In [28]:

```python
import pandas as pd
import numpy as np
```

In [29]:

```python
data=pd.read_csv(r"D:\ML\real_estate_price_size_year_view  3rd march new.csv")
data
```

Out[29]:

	price	size	year	view
0	234314.144	643.09	2015	No sea view
1	228581.528	656.22	2009	No sea view
2	281626.336	487.29	2018	Sea view
3	401255.608	1504.75	2015	No sea view
4	458674.256	1275.46	2009	Sea view
...	...	...	...	...
95	252460.400	549.80	2009	Sea view
96	310522.592	1037.44	2009	No sea view
97	383635.568	1504.75	2006	No sea view
98	225145.248	648.29	2015	No sea view
99	274922.856	705.29	2006	Sea view

100 rows × 4 columns

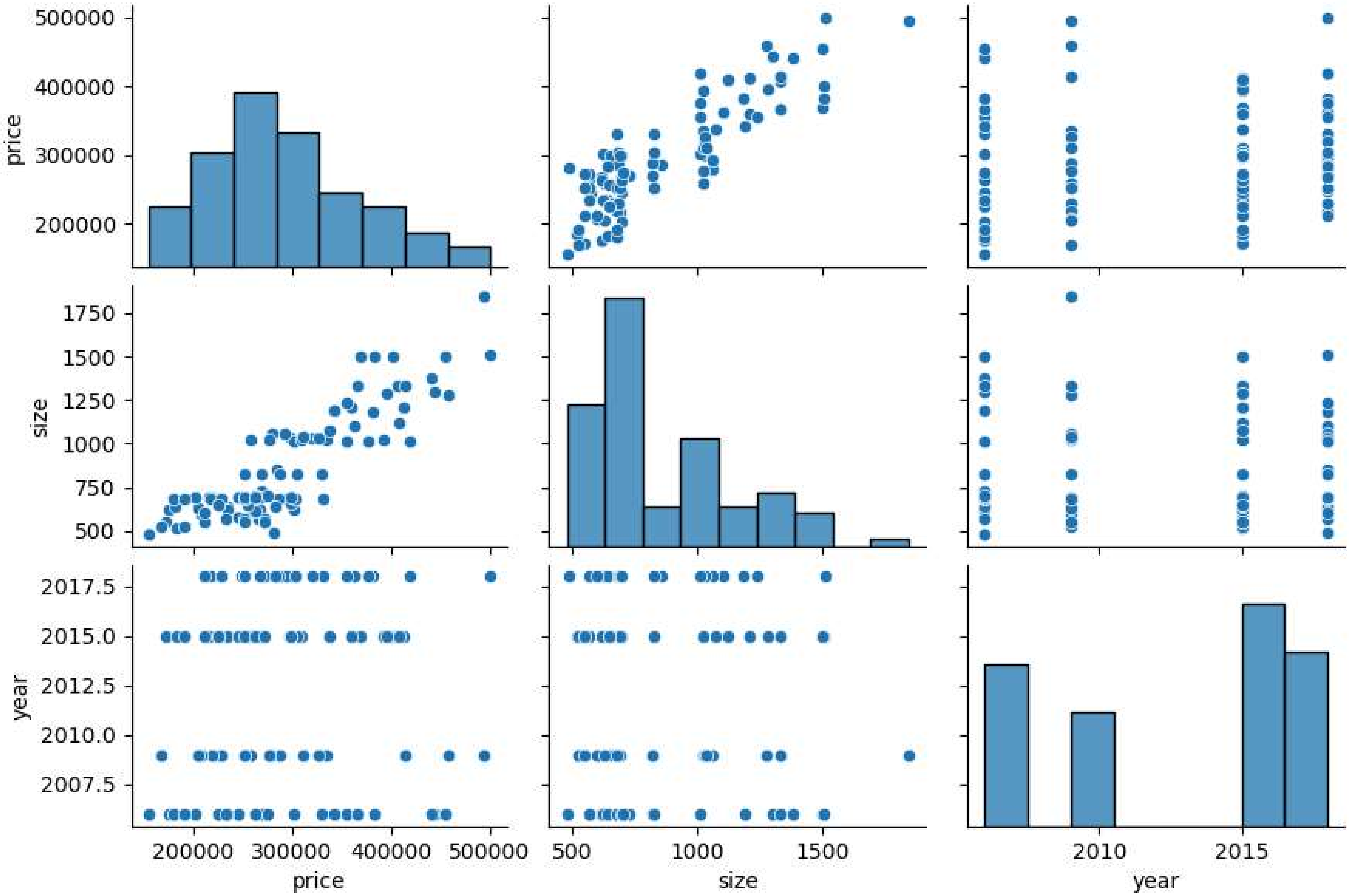
In [30]:

```python
import seaborn as sns
sns.pairplot(data,height=2,aspect=1.5)
```

```
D:\Anaconda\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning: The figure layout has changed to tight
  self._figure.tight_layout(*args, **kwargs)
```

Out[30]:

```
<seaborn.axisgrid.PairGrid at 0x25de5e06150>
```



```
In [31]: data.describe()
```

Out[31]:

	price	size	year
count	100.000000	100.000000	100.000000
mean	292289.470160	853.024200	2012.600000
std	77051.727525	297.941951	4.729021
min	154282.128000	479.750000	2006.000000
25%	234280.148000	643.330000	2009.000000
50%	280590.716000	696.405000	2015.000000
75%	335723.696000	1029.322500	2018.000000
max	500681.128000	1842.510000	2018.000000

In [32]:

```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 100 entries, 0 to 99
Data columns (total 4 columns):
 #   Column  Non-Null Count  Dtype  
---  ------  --------------  -----  
 0   price   100 non-null    float64
 1   size    100 non-null    float64
 2   year    100 non-null    int64  
 3   view    100 non-null    object 
dtypes: float64(2), int64(1), object(1)
memory usage: 3.3+ KB
```

In [33]:

```
data1=pd.get_dummies(data)
data1
```

Out[33]:

	price	size	year	view_No sea view	view_Sea view
0	234314.144	643.09	2015	True	False
1	228581.528	656.22	2009	True	False
2	281626.336	487.29	2018	False	True
3	401255.608	1504.75	2015	True	False
4	458674.256	1275.46	2009	False	True
...	...	...	...	...	...
95	252460.400	549.80	2009	False	True
96	310522.592	1037.44	2009	True	False
97	383635.568	1504.75	2006	True	False
98	225145.248	648.29	2015	True	False
99	274922.856	705.29	2006	False	True

100 rows × 5 columns

In [44]:

```
x=data1.drop('price',axis='columns' )
x
```

Out[44]:

	size	year	view_No sea view	view_Sea view
0	643.09	2015	True	False
1	656.22	2009	True	False
2	487.29	2018	False	True
3	1504.75	2015	True	False
4	1275.46	2009	False	True
...	...	...	...	...
95	549.80	2009	False	True
96	1037.44	2009	True	False
97	1504.75	2006	True	False
98	648.29	2015	True	False
99	705.29	2006	False	True

100 rows × 4 columns

In [45]:

```
y=data1.price
print(x)
print(y)
```

```
       size  year  view_No sea view  view_Sea view
0    643.09  2015              True          False
1    656.22  2009              True          False
2    487.29  2018             False           True
3   1504.75  2015              True          False
4   1275.46  2009             False           True
..      ...   ...               ...            ...
95   549.80  2009             False           True
96  1037.44  2009              True          False
97  1504.75  2006              True          False
98   648.29  2015              True          False
99   705.29  2006             False           True

[100 rows x 4 columns]
0     234314.144
1     228581.528
2     281626.336
3     401255.608
4     458674.256
         ...
95    252460.400
96    310522.592
97    383635.568
98    225145.248
99    274922.856
Name: price, Length: 100, dtype: float64
```

In [46]:

```python
from sklearn.model_selection import train_test_split
x_train, x_test, y_train, y_test=train_test_split(x,y,test_size=0.4, random_state=2)
```

In [47]:

```python
print(x_train)
print(x_test)
print(y_train)
print(y_test)
```

```
       size  year  view_No sea view  view_Sea view
12   694.52  2015              True          False
53   727.88  2006             False           True
87  1028.41  2009             False           True
54   647.50  2015             False           True
95   549.80  2009             False           True
32   597.90  2009              True          False
19  1027.76  2018              True          False
26   570.89  2018             False           True
60   828.16  2018              True          False
55  1508.84  2018             False           True
9    694.52  2009              True          False
96  1037.44  2009              True          False
17   623.94  2006             False           True
59   569.17  2015             False           True
57  1283.85  2015             False           True
41   682.26  2018              True          False
64   685.48  2015             False           True
45   698.29  2015             False           True
97  1504.75  2006              True          False
8    682.26  2018             False           True
71   643.41  2006              True          False
94   698.29  2006             False           True
90   694.52  2018              True          False
98   648.29  2015              True          False
86   479.75  2006              True          False
80   681.07  2006              True          False
50   647.50  2015              True          False
52  1021.95  2009              True          False
66  1009.25  2006             False           True
88   601.66  2018              True          False
70  1021.95  2009              True          False
46   633.19  2009              True          False
68   685.48  2018             False           True
69  1496.36  2006             False           True
81  1122.34  2015             False           True
58   827.84  2006             False           True
33   525.81  2015              True          False
38   685.48  2018             False           True
51  1021.95  2015             False           True
42   823.21  2009             False           True
4   1275.46  2009             False           True
67   549.80  2015             False           True
39   698.29  2015              True          False
```

```
37   570.25  2006             False           True
20   620.71  2015             False           True
31   681.07  2006              True          False
63  1021.95  2009             False           True
47   698.29  2006              True          False
85  1009.25  2018             False           True
93   698.29  2018              True          False
49   617.05  2015             False           True
34   857.54  2018              True          False
7    620.82  2006              True          False
75   685.48  2018             False           True
82   681.07  2006              True          False
43  1334.10  2009              True          False
22  1207.45  2015             False           True
72   656.22  2015             False           True
15  1379.72  2006             False           True
40  1021.95  2015              True          False
       size  year  view_No sea view  view_Sea view
83   643.09  2018             False           True
30  1010.33  2006              True          False
56  1032.06  2018              True          False
24   525.81  2009              True          False
16   690.54  2018              True          False
23   518.38  2015              True          False
2    487.29  2018             False           True
27  1334.10  2015             False           True
28   681.07  2015             False           True
13  1009.25  2018              True          False
99   705.29  2006             False           True
92   694.52  2015             False           True
76  1183.46  2018             False           True
14  1300.96  2006             False           True
0    643.09  2015              True          False
21   549.69  2015              True          False
3   1504.75  2015              True          False
29  1496.36  2015              True          False
61   698.50  2015              True          False
79  1188.62  2006             False           True
35   622.97  2018             False           True
11  1842.51  2009             False           True
84   685.48  2018             False           True
44  1060.36  2018              True          False
73   549.80  2015              True          False
5    575.19  2006             False           True
```

```
25  1103.30  2018             False           True
77  1334.10  2006              True          False
74   685.48  2018              True          False
62  1205.62  2015              True          False
65   827.09  2015              True          False
1    656.22  2009              True          False
18   681.07  2006              True          False
48   633.19  2015             False           True
36   823.21  2006              True          False
78   682.26  2009             False           True
6    570.89  2015             False           True
89  1236.93  2018              True          False
91  1071.55  2015              True          False
10  1060.36  2009              True          False
12    215472.104
53    269523.056
87    327252.112
54    255629.160
95    252460.400
32    207742.248
19    299416.976
26    271793.312
60    251188.824
55    500681.128
9     218630.608
96    310522.592
17    234178.160
59    251332.592
57    395242.096
41    217468.224
64    302393.384
45    300061.480
97    383635.568
8     331101.344
71    181587.576
94    262477.856
90    251140.656
98    225145.248
86    154282.128
80    180307.216
50    225656.120
52    258637.008
66    355251.200
88    211904.536
```

```
70    276875.632
46    204302.976
68    294582.944
69    454512.760
81    408637.816
58    330677.128
33    191486.896
38    292965.216
51    393069.760
42    287350.000
4     458674.256
67    271726.752
39    245747.200
37    233493.208
20    268125.080
31    225452.320
63    334938.872
47    201778.048
85    376253.808
93    266684.248
49    262423.504
34    285223.176
7     175716.480
75    286161.600
82    190909.056
43    414682.648
22    412569.472
72    298926.496
15    440201.616
40    310045.712
Name: price, dtype: float64
83    282683.544
30    301635.728
56    320345.520
24    168047.264
16    248337.600
23    183459.488
2     281626.336
27    406852.304
28    297760.440
13    418753.008
99    274922.856
92    298170.880
76    382120.152
```

```
14    444192.008
0     234314.144
21    171795.240
3     401255.608
29    368988.432
61    263311.696
79    342988.456
35    302000.920
11    494778.992
84    303597.216
44    293044.496
73    211724.096
5     245050.280
25    362519.720
77    365863.936
74    228313.024
62    359674.440
65    304587.272
1     228581.528
18    225451.984
48    257828.416
36    269225.920
78    251560.040
6     265129.064
89    354512.112
91    338078.168
10    279555.096
Name: price, dtype: float64
```

In [48]:
```
from sklearn.linear_model import LinearRegression
```

In [49]:
```
equation=LinearRegression()
```

In [50]:
```
equation.fit(x_train, y_train)
```

Out[50]:
```
▾ LinearRegression
LinearRegression()
```

In [51]:
```
equation.intercept_
```

```
Out[51]: -5778726.325474448
```

```
In [52]: equation.coef_
```

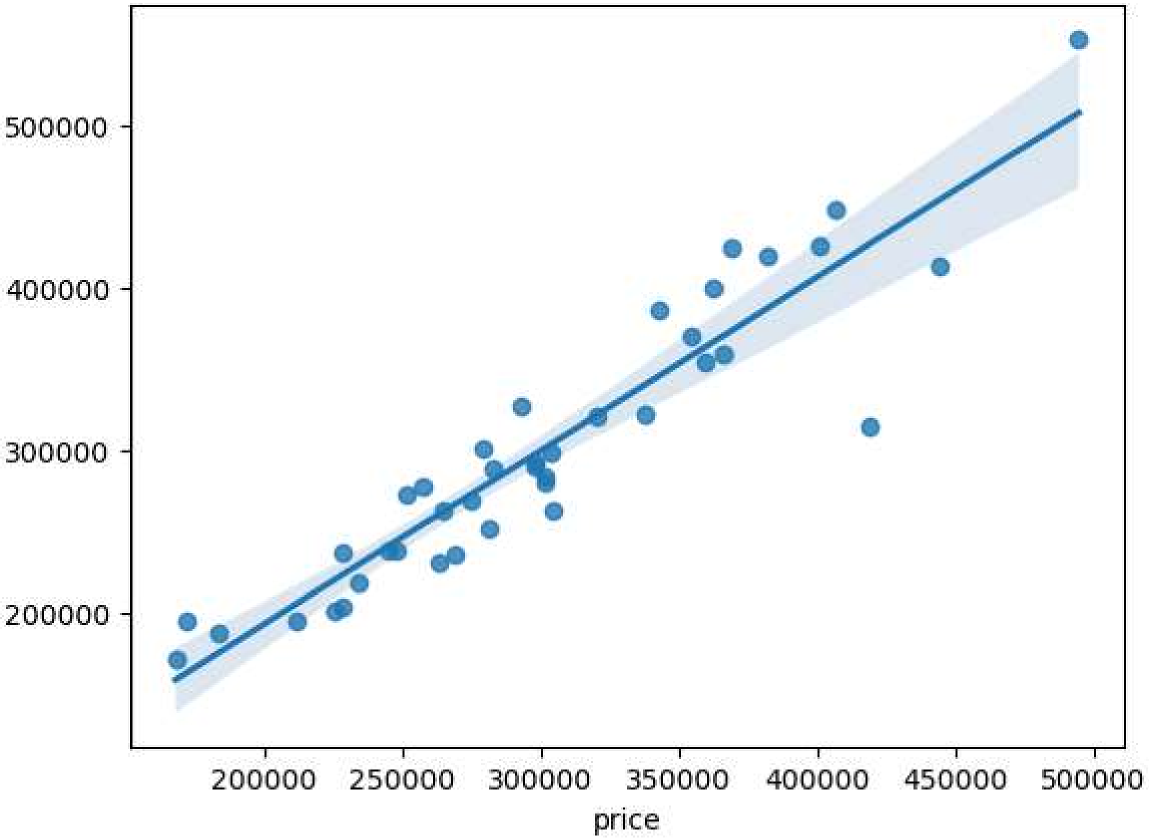
```
Out[52]: array([   242.12526906,   2914.12242819, -31226.44185297,  31226.44185297])
```

```
In [53]: y_test_predicted=equation.predict(x_test)
         y_test_predicted
```

```
Out[53]: array([288907.51573793, 280403.2467037 , 320634.09793863, 171831.07862285,
                237943.47604893, 187516.82244284, 251184.39881823, 447476.13062718,
                289361.06617231, 315111.22055134, 268998.23833529, 292617.65104118,
                419744.74738039, 413224.99735682, 217712.26474743, 195097.76461714,
                426341.92408649, 424310.49307906, 231128.4259061 , 386024.64463052,
                284035.95532442, 553090.30410134, 299171.20589342, 327486.24305305,
                195124.39839674, 237497.74083046, 400335.98581247, 358796.14506756,
                236718.32218748, 353914.99235229, 262263.31425465, 203406.63496109,
                200681.08061269, 277768.10828967, 235096.76635702, 272164.46067337,
                262683.70402717, 370238.30181114, 321453.25752928, 301259.14119938])
```

```
In [54]: sns.regplot(x=y_test, y=y_test_predicted)
```

```
Out[54]: <Axes: xlabel='price'>
```


500000
400000
300000
200000
200000
250000
300000
350000
400000
450000
500000
price

```
In [ ]:
```

```
In [ ]:
```