

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 [2]: a=pd.read_csv(r"C:\Users\user\Downloads\Book7.csv")
a
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	3312	RAYALSEEMA	1901	7.0	50.2	0.0	12.1	38.9	53.0	73.4	60.3	109.0	81.6
1	3313	RAYALSEEMA	1902	10.0	0.2	1.7	11.0	36.8	73.6	41.3	148.3	181.7	188.5
2	3314	RAYALSEEMA	1903	30.0	0.1	0.0	3.6	80.5	67.5	127.5	140.6	219.7	95.3
3	3315	RAYALSEEMA	1904	14.8	0.0	1.7	7.1	58.8	39.8	75.1	19.4	84.7	111.5
4	3316	RAYALSEEMA	1905	6.5	6.8	17.0	18.3	44.2	66.1	50.9	219.3	36.5	180.2
...	...	...	...	...	...	...	...	...	...	...	...	...	...
110	3422	RAYALSEEMA	2011	0.8	12.1	0.0	34.6	33.0	44.5	128.9	163.6	71.2	107.5
111	3423	RAYALSEEMA	2012	2.7	0.0	2.5	32.7	38.8	47.0	139.7	120.0	69.5	113.7
112	3424	RAYALSEEMA	2013	1.3	30.6	11.5	26.8	38.9	73.8	95.7	110.3	163.2	169.3
113	3425	RAYALSEEMA	2014	0.2	0.7	12.5	5.1	46.7	66.3	68.7	115.1	81.4	104.6
114	3426	RAYALSEEMA	2015	1.9	0.0	13.4	73.4	39.7	73.0	43.1	123.6	136.3	106.7

115 rows × 20 columns



In [3]: 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]: b=a.fillna(method='ffill')
b

Out[4]:

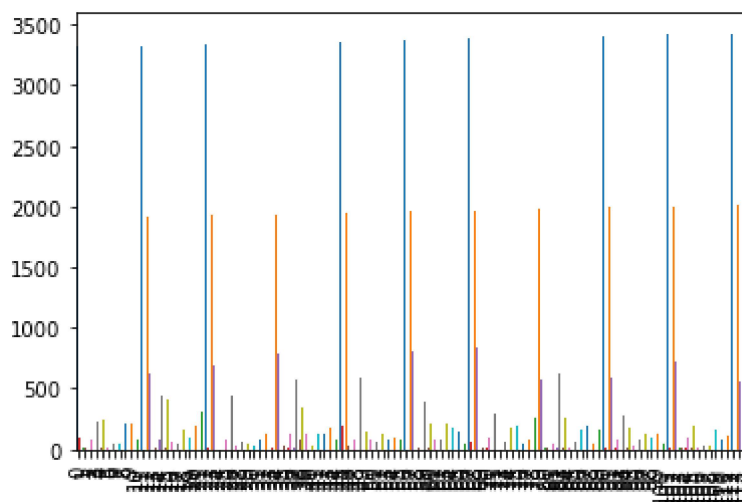
	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	3312	RAYALSEEMA	1901	7.0	50.2	0.0	12.1	38.9	53.0	73.4	60.3	109.0	81.6
1	3313	RAYALSEEMA	1902	10.0	0.2	1.7	11.0	36.8	73.6	41.3	148.3	181.7	188.5
2	3314	RAYALSEEMA	1903	30.0	0.1	0.0	3.6	80.5	67.5	127.5	140.6	219.7	95.3
3	3315	RAYALSEEMA	1904	14.8	0.0	1.7	7.1	58.8	39.8	75.1	19.4	84.7	111.5
4	3316	RAYALSEEMA	1905	6.5	6.8	17.0	18.3	44.2	66.1	50.9	219.3	36.5	180.2
...	...	...	...	...	...	...	...	...	...	...	...	...	...
110	3422	RAYALSEEMA	2011	0.8	12.1	0.0	34.6	33.0	44.5	128.9	163.6	71.2	107.5
111	3423	RAYALSEEMA	2012	2.7	0.0	2.5	32.7	38.8	47.0	139.7	120.0	69.5	113.7
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113	3425	RAYALSEEMA	2014	0.2	0.7	12.5	5.1	46.7	66.3	68.7	115.1	81.4	104.6
114	3426	RAYALSEEMA	2015	1.9	0.0	13.4	73.4	39.7	73.0	43.1	123.6	136.3	106.7

115 rows × 20 columns



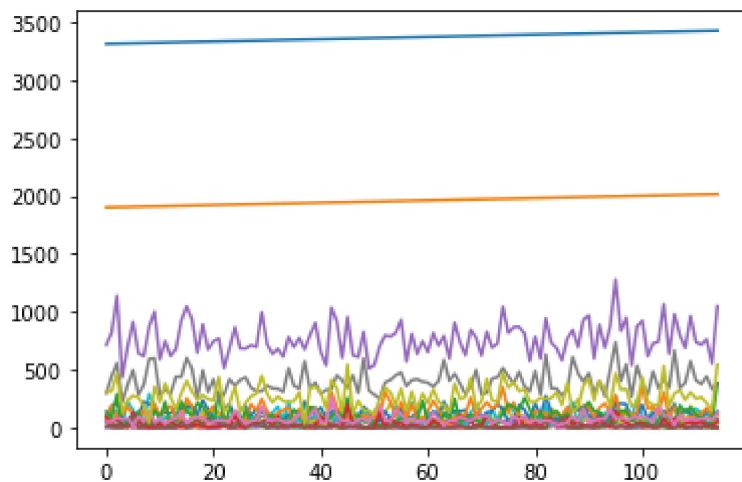
```
In [5]: b.plot.bar(legend=None)
```

```
Out[5]: <AxesSubplot:>
```



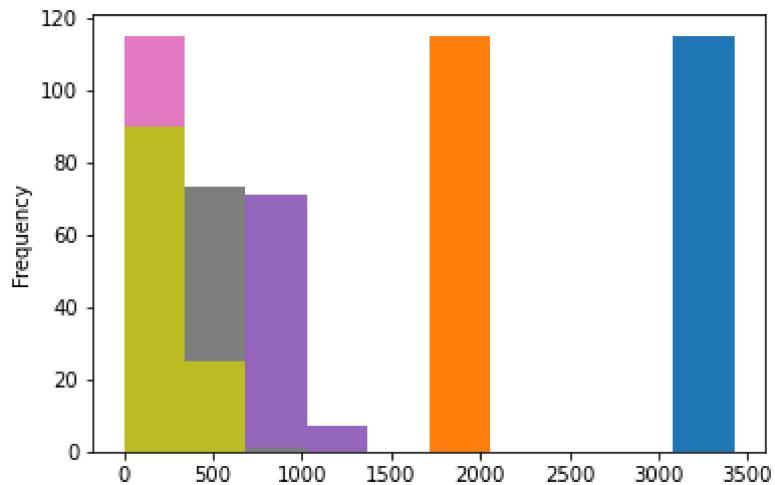
```
In [6]: b.plot.line(legend=None)
```

```
Out[6]: <AxesSubplot:>
```



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

```
Out[7]: <AxesSubplot:ylabel='Frequency'>
```



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

```
Out[8]: <AxesSubplot:ylabel='JUL'>
```



```
In [ ]:
```

