

04/08/2023 (BOOK-23)

```
In [200]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.linear_model import LogisticRegression
from sklearn.preprocessing import StandardScaler
import re
from sklearn.datasets import load_digits
from sklearn.model_selection import train_test_split
```

```
In [201]: a=pd.read_csv(r"C:\Users\user\Downloads\Book23.csv")
a
```

Out[201]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	1357	HARYANA DELHI & CHANDIGARH	1901	35.4	28.9	11.1	0.0	5.1	13.2	126.4	151.5	10.5	2.0
1	1358	HARYANA DELHI & CHANDIGARH	1902	0.0	0.7	2.9	10.2	15.8	74.6	149.3	97.1	59.8	9.3
2	1359	HARYANA DELHI & CHANDIGARH	1903	14.7	0.5	2.3	0.5	8.5	8.6	151.6	138.2	97.7	4.0
3	1360	HARYANA DELHI & CHANDIGARH	1904	7.6	0.7	48.0	0.5	29.3	34.3	109.7	162.9	102.3	1.5
4	1361	HARYANA DELHI & CHANDIGARH	1905	44.8	20.8	14.0	1.3	7.4	20.1	93.6	23.1	92.6	0.0
...
110	1467	HARYANA DELHI & CHANDIGARH	2011	0.7	26.7	6.9	8.9	28.7	94.4	85.0	127.3	133.1	0.0
111	1468	HARYANA DELHI & CHANDIGARH	2012	8.2	0.2	0.1	11.8	3.8	5.3	68.1	196.6	90.7	2.4
112	1469	HARYANA DELHI & CHANDIGARH	2013	21.1	52.2	5.3	3.3	1.4	62.1	96.5	161.9	42.8	10.9
113	1470	HARYANA DELHI & CHANDIGARH	2014	13.0	17.3	26.8	7.5	20.3	25.9	72.3	34.8	67.3	10.5
114	1471	HARYANA DELHI & CHANDIGARH	2015	12.4	6.6	71.8	34.8	8.4	43.7	130.3	89.2	32.1	3.7

115 rows × 20 columns



```
In [202]: a.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 115 entries, 0 to 114
Data columns (total 20 columns):
#   Column          Non-Null Count  Dtype
---  -
0   index           115 non-null   int64
1   SUBDIVISION     115 non-null   object
2   YEAR            115 non-null   int64
3   JAN             115 non-null   float64
4   FEB             115 non-null   float64
5   MAR             115 non-null   float64
6   APR             115 non-null   float64
7   MAY             115 non-null   float64
8   JUN             115 non-null   float64
9   JUL             115 non-null   float64
10  AUG             115 non-null   float64
11  SEP             115 non-null   float64
12  OCT             115 non-null   float64
13  NOV             115 non-null   float64
14  DEC             115 non-null   float64
15  ANNUAL          115 non-null   float64
16  Jan-Feb         115 non-null   float64
17  Mar-May         115 non-null   float64
18  Jun-Sep         115 non-null   float64
19  Oct-Dec         115 non-null   float64
dtypes: float64(17), int64(2), object(1)
memory usage: 18.1+ KB
```

```
In [203]: b=a.fillna(method='ffill')
b
```

Out[203]:

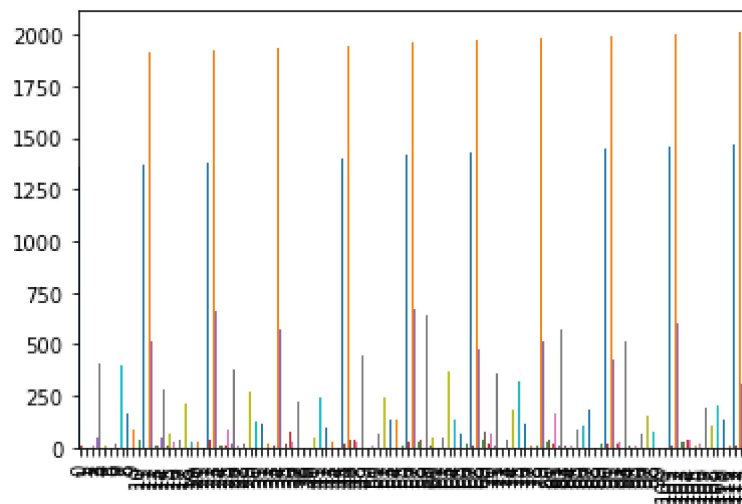
	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	1357	HARYANA DELHI & CHANDIGARH	1901	35.4	28.9	11.1	0.0	5.1	13.2	126.4	151.5	10.5	2.0
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4	1361	HARYANA DELHI & CHANDIGARH	1905	44.8	20.8	14.0	1.3	7.4	20.1	93.6	23.1	92.6	0.0
...
110	1467	HARYANA DELHI & CHANDIGARH	2011	0.7	26.7	6.9	8.9	28.7	94.4	85.0	127.3	133.1	0.0
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115 rows × 20 columns



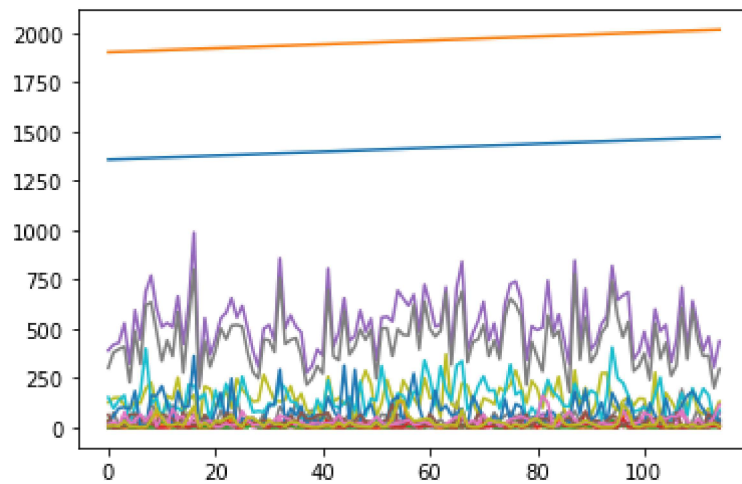
```
In [204]: b.plot.bar(legend=None)
```

```
Out[204]: <AxesSubplot:>
```



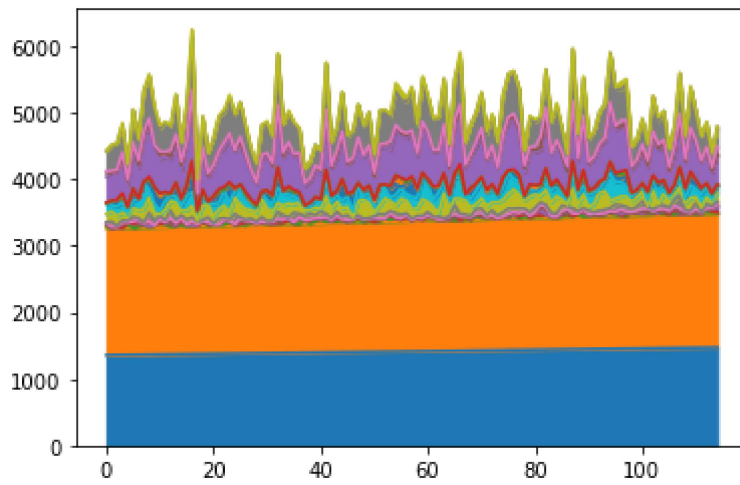
```
In [205]: b.plot.line(legend=None)
```

```
Out[205]: <AxesSubplot:>
```



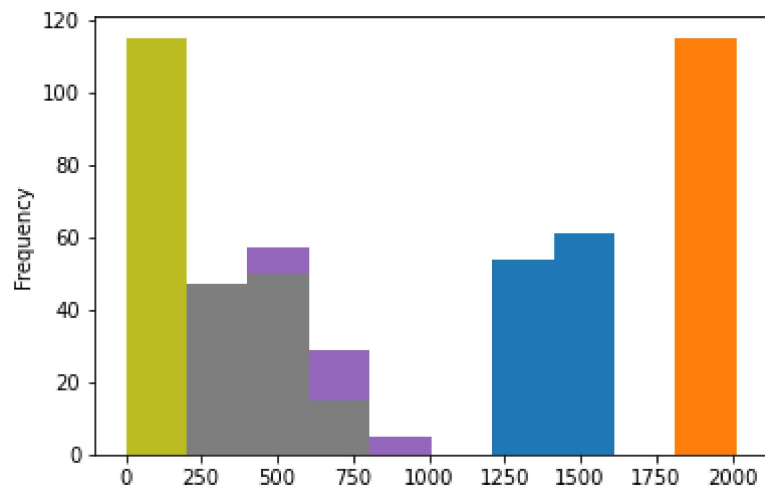
```
In [206]: b.plot.area(legend=None)
```

```
Out[206]: <AxesSubplot:>
```



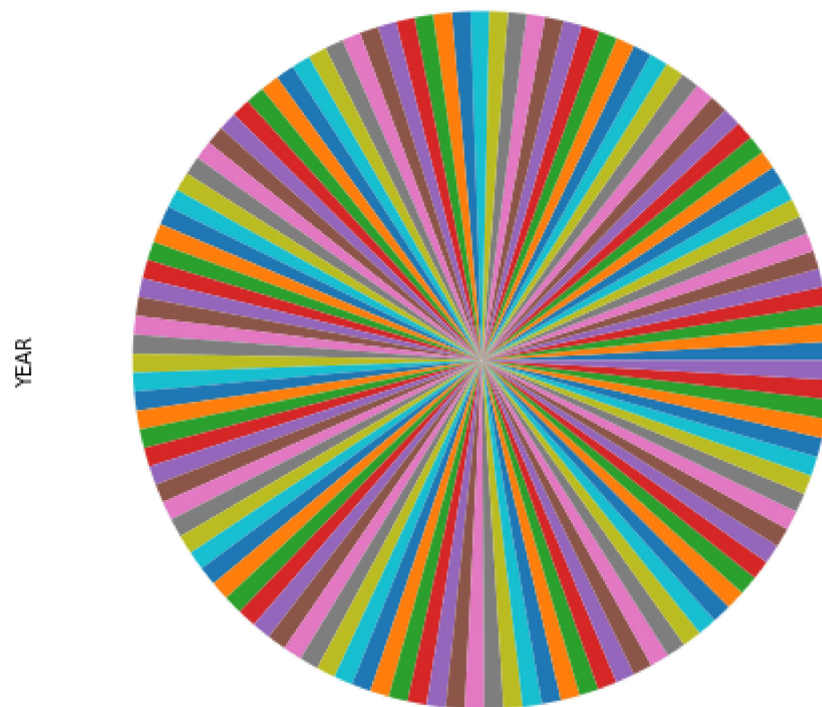
```
In [207]: b.plot.hist(legend=None)
```

```
Out[207]: <AxesSubplot:ylabel='Frequency'>
```



```
In [208]: b.plot.pie(y='YEAR',figsize=(8,8),labels=None,legend=None)
```

```
Out[208]: <AxesSubplot:ylabel='YEAR'>
```



```
In [ ]:
```