```
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Aim – Write a python program to create csv file/dataset using any five numpy.random distribution functions. Apply pandas series, dataframes and methods for processing any csv files/datasets and perform the given operations on the dataset using numpy. Further, plot the output of all the given operations using data visualization package.

In [50]:

```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
import math

result=pd.read_csv('nse.csv')
result
```

Out[50]:

	Date	Open	High	Low	Last	Close	Total Trade Quantity	Turnover (Lacs)
0	2018-10-08	208.00	222.25	206.85	216.00	215.15	4642146.0	10062.83
1	2018-10-05	217.00	218.60	205.90	210.25	209.20	3519515.0	7407.06
2	2018-10-04	223.50	227.80	216.15	217.25	218.20	1728786.0	3815.79
3	2018-10-03	230.00	237.50	225.75	226.45	227.60	1708590.0	3960.27
4	2018-10-01	234.55	234.60	221.05	230.30	230.90	1534749.0	3486.05
...	...	...	...	...	...	...	...	...
1230	2013-10-14	160.85	161.45	157.70	159.30	159.45	1281419.0	2039.09
1231	2013-10-11	161.15	163.45	159.00	159.80	160.05	1880046.0	3030.76
1232	2013-10-10	156.00	160.80	155.85	160.30	160.15	3124853.0	4978.80
1233	2013-10-09	155.70	158.20	154.15	155.30	155.55	2049580.0	3204.49
1234	2013-10-08	157.00	157.80	155.20	155.80	155.80	1720413.0	2688.94

1235 rows × 8 columns

In [51]:
```
result.head()
```

Out[51]:

	Date	Open	High	Low	Last	Close	Total Trade Quantity	Turnover (Lacs)
0	2018-10-08	208.00	222.25	206.85	216.00	215.15	4642146.0	10062.83
1	2018-10-05	217.00	218.60	205.90	210.25	209.20	3519515.0	7407.06
2	2018-10-04	223.50	227.80	216.15	217.25	218.20	1728786.0	3815.79
3	2018-10-03	230.00	237.50	225.75	226.45	227.60	1708590.0	3960.27
4	2018-10-01	234.55	234.60	221.05	230.30	230.90	1534749.0	3486.05

In [52]:
```
result.tail()
```

Out[52]:

	Date	Open	High	Low	Last	Close	Total Trade Quantity	Turnover (Lacs)
1230	2013-10-14	160.85	161.45	157.70	159.3	159.45	1281419.0	2039.09
1231	2013-10-11	161.15	163.45	159.00	159.8	160.05	1880046.0	3030.76
1232	2013-10-10	156.00	160.80	155.85	160.3	160.15	3124853.0	4978.80
1233	2013-10-09	155.70	158.20	154.15	155.3	155.55	2049580.0	3204.49
1234	2013-10-08	157.00	157.80	155.20	155.8	155.80	1720413.0	2688.94

In [53]:
```
result.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1235 entries, 0 to 1234
Data columns (total 8 columns):
 #   Column                Non-Null Count  Dtype  
---  ------                --------------  -----  
 0   Date                  1235 non-null   object 
 1   Open                  1235 non-null   float64
 2   High                  1235 non-null   float64
 3   Low                   1235 non-null   float64
 4   Last                  1235 non-null   float64
 5   Close                 1235 non-null   float64
 6   Total Trade Quantity  1235 non-null   float64
 7   Turnover (Lacs)       1235 non-null   float64
dtypes: float64(7), object(1)
memory usage: 77.3+ KB
```

In [54]:

```
result.mean()
```

Out[54]:

```
Open                    1.689549e+02
High                    1.714291e+02
Low                     1.664023e+02
Last                    1.687364e+02
Close                   1.687311e+02
Total Trade Quantity    2.604151e+06
Turnover (Lacs)         4.843167e+03
dtype: float64
```

In [55]:

```
result.describe()
```

Out[55]:

	Open	High	Low	Last	Close	Total Trade Quantity	Turnover (Lacs)
count	1235.000000	1235.000000	1235.000000	1235.000000	1235.000000	1.235000e+03	1235.000000
mean	168.954858	171.429069	166.402308	168.736356	168.731053	2.604151e+06	4843.166502
std	51.499145	52.436761	50.542919	51.587384	51.544928	2.277028e+06	5348.919832
min	103.000000	104.600000	100.000000	102.600000	102.650000	1.001800e+05	128.040000
25%	137.550000	138.925000	135.250000	137.175000	137.225000	1.284482e+06	1801.035000
50%	151.500000	153.250000	149.500000	151.200000	151.100000	1.964885e+06	3068.510000
75%	169.000000	172.325000	166.700000	169.100000	169.500000	3.095788e+06	5852.600000
max	327.700000	328.750000	321.650000	325.950000	325.750000	2.919102e+07	55755.080000

In [56]:

```
result.max()
```

Out[56]:

```
Date                    2018-10-08
Open                         327.7
High                        328.75
Low                         321.65
Last                        325.95
Close                       325.75
Total Trade Quantity    2.9191e+07
Turnover (Lacs)            55755.1
dtype: object
```

In [57]:

```
result.min()
```

Out[57]:

```
Date                    2013-10-08
Open                           103
```

```
High                           104.6
Low                              100
Last                           102.6
Close                         102.65
Total Trade Quantity          100180
Turnover (Lacs)               128.04
dtype: object
```

In [58]:
```
result.mean()
```

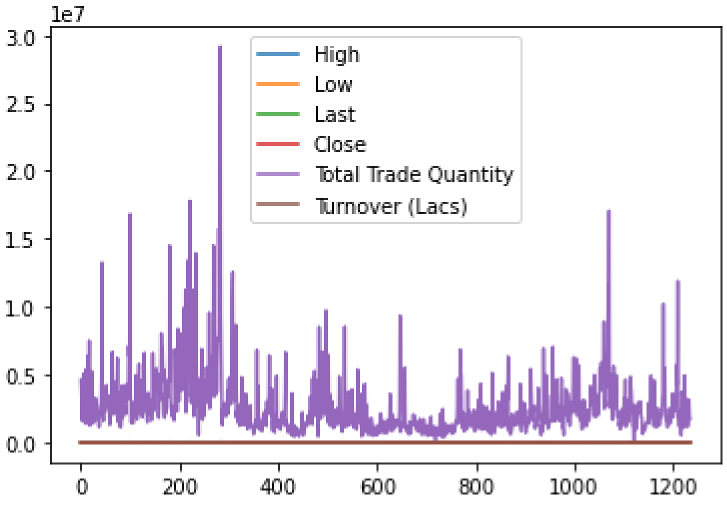
Out[58]:
```
Open                    1.689549e+02
High                    1.714291e+02
Low                     1.664023e+02
Last                    1.687364e+02
Close                   1.687311e+02
Total Trade Quantity    2.604151e+06
Turnover (Lacs)         4.843167e+03
dtype: float64
```

In [59]:
```
result.std()
```

Out[59]:
```
Open                    5.149915e+01
High                    5.243676e+01
Low                     5.054292e+01
Last                    5.158738e+01
Close                   5.154493e+01
Total Trade Quantity    2.277028e+06
Turnover (Lacs)         5.348920e+03
dtype: float64
```

In [60]:
```
result.drop("Open",axis=1).plot()
```

Out[60]:
```
<AxesSubplot:>
```

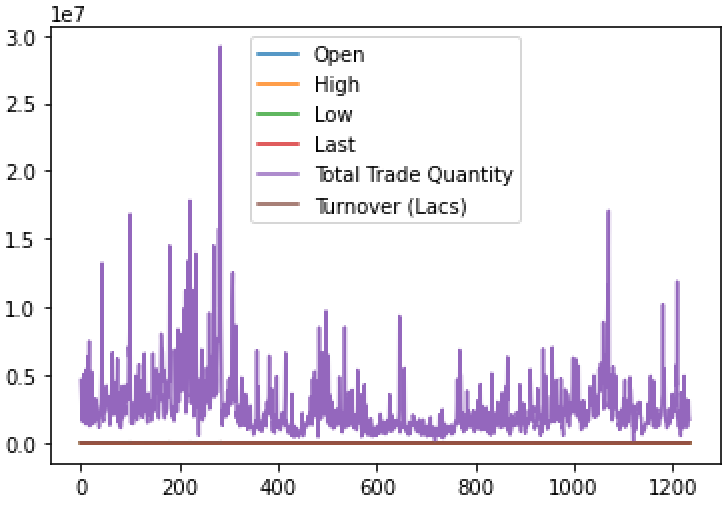


In [61]:

```
result.drop("Close",axis=1).plot()
```

Out[61]:

```
<AxesSubplot:>
```

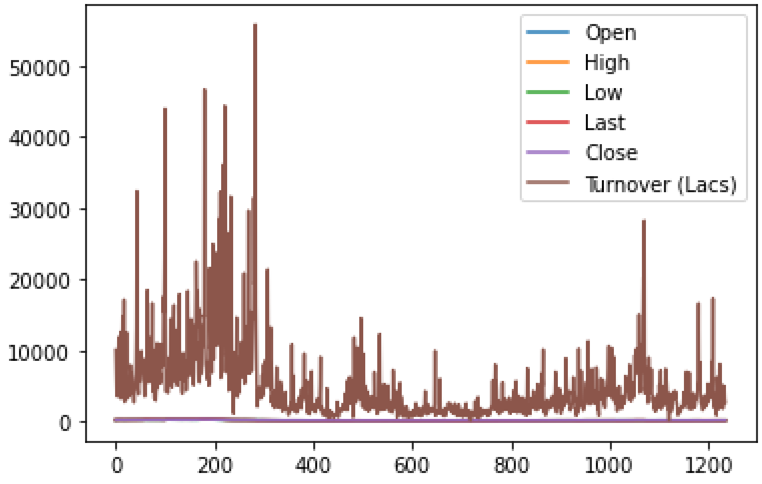


In [63]:

```
result.drop("Total Trade Quantity",axis=1).plot()
```

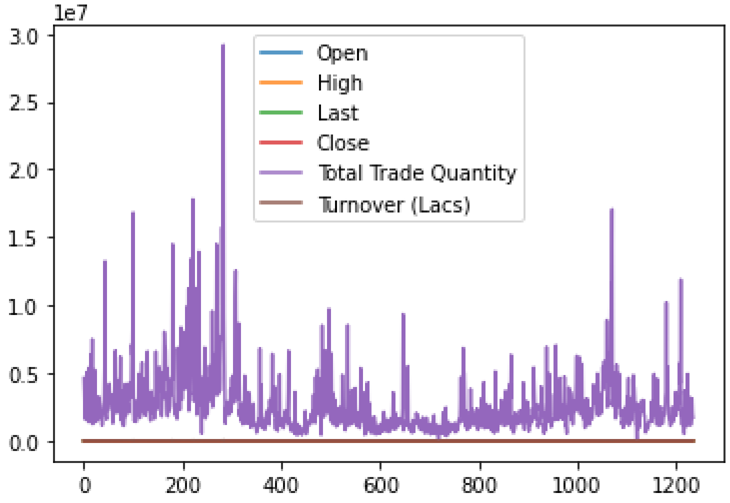
Out[63]:

```
<AxesSubplot:>
```



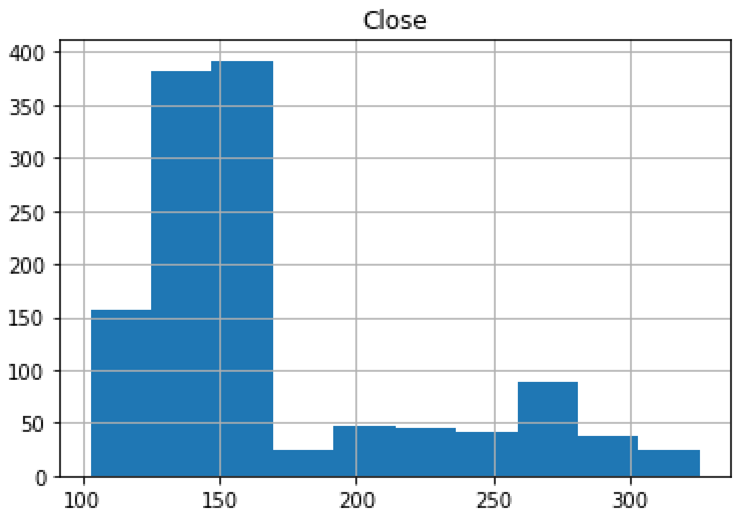
```
In [64]: result.drop("Low",axis=1).plot()

Out[64]: <AxesSubplot:>
```



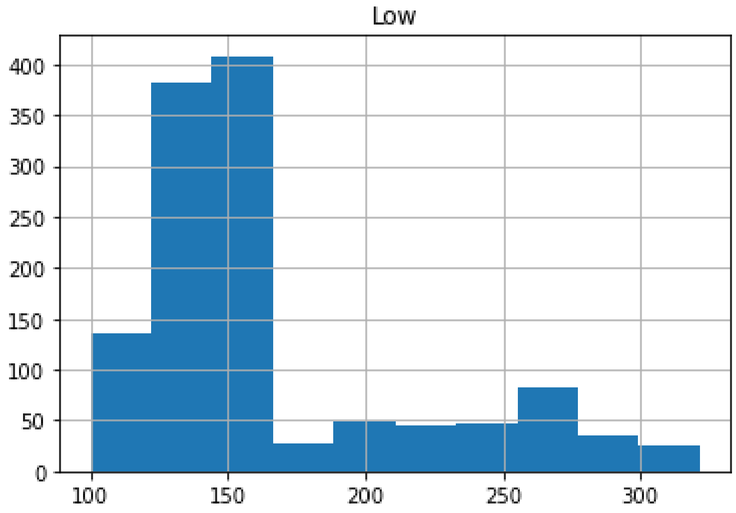
```
In [65]: result.hist(column="Close")

Out[65]: array([[<AxesSubplot:title={'center':'Close'}>]], dtype=object)
```



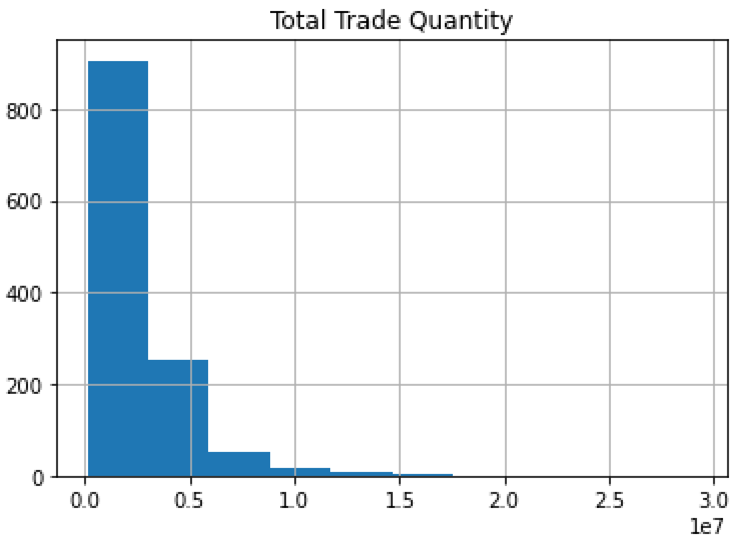
```
In [66]: result.hist(column="Low")
```

```
Out[66]: array([[<AxesSubplot:title={'center':'Low'}>]], dtype=object)
```



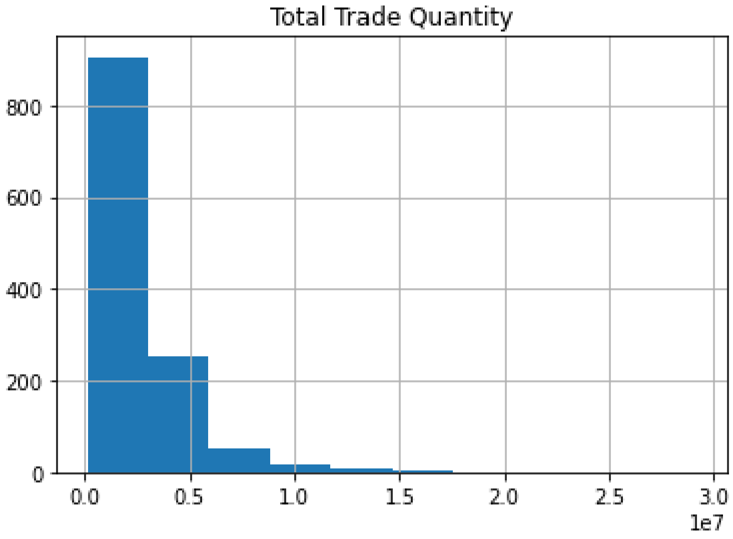
```
In [67]: result.hist(column="Total Trade Quantity")
```

```
Out[67]: array([[<AxesSubplot:title={'center':'Total Trade Quantity'}>]],
               dtype=object)
```



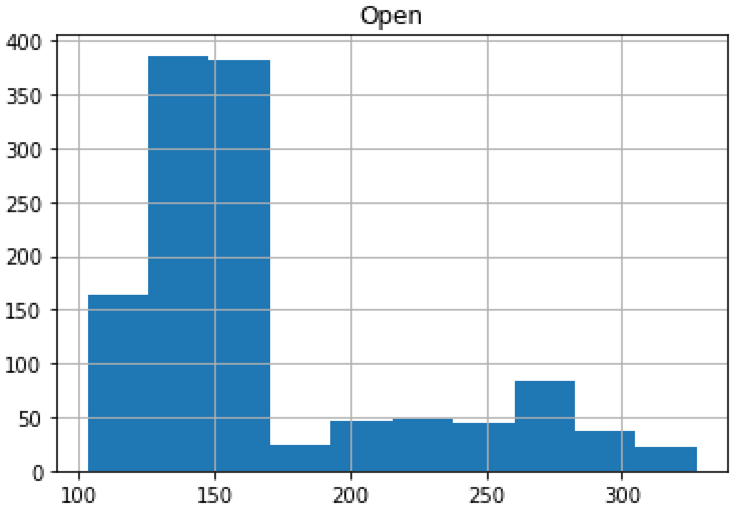
```
In [68]: result.hist(column="Total Trade Quantity")
```

```
Out[68]: array([[<AxesSubplot:title={'center':'Total Trade Quantity'}>]],
               dtype=object)
```



```
In [69]: result.hist(column="Open")
```

```
Out[69]: array([[<AxesSubplot:title={'center':'Open'}>]], dtype=object)
```



```
In [ ]:
```