```
import pandas as pd

df.to_csv('real_estate2.csv')
```

```
df.head()
```

	price	area	bedrooms	bathrooms	stories	mainroad	guestroom	basement	hotwaterheating	airconditioning	parking	furnishingstatus
0	13300000	7420	4	2	3	yes	no	no	no	yes	2	furnished
1	12250000	8960	4	4	4	yes	no	no	no	no	3	furnished
2	12250000	9960	3	2	2	yes	no	yes	no	no	2	semi-furnished
3	12215000	7500	4	2	2	yes	no	yes	no	yes	3	furnished
4	11410000	7420	4	1	2	yes	yes	yes	no	yes	2	furnished

```
df.shape
```

```
(545, 13)
```

```
df.info()
```

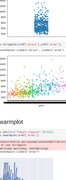
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 545 entries, 0 to 544
Data columns (total 13 columns):
 price             545 non-null  int64
 area              545 non-null  int64
 bedrooms          545 non-null  int64
 bathrooms         545 non-null  int64
 stories           545 non-null  int64
 mainroad          545 non-null  object
 guestroom         545 non-null  object
 basement          545 non-null  object
 hotwaterheating   545 non-null  object
 airconditioning   545 non-null  object
 parking           545 non-null  int64
 furnishingstatus  545 non-null  object
dtype: int64, object: 7
memory usage: 55.4 KB
```

```
import matplotlib.pyplot as plt
%matplotlib inline
plt.rcParams['figure.figsize'] = (20,5)
```

univariate

```
univariate scatterplot
```

```
plt.scatter(df.index,df['area'])
plt.show()
```



```
# or
df.area.plot()
```

```
df.area.plot(marker='o')
```

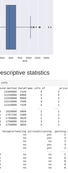
```
plt.scatter(df.index,df['area'],marker='o')
```

```
plt.scatter(df.index,df['area'],marker='o',c='red')
```

swarmplot

```
import seaborn as sns
sns.swarmplot(df['area'],data=df)
```

```
C:\Anaconda3\lib\site-packages\matplotlib\cbtools.py:831: MatplotlibDeprecationWarning:
The get_cmap function will be deprecated in matplotlib 3.1 and will be removed in 3.2.
  cmap = plt.get_cmap(cmap, ncolors)
C:\Anaconda3\lib\site-packages\seaborn\categorical.pyc:1296: UserWarning: 5.7% of the points cannot be placed; you may wants to decrease the size of the mark
ers or use stripplot.
  warnings.warn("{:d}% of the points cannot be placed; you may want to decrease the size of the mark
ers or use stripplot.".format(gap*100))
<Parallel(n=1)>:[Parallel(n=1)]: Done  1 out of  1 | elapsed:  0.0s remaining: 0.0s
<Parallel(n=1)>:[Parallel(n=1)]: Done  1 out of  1 | elapsed:  0.0s finished
```



```
sns.swarmplot(df['price'],data=df)
```

```
C:\Anaconda3\lib\site-packages\matplotlib\cbtools.py:831: MatplotlibDeprecationWarning:
The get_cmap function will be deprecated in matplotlib 3.1 and will be removed in 3.2.
  cmap = plt.get_cmap(cmap, ncolors)
C:\Anaconda3\lib\site-packages\seaborn\categorical.pyc:1296: UserWarning: 39.8% of the points cannot be placed; you may want to decrease the size of the mark
ers or use stripplot.
  warnings.warn("{:d}% of the points cannot be placed; you may want to decrease the size of the mark
ers or use stripplot.".format(gap*100))
```