

## 04/08/2023 (BOOK-14)

```
In [119]: 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 [120]: a=pd.read_csv(r"C:\Users\user\Downloads\Book14.csv")
a
```

Out[120]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	2507	KONKAN & GOA	1901	5.6	0.1	0.4	35.7	19.9	746.1	1075.5	748.0	117.4	38.1
1	2508	KONKAN & GOA	1902	0.3	0.0	0.0	0.4	7.6	428.2	943.6	515.1	613.8	74.2
2	2509	KONKAN & GOA	1903	0.0	0.0	0.1	0.0	201.1	470.5	1298.6	673.9	285.1	140.1
3	2510	KONKAN & GOA	1904	0.0	0.1	6.6	6.3	4.6	975.8	771.7	321.3	217.0	90.1
4	2511	KONKAN & GOA	1905	0.1	0.1	0.0	0.4	8.6	293.7	770.6	305.5	208.3	83.1
...	...	...	...	...	...	...	...	...	...	...	...	...	...
110	2617	KONKAN & GOA	2011	0.0	0.0	0.0	3.4	1.1	857.0	1384.1	987.9	468.3	120.1
111	2618	KONKAN & GOA	2012	0.0	0.0	0.0	0.6	1.1	633.0	928.5	762.5	515.3	175.1
112	2619	KONKAN & GOA	2013	1.8	5.4	0.1	0.1	18.5	1028.3	1478.5	497.6	340.7	145.1
113	2620	KONKAN & GOA	2014	1.3	5.3	1.8	0.7	21.3	238.2	1293.2	658.0	419.5	98.1
114	2621	KONKAN & GOA	2015	2.7	0.0	36.8	3.6	11.3	764.0	526.5	377.3	240.9	97.1

115 rows × 20 columns



```
In [121]: 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 [122]: b=a.fillna(method='ffill')
b
```

Out[122]:

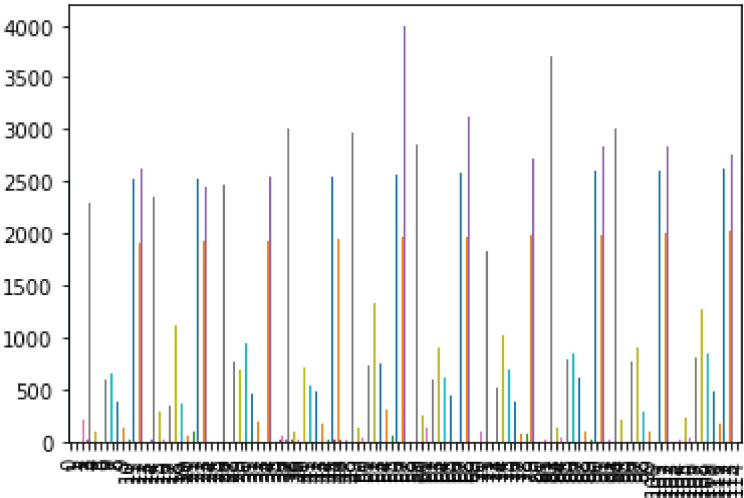
	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	2507	KONKAN & GOA	1901	5.6	0.1	0.4	35.7	19.9	746.1	1075.5	748.0	117.4	38
1	2508	KONKAN & GOA	1902	0.3	0.0	0.0	0.4	7.6	428.2	943.6	515.1	613.8	74
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3	2510	KONKAN & GOA	1904	0.0	0.1	6.6	6.3	4.6	975.8	771.7	321.3	217.0	90
4	2511	KONKAN & GOA	1905	0.1	0.1	0.0	0.4	8.6	293.7	770.6	305.5	208.3	83
...	...	...	...	...	...	...	...	...	...	...	...	...	...
110	2617	KONKAN & GOA	2011	0.0	0.0	0.0	3.4	1.1	857.0	1384.1	987.9	468.3	120
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112	2619	KONKAN & GOA	2013	1.8	5.4	0.1	0.1	18.5	1028.3	1478.5	497.6	340.7	145
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115 rows × 20 columns



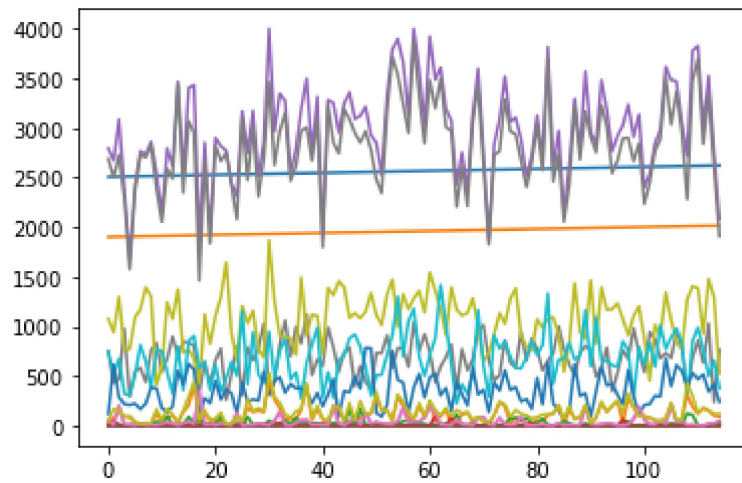
```
In [123]: b.plot.bar(legend=None)
```

Out[123]: <AxesSubplot:>



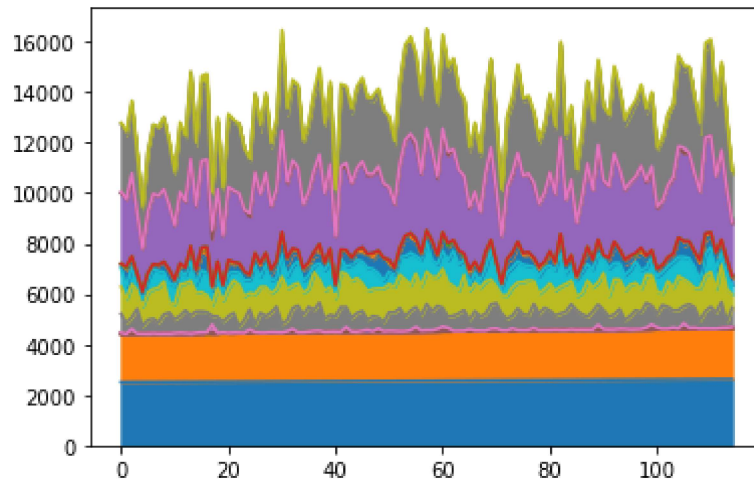
```
In [124]: b.plot.line(legend=None)
```

```
Out[124]: <AxesSubplot:>
```



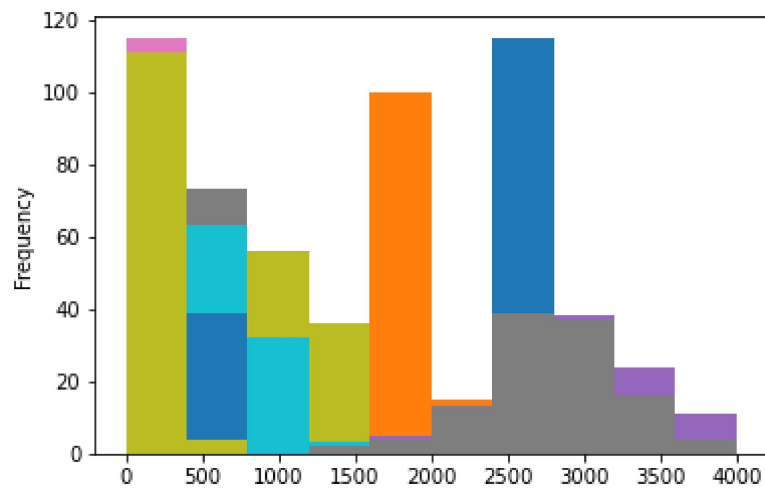
```
In [125]: b.plot.area(legend=None)
```

```
Out[125]: <AxesSubplot:>
```



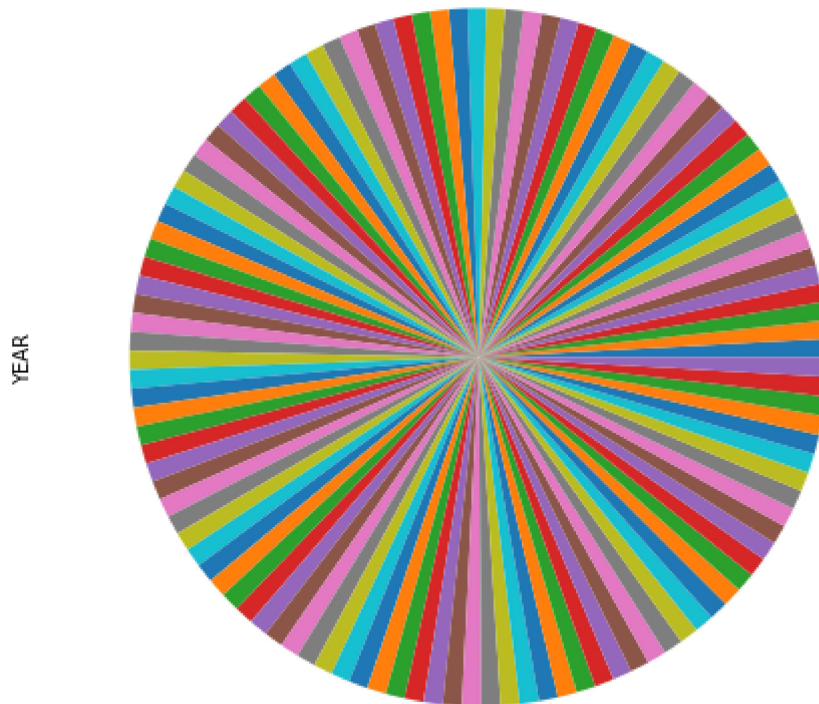
```
In [126]: b.plot.hist(legend=None)
```

```
Out[126]: <AxesSubplot:ylabel='Frequency'>
```



```
In [127]: b.plot.pie(y='YEAR',figsize=(8,8),labels=None,legend=None)
```

```
Out[127]: <AxesSubplot:ylabel='YEAR'>
```



```
In [ ]:
```

