# Vijay(Book21) 04/08/2023

In [1]:
```
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]:
```
a=pd.read_csv(r"C:\Users\user\Downloads\Book21.csv")
a
```

Out[2]:

| | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 1702 | JAMMU & KASHMIR | 1901 | 66.4 | 69.3 | 69.6 | 132.2 | 105.8 | 53.4 | 171.7 | 181.3 | 101.8 | 2 |
| **1** | 1703 | JAMMU & KASHMIR | 1902 | 6.5 | 9.7 | 91.3 | 100.5 | 70.7 | 113.3 | 108.4 | 136.9 | 62.2 | 1 |
| **2** | 1704 | JAMMU & KASHMIR | 1903 | 96.2 | 21.5 | 238.6 | 58.7 | 57.3 | 18.9 | 332.5 | 218.6 | 176.9 | 1 |
| **3** | 1705 | JAMMU & KASHMIR | 1904 | 110.6 | 17.3 | 145.2 | 64.5 | 67.8 | 25.9 | 182.3 | 132.2 | 62.3 | 5 |
| **4** | 1706 | JAMMU & KASHMIR | 1905 | 146.7 | 76.3 | 161.4 | 71.7 | 65.2 | 43.3 | 145.2 | 111.5 | 239.7 | |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **110** | 1812 | JAMMU & KASHMIR | 2011 | 43.4 | 211.6 | 97.8 | 89.0 | 32.4 | 72.5 | 81.6 | 131.2 | 72.0 | 1 |
| **111** | 1813 | JAMMU & KASHMIR | 2012 | 150.9 | 95.8 | 45.2 | 86.6 | 48.9 | 32.6 | 118.8 | 264.9 | 106.7 | 1 |
| **112** | 1814 | JAMMU & KASHMIR | 2013 | 52.2 | 136.4 | 41.9 | 47.4 | 47.4 | 80.5 | 125.1 | 219.1 | 41.2 | 3 |
| **113** | 1815 | JAMMU & KASHMIR | 2014 | 75.8 | 64.0 | 153.1 | 76.1 | 52.7 | 25.3 | 100.5 | 134.6 | 362.8 | 3 |
| **114** | 1816 | JAMMU & KASHMIR | 2015 | 27.9 | 187.2 | 341.4 | 173.3 | 64.6 | 121.4 | 233.2 | 129.2 | 130.2 | 8 |

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          114 non-null    float64
 10  AUG          115 non-null    float64
 11  SEP          115 non-null    float64
 12  OCT          115 non-null    float64
 13  NOV          114 non-null    float64
 14  DEC          114 non-null    float64
 15  ANNUAL       114 non-null    float64
 16  Jan-Feb      115 non-null    float64
 17  Mar-May      115 non-null    float64
 18  Jun-Sep      114 non-null    float64
 19  Oct-Dec      114 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
```

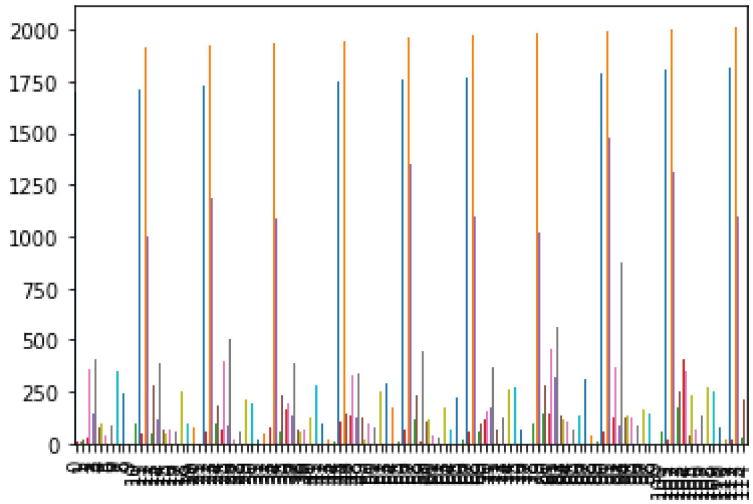
Out[4]:

| | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 1702 | JAMMU & KASHMIR | 1901 | 66.4 | 69.3 | 69.6 | 132.2 | 105.8 | 53.4 | 171.7 | 181.3 | 101.8 | 2 |
| **1** | 1703 | JAMMU & KASHMIR | 1902 | 6.5 | 9.7 | 91.3 | 100.5 | 70.7 | 113.3 | 108.4 | 136.9 | 62.2 | 1 |
| **2** | 1704 | JAMMU & KASHMIR | 1903 | 96.2 | 21.5 | 238.6 | 58.7 | 57.3 | 18.9 | 332.5 | 218.6 | 176.9 | 1 |
| **3** | 1705 | JAMMU & KASHMIR | 1904 | 110.6 | 17.3 | 145.2 | 64.5 | 67.8 | 25.9 | 182.3 | 132.2 | 62.3 | 5 |
| **4** | 1706 | JAMMU & KASHMIR | 1905 | 146.7 | 76.3 | 161.4 | 71.7 | 65.2 | 43.3 | 145.2 | 111.5 | 239.7 | |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **110** | 1812 | JAMMU & KASHMIR | 2011 | 43.4 | 211.6 | 97.8 | 89.0 | 32.4 | 72.5 | 81.6 | 131.2 | 72.0 | 1 |
| **111** | 1813 | JAMMU & KASHMIR | 2012 | 150.9 | 95.8 | 45.2 | 86.6 | 48.9 | 32.6 | 118.8 | 264.9 | 106.7 | 1 |
| **112** | 1814 | JAMMU & KASHMIR | 2013 | 52.2 | 136.4 | 41.9 | 47.4 | 47.4 | 80.5 | 125.1 | 219.1 | 41.2 | 3 |
| **113** | 1815 | JAMMU & KASHMIR | 2014 | 75.8 | 64.0 | 153.1 | 76.1 | 52.7 | 25.3 | 100.5 | 134.6 | 362.8 | 3 |
| **114** | 1816 | JAMMU & KASHMIR | 2015 | 27.9 | 187.2 | 341.4 | 173.3 | 64.6 | 121.4 | 233.2 | 129.2 | 130.2 | 8 |

115 rows × 20 columns

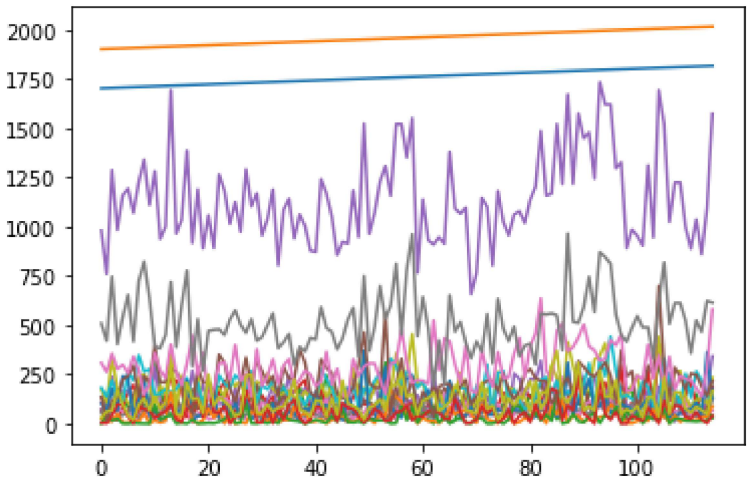
In [5]:
```
1 b.plot.bar(legend=None)
```

Out[5]: <AxesSubplot:>



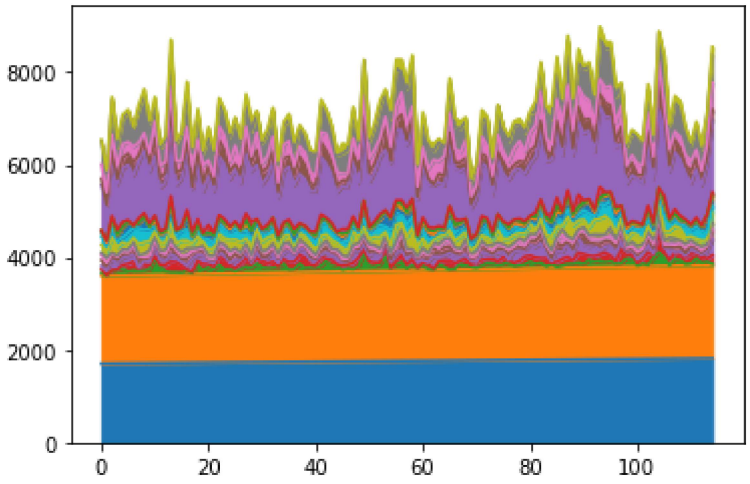
In [6]:
```
1 b.plot.line(legend=None)
```

Out[6]: <AxesSubplot:>



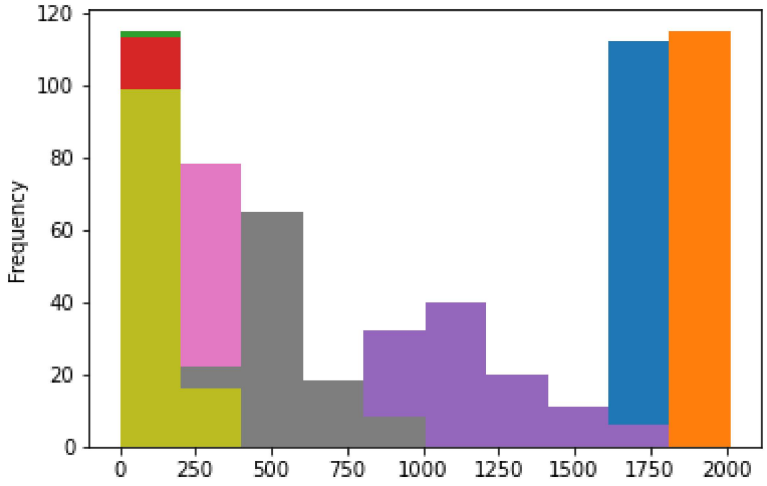

In [7]:
```
1 b.plot.area(legend=None)
```

Out[7]: <AxesSubplot:>



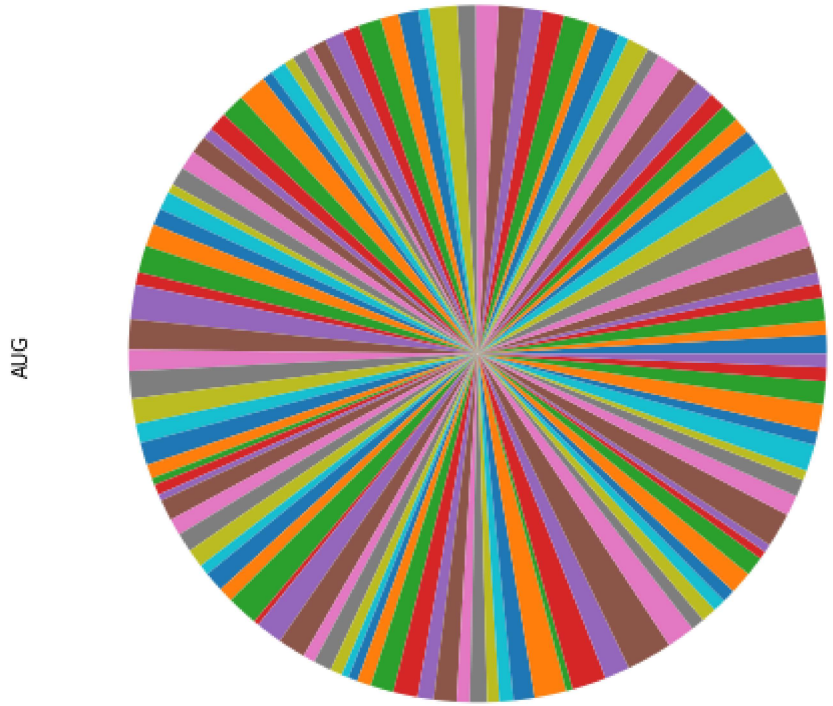
In [8]:
```
1 b.plot.hist(legend=None)
```

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




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

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




In [ ]:
```
1
```