04/08/2023 (BOOK-30)

In [255]:
```python
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 [264]: a=pd.read_csv(r"C:\Users\user\Downloads\Book30.csv")
          a
```

Out[264]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
0	437	SUB HIMALAYAN WEST BENGAL & SIKKIM	1901	26.5	14.8	14.1	29.2	195.5	488.4	524.8	501.1	242.7	55
1	438	SUB HIMALAYAN WEST BENGAL & SIKKIM	1902	1.2	0.7	87.1	126.1	271.3	539.2	671.0	603.8	799.9	74
2	439	SUB HIMALAYAN WEST BENGAL & SIKKIM	1903	5.5	8.7	19.6	18.6	163.6	541.2	431.5	708.8	365.2	141
3	440	SUB HIMALAYAN WEST BENGAL & SIKKIM	1904	3.4	29.2	0.9	124.3	333.6	274.2	500.4	468.5	260.6	164
4	441	SUB HIMALAYAN WEST BENGAL & SIKKIM	1905	12.0	31.2	51.9	104.4	290.6	524.8	523.1	1036.6	321.1	87
...	...	...	...	...	...	...	...	...	...	...	...	...	
110	547	SUB HIMALAYAN WEST BENGAL & SIKKIM	2011	8.5	19.9	71.2	135.0	247.8	419.8	612.3	470.3	356.3	46
111	548	SUB HIMALAYAN WEST BENGAL & SIKKIM	2012	15.3	13.9	45.5	159.8	202.4	604.2	684.5	332.7	434.7	119
112	549	SUB HIMALAYAN WEST BENGAL & SIKKIM	2013	3.0	23.6	32.1	114.7	296.5	404.9	588.4	416.3	308.0	199
113	550	SUB HIMALAYAN WEST BENGAL & SIKKIM	2014	0.2	26.6	37.7	47.9	308.6	543.2	384.6	563.3	371.5	31
114	551	SUB HIMALAYAN WEST BENGAL & SIKKIM	2015	15.7	15.0	64.8	149.0	304.6	508.2	393.3	626.6	354.9	53

115 rows × 20 columns

```
In [265]: 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 [266]: b=a.fillna(method='ffill')
          b
```
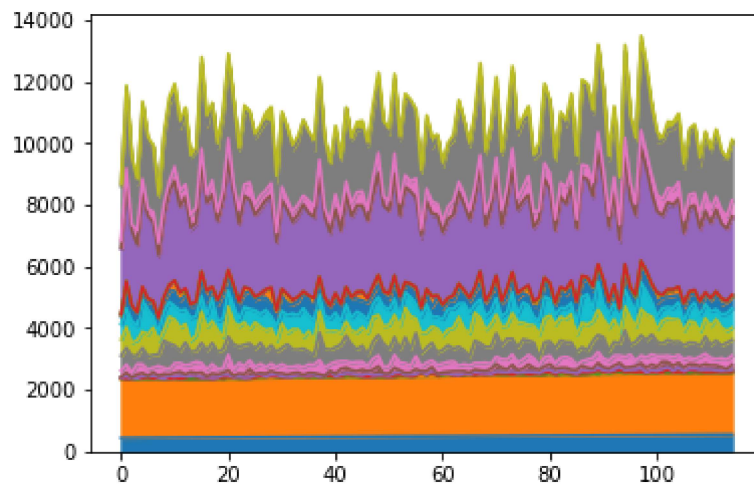
|	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
0	437	SUB HIMALAYAN WEST BENGAL & SIKKIM	1901	26.5	14.8	14.1	29.2	195.5	488.4	524.8	501.1	242.7	55
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...	...	...	...	...	...	...	...	...	...	...	...	...	
110	547	SUB HIMALAYAN WEST BENGAL & SIKKIM	2011	8.5	19.9	71.2	135.0	247.8	419.8	612.3	470.3	356.3	46
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115 rows × 20 columns

In [267]: `b.plot.bar(legend=None)`

Out[267]: `<AxesSubplot:>`

In [268]: `b.plot.line(legend=None)`

Out[268]: `<AxesSubplot:>`

In [269]: `b.plot.area(legend=None)`

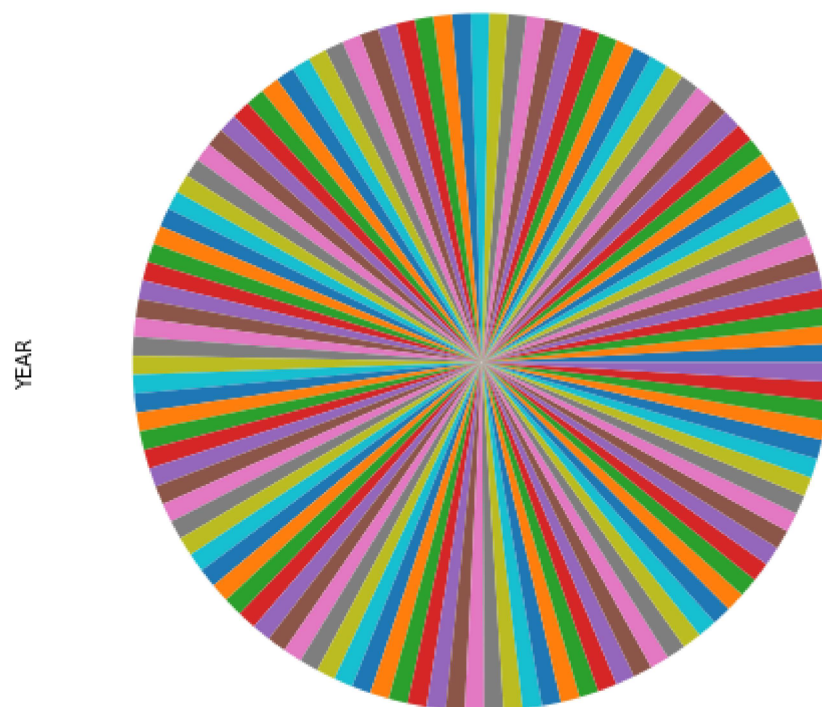Out[269]: `<AxesSubplot:>`

In [270]: `b.plot.hist(legend=None)`

Out[270]: `<AxesSubplot:ylabel='Frequency'>`
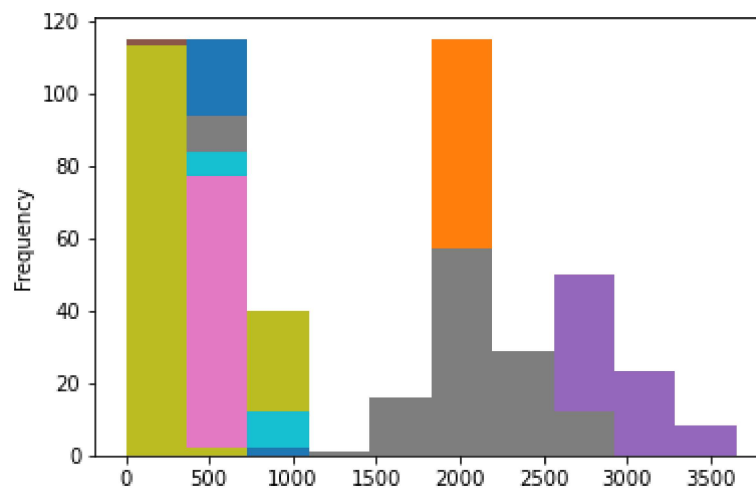
```
In [271]: b.plot.pie(y='YEAR',figsize=(8,8),labels=None,legend=None)
```

Out[271]: <AxesSubplot:ylabel='YEAR'>


```
In [ ]:
```