

mk 04/08/2023

```
In [1]: 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 [2]: a=pd.read_csv(r"C:\Users\user\Downloads\Book20.csv")
a
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
0	1817	WEST RAJASTHAN	1901	6.7	0.0	1.1	0.0	6.1	3.0	79.0	59.2	1.0	2.1	
1	1818	WEST RAJASTHAN	1902	0.0	0.0	0.0	0.5	4.0	49.1	27.0	71.3	41.8	1.8	
2	1819	WEST RAJASTHAN	1903	1.7	1.3	5.5	0.0	4.2	2.7	154.8	87.1	49.3	0.1	
3	1820	WEST RAJASTHAN	1904	3.8	2.9	16.3	0.7	11.4	14.6	39.8	45.6	21.4	1.4	
4	1821	WEST RAJASTHAN	1905	6.3	4.8	0.7	1.3	0.3	4.9	30.1	0.6	64.5	0.0	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	
110	1927	WEST RAJASTHAN	2011	0.0	11.8	1.5	1.5	7.8	24.4	88.5	166.8	116.3	0.1	
111	1928	WEST RAJASTHAN	2012	0.5	0.0	0.0	9.5	10.4	5.3	40.4	166.7	92.0	1.9	
112	1929	WEST RAJASTHAN	2013	8.6	21.8	4.2	3.1	1.7	37.6	104.5	138.2	58.7	10.1	
113	1930	WEST RAJASTHAN	2014	0.8	2.2	4.7	8.4	23.0	13.8	94.3	69.6	84.9	0.5	
114	1931	WEST RAJASTHAN	2015	1.4	0.9	30.3	25.2	15.5	53.2	234.6	60.5	35.7	1.1	

115 rows × 20 columns



```
In [3]: 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
```

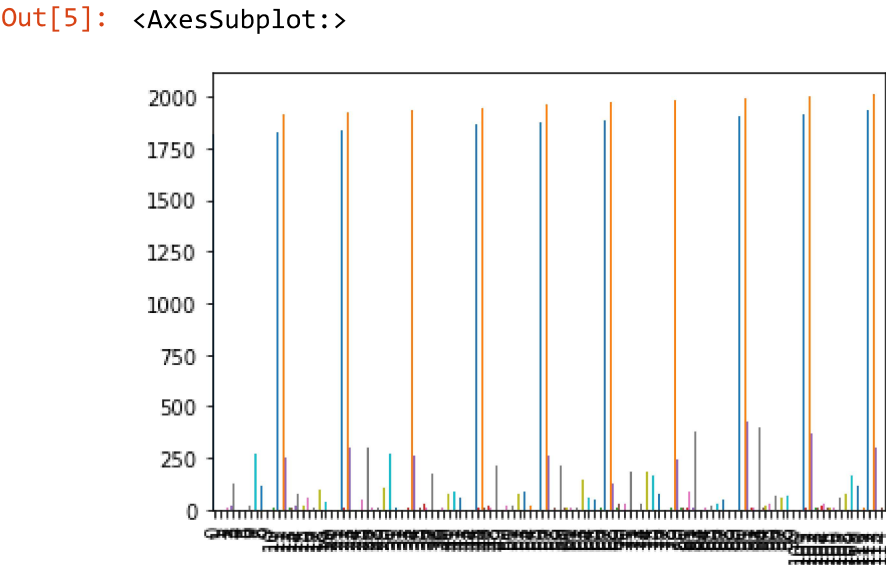
```
In [4]: b=a.fillna(method='ffill')
b
```

Out[4]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
0	1817	WEST RAJASTHAN	1901	6.7	0.0	1.1	0.0	6.1	3.0	79.0	59.2	1.0	2.1	
1	1818	WEST RAJASTHAN	1902	0.0	0.0	0.0	0.5	4.0	49.1	27.0	71.3	41.8	1.8	
2	1819	WEST RAJASTHAN	1903	1.7	1.3	5.5	0.0	4.2	2.7	154.8	87.1	49.3	0.1	
3	1820	WEST RAJASTHAN	1904	3.8	2.9	16.3	0.7	11.4	14.6	39.8	45.6	21.4	1.4	
4	1821	WEST RAJASTHAN	1905	6.3	4.8	0.7	1.3	0.3	4.9	30.1	0.6	64.5	0.0	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
110	1927	WEST RAJASTHAN	2011	0.0	11.8	1.5	1.5	7.8	24.4	88.5	166.8	116.3	0.1	
111	1928	WEST RAJASTHAN	2012	0.5	0.0	0.0	9.5	10.4	5.3	40.4	166.7	92.0	1.9	
112	1929	WEST RAJASTHAN	2013	8.6	21.8	4.2	3.1	1.7	37.6	104.5	138.2	58.7	10.1	
113	1930	WEST RAJASTHAN	2014	0.8	2.2	4.7	8.4	23.0	13.8	94.3	69.6	84.9	0.5	
114	1931	WEST RAJASTHAN	2015	1.4	0.9	30.3	25.2	15.5	53.2	234.6	60.5	35.7	1.1	

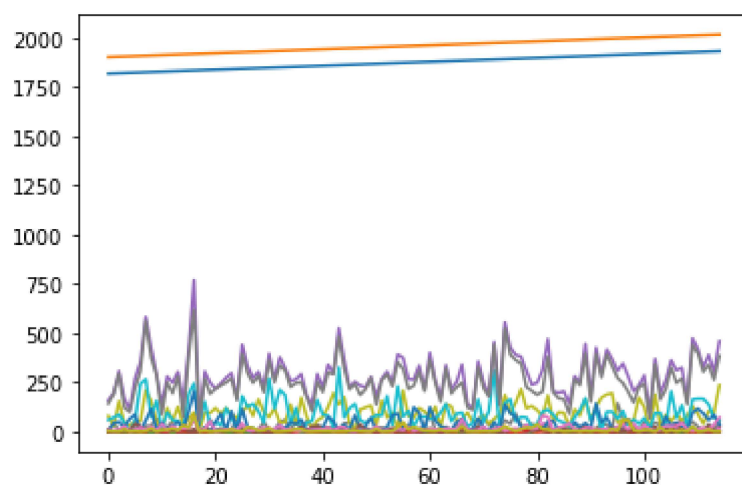
115 rows × 20 columns

```
In [5]: b.plot.bar(legend=None)
```



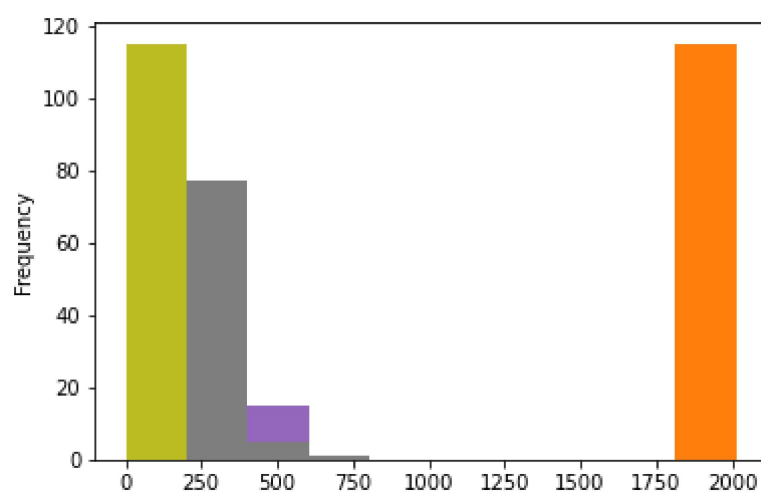
```
In [6]: b.plot.line(legend=None)
```

```
Out[6]: <AxesSubplot:>
```



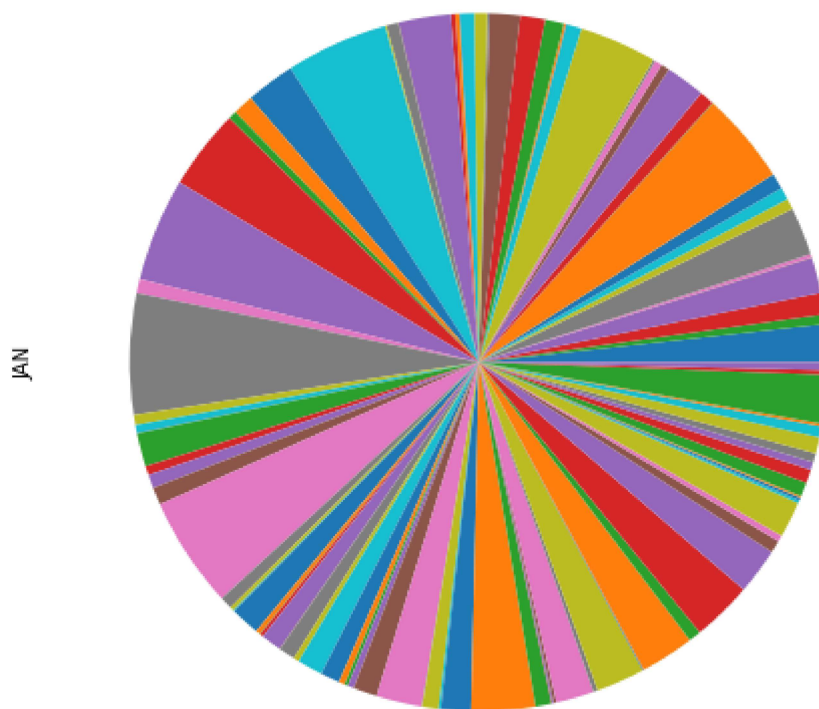
```
In [7]: b.plot.hist(legend=None)
```

```
Out[7]: <AxesSubplot:ylabel='Frequency'>
```



```
In [8]: a.plot.pie(y='JAN',figsize=(8,8),labels=None,legend=None)
```

```
Out[8]: <AxesSubplot:ylabel='JAN'>
```



```
In [ ]:
```