04/08/2023 (BOOK-1)

In [ ]:
```
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 [3]:
```
a=pd.read_csv(r"C:\Users\user\Downloads\Book1.csv")
a
```

Out[3]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	C
0	4002	LAKSHADWEEP	1901	22.6	86.4	114.8	263.8	37.3	459.0	0.0	0.0	46.7	18
1	4003	LAKSHADWEEP	1902	99.3	9.6	32.6	40.4	179.1	374.2	413.3	170.0	214.3	38
2	4004	LAKSHADWEEP	1903	63.5	95.0	0.0	29.5	144.1	212.4	261.8	202.0	292.1	7
3	4005	LAKSHADWEEP	1904	0.0	0.0	13.5	13.2	143.3	261.3	256.0	38.9	219.9	15
4	4006	LAKSHADWEEP	1905	62.4	0.0	0.0	0.0	166.7	400.7	68.7	377.5	107.5	23
...	...	...	...	...	...	...	...	...	...	...	...	...	
109	4111	LAKSHADWEEP	2011	5.1	2.8	3.1	85.9	107.2	153.6	350.2	254.0	255.2	1
110	4112	LAKSHADWEEP	2012	19.2	0.1	1.6	76.8	21.2	327.0	231.5	381.2	179.8	14
111	4113	LAKSHADWEEP	2013	26.2	34.4	37.5	5.3	88.3	426.2	296.4	154.4	180.0	7
112	4114	LAKSHADWEEP	2014	53.2	16.1	4.4	14.9	57.4	244.1	116.1	466.1	132.2	16
113	4115	LAKSHADWEEP	2015	2.2	0.5	3.7	87.1	133.1	296.6	257.5	146.4	160.4	16

114 rows × 20 columns

In [4]:
```
a.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 114 entries, 0 to 113
Data columns (total 20 columns):
 #   Column       Non-Null Count  Dtype  
---  ------       --------------  -----  
 0   index        114 non-null    int64  
 1   SUBDIVISION  114 non-null    object 
 2   YEAR         114 non-null    int64  
 3   JAN          112 non-null    float64
 4   FEB          113 non-null    float64
 5   MAR          112 non-null    float64
 6   APR          112 non-null    float64
 7   MAY          112 non-null    float64
 8   JUN          112 non-null    float64
 9   JUL          111 non-null    float64
 10  AUG          112 non-null    float64
 11  SEP          111 non-null    float64
 12  OCT          111 non-null    float64
 13  NOV          108 non-null    float64
 14  DEC          110 non-null    float64
 15  ANNUAL       103 non-null    float64
 16  Jan-Feb      111 non-null    float64
 17  Mar-May      110 non-null    float64
 18  Jun-Sep      110 non-null    float64
 19  Oct-Dec      108 non-null    float64
dtypes: float64(17), int64(2), object(1)
memory usage: 17.9+ KB
```

In [5]:
```
b=a.fillna(method='ffill')
b
```

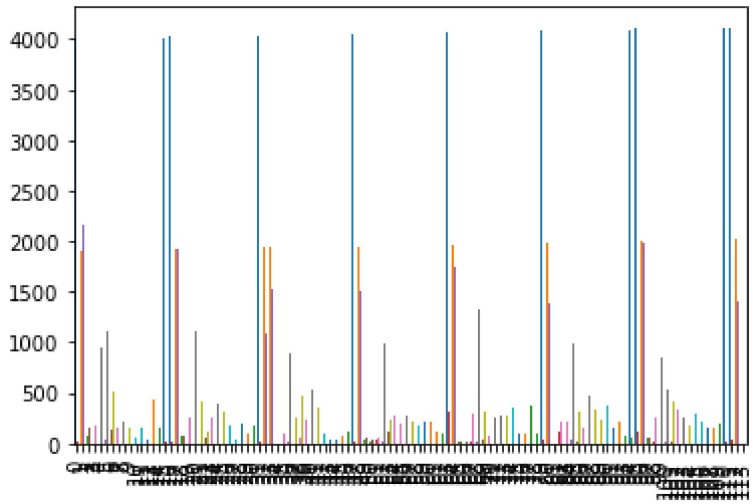
Out[5]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	C
0	4002	LAKSHADWEEP	1901	22.6	86.4	114.8	263.8	37.3	459.0	0.0	0.0	46.7	18
1	4003	LAKSHADWEEP	1902	99.3	9.6	32.6	40.4	179.1	374.2	413.3	170.0	214.3	38
2	4004	LAKSHADWEEP	1903	63.5	95.0	0.0	29.5	144.1	212.4	261.8	202.0	292.1	7
3	4005	LAKSHADWEEP	1904	0.0	0.0	13.5	13.2	143.3	261.3	256.0	38.9	219.9	15
4	4006	LAKSHADWEEP	1905	62.4	0.0	0.0	0.0	166.7	400.7	68.7	377.5	107.5	23
...	...	...	...	...	...	...	...	...	...	...	...	...	...
109	4111	LAKSHADWEEP	2011	5.1	2.8	3.1	85.9	107.2	153.6	350.2	254.0	255.2	1
110	4112	LAKSHADWEEP	2012	19.2	0.1	1.6	76.8	21.2	327.0	231.5	381.2	179.8	14
111	4113	LAKSHADWEEP	2013	26.2	34.4	37.5	5.3	88.3	426.2	296.4	154.4	180.0	7
112	4114	LAKSHADWEEP	2014	53.2	16.1	4.4	14.9	57.4	244.1	116.1	466.1	132.2	16
113	4115	LAKSHADWEEP	2015	2.2	0.5	3.7	87.1	133.1	296.6	257.5	146.4	160.4	16

114 rows × 20 columns

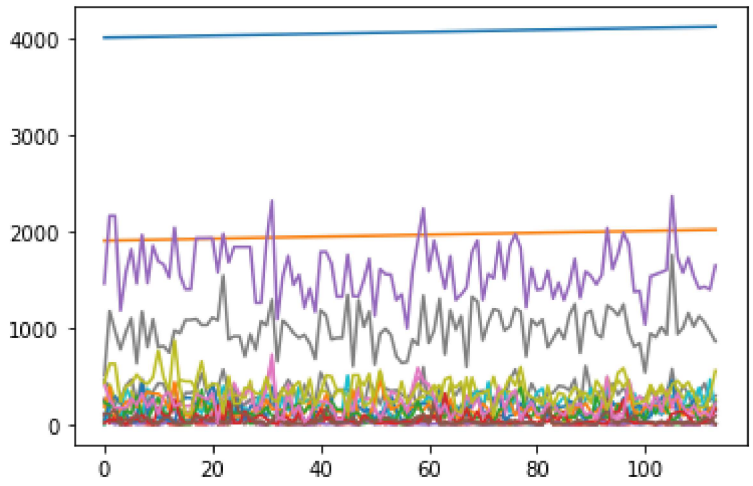
In [6]:
```
b.plot.bar(legend=None)
```

Out[6]: <AxesSubplot:>



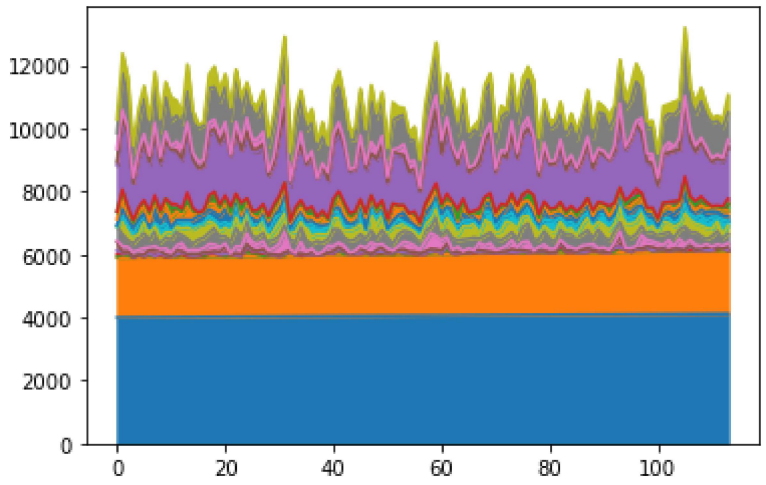
In [7]:
```
b.plot.line(legend=None)
```

Out[7]: <AxesSubplot:>



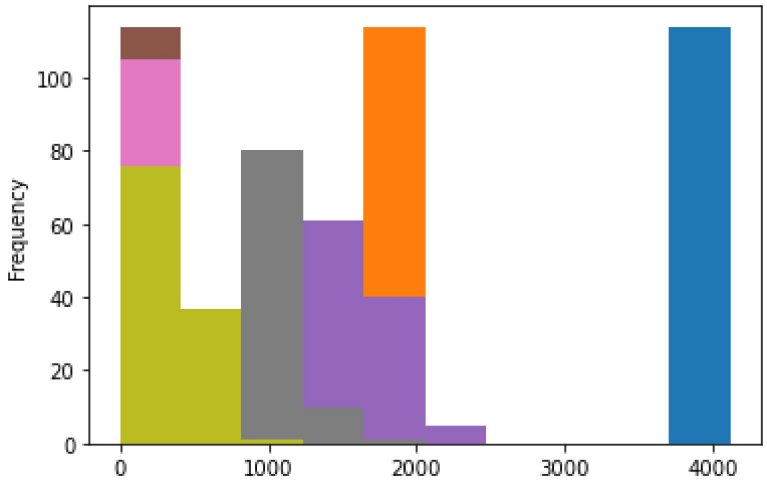
In [8]:
```
b.plot.area(legend=None)
```

Out[8]: <AxesSubplot:>



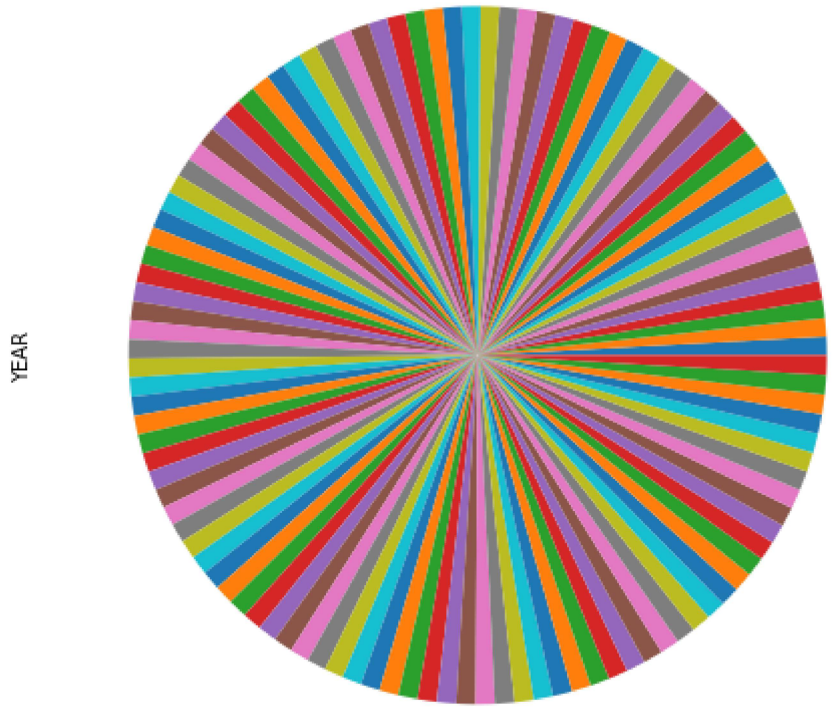
In [9]:
```
b.plot.hist(legend=None)
```

Out[9]: <AxesSubplot:ylabel='Frequency'>



In [10]:
```
b.plot.pie(y='YEAR',figsize=(8,8),labels=None,legend=None)
```

Out[10]:
```
<AxesSubplot:ylabel='YEAR'>
```



In [ ]: