# Vijay(Book13) 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]:
```python
a=pd.read_csv(r"C:\Users\user\Downloads\Book13.csv")
a
```

Out[2]:

| | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2622 | MADHYA MAHARASHTRA | 1901 | 18.8 | 0.6 | 7.7 | 36.6 | 30.4 | 107.7 | 215.9 | 194.1 | 83.7 | 68. |
| 1 | 2623 | MADHYA MAHARASHTRA | 1902 | 7.8 | 0.0 | 0.1 | 5.0 | 9.8 | 102.6 | 210.9 | 114.5 | 169.5 | 60. |
| 2 | 2624 | MADHYA MAHARASHTRA | 1903 | 7.6 | 0.0 | 0.0 | 3.2 | 77.2 | 86.3 | 281.8 | 155.5 | 142.3 | 74. |
| 3 | 2625 | MADHYA MAHARASHTRA | 1904 | 0.4 | 4.7 | 1.7 | 3.0 | 18.7 | 114.6 | 126.5 | 59.5 | 183.0 | 91. |
| 4 | 2626 | MADHYA MAHARASHTRA | 1905 | 0.0 | 1.2 | 0.0 | 2.3 | 23.6 | 65.0 | 252.8 | 79.0 | 52.6 | 52. |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | . |
| 110 | 2732 | MADHYA MAHARASHTRA | 2011 | 0.0 | 0.3 | 0.3 | 5.0 | 2.9 | 133.3 | 261.4 | 238.1 | 148.4 | 62. |
| 111 | 2733 | MADHYA MAHARASHTRA | 2012 | 0.0 | 0.0 | 0.0 | 3.0 | 1.4 | 67.9 | 203.0 | 187.8 | 129.5 | 95. |
| 112 | 2734 | MADHYA MAHARASHTRA | 2013 | 0.1 | 5.3 | 0.8 | 5.7 | 6.0 | 212.4 | 311.8 | 147.0 | 210.3 | 57. |
| 113 | 2735 | MADHYA MAHARASHTRA | 2014 | 3.1 | 6.2 | 24.4 | 7.5 | 29.8 | 44.0 | 277.9 | 240.3 | 120.4 | 38. |
| 114 | 2736 | MADHYA MAHARASHTRA | 2015 | 1.4 | 0.8 | 41.2 | 9.6 | 24.4 | 177.0 | 111.7 | 67.2 | 146.6 | 48. |

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]:
```python
1  b=a.fillna(method='ffill')
2  b
```

Out[4]:

| | index | SUBDIVISION | YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 2622 | MADHYA MAHARASHTRA | 1901 | 18.8 | 0.6 | 7.7 | 36.6 | 30.4 | 107.7 | 215.9 | 194.1 | 83.7 | 68. |
| **1** | 2623 | MADHYA MAHARASHTRA | 1902 | 7.8 | 0.0 | 0.1 | 5.0 | 9.8 | 102.6 | 210.9 | 114.5 | 169.5 | 60. |
| **2** | 2624 | MADHYA MAHARASHTRA | 1903 | 7.6 | 0.0 | 0.0 | 3.2 | 77.2 | 86.3 | 281.8 | 155.5 | 142.3 | 74. |
| **3** | 2625 | MADHYA MAHARASHTRA | 1904 | 0.4 | 4.7 | 1.7 | 3.0 | 18.7 | 114.6 | 126.5 | 59.5 | 183.0 | 91. |
| **4** | 2626 | MADHYA MAHARASHTRA | 1905 | 0.0 | 1.2 | 0.0 | 2.3 | 23.6 | 65.0 | 252.8 | 79.0 | 52.6 | 52. |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | . |
| **110** | 2732 | MADHYA MAHARASHTRA | 2011 | 0.0 | 0.3 | 0.3 | 5.0 | 2.9 | 133.3 | 261.4 | 238.1 | 148.4 | 62. |
| **111** | 2733 | MADHYA MAHARASHTRA | 2012 | 0.0 | 0.0 | 0.0 | 3.0 | 1.4 | 67.9 | 203.0 | 187.8 | 129.5 | 95. |
| **112** | 2734 | MADHYA MAHARASHTRA | 2013 | 0.1 | 5.3 | 0.8 | 5.7 | 6.0 | 212.4 | 311.8 | 147.0 | 210.3 | 57. |
| **113** | 2735 | MADHYA MAHARASHTRA | 2014 | 3.1 | 6.2 | 24.4 | 7.5 | 29.8 | 44.0 | 277.9 | 240.3 | 120.4 | 38. |
| **114** | 2736 | MADHYA MAHARASHTRA | 2015 | 1.4 | 0.8 | 41.2 | 9.6 | 24.4 | 177.0 | 111.7 | 67.2 | 146.6 | 48. |

115 rows × 20 columns
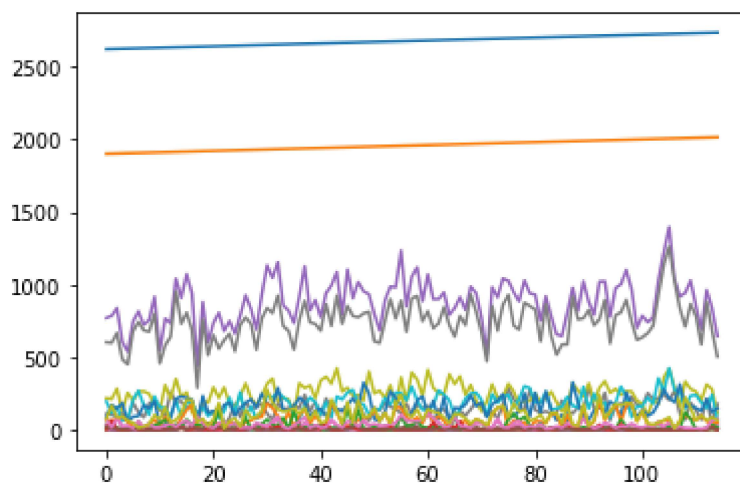
In [5]:
```python
1  b.plot.bar(legend=None)
```

Out[5]: <AxesSubplot:>

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

Out[6]:  <AxesSubplot:>



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

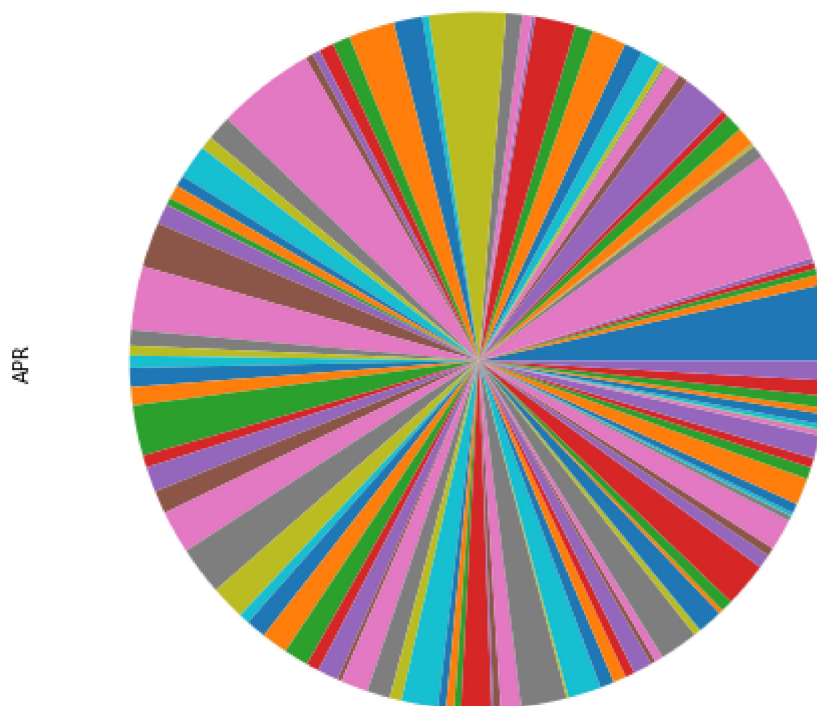Out[7]:  <AxesSubplot:>
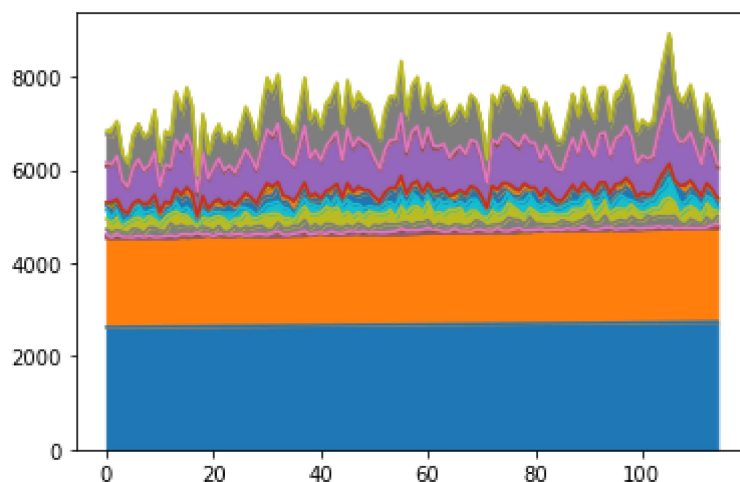
In [8]:  1  b.plot.hist(legend=None)

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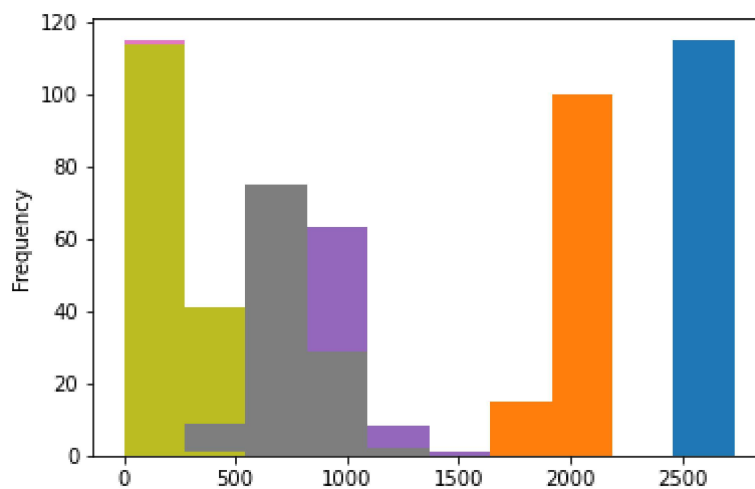


In [10]:  1  b.plot.pie(y='APR',figsize=(8,8),labels=None,legend=None)

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



In [ ]:  1