

# Vijay(Book10) 04/08/2023

```
In [1]: 1 import numpy as np
        2 import pandas as pd
        3 import matplotlib.pyplot as plt
        4 import seaborn as sns
        5 from sklearn.linear_model import LogisticRegression
        6 from sklearn.preprocessing import StandardScaler
        7 import re
        8 from sklearn.datasets import load_digits
        9 from sklearn.model_selection import train_test_split
```

```
In [2]: 1 a=pd.read_csv(r"C:\Users\user\Downloads\Book10.csv")
        2 a
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	C
0	2967	CHHATTISGARH	1901	48.9	116.5	27.8	5.5	18.4	101.6	381.0	476.7	182.8	2
1	2968	CHHATTISGARH	1902	0.6	6.5	0.4	13.9	10.3	37.2	403.8	236.6	198.1	
2	2969	CHHATTISGARH	1903	6.2	13.9	0.4	6.8	51.1	110.7	365.9	396.0	212.0	16
3	2970	CHHATTISGARH	1904	0.0	8.6	32.3	0.2	77.5	369.5	303.6	483.6	86.8	12
4	2971	CHHATTISGARH	1905	50.3	22.6	19.0	24.6	31.8	40.4	443.7	270.8	338.8	
...	...	...	...	...	...	...	...	...	...	...	...	...	
110	3077	CHHATTISGARH	2011	0.3	11.5	2.6	35.0	16.8	183.5	272.6	379.8	382.2	1
111	3078	CHHATTISGARH	2012	36.6	4.8	1.1	14.9	9.4	147.3	430.6	442.2	245.3	1
112	3079	CHHATTISGARH	2013	2.8	19.7	4.9	45.8	5.7	263.6	418.8	336.6	140.9	16
113	3080	CHHATTISGARH	2014	2.3	29.0	21.4	17.3	25.0	104.9	416.7	327.7	252.7	7
114	3081	CHHATTISGARH	2015	15.8	1.2	21.2	37.0	13.0	257.6	248.6	286.6	216.9	1

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
```

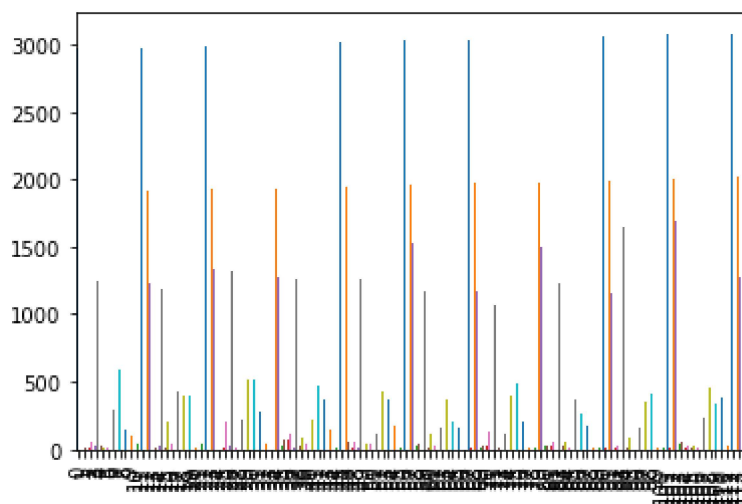
Out[4]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	C
0	2967	CHHATTISGARH	1901	48.9	116.5	27.8	5.5	18.4	101.6	381.0	476.7	182.8	2
1	2968	CHHATTISGARH	1902	0.6	6.5	0.4	13.9	10.3	37.2	403.8	236.6	198.1	
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3	2970	CHHATTISGARH	1904	0.0	8.6	32.3	0.2	77.5	369.5	303.6	483.6	86.8	12
4	2971	CHHATTISGARH	1905	50.3	22.6	19.0	24.6	31.8	40.4	443.7	270.8	338.8	
...	...	...	...	...	...	...	...	...	...	...	...	...	
110	3077	CHHATTISGARH	2011	0.3	11.5	2.6	35.0	16.8	183.5	272.6	379.8	382.2	1
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115 rows × 20 columns

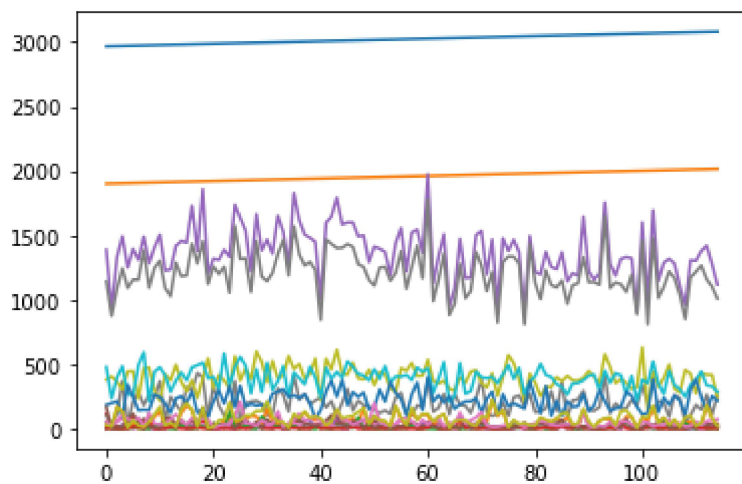
```
In [5]: 1 b.plot.bar(legend=None)
```

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



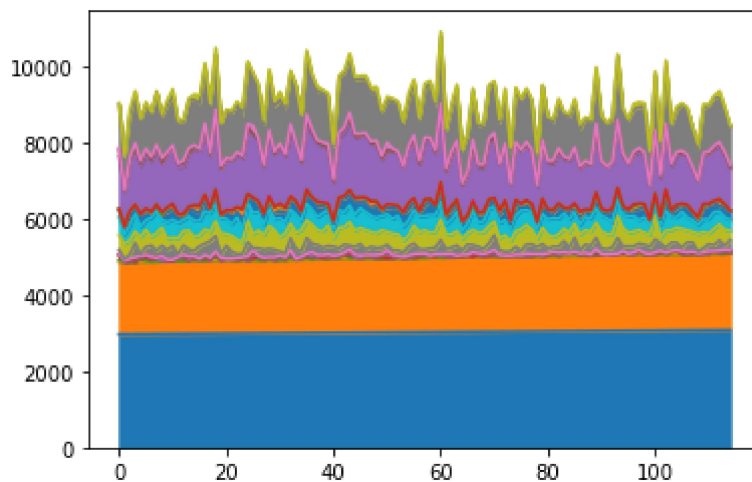
```
In [6]: 1 b.plot.line(legend=None)
```

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



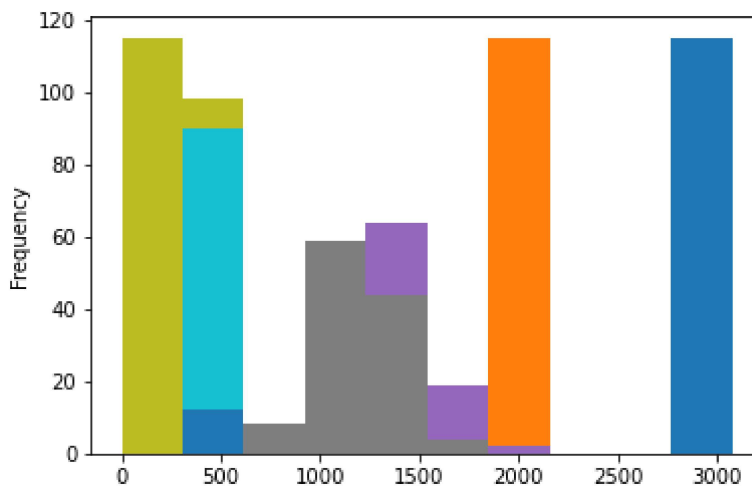
```
In [7]: 1 b.plot.area(legend=None)
```

```
Out[7]: <AxesSubplot:>
```



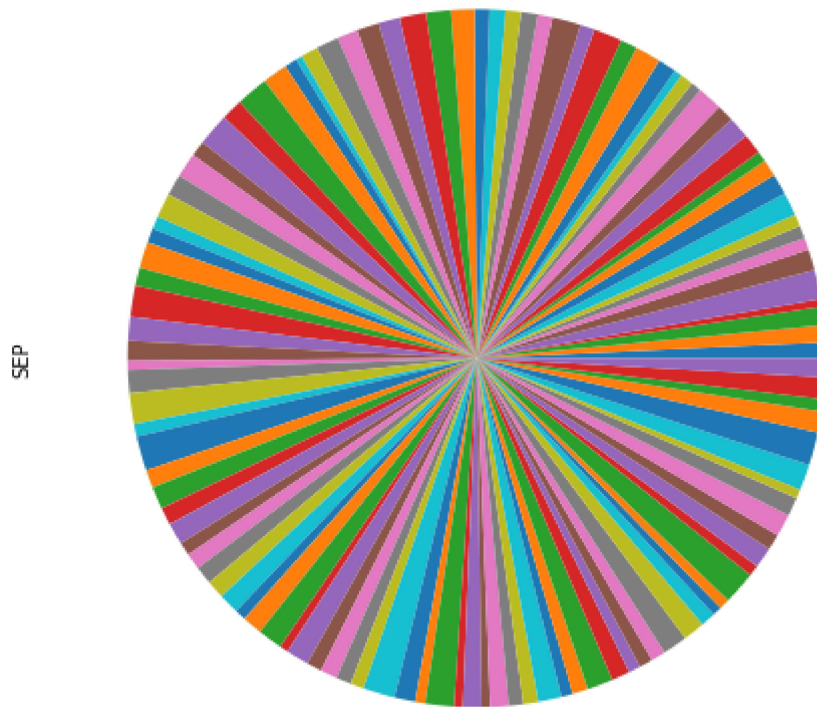
```
In [8]: 1 b.plot.hist(legend=None)
```

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



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

```
Out[10]: <AxesSubplot:ylabel='SEP'>
```



```
In [ ]: 1
```