],
[5395250.82979467],
[8610314.10592633],
[10225519.22010281],
[2510957.5712047],
[6612809.96207928],
[10500000.00000003],
[6612809.96207928],
[10225519.22010281],
[9822377.90092598],
[10225519.22010281],
[5395250.82979467],
[2510957.5712047],
[3799932.50541916],
[5395250.82979467],
[7075395.9883124],
[9822377.90092598],
[10500000.00000003],
[10500000.00000003],
[10225519.22010281],
[8610314.10592633],
[10500000.00000003],
[9822377.90092598],
[2510957.5712047],
[5395250.82979467],
[7075395.9883124],
[16910817.60877849],
[6612809.96207928],
[9822377.90092598],
[10225519.22010281],
[6612809.96207928],
[8610314.10592633],
[10500000.00000003],
[6612809.96207928],
[2510957.5712047],
[7075395.9883124],
[14008697.53765169],
[10225519.22010281],
[10500000.00000003],
[8610314.10592633],
[9822377.90092598],
[9822377.90092598],
[2510957.5712047],
[14008697.53765169],
[9822377.90092598],
[8610314.10592633],
[10500000.00000003],
[8610314.10592633],
[9822377.90092598],
[10500000.00000003],
[10500000.00000003],

[6612809.96207928],
[3799932.50541916],
[10225519.22010281],
[10225519.22010281],
[2510957.5712047],
[7075395.9883124],
[5395250.82979467],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[9822377.90092598],
[14008697.53765169],
[8610314.10592633],
[14008697.53765169],
[3799932.50541916],
[9822377.90092598],
[9822377.90092598],
[3799932.50541916],
[8610314.10592633],
[6612809.96207928],
[10500000.00000003],
[8610314.10592633],
[10225519.22010281],
[14008697.53765169],
[5395250.82979467],
[7075395.9883124],
[8610314.10592633],
[6612809.96207928],
[14008697.53765169],
[8610314.10592633],
[10225519.22010281],
[16693443.79797534],
[8610314.10592633],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[10225519.22010281],
[2510957.5712047],
[9822377.90092598],
[9822377.90092598],
[10500000.00000003],
[10225519.22010281],
[8610314.10592633],
[10225519.22010281],
[3799932.50541916],
[8610314.10592633],
[5395250.82979467],
[9822377.90092598],
[5395250.82979467],
[3799932.50541916],
[2510957.5712047],
[8610314.10592633],
[7075395.9883124],
[2510957.5712047],
[5395250.82979467],
[3799932.50541916],
[8610314.10592633],
[5395250.82979467],
[7075395.9883124],
[6612809.96207928],
[10500000.00000003],
[6612809.96207928],
[7075395.9883124],
[7075395.9883124],
[3799932.50541916],
[10500000.00000003],
[9822377.90092598],
[39639340.30022576],
[9822377.90092598],
[7075395.9883124],
[3799932.50541916],
[7075395.9883124],

```
[ 3799932.50541916],
[ 8610314.10592633],
[10500000.00000003],
[ 2510957.5712047 ],
[10500000.00000003],
[10225519.22010281],
[ 2510957.5712047 ],
[ 7075395.9883124 ],
[ 5395250.82979467],
[ 7075395.9883124 ],
[10500000.00000003],
[14008697.53765169],
[ 2510957.5712047 ],
[14008697.53765169],
[ 8610314.10592633],
[10500000.00000003],
[10500000.00000003],
[10500000.00000003],
[ 7075395.9883124 ],
[ 9822377.90092598],
[ 8610314.10592633],
[ 5395250.82979467],
[ 5395250.82979467],
[ 2510957.5712047 ],
[ 8610314.10592633],
[16910817.60877849],
[10500000.00000003],
[10225519.22010281],
[ 7075395.9883124 ],
[10500000.00000003],
[ 8610314.10592633],
[10500000.00000003],
[10500000.00000003],
[10500000.00000003],
[10225519.22010281],
[14008697.53765169],
[10225519.22010281],
[ 5395250.82979467],
[ 6612809.96207928],
[ 6612809.96207928],
[ 3799932.50541916],
[ 8610314.10592633],
[14008697.53765169],
[ 5395250.82979467],
[39639340.30022576],
[ 8610314.10592633],
[10225519.22010281],
[ 3799932.50541916],
[ 9822377.90092598],
[ 3799932.50541916],
[ 7075395.9883124 ],
[ 7075395.9883124 ],
[ 6612809.96207928],
[ 8610314.10592633],
[ 8610314.10592633],
[ 6612809.96207928],
[ 7075395.9883124 ],
[10500000.00000003],
[14008697.53765169],
[10500000.00000003],
[ 5395250.82979467],
[ 9822377.90092598],
[ 3799932.50541916],
[10500000.00000003],
[ 2510957.5712047 ],
[10500000.00000003],
[ 5395250.82979467],
[ 8610314.10592633],
[ 5395250.82979467],
[ 7075395.9883124 ],
[10500000.00000003],
[ 2510957.5712047 ],
```

[8610314.10592633],
[9822377.90092598],
[2510957.5712047],
[8610314.10592633],
[2510957.5712047],
[6612809.96207928],
[5395250.82979467],
[7075395.9883124],
[9822377.90092598],
[10500000.00000003],
[6612809.96207928],
[3799932.50541916],
[7075395.9883124],
[7075395.9883124],
[8610314.10592633],
[3799932.50541916],
[10500000.00000003],
[10500000.00000003],
[14008697.53765169],
[2510957.5712047],
[8610314.10592633],
[10225519.22010281],
[14008697.53765169],
[7075395.9883124],
[14008697.53765169],
[10500000.00000003],
[10500000.00000003],
[7075395.9883124],
[2510957.5712047],
[10225519.22010281],
[6612809.96207928],
[5395250.82979467],
[3799932.50541916],
[14008697.53765169],
[14008697.53765169],
[6612809.96207928],
[8610314.10592633],
[2510957.5712047],
[10225519.22010281],
[5395250.82979467],
[6612809.96207928],
[5395250.82979467],
[9822377.90092598],
[8610314.10592633],
[5395250.82979467],
[3799932.50541916],
[3799932.50541916],
[10500000.00000003],
[10225519.22010281],
[3799932.50541916],
[3799932.50541916],
[10500000.00000003],
[14008697.53765169],
[10225519.22010281],
[14008697.53765169],
[10500000.00000003],
[10225519.22010281],
[5395250.82979467],
[10225519.22010281],
[3799932.50541916],
[14008697.53765169],
[3799932.50541916],
[6612809.96207928],
[6612809.96207928],
[2510957.5712047],
[2510957.5712047],
[5395250.82979467],
[2510957.5712047],
[9822377.90092598],
[9822377.90092598],
[6612809.96207928],
[3799932.50541916],

```
[ 5395250.82979467],
[ 9822377.90092598],
[14008697.53765169],
[ 3799932.50541916],
[ 9822377.90092598],
[ 9822377.90092598],
[26539521.42531859],
[ 6612809.96207928],
[ 7075395.9883124 ],
[ 2510957.5712047 ],
[ 3799932.50541916],
[ 8610314.10592633],
[ 8610314.10592633],
[10225519.22010281],
[ 3799932.50541916],
[ 9822377.90092598],
[ 7075395.9883124 ],
[ 2510957.5712047 ],
[ 2510957.5712047 ],
[ 7075395.9883124 ],
[14008697.53765169],
[14008697.53765169],
[ 8610314.10592633],
[14008697.53765169],
[ 3799932.50541916],
[ 6612809.96207928],
[ 6612809.96207928],
[ 9822377.90092598],
[ 8610314.10592633],
[14008697.53765169],
[14008697.53765169],
[ 6612809.96207928],
[ 9822377.90092598],
[ 9822377.90092598],
[ 2510957.5712047 ],
[ 7075395.9883124 ],
[ 6612809.96207928],
[ 9822377.90092598],
[14008697.53765169],
[10500000.00000003],
[ 3799932.50541916],
[ 8610314.10592633],
[ 2510957.5712047 ],
[ 6612809.96207928],
[ 9822377.90092598],
[10500000.00000003],
[10500000.00000003],
[ 7075395.9883124 ],
[14008697.53765169],
[ 5395250.82979467],
[ 3799932.50541916],
[ 6612809.96207928],
[ 5395250.82979467],
[ 5395250.82979467],
[ 7075395.9883124 ],
[ 6612809.96207928],
[ 3799932.50541916],
[14008697.53765169],
[ 8610314.10592633],
[ 9822377.90092598],
[10225519.22010281],
[ 3799932.50541916],
[ 2510957.5712047 ],
[ 6612809.96207928],
[ 8610314.10592633],
[ 7075395.9883124 ],
[ 7075395.9883124 ],
[14008697.53765169],
[ 5395250.82979467],
[ 7075395.9883124 ],
[10225519.22010281],
[ 5395250.82979467],
```

[9822377.90092598],
[14008697.53765169],
[3799932.50541916],
[14008697.53765169],
[7075395.9883124],
[10225519.22010281],
[3799932.50541916],
[14008697.53765169],
[2510957.5712047],
[5395250.82979467],
[9822377.90092598],
[5395250.82979467],
[7075395.9883124],
[2510957.5712047],
[10500000.00000003],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[14008697.53765169],
[14008697.53765169],
[10500000.00000003],
[2510957.5712047],
[9822377.90092598],
[10225519.22010281],
[8610314.10592633],
[7075395.9883124],
[7075395.9883124],
[6612809.96207928],
[14008697.53765169],
[10225519.22010281],
[9822377.90092598],
[10225519.22010281],
[2510957.5712047],
[8610314.10592633],
[14008697.53765169],
[14008697.53765169],
[8610314.10592633],
[6612809.96207928],
[7075395.9883124],
[14008697.53765169],
[10500000.00000003],
[10225519.22010281],
[5395250.82979467],
[14008697.53765169],
[9822377.90092598],
[14008697.53765169],
[7075395.9883124],
[14008697.53765169],
[26539521.42531859],
[3799932.50541916],
[10225519.22010281],
[2510957.5712047],
[7075395.9883124],
[6612809.96207928],
[2510957.5712047],
[6612809.96207928],
[3799932.50541916],
[14008697.53765169],
[10500000.00000003],
[5395250.82979467],
[8610314.10592633],
[2510957.5712047],
[9822377.90092598],
[7075395.9883124],
[7075395.9883124],
[6612809.96207928],
[3799932.50541916],
[9822377.90092598],
[5395250.82979467],
[10500000.00000003],
[2510957.5712047],
[10500000.00000003],

[7075395.9883124],
[2510957.5712047],
[14008697.53765169],
[8610314.10592633],
[10500000.00000003],
[7075395.9883124],
[9822377.90092598],
[10225519.22010281],
[8610314.10592633],
[16910817.60877849],
[6612809.96207928],
[5395250.82979467],
[5395250.82979467],
[3799932.50541916],
[10225519.22010281],
[2510957.5712047],
[9822377.90092598],
[10225519.22010281],
[10500000.00000003],
[10500000.00000003],
[9822377.90092598],
[5395250.82979467],
[5395250.82979467],
[6612809.96207928],
[14008697.53765169],
[10225519.22010281],
[14008697.53765169],
[7075395.9883124],
[14008697.53765169],
[8610314.10592633],
[10225519.22010281],
[10225519.22010281],
[3799932.50541916],
[10225519.22010281],
[6612809.96207928],
[14008697.53765169],
[8610314.10592633],
[8610314.10592633],
[16693443.79797534],
[14008697.53765169],
[2510957.5712047],
[5395250.82979467],
[3799932.50541916],
[5395250.82979467],
[2510957.5712047],
[3799932.50541916],
[8610314.10592633],
[2510957.5712047],
[3799932.50541916],
[8610314.10592633],
[9822377.90092598],
[8610314.10592633],
[7075395.9883124],
[3799932.50541916],
[10500000.00000003],
[10225519.22010281],
[2510957.5712047],
[5395250.82979467],
[14008697.53765169],
[5395250.82979467],
[14008697.53765169],
[10225519.22010281],
[7075395.9883124],
[6612809.96207928],
[5395250.82979467],
[8610314.10592633],
[3799932.50541916],
[9822377.90092598],
[2510957.5712047],
[3799932.50541916],
[2510957.5712047],
[9822377.90092598],

[10500000.00000003],
[5395250.82979467],
[7075395.9883124],
[8610314.10592633],
[2510957.5712047],
[8610314.10592633],
[10225519.22010281],
[10225519.22010281],
[5395250.82979467],
[10225519.22010281],
[8610314.10592633],
[5395250.82979467],
[8610314.10592633],
[5395250.82979467],
[2510957.5712047],
[8610314.10592633],
[10500000.00000003],
[2510957.5712047],
[9822377.90092598],
[2510957.5712047],
[9822377.90092598],
[5395250.82979467],
[9822377.90092598],
[9822377.90092598],
[9822377.90092598],
[8610314.10592633],
[5395250.82979467],
[6612809.96207928],
[7075395.9883124],
[5395250.82979467],
[2510957.5712047],
[14008697.53765169],
[10225519.22010281],
[2510957.5712047],
[14008697.53765169],
[3799932.50541916],
[10225519.22010281],
[2510957.5712047],
[10225519.22010281],
[14008697.53765169],
[5395250.82979467],
[10225519.22010281],
[7075395.9883124],
[6612809.96207928],
[7075395.9883124],
[7075395.9883124],
[10500000.00000003],
[5395250.82979467],
[7075395.9883124],
[10500000.00000003],
[10225519.22010281],
[10225519.22010281],
[8610314.10592633],
[14008697.53765169],
[6612809.96207928],
[6612809.96207928],
[7075395.9883124],
[14008697.53765169],
[5395250.82979467],
[14008697.53765169],
[7075395.9883124],
[8610314.10592633],
[7075395.9883124],
[5395250.82979467],
[7075395.9883124],
[14008697.53765169],
[3799932.50541916],
[3799932.50541916],
[3799932.50541916],
[9822377.90092598],
[5395250.82979467],
[5395250.82979467],

```
[ 2510957.5712047 ],
[ 3799932.50541916],
[ 6612809.96207928],
[ 7075395.9883124 ],
[16910817.60877849],
[ 5395250.82979467],
[ 9822377.90092598],
[ 8610314.10592633],
[14008697.53765169],
[ 8610314.10592633],
[10225519.22010281],
[ 9822377.90092598],
[10500000.00000003],
[ 3799932.50541916],
[16693443.79797534],
[ 9822377.90092598],
[ 5395250.82979467],
[10500000.00000003],
[ 9822377.90092598],
[10500000.00000003],
[ 7075395.9883124 ],
[ 3799932.50541916],
[ 9822377.90092598],
[ 7075395.9883124 ],
[ 5395250.82979467],
[ 2510957.5712047 ],
[ 5395250.82979467],
[ 3799932.50541916],
[ 8610314.10592633],
[10500000.00000003],
[ 5395250.82979467],
[ 5395250.82979467],
[10500000.00000003],
[ 7075395.9883124 ],
[ 3799932.50541916],
[ 7075395.9883124 ],
[ 6612809.96207928],
[ 5395250.82979467],
[14008697.53765169],
[ 5395250.82979467],
[ 7075395.9883124 ],
[ 3799932.50541916],
[10500000.00000003],
[ 7075395.9883124 ],
[ 3799932.50541916],
[ 2510957.5712047 ],
[ 3799932.50541916],
[ 8610314.10592633],
[10500000.00000003],
[ 3799932.50541916],
[ 2510957.5712047 ],
[ 9822377.90092598],
[10225519.22010281],
[ 9822377.90092598],
[ 3799932.50541916],
[ 8610314.10592633],
[ 5395250.82979467],
[14008697.53765169],
[ 7075395.9883124 ],
[ 8610314.10592633],
[10500000.00000003],
[10500000.00000003],
[ 3799932.50541916],
[ 7075395.9883124 ],
[ 2510957.5712047 ],
[ 5395250.82979467],
[10500000.00000003],
[10500000.00000003],
[10225519.22010281],
[ 2510957.5712047 ],
[10500000.00000003],
[ 8610314.10592633],
```

```
[ 9822377.90092598],
[ 3799932.50541916],
[10500000.00000003],
[ 3799932.50541916],
[ 2510957.5712047 ],
[ 9822377.90092598],
[10500000.00000003],
[10225519.22010281],
[ 5395250.82979467],
[ 9822377.90092598],
[10500000.00000003],
[ 9822377.90092598],
[10500000.00000003],
[ 2510957.5712047 ],
[ 5395250.82979467],
[10225519.22010281],
[14008697.53765169],
[ 3799932.50541916],
[ 6612809.96207928],
[ 8610314.10592633],
[14008697.53765169],
[ 6612809.96207928],
[ 7075395.9883124 ],
[ 5395250.82979467],
[10225519.22010281],
[ 8610314.10592633],
[10500000.00000003],
[ 6612809.96207928],
[ 9822377.90092598],
[ 8610314.10592633],
[ 7075395.9883124 ],
[ 9822377.90092598],
[10225519.22010281],
[14008697.53765169],
[ 5395250.82979467],
[10225519.22010281],
[ 7075395.9883124 ],
[10225519.22010281],
[ 5395250.82979467],
[ 7075395.9883124 ],
[ 9822377.90092598],
[ 5395250.82979467],
[10225519.22010281],
[10500000.00000003],
[10225519.22010281],
[10500000.00000003],
[10500000.00000003],
[ 9822377.90092598],
[ 5395250.82979467],
[ 7075395.9883124 ],
[ 7075395.9883124 ],
[ 3799932.50541916],
[ 8610314.10592633],
[ 6612809.96207928],
[14008697.53765169],
[ 7075395.9883124 ],
[ 2510957.5712047 ],
[14008697.53765169],
[ 2510957.5712047 ],
[ 2510957.5712047 ],
[ 3799932.50541916],
[ 9822377.90092598],
[ 8610314.10592633],
[ 8610314.10592633],
[ 3799932.50541916],
[ 5395250.82979467],
[ 6612809.96207928],
[ 7075395.9883124 ],
[ 5395250.82979467],
[ 3799932.50541916],
[10500000.00000003],
[ 2510957.5712047 ],
```

[10500000.00000003],
[7075395.9883124],
[10225519.22010281],
[3799932.50541916],
[6612809.96207928],
[3799932.50541916],
[5395250.82979467],
[7075395.9883124],
[7075395.9883124],
[2510957.5712047],
[6612809.96207928],
[10225519.22010281],
[2510957.5712047],
[10500000.00000003],
[3799932.50541916],
[10500000.00000003],
[2510957.5712047],
[10225519.22010281],
[5395250.82979467],
[10500000.00000003],
[10500000.00000003],
[9822377.90092598],
[2510957.5712047],
[14008697.53765169],
[2510957.5712047],
[3799932.50541916],
[10500000.00000003],
[5395250.82979467],
[9822377.90092598],
[5395250.82979467],
[7075395.9883124],
[10225519.22010281],
[8610314.10592633],
[10225519.22010281],
[6612809.96207928],
[9822377.90092598],
[10225519.22010281],
[3799932.50541916],
[9822377.90092598],
[10500000.00000003],
[2510957.5712047],
[9822377.90092598],
[6612809.96207928],
[2510957.5712047],
[10225519.22010281],
[9822377.90092598],
[10225519.22010281],
[10225519.22010281],
[8610314.10592633],
[14008697.53765169],
[5395250.82979467],
[6612809.96207928],
[14008697.53765169],
[14008697.53765169],
[10225519.22010281],
[39639340.30022576],
[10225519.22010281],
[9822377.90092598],
[14008697.53765169],
[9822377.90092598],
[10225519.22010281],
[10225519.22010281],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[10500000.00000003],
[14008697.53765169],
[14008697.53765169],
[8610314.10592633],
[14008697.53765169],
[10225519.22010281],
[14008697.53765169],

```
        [ 3799932.50541916],
        [ 2510957.5712047 ],
        [ 8610314.10592633],
        [ 9822377.90092598],
        [ 2510957.5712047 ],
        [14008697.53765169],
        [ 7075395.9883124 ],
        [10500000.00000003],
        [ 7075395.9883124 ],
        [ 8610314.10592633],
        [ 2510957.5712047 ],
        [ 3799932.50541916],
        [ 6612809.96207928],
        [ 7075395.9883124 ],
        [10225519.22010281],
        [ 7075395.9883124 ],
        [ 9822377.90092598]])
```

In [26]:

```
y_test
```

Out[26]:

	price
1322	11500000
975	10500000
3085	11500000
1263	4800000
1533	4900000
...	...
1498	7350000
1907	6300000
1504	7900000
525	6300000
2330	15000000

875 rows × 1 columns

In [27]:

```
model.predict(X_test)
```

Out[27]:

```
array([[14008697.53765169],
        [10500000.00000003],
        [14008697.53765169],
        [ 5395250.82979467],
        [ 3799932.50541916],
        [ 3799932.50541916],
        [10225519.22010281],
        [10500000.00000003],
        [ 7075395.9883124 ],
        [ 2510957.5712047 ],
        [10500000.00000003],
        [ 6612809.96207928],
        [ 5395250.82979467],
        [ 5395250.82979467],
        [10500000.00000003],
        [16910817.60877849],
        [ 7075395.9883124 ],
        [10225519.22010281],
        [10225519.22010281],
        [16910817.60877849],
```

[5395250.82979467],
[3799932.50541916],
[3799932.50541916],
[9822377.90092598],
[3799932.50541916],
[3799932.50541916],
[5395250.82979467],
[3799932.50541916],
[6612809.96207928],
[2510957.5712047],
[10225519.22010281],
[2510957.5712047],
[14008697.53765169],
[10225519.22010281],
[2510957.5712047],
[6612809.96207928],
[5395250.82979467],
[7075395.9883124],
[14008697.53765169],
[7075395.9883124],
[6612809.96207928],
[2510957.5712047],
[5395250.82979467],
[9822377.90092598],
[9822377.90092598],
[9822377.90092598],
[3799932.50541916],
[14008697.53765169],
[7075395.9883124],
[2510957.5712047],
[5395250.82979467],
[5395250.82979467],
[10500000.00000003],
[8610314.10592633],
[3799932.50541916],
[3799932.50541916],
[8610314.10592633],
[6612809.96207928],
[14008697.53765169],
[6612809.96207928],
[7075395.9883124],
[10225519.22010281],
[9822377.90092598],
[8610314.10592633],
[8610314.10592633],
[10500000.00000003],
[7075395.9883124],
[14008697.53765169],
[3799932.50541916],
[8610314.10592633],
[14008697.53765169],
[10500000.00000003],
[7075395.9883124],
[9822377.90092598],
[10500000.00000003],
[7075395.9883124],
[3799932.50541916],
[7075395.9883124],
[9822377.90092598],
[9822377.90092598],
[2510957.5712047],
[9822377.90092598],
[10500000.00000003],
[2510957.5712047],
[2510957.5712047],
[14008697.53765169],
[2510957.5712047],
[7075395.9883124],
[5395250.82979467],
[8610314.10592633],
[10225519.22010281],
[2510957.5712047],

[6612809.96207928],
[10500000.00000003],
[6612809.96207928],
[10225519.22010281],
[9822377.90092598],
[10225519.22010281],
[5395250.82979467],
[2510957.5712047],
[3799932.50541916],
[5395250.82979467],
[7075395.9883124],
[9822377.90092598],
[10500000.00000003],
[10500000.00000003],
[10225519.22010281],
[8610314.10592633],
[10500000.00000003],
[9822377.90092598],
[2510957.5712047],
[5395250.82979467],
[7075395.9883124],
[16910817.60877849],
[6612809.96207928],
[9822377.90092598],
[10225519.22010281],
[6612809.96207928],
[8610314.10592633],
[10500000.00000003],
[6612809.96207928],
[2510957.5712047],
[7075395.9883124],
[14008697.53765169],
[10225519.22010281],
[10500000.00000003],
[8610314.10592633],
[9822377.90092598],
[9822377.90092598],
[2510957.5712047],
[14008697.53765169],
[9822377.90092598],
[8610314.10592633],
[10500000.00000003],
[8610314.10592633],
[9822377.90092598],
[10500000.00000003],
[10500000.00000003],
[6612809.96207928],
[3799932.50541916],
[10225519.22010281],
[10225519.22010281],
[2510957.5712047],
[7075395.9883124],
[5395250.82979467],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[9822377.90092598],
[14008697.53765169],
[8610314.10592633],
[14008697.53765169],
[3799932.50541916],
[9822377.90092598],
[9822377.90092598],
[3799932.50541916],
[8610314.10592633],
[6612809.96207928],
[10500000.00000003],
[8610314.10592633],
[10225519.22010281],
[14008697.53765169],
[5395250.82979467],
[7075395.9883124],

[8610314.10592633],
[6612809.96207928],
[14008697.53765169],
[8610314.10592633],
[10225519.22010281],
[16693443.79797534],
[8610314.10592633],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[10225519.22010281],
[2510957.5712047],
[9822377.90092598],
[9822377.90092598],
[10500000.00000003],
[10225519.22010281],
[8610314.10592633],
[10225519.22010281],
[3799932.50541916],
[8610314.10592633],
[5395250.82979467],
[9822377.90092598],
[5395250.82979467],
[3799932.50541916],
[2510957.5712047],
[8610314.10592633],
[7075395.9883124],
[2510957.5712047],
[5395250.82979467],
[3799932.50541916],
[8610314.10592633],
[5395250.82979467],
[7075395.9883124],
[6612809.96207928],
[10500000.00000003],
[6612809.96207928],
[7075395.9883124],
[7075395.9883124],
[3799932.50541916],
[10500000.00000003],
[9822377.90092598],
[39639340.30022576],
[9822377.90092598],
[7075395.9883124],
[3799932.50541916],
[7075395.9883124],
[3799932.50541916],
[8610314.10592633],
[10500000.00000003],
[2510957.5712047],
[10500000.00000003],
[10225519.22010281],
[2510957.5712047],
[7075395.9883124],
[5395250.82979467],
[7075395.9883124],
[10500000.00000003],
[14008697.53765169],
[2510957.5712047],
[14008697.53765169],
[8610314.10592633],
[10500000.00000003],
[10500000.00000003],
[10500000.00000003],
[7075395.9883124],
[9822377.90092598],
[8610314.10592633],
[5395250.82979467],
[5395250.82979467],
[2510957.5712047],
[8610314.10592633],
[16910817.608778491,

       [10500000.00000003],
       [10225519.22010281],
       [7075395.9883124],
       [10500000.00000003],
       [8610314.10592633],
       [10500000.00000003],
       [10500000.00000003],
       [10500000.00000003],
       [10225519.22010281],
       [14008697.53765169],
       [10225519.22010281],
       [5395250.82979467],
       [6612809.96207928],
       [6612809.96207928],
       [3799932.50541916],
       [8610314.10592633],
       [14008697.53765169],
       [5395250.82979467],
       [39639340.30022576],
       [8610314.10592633],
       [10225519.22010281],
       [3799932.50541916],
       [9822377.90092598],
       [3799932.50541916],
       [7075395.9883124],
       [7075395.9883124],
       [6612809.96207928],
       [8610314.10592633],
       [8610314.10592633],
       [6612809.96207928],
       [7075395.9883124],
       [10500000.00000003],
       [14008697.53765169],
       [10500000.00000003],
       [5395250.82979467],
       [9822377.90092598],
       [3799932.50541916],
       [10500000.00000003],
       [2510957.5712047],
       [10500000.00000003],
       [5395250.82979467],
       [8610314.10592633],
       [5395250.82979467],
       [7075395.9883124],
       [10500000.00000003],
       [2510957.5712047],
       [8610314.10592633],
       [9822377.90092598],
       [2510957.5712047],
       [8610314.10592633],
       [2510957.5712047],
       [6612809.96207928],
       [5395250.82979467],
       [7075395.9883124],
       [9822377.90092598],
       [10500000.00000003],
       [6612809.96207928],
       [3799932.50541916],
       [7075395.9883124],
       [7075395.9883124],
       [8610314.10592633],
       [3799932.50541916],
       [10500000.00000003],
       [10500000.00000003],
       [14008697.53765169],
       [2510957.5712047],
       [8610314.10592633],
       [10225519.22010281],
       [14008697.53765169],
       [7075395.9883124],
       [14008697.53765169],
       [10500000.00000003],

[10500000.00000003],
[7075395.9883124],
[2510957.5712047],
[10225519.22010281],
[6612809.96207928],
[5395250.82979467],
[3799932.50541916],
[14008697.53765169],
[14008697.53765169],
[6612809.96207928],
[8610314.10592633],
[2510957.5712047],
[10225519.22010281],
[5395250.82979467],
[6612809.96207928],
[5395250.82979467],
[9822377.90092598],
[8610314.10592633],
[5395250.82979467],
[3799932.50541916],
[3799932.50541916],
[10500000.00000003],
[10225519.22010281],
[3799932.50541916],
[3799932.50541916],
[10500000.00000003],
[14008697.53765169],
[10225519.22010281],
[14008697.53765169],
[10500000.00000003],
[10225519.22010281],
[5395250.82979467],
[10225519.22010281],
[3799932.50541916],
[14008697.53765169],
[3799932.50541916],
[6612809.96207928],
[6612809.96207928],
[2510957.5712047],
[2510957.5712047],
[5395250.82979467],
[2510957.5712047],
[9822377.90092598],
[9822377.90092598],
[6612809.96207928],
[3799932.50541916],
[5395250.82979467],
[9822377.90092598],
[14008697.53765169],
[3799932.50541916],
[9822377.90092598],
[9822377.90092598],
[26539521.42531859],
[6612809.96207928],
[7075395.9883124],
[2510957.5712047],
[3799932.50541916],
[8610314.10592633],
[8610314.10592633],
[10225519.22010281],
[3799932.50541916],
[9822377.90092598],
[7075395.9883124],
[2510957.5712047],
[2510957.5712047],
[7075395.9883124],
[14008697.53765169],
[14008697.53765169],
[8610314.10592633],
[14008697.53765169],
[3799932.50541916],
[6612809.96207928],

[6612809.96207928],
[9822377.90092598],
[8610314.10592633],
[14008697.53765169],
[14008697.53765169],
[6612809.96207928],
[9822377.90092598],
[9822377.90092598],
[2510957.5712047],
[7075395.9883124],
[6612809.96207928],
[9822377.90092598],
[14008697.53765169],
[10500000.00000003],
[3799932.50541916],
[8610314.10592633],
[2510957.5712047],
[6612809.96207928],
[9822377.90092598],
[10500000.00000003],
[10500000.00000003],
[7075395.9883124],
[14008697.53765169],
[5395250.82979467],
[3799932.50541916],
[6612809.96207928],
[5395250.82979467],
[5395250.82979467],
[7075395.9883124],
[6612809.96207928],
[3799932.50541916],
[14008697.53765169],
[8610314.10592633],
[9822377.90092598],
[10225519.22010281],
[3799932.50541916],
[2510957.5712047],
[6612809.96207928],
[8610314.10592633],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[5395250.82979467],
[7075395.9883124],
[10225519.22010281],
[5395250.82979467],
[9822377.90092598],
[14008697.53765169],
[3799932.50541916],
[14008697.53765169],
[7075395.9883124],
[10225519.22010281],
[3799932.50541916],
[14008697.53765169],
[2510957.5712047],
[5395250.82979467],
[9822377.90092598],
[5395250.82979467],
[7075395.9883124],
[2510957.5712047],
[10500000.00000003],
[7075395.9883124],
[7075395.9883124],
[14008697.53765169],
[14008697.53765169],
[14008697.53765169],
[10500000.00000003],
[2510957.5712047],
[9822377.90092598],
[10225519.22010281],
[8610314.10592633],
[7075395.9883124],

[7075395.9883124],
[6612809.96207928],
[14008697.53765169],
[10225519.22010281],
[9822377.90092598],
[10225519.22010281],
[2510957.5712047],
[8610314.10592633],
[14008697.53765169],
[14008697.53765169],
[8610314.10592633],
[6612809.96207928],
[7075395.9883124],
[14008697.53765169],
[10500000.00000003],
[10225519.22010281],
[5395250.82979467],
[14008697.53765169],
[9822377.90092598],
[14008697.53765169],
[7075395.9883124],
[14008697.53765169],
[26539521.42531859],
[3799932.50541916],
[10225519.22010281],
[2510957.5712047],
[7075395.9883124],
[6612809.96207928],
[2510957.5712047],
[6612809.96207928],
[3799932.50541916],
[14008697.53765169],
[10500000.00000003],
[5395250.82979467],
[8610314.10592633],
[2510957.5712047],
[9822377.90092598],
[7075395.9883124],
[7075395.9883124],
[6612809.96207928],
[3799932.50541916],
[9822377.90092598],
[5395250.82979467],
[10500000.00000003],
[2510957.5712047],
[10500000.00000003],
[7075395.9883124],
[2510957.5712047],
[14008697.53765169],
[8610314.10592633],
[10500000.00000003],
[7075395.9883124],
[9822377.90092598],
[10225519.22010281],
[8610314.10592633],
[16910817.60877849],
[6612809.96207928],
[5395250.82979467],
[5395250.82979467],
[3799932.50541916],
[10225519.22010281],
[2510957.5712047],
[9822377.90092598],
[10225519.22010281],
[10500000.00000003],
[10500000.00000003],
[9822377.90092598],
[5395250.82979467],
[5395250.82979467],
[6612809.96207928],
[14008697.53765169],
[10225519.220102811,

       [14008697.53765169],
       [7075395.9883124],
       [14008697.53765169],
       [8610314.10592633],
       [10225519.22010281],
       [10225519.22010281],
       [3799932.50541916],
       [10225519.22010281],
       [6612809.96207928],
       [14008697.53765169],
       [8610314.10592633],
       [8610314.10592633],
       [16693443.79797534],
       [14008697.53765169],
       [2510957.5712047],
       [5395250.82979467],
       [3799932.50541916],
       [5395250.82979467],
       [2510957.5712047],
       [3799932.50541916],
       [8610314.10592633],
       [2510957.5712047],
       [3799932.50541916],
       [8610314.10592633],
       [9822377.90092598],
       [8610314.10592633],
       [7075395.9883124],
       [3799932.50541916],
       [10500000.00000003],
       [10225519.22010281],
       [2510957.5712047],
       [5395250.82979467],
       [14008697.53765169],
       [5395250.82979467],
       [14008697.53765169],
       [10225519.22010281],
       [7075395.9883124],
       [6612809.96207928],
       [5395250.82979467],
       [8610314.10592633],
       [3799932.50541916],
       [9822377.90092598],
       [2510957.5712047],
       [3799932.50541916],
       [2510957.5712047],
       [9822377.90092598],
       [10500000.00000003],
       [5395250.82979467],
       [7075395.9883124],
       [8610314.10592633],
       [2510957.5712047],
       [8610314.10592633],
       [10225519.22010281],
       [10225519.22010281],
       [5395250.82979467],
       [10225519.22010281],
       [8610314.10592633],
       [5395250.82979467],
       [8610314.10592633],
       [5395250.82979467],
       [2510957.5712047],
       [8610314.10592633],
       [10500000.00000003],
       [2510957.5712047],
       [9822377.90092598],
       [2510957.5712047],
       [9822377.90092598],
       [5395250.82979467],
       [9822377.90092598],
       [9822377.90092598],
       [9822377.90092598],
       [8610314.10592633],

[5395250.82979467],
[6612809.96207928],
[7075395.9883124],
[5395250.82979467],
[2510957.5712047],
[14008697.53765169],
[10225519.22010281],
[2510957.5712047],
[14008697.53765169],
[3799932.50541916],
[10225519.22010281],
[2510957.5712047],
[10225519.22010281],
[14008697.53765169],
[5395250.82979467],
[10225519.22010281],
[7075395.9883124],
[6612809.96207928],
[7075395.9883124],
[7075395.9883124],
[10500000.00000003],
[5395250.82979467],
[7075395.9883124],
[10500000.00000003],
[10225519.22010281],
[10225519.22010281],
[8610314.10592633],
[14008697.53765169],
[6612809.96207928],
[6612809.96207928],
[7075395.9883124],
[14008697.53765169],
[5395250.82979467],
[14008697.53765169],
[7075395.9883124],
[8610314.10592633],
[7075395.9883124],
[5395250.82979467],
[7075395.9883124],
[14008697.53765169],
[3799932.50541916],
[3799932.50541916],
[3799932.50541916],
[9822377.90092598],
[5395250.82979467],
[5395250.82979467],
[2510957.5712047],
[3799932.50541916],
[6612809.96207928],
[7075395.9883124],
[16910817.60877849],
[5395250.82979467],
[9822377.90092598],
[8610314.10592633],
[14008697.53765169],
[8610314.10592633],
[10225519.22010281],
[9822377.90092598],
[10500000.00000003],
[3799932.50541916],
[16693443.79797534],
[9822377.90092598],
[5395250.82979467],
[10500000.00000003],
[9822377.90092598],
[10500000.00000003],
[7075395.9883124],
[3799932.50541916],
[9822377.90092598],
[7075395.9883124],
[5395250.82979467],
[2510957.5712047],

```
[ 5395250.82979467],
[ 3799932.50541916],
[ 8610314.10592633],
[10500000.00000003],
[ 5395250.82979467],
[ 5395250.82979467],
[10500000.00000003],
[ 7075395.9883124 ],
[ 3799932.50541916],
[ 7075395.9883124 ],
[ 6612809.96207928],
[ 5395250.82979467],
[14008697.53765169],
[ 5395250.82979467],
[ 7075395.9883124 ],
[ 3799932.50541916],
[10500000.00000003],
[ 7075395.9883124 ],
[ 3799932.50541916],
[ 2510957.5712047 ],
[ 3799932.50541916],
[ 8610314.10592633],
[10500000.00000003],
[ 3799932.50541916],
[ 2510957.5712047 ],
[ 9822377.90092598],
[10225519.22010281],
[ 9822377.90092598],
[ 3799932.50541916],
[ 8610314.10592633],
[ 5395250.82979467],
[14008697.53765169],
[ 7075395.9883124 ],
[ 8610314.10592633],
[10500000.00000003],
[10500000.00000003],
[ 3799932.50541916],
[ 7075395.9883124 ],
[ 2510957.5712047 ],
[ 5395250.82979467],
[10500000.00000003],
[10500000.00000003],
[10225519.22010281],
[ 2510957.5712047 ],
[10500000.00000003],
[ 8610314.10592633],
[ 9822377.90092598],
[ 3799932.50541916],
[10500000.00000003],
[ 3799932.50541916],
[ 2510957.5712047 ],
[ 9822377.90092598],
[10500000.00000003],
[10225519.22010281],
[ 5395250.82979467],
[ 9822377.90092598],
[10500000.00000003],
[ 9822377.90092598],
[10500000.00000003],
[ 2510957.5712047 ],
[ 5395250.82979467],
[10225519.22010281],
[14008697.53765169],
[ 3799932.50541916],
[ 6612809.96207928],
[ 8610314.10592633],
[14008697.53765169],
[ 6612809.96207928],
[ 7075395.9883124 ],
[ 5395250.82979467],
[10225519.22010281],
[ 8610314.10592633],
```

[10500000.00000003],
[6612809.96207928],
[9822377.90092598],
[8610314.10592633],
[7075395.9883124],
[9822377.90092598],
[10225519.22010281],
[14008697.53765169],
[5395250.82979467],
[10225519.22010281],
[7075395.9883124],
[10225519.22010281],
[5395250.82979467],
[7075395.9883124],
[9822377.90092598],
[5395250.82979467],
[10225519.22010281],
[10500000.00000003],
[10225519.22010281],
[10500000.00000003],
[10500000.00000003],
[9822377.90092598],
[5395250.82979467],
[7075395.9883124],
[7075395.9883124],
[3799932.50541916],
[8610314.10592633],
[6612809.96207928],
[14008697.53765169],
[7075395.9883124],
[2510957.5712047],
[14008697.53765169],
[2510957.5712047],
[2510957.5712047],
[3799932.50541916],
[9822377.90092598],
[8610314.10592633],
[8610314.10592633],
[3799932.50541916],
[5395250.82979467],
[6612809.96207928],
[7075395.9883124],
[5395250.82979467],
[3799932.50541916],
[10500000.00000003],
[2510957.5712047],
[10500000.00000003],
[7075395.9883124],
[10225519.22010281],
[3799932.50541916],
[6612809.96207928],
[3799932.50541916],
[5395250.82979467],
[7075395.9883124],
[7075395.9883124],
[2510957.5712047],
[6612809.96207928],
[10225519.22010281],
[2510957.5712047],
[10500000.00000003],
[3799932.50541916],
[10500000.00000003],
[2510957.5712047],
[10225519.22010281],
[5395250.82979467],
[10500000.00000003],
[10500000.00000003],
[9822377.90092598],
[2510957.5712047],
[14008697.53765169],
[2510957.5712047],
[3799932.50541916],

```
       [10500000.00000003],
       [ 5395250.82979467],
       [ 9822377.90092598],
       [ 5395250.82979467],
       [ 7075395.9883124 ],
       [10225519.22010281],
       [ 8610314.10592633],
       [10225519.22010281],
       [ 6612809.96207928],
       [ 9822377.90092598],
       [10225519.22010281],
       [ 3799932.50541916],
       [ 9822377.90092598],
       [10500000.00000003],
       [ 2510957.5712047 ],
       [ 9822377.90092598],
       [ 6612809.96207928],
       [ 2510957.5712047 ],
       [10225519.22010281],
       [ 9822377.90092598],
       [10225519.22010281],
       [10225519.22010281],
       [ 8610314.10592633],
       [14008697.53765169],
       [ 5395250.82979467],
       [ 6612809.96207928],
       [14008697.53765169],
       [14008697.53765169],
       [10225519.22010281],
       [39639340.30022576],
       [10225519.22010281],
       [ 9822377.90092598],
       [14008697.53765169],
       [ 9822377.90092598],
       [10225519.22010281],
       [10225519.22010281],
       [ 7075395.9883124 ],
       [ 7075395.9883124 ],
       [14008697.53765169],
       [10500000.00000003],
       [14008697.53765169],
       [14008697.53765169],
       [ 8610314.10592633],
       [14008697.53765169],
       [10225519.22010281],
       [14008697.53765169],
       [ 3799932.50541916],
       [ 2510957.5712047 ],
       [ 8610314.10592633],
       [ 9822377.90092598],
       [ 2510957.5712047 ],
       [14008697.53765169],
       [ 7075395.9883124 ],
       [10500000.00000003],
       [ 7075395.9883124 ],
       [ 8610314.10592633],
       [ 2510957.5712047 ],
       [ 3799932.50541916],
       [ 6612809.96207928],
       [ 7075395.9883124 ],
       [10225519.22010281],
       [ 7075395.9883124 ],
       [ 9822377.90092598]])
```

In [37]:

```
yhat = m*X
X, yhat
```

Out[37]:

```
(     place  sqft  yearsOld  floor  bhk
```

```
0        0.0  1450      5      1    1
1        0.0  2190      5      3    3
2        0.0  1019      1      2    2
3        1.0  1857     15      4    4
4        0.0  2190      5      3    3
...      ...   ...    ...    ...  ...
3495     0.0  1019      1      2    2
3496     0.0  1450      5      1    1
3497     0.0  1330     10      1    1
3498     0.0  1200     10      1    1
3499     0.0  1019      1      2    2

[3500 rows x 5 columns],
              place          sqft        yearsOld         floor            bhk
0     -0.000000e+00  1.358047e+07  6.613147e+05    645.083699     645.083699
1     -0.000000e+00  2.051119e+07  6.613147e+05   1935.251097    1935.251097
2     -0.000000e+00  9.543790e+06  1.322629e+05   1290.167398    1290.167398
3     -1.713793e+06  1.739236e+07  1.983944e+06   2580.334796    2580.334796
4     -0.000000e+00  2.051119e+07  6.613147e+05   1935.251097    1935.251097
...             ...           ...           ...           ...            ...
3495  -0.000000e+00  9.543790e+06  1.322629e+05   1290.167398    1290.167398
3496  -0.000000e+00  1.358047e+07  6.613147e+05    645.083699     645.083699
3497  -0.000000e+00  1.245657e+07  1.322629e+06    645.083699     645.083699
3498  -0.000000e+00  1.123901e+07  1.322629e+06    645.083699     645.083699
3499  -0.000000e+00  9.543790e+06  1.322629e+05   1290.167398    1290.167398

[3500 rows x 5 columns])
```
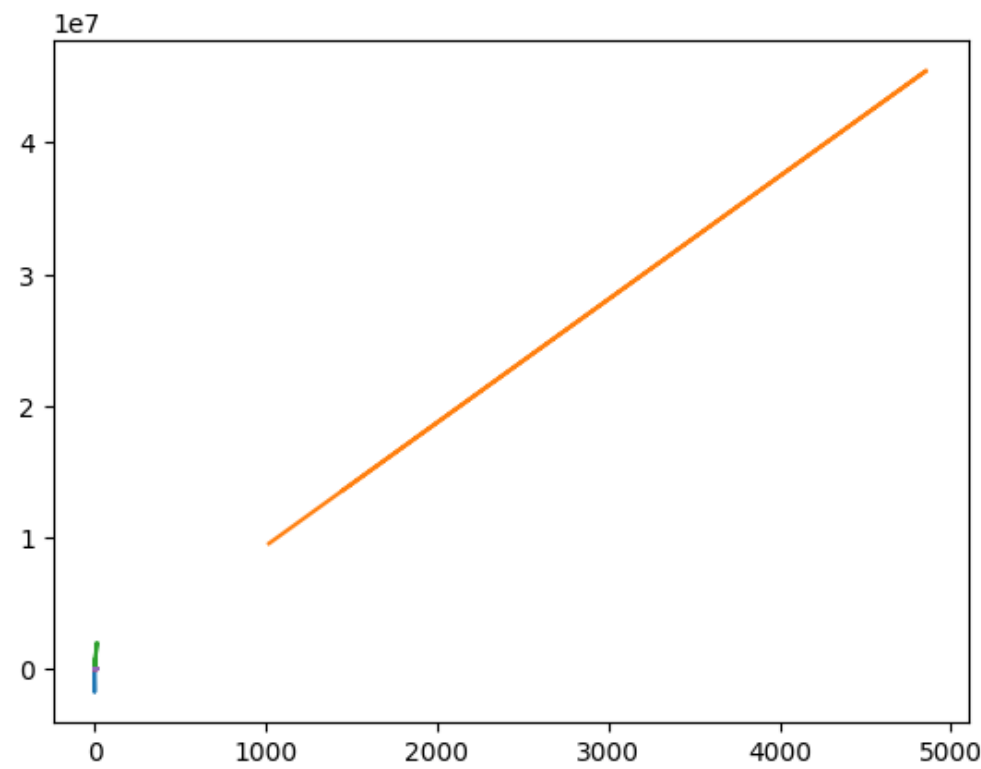
In [38]:

```python
import matplotlib.pyplot as plt
plt.plot(X,yhat)
```

Out[38]:

```
[<matplotlib.lines.Line2D at 0x7f3f54e62620>,
 <matplotlib.lines.Line2D at 0x7f3f54e615d0>,
 <matplotlib.lines.Line2D at 0x7f3f54e61600>,
 <matplotlib.lines.Line2D at 0x7f3f54e626b0>,
 <matplotlib.lines.Line2D at 0x7f3f54e62770>]
```


In [39]:

```python
from sklearn.metrics import r2_score,mean_absolute_error,mean_squared_error
```

```
r2_score(y_predict,y_test)
```

Out[40]:

0.39628478520146004

In [41]:

```
mean_absolute_error(y_predict,y_test)
```

Out[41]:

2067800.8178153818

In [42]:

```
mean_squared_error(y_predict,y_test)
```

Out[42]:

9483374948098.893

In [43]:

```
import math
math.sqrt(mean_squared_error(y_predict,y_test))
```

Out[43]:

3079508.8809904237