mk 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 [9]:
```
a=pd.read_csv(r"C:\Users\user\Downloads\Book15.csv")
a
```

Out[9]:

| | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 2392 | SAURASHTRA & KUTCH | 1901 | 1.9 | 0.0 | 0.1 | 0.2 | 3.2 | 9.1 | 87.8 | 62.5 | 12.0 | 3.8 |
| **1** | 2393 | SAURASHTRA & KUTCH | 1902 | 0.1 | 0.0 | 0.0 | 0.5 | 1.1 | 14.4 | 92.9 | 160.0 | 123.9 | 1.5 |
| **2** | 2394 | SAURASHTRA & KUTCH | 1903 | 0.5 | 0.0 | 1.7 | 0.0 | 3.1 | 10.5 | 337.9 | 96.1 | 61.9 | 11.1 |
| **3** | 2395 | SAURASHTRA & KUTCH | 1904 | 1.4 | 5.8 | 17.5 | 0.0 | 0.0 | 9.5 | 111.2 | 9.4 | 28.9 | 0.3 |
| **4** | 2396 | SAURASHTRA & KUTCH | 1905 | 1.5 | 1.0 | 0.6 | 0.4 | 0.0 | 6.4 | 254.5 | 12.3 | 12.8 | 0.4 |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **110** | 2502 | SAURASHTRA & KUTCH | 2011 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 26.0 | 212.7 | 290.9 | 210.1 | 1.2 |
| **111** | 2503 | SAURASHTRA & KUTCH | 2012 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 22.4 | 34.7 | 34.5 | 228.5 | 2.4 |
| **112** | 2504 | SAURASHTRA & KUTCH | 2013 | 1.7 | 0.2 | 0.1 | 8.5 | 0.1 | 127.7 | 171.2 | 83.3 | 260.2 | 28.6 |
| **113** | 2505 | SAURASHTRA & KUTCH | 2014 | 0.3 | 0.0 | 0.1 | 0.5 | 2.1 | 17.3 | 137.7 | 118.8 | 99.2 | 5.2 |
| **114** | 2506 | SAURASHTRA & KUTCH | 2015 | 0.9 | 0.0 | 4.4 | 2.1 | 0.8 | 112.6 | 226.7 | 10.6 | 79.9 | 3.3 |

115 rows × 20 columns

In [10]:
```
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 [11]:
```
b=a.fillna(method='ffill')
b
```

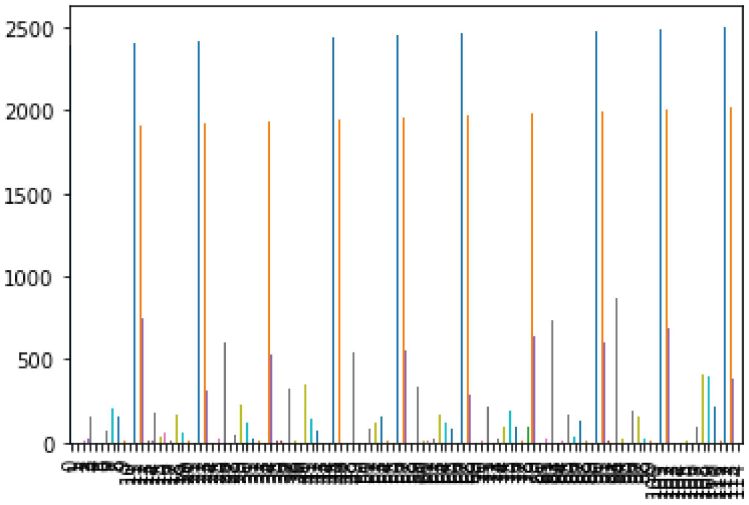
Out[11]:

| | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 2392 | SAURASHTRA & KUTCH | 1901 | 1.9 | 0.0 | 0.1 | 0.2 | 3.2 | 9.1 | 87.8 | 62.5 | 12.0 | 3.8 |
| **1** | 2393 | SAURASHTRA & KUTCH | 1902 | 0.1 | 0.0 | 0.0 | 0.5 | 1.1 | 14.4 | 92.9 | 160.0 | 123.9 | 1.5 |
| **2** | 2394 | SAURASHTRA & KUTCH | 1903 | 0.5 | 0.0 | 1.7 | 0.0 | 3.1 | 10.5 | 337.9 | 96.1 | 61.9 | 11.1 |
| **3** | 2395 | SAURASHTRA & KUTCH | 1904 | 1.4 | 5.8 | 17.5 | 0.0 | 0.0 | 9.5 | 111.2 | 9.4 | 28.9 | 0.3 |
| **4** | 2396 | SAURASHTRA & KUTCH | 1905 | 1.5 | 1.0 | 0.6 | 0.4 | 0.0 | 6.4 | 254.5 | 12.3 | 12.8 | 0.4 |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **110** | 2502 | SAURASHTRA & KUTCH | 2011 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 26.0 | 212.7 | 290.9 | 210.1 | 1.2 |
| **111** | 2503 | SAURASHTRA & KUTCH | 2012 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 22.4 | 34.7 | 34.5 | 228.5 | 2.4 |
| **112** | 2504 | SAURASHTRA & KUTCH | 2013 | 1.7 | 0.2 | 0.1 | 8.5 | 0.1 | 127.7 | 171.2 | 83.3 | 260.2 | 28.6 |
| **113** | 2505 | SAURASHTRA & KUTCH | 2014 | 0.3 | 0.0 | 0.1 | 0.5 | 2.1 | 17.3 | 137.7 | 118.8 | 99.2 | 5.2 |
| **114** | 2506 | SAURASHTRA & KUTCH | 2015 | 0.9 | 0.0 | 4.4 | 2.1 | 0.8 | 112.6 | 226.7 | 10.6 | 79.9 | 3.3 |

115 rows × 20 columns

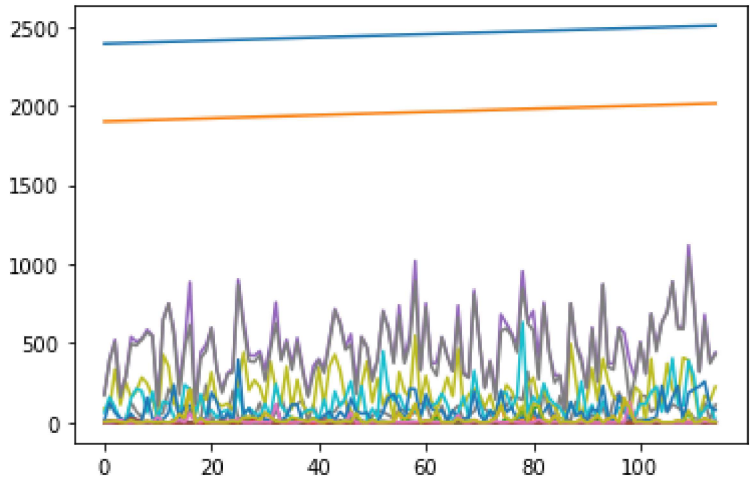
In [12]:
```
b.plot.bar(legend=None)
```

Out[12]:
```
<AxesSubplot:>
```



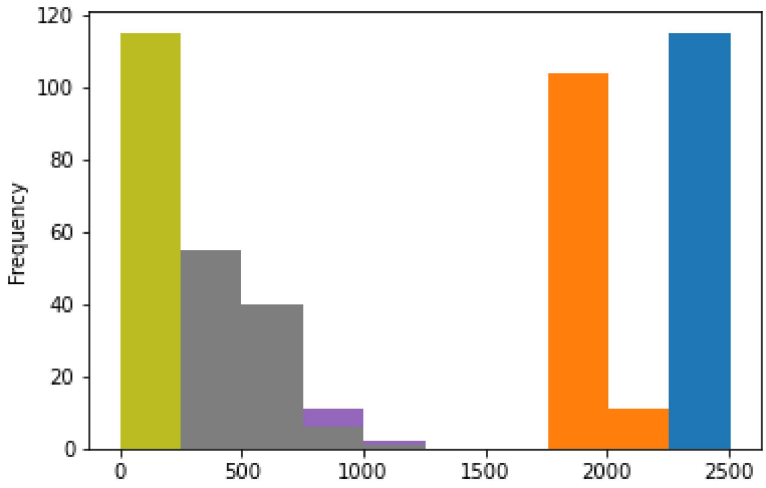
In [13]:
```
b.plot.line(legend=None)
```

Out[13]: <AxesSubplot:>



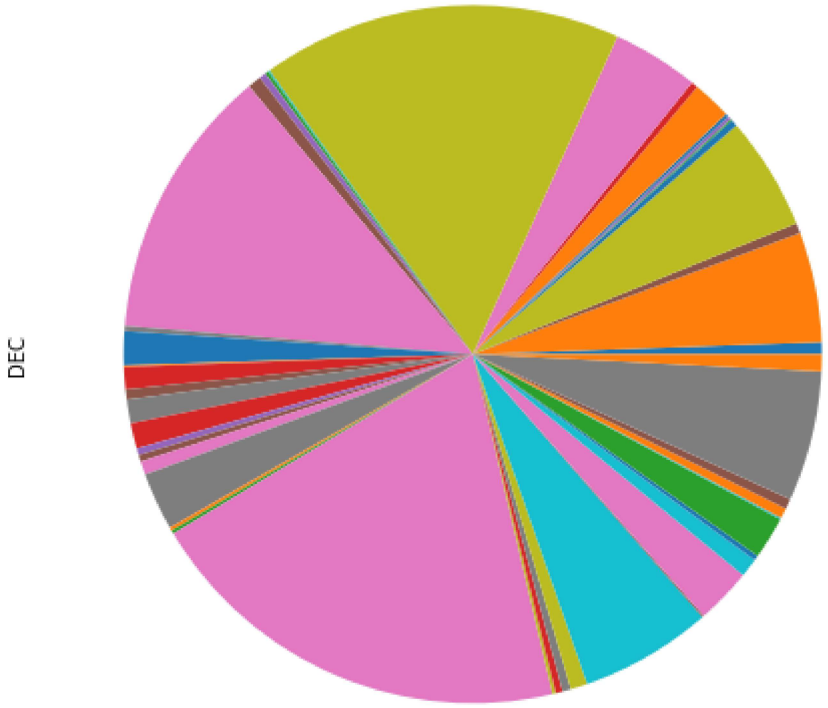

In [14]:
```
b.plot.hist(legend=None)
```

Out[14]: <AxesSubplot:ylabel='Frequency'>



In [15]:
```
a.plot.pie(y='DEC',figsize=(8,8),labels=None,legend=None)
```

Out[15]:
```
<AxesSubplot:ylabel='DEC'>
```




In [ ]:
```

```