# Vijay(Book9) 04/08/2023

In [1]:
```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 [2]:
```
1  a=pd.read_csv(r"C:\Users\user\Downloads\Book9.csv")
2  a
```

Out[2]:

|  | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3082 | COASTAL ANDHRA PRADESH | 1901 | 18.8 | 80.9 | 7.2 | 28.7 | 68.7 | 77.7 | 113.0 | 133.7 | 125.3 | 173.4 |
| 1 | 3083 | COASTAL ANDHRA PRADESH | 1902 | 2.0 | 0.0 | 2.8 | 23.9 | 37.6 | 72.6 | 144.5 | 236.1 | 204.5 | 262.0 |
| 2 | 3084 | COASTAL ANDHRA PRADESH | 1903 | 0.8 | 13.3 | 0.2 | 6.2 | 73.4 | 154.0 | 248.6 | 258.0 | 216.5 | 159.1 |
| 3 | 3085 | COASTAL ANDHRA PRADESH | 1904 | 1.3 | 0.0 | 5.4 | 3.0 | 136.3 | 107.8 | 120.2 | 117.7 | 116.8 | 240.9 |
| 4 | 3086 | COASTAL ANDHRA PRADESH | 1905 | 1.1 | 16.7 | 68.0 | 37.0 | 68.8 | 84.4 | 64.6 | 210.8 | 170.2 | 66.0 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| 110 | 3192 | COASTAL ANDHRA PRADESH | 2011 | 0.0 | 17.9 | 0.9 | 62.3 | 67.9 | 86.8 | 196.0 | 215.8 | 129.7 | 74.6 |
| 111 | 3193 | COASTAL ANDHRA PRADESH | 2012 | 37.6 | 0.0 | 2.7 | 24.0 | 39.3 | 95.4 | 221.9 | 221.2 | 246.5 | 140.0 |
| 112 | 3194 | COASTAL ANDHRA PRADESH | 2013 | 2.0 | 29.6 | 0.2 | 48.0 | 28.2 | 127.5 | 162.4 | 123.1 | 132.0 | 411.5 |
| 113 | 3195 | COASTAL ANDHRA PRADESH | 2014 | 0.4 | 1.2 | 9.1 | 6.0 | 112.9 | 45.7 | 151.8 | 177.8 | 144.5 | 195.6 |
| 114 | 3196 | COASTAL ANDHRA PRADESH | 2015 | 2.0 | 0.6 | 5.5 | 32.3 | 34.1 | 283.8 | 116.0 | 192.0 | 201.8 | 59.7 |

115 rows × 20 columns

In [3]:    1  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
```
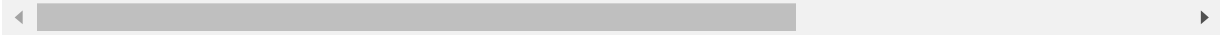
In [4]:
```
1  b=a.fillna(method='ffill')
2  b
```

Out[4]:

| | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3082 | COASTAL ANDHRA PRADESH | 1901 | 18.8 | 80.9 | 7.2 | 28.7 | 68.7 | 77.7 | 113.0 | 133.7 | 125.3 | 173.4 |
| 1 | 3083 | COASTAL ANDHRA PRADESH | 1902 | 2.0 | 0.0 | 2.8 | 23.9 | 37.6 | 72.6 | 144.5 | 236.1 | 204.5 | 262.0 |
| 2 | 3084 | COASTAL ANDHRA PRADESH | 1903 | 0.8 | 13.3 | 0.2 | 6.2 | 73.4 | 154.0 | 248.6 | 258.0 | 216.5 | 159.1 |
| 3 | 3085 | COASTAL ANDHRA PRADESH | 1904 | 1.3 | 0.0 | 5.4 | 3.0 | 136.3 | 107.8 | 120.2 | 117.7 | 116.8 | 240.9 |
| 4 | 3086 | COASTAL ANDHRA PRADESH | 1905 | 1.1 | 16.7 | 68.0 | 37.0 | 68.8 | 84.4 | 64.6 | 210.8 | 170.2 | 66.0 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| 110 | 3192 | COASTAL ANDHRA PRADESH | 2011 | 0.0 | 17.9 | 0.9 | 62.3 | 67.9 | 86.8 | 196.0 | 215.8 | 129.7 | 74.6 |
| 111 | 3193 | COASTAL ANDHRA PRADESH | 2012 | 37.6 | 0.0 | 2.7 | 24.0 | 39.3 | 95.4 | 221.9 | 221.2 | 246.5 | 140.0 |
| 112 | 3194 | COASTAL ANDHRA PRADESH | 2013 | 2.0 | 29.6 | 0.2 | 48.0 | 28.2 | 127.5 | 162.4 | 123.1 | 132.0 | 411.5 |
| 113 | 3195 | COASTAL ANDHRA PRADESH | 2014 | 0.4 | 1.2 | 9.1 | 6.0 | 112.9 | 45.7 | 151.8 | 177.8 | 144.5 | 195.6 |
| 114 | 3196 | COASTAL ANDHRA PRADESH | 2015 | 2.0 | 0.6 | 5.5 | 32.3 | 34.1 | 283.8 | 116.0 | 192.0 | 201.8 | 59.7 |

115 rows × 20 columns

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

Out[5]: <AxesSubplot:>
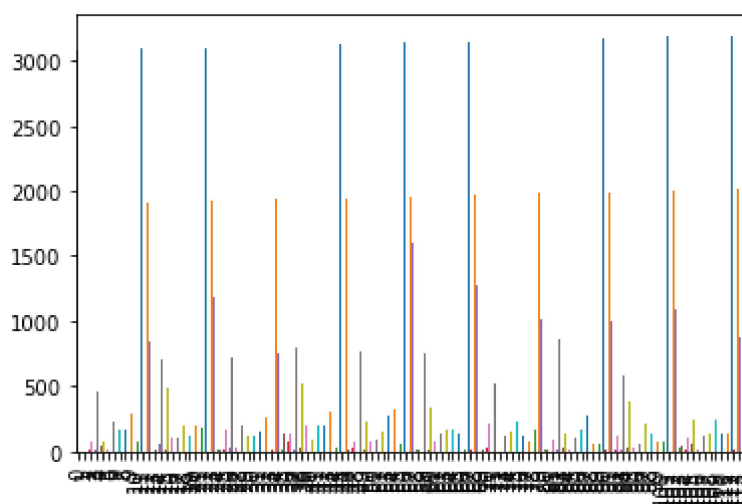


In [6]:
```
1  b.plot.line(legend=None)
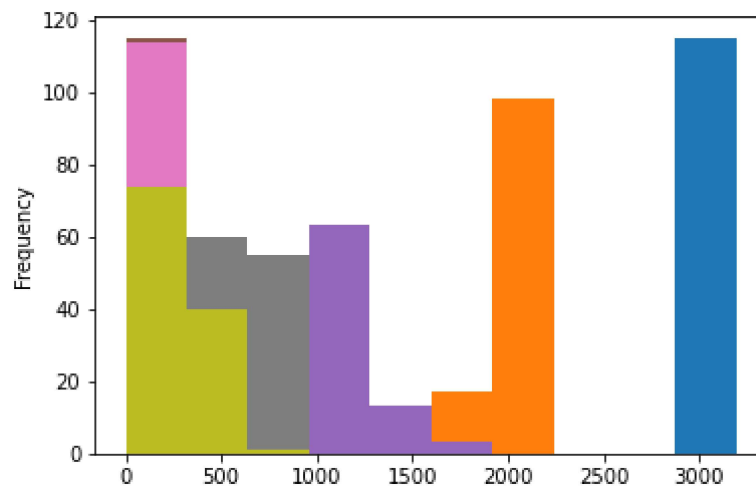```

Out[6]: <AxesSubplot:>
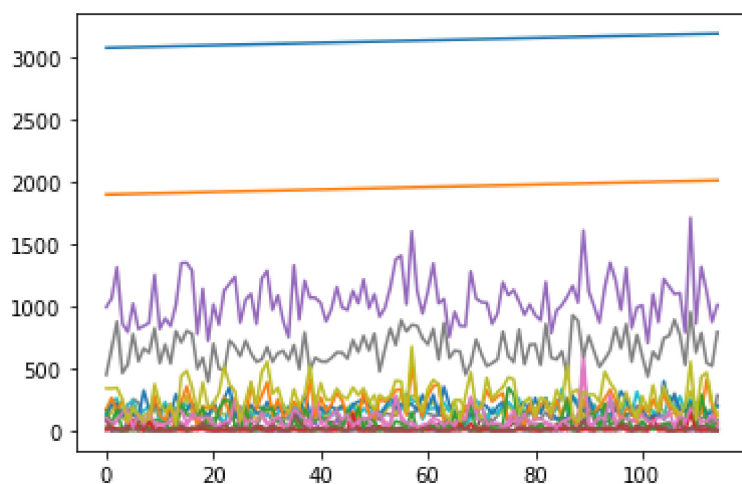
In [7]:    1  b.plot.area(legend=None)

Out[7]:    <AxesSubplot:>
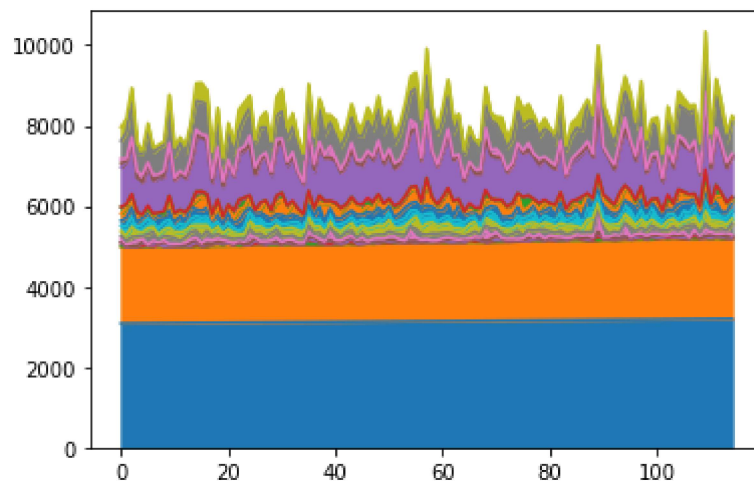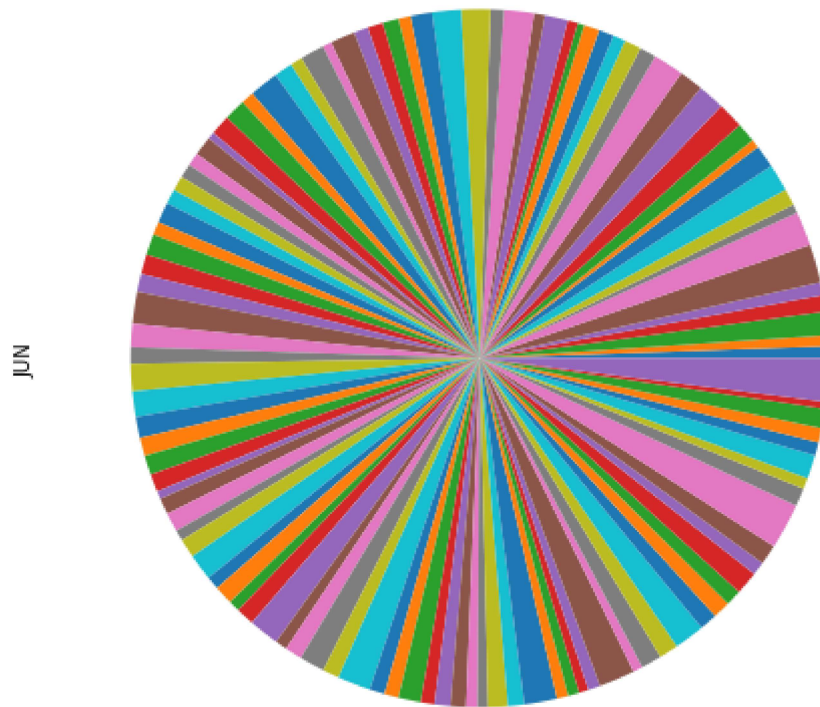


In [8]:    1  b.plot.hist(legend=None)

Out[8]:    <AxesSubplot:ylabel='Frequency'>

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

Out[10]:  <AxesSubplot:ylabel='JUN'>



In [ ]:
```
1
```