

04/08/2023 (BOOK-28)

```
In [246]: 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 [247]: a=pd.read_csv(r"C:\Users\user\Downloads\Book28.csv")
a
```

Out[247]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
0	207	ASSAM & MEGHALAYA	1901	27.1	19.5	30.6	223.0	207.0	524.9	430.6	464.1	291.4	163.
1	208	ASSAM & MEGHALAYA	1902	9.3	10.2	105.6	350.0	262.1	620.7	510.8	536.0	441.3	97.
2	209	ASSAM & MEGHALAYA	1903	19.9	25.4	103.6	140.6	206.6	607.4	362.7	551.9	306.4	159.
3	210	ASSAM & MEGHALAYA	1904	11.1	56.1	51.9	457.1	375.2	385.7	477.6	438.8	245.9	115.
4	211	ASSAM & MEGHALAYA	1905	19.9	16.9	137.9	213.0	275.5	521.7	439.1	649.1	276.0	200.
...
110	317	ASSAM & MEGHALAYA	2011	11.1	11.4	109.0	92.1	238.3	316.0	395.8	302.6	221.6	30.
111	318	ASSAM & MEGHALAYA	2012	15.2	6.9	28.8	279.1	185.8	729.7	444.3	289.2	411.6	199.
112	319	ASSAM & MEGHALAYA	2013	1.1	9.6	44.0	112.8	346.7	286.2	367.8	289.7	229.3	126.
113	320	ASSAM & MEGHALAYA	2014	2.0	28.3	29.3	51.5	351.1	426.4	374.4	484.6	420.2	35.
114	321	ASSAM & MEGHALAYA	2015	13.4	15.5	37.5	250.9	332.5	558.5	300.1	590.9	279.9	62.

115 rows × 20 columns



In [248]: 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 [249]: b=a.fillna(method='ffill')
b
```

Out[249]:

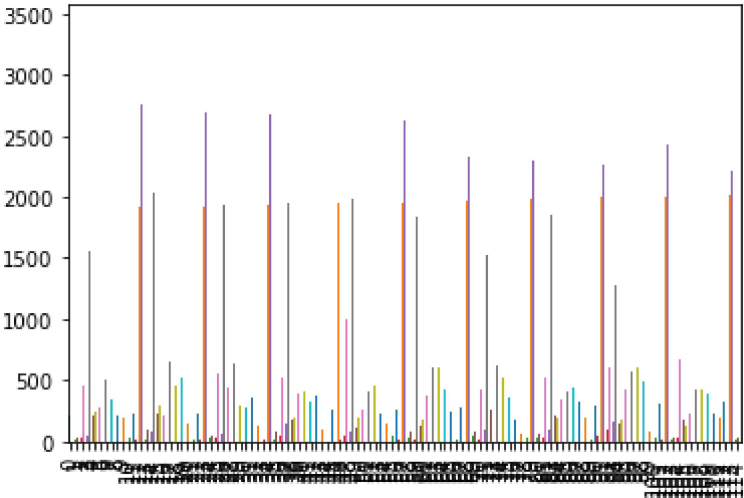
	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
0	207	ASSAM & MEGHALAYA	1901	27.1	19.5	30.6	223.0	207.0	524.9	430.6	464.1	291.4	163.
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110	317	ASSAM & MEGHALAYA	2011	11.1	11.4	109.0	92.1	238.3	316.0	395.8	302.6	221.6	30.
111	318	ASSAM & MEGHALAYA	2012	15.2	6.9	28.8	279.1	185.8	729.7	444.3	289.2	411.6	199.
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113	320	ASSAM & MEGHALAYA	2014	2.0	28.3	29.3	51.5	351.1	426.4	374.4	484.6	420.2	35.
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115 rows × 20 columns



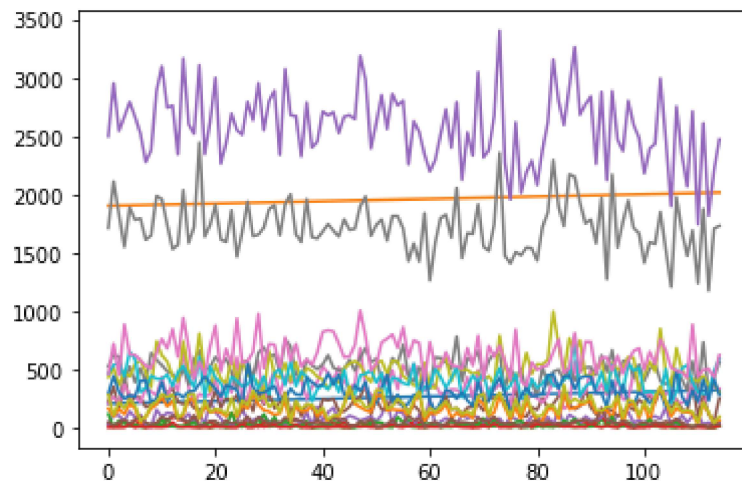
```
In [250]: b.plot.bar(legend=None)
```

Out[250]: <AxesSubplot:>



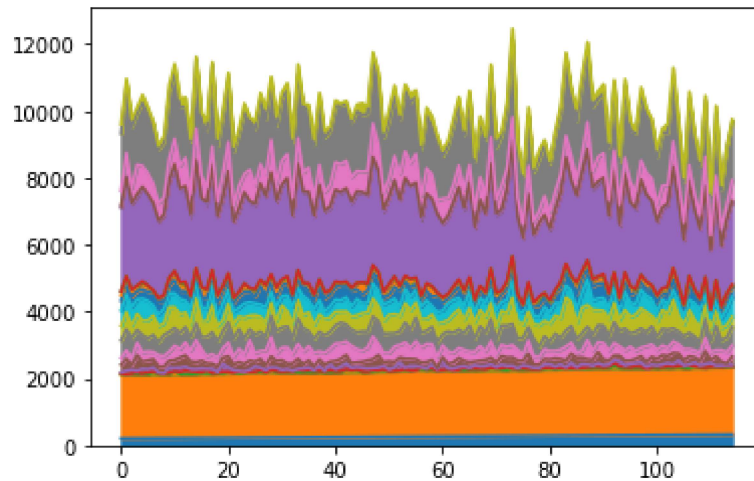
```
In [251]: b.plot.line(legend=None)
```

```
Out[251]: <AxesSubplot:>
```



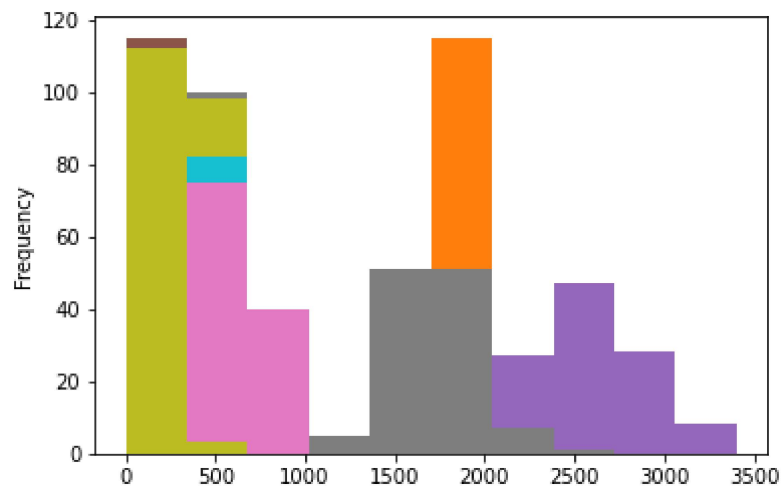
```
In [252]: b.plot.area(legend=None)
```

```
Out[252]: <AxesSubplot:>
```



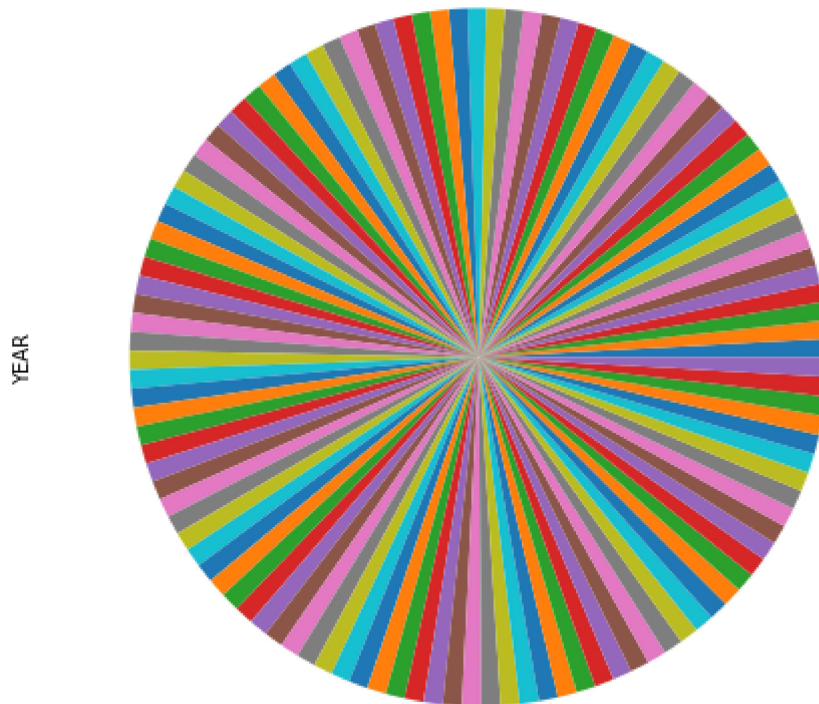
```
In [253]: b.plot.hist(legend=None)
```

```
Out[253]: <AxesSubplot:ylabel='Frequency'>
```



```
In [254]: b.plot.pie(y='YEAR',figsize=(8,8),labels=None,legend=None)
```

```
Out[254]: <AxesSubplot:ylabel='YEAR'>
```



```
In [ ]:
```

