

```
In [2]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
In [4]: df=pd.read_csv(r'C:\Users\user\Desktop\rainfall\EAST RAJASTHAN.csv')
df
```

Out[4]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	1932	EAST RAJASTHAN	1901	21.6	8.9	2.9	0.7	5.0	15.0	164.8	175.6	7.5	9.8
1	1933	EAST RAJASTHAN	1902	4.1	0.7	0.0	1.8	9.9	34.6	247.6	116.7	145.6	14.4
2	1934	EAST RAJASTHAN	1903	1.9	0.7	1.3	0.1	12.9	15.6	238.2	229.1	168.5	17.8
3	1935	EAST RAJASTHAN	1904	4.3	5.5	21.7	0.2	27.5	49.9	289.7	223.5	50.2	1.5
4	1936	EAST RAJASTHAN	1905	4.1	8.8	3.2	1.6	2.0	14.4	130.5	30.9	83.8	0.0
...
110	2042	EAST RAJASTHAN	2011	0.0	11.2	0.2	0.5	5.1	140.9	193.6	284.1	166.4	0.0
111	2043	EAST RAJASTHAN	2012	1.9	0.0	0.0	3.6	9.5	11.2	170.5	365.0	131.3	0.5
112	2044	EAST RAJASTHAN	2013	1.4	21.7	0.4	3.2	1.0	90.6	319.0	278.5	88.0	30.6
113	2045	EAST RAJASTHAN	2014	28.4	10.0	6.4	7.3	8.4	23.5	197.1	261.0	136.9	3.2
114	2046	EAST RAJASTHAN	2015	12.1	0.1	55.9	15.9	3.5	96.4	297.6	142.8	20.1	5.0

115 rows × 20 columns



```
In [3]: df=df.dropna()
df
```

Out[3]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	1932	EAST RAJASTHAN	1901	21.6	8.9	2.9	0.7	5.0	15.0	164.8	175.6	7.5	9.8
1	1933	EAST RAJASTHAN	1902	4.1	0.7	0.0	1.8	9.9	34.6	247.6	116.7	145.6	14.4
2	1934	EAST RAJASTHAN	1903	1.9	0.7	1.3	0.1	12.9	15.6	238.2	229.1	168.5	17.8
3	1935	EAST RAJASTHAN	1904	4.3	5.5	21.7	0.2	27.5	49.9	289.7	223.5	50.2	1.5
4	1936	EAST RAJASTHAN	1905	4.1	8.8	3.2	1.6	2.0	14.4	130.5	30.9	83.8	0.0
...
110	2042	EAST RAJASTHAN	2011	0.0	11.2	0.2	0.5	5.1	140.9	193.6	284.1	166.4	0.0
111	2043	EAST RAJASTHAN	2012	1.9	0.0	0.0	3.6	9.5	11.2	170.5	365.0	131.3	0.5
112	2044	EAST RAJASTHAN	2013	1.4	21.7	0.4	3.2	1.0	90.6	319.0	278.5	88.0	30.6
113	2045	EAST RAJASTHAN	2014	28.4	10.0	6.4	7.3	8.4	23.5	197.1	261.0	136.9	3.2
114	2046	EAST RAJASTHAN	2015	12.1	0.1	55.9	15.9	3.5	96.4	297.6	142.8	20.1	5.0

115 rows × 20 columns



```
In [4]: df.columns
```

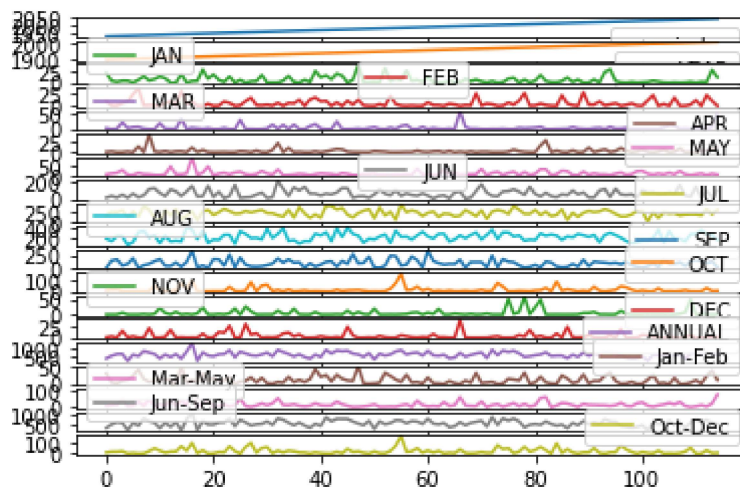
```
Out[4]: Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY',
              'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb',
              'Mar-May', 'Jun-Sep', 'Oct-Dec'],
              dtype='object')
```

In [5]: df.info()

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 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: 18.9+ KB
```

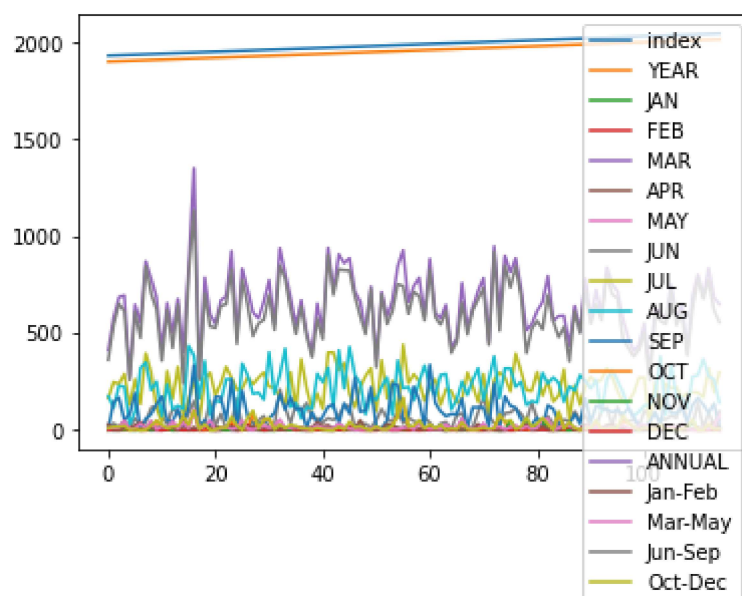
In [6]: df.plot.line(subplots=True)

Out[6]: array([<AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>], dtype=object)



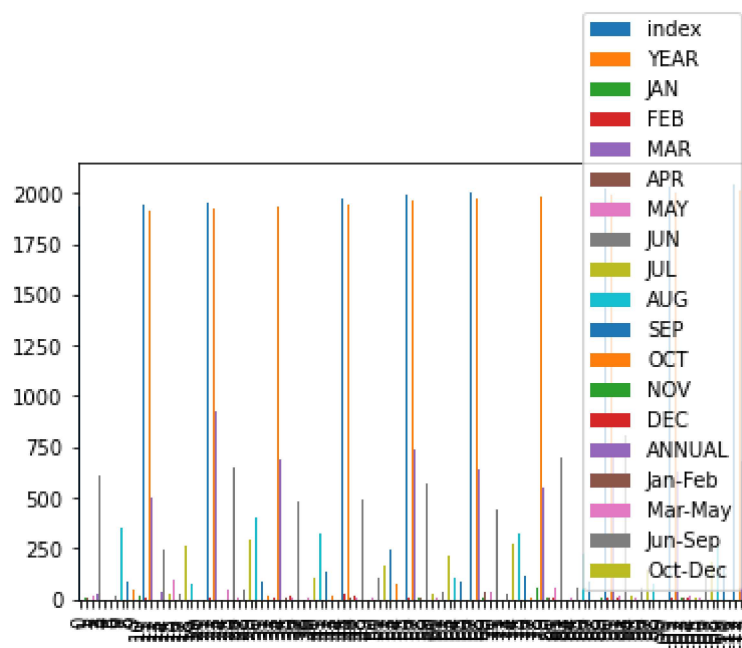
```
In [7]: df.plot.line()
```

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



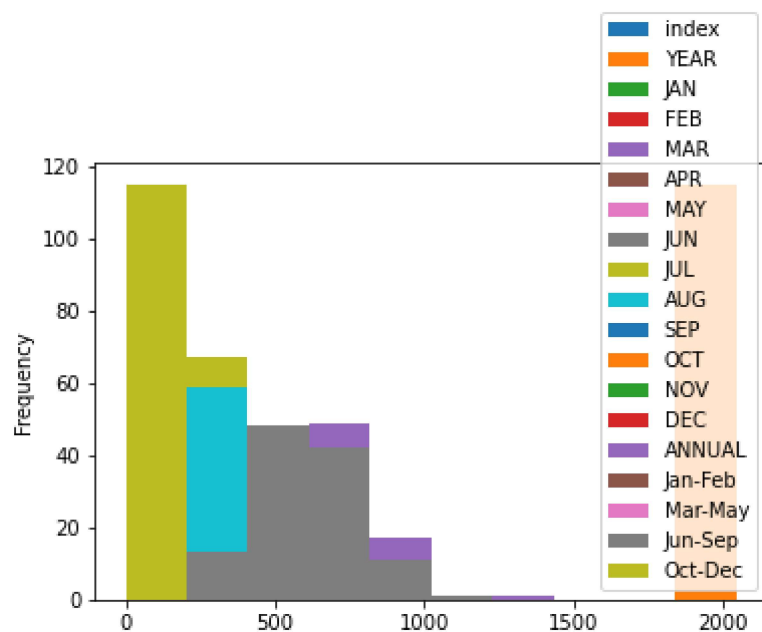
```
In [8]: df.plot.bar()
```

```
Out[8]: <AxesSubplot:>
```



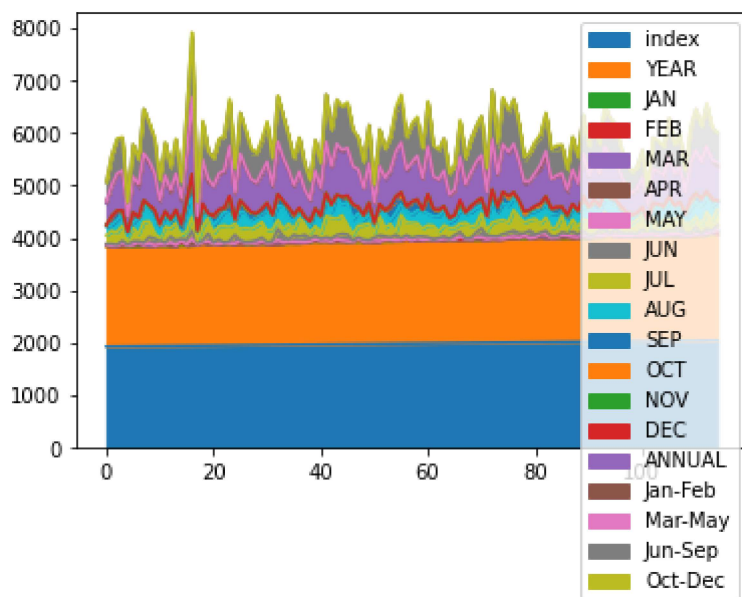
```
In [9]: df.plot.hist()
```

```
Out[9]: <AxesSubplot:ylabel='Frequency'>
```



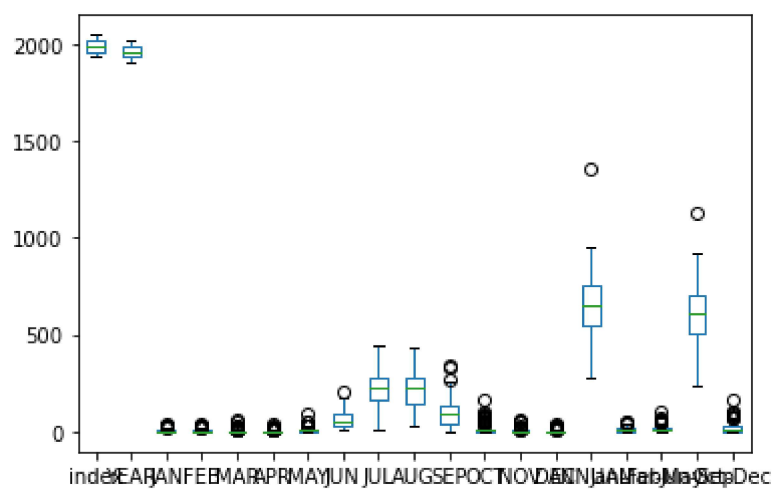
```
In [10]: df.plot.area()
```

```
Out[10]: <AxesSubplot:>
```



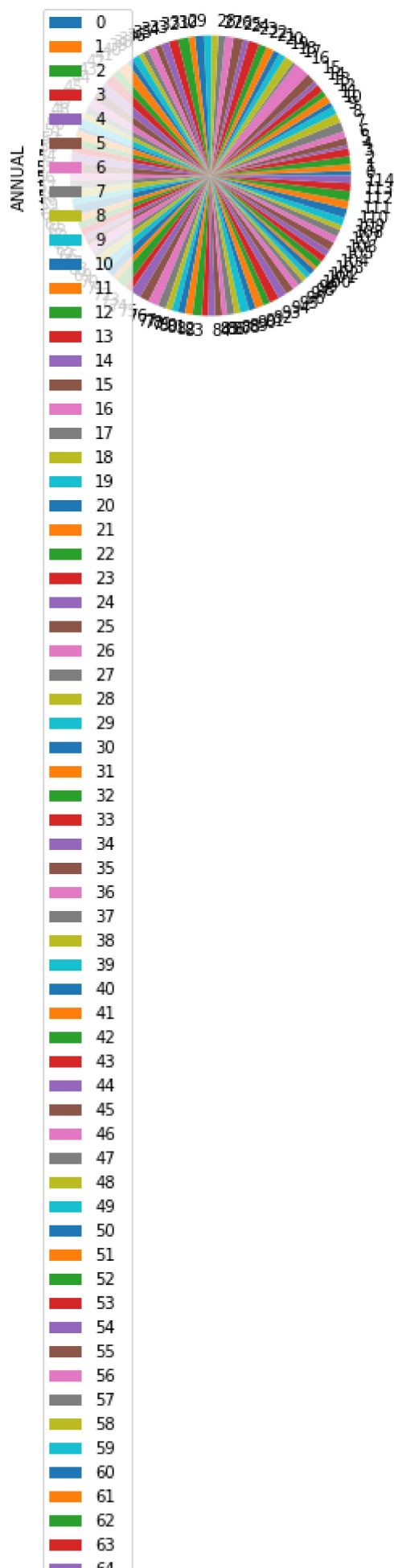
```
In [11]: df.plot.box()
```

```
Out[11]: <AxesSubplot:>
```



```
In [12]: df.plot.pie(y='ANNUAL')
```

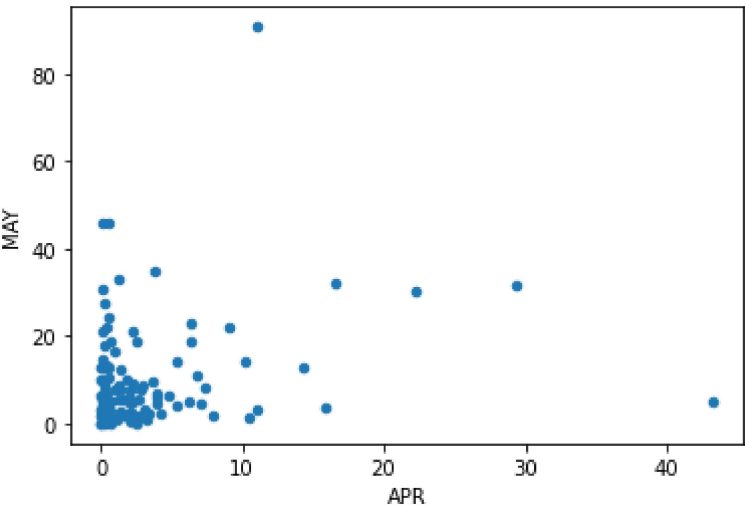
```
Out[12]: <AxesSubplot:ylabel='ANNUAL'>
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	114

```
In [13]: df.plot.scatter(x='APR',y='MAY')
```

Out[13]: <AxesSubplot:xlabel='APR', ylabel='MAY'>



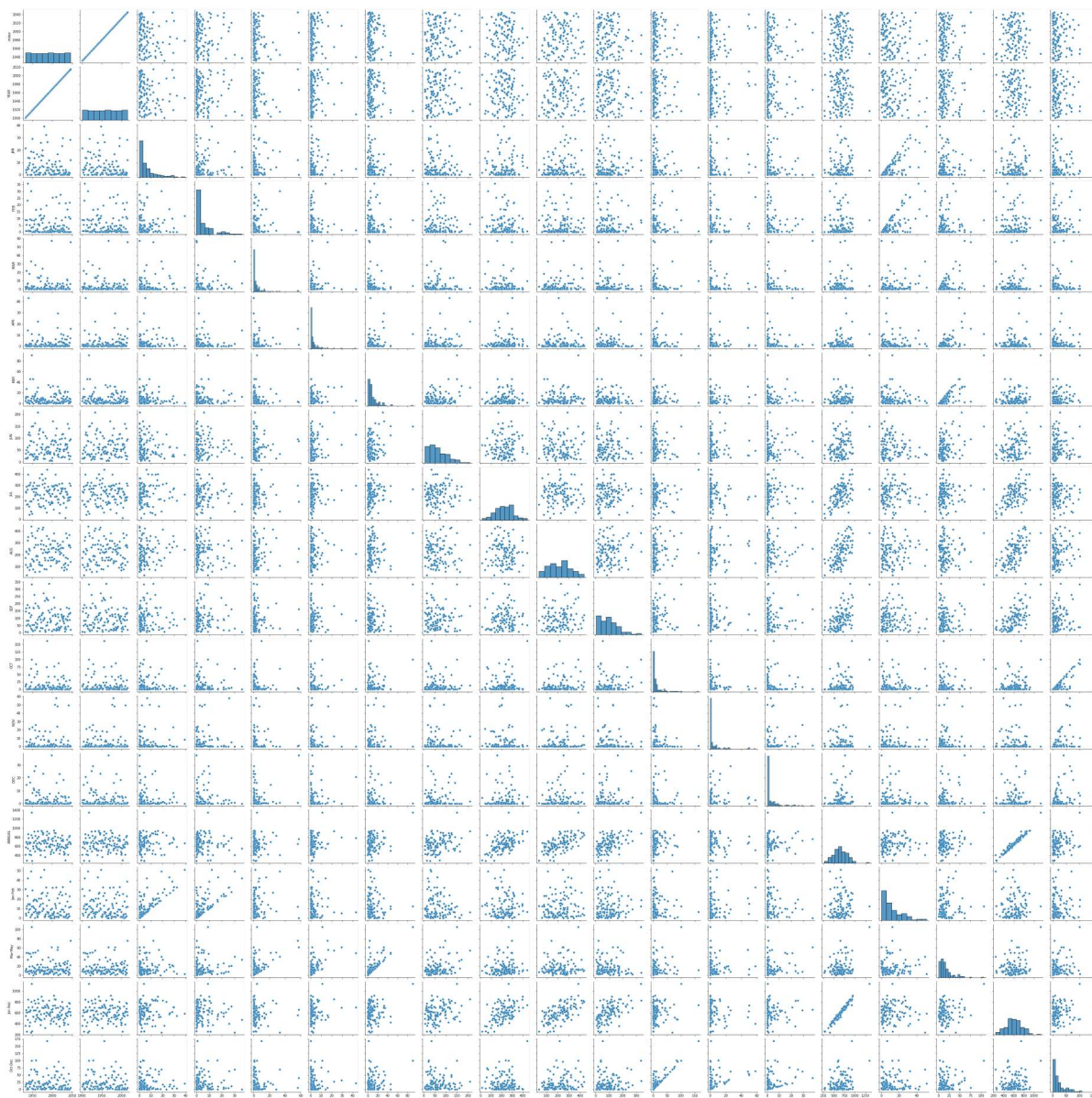
```
In [14]: df.describe()
```

Out[14]:

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	115.000000	115.000000	115.000000	115.000000	115.000000	115.000000	115.000000	115.000000
mean	1989.000000	1958.000000	6.422609	5.417391	4.516522	3.144348	9.820000	6.422609
std	33.341666	33.341666	8.223832	7.470142	9.145835	5.938592	12.256507	8.223832
min	1932.000000	1901.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25%	1960.500000	1929.500000	0.700000	0.450000	0.150000	0.200000	2.450000	0.700000
50%	1989.000000	1958.000000	3.600000	2.300000	1.300000	1.100000	5.700000	3.600000
75%	2017.500000	1986.500000	8.600000	8.650000	4.100000	3.150000	12.700000	8.600000
max	2046.000000	2015.000000	39.200000	35.700000	57.400000	43.200000	90.900000	39.200000

```
In [5]: sns.pairplot(df)
```

```
Out[5]: <seaborn.axisgrid.PairGrid at 0x2673e4b03d0>
```

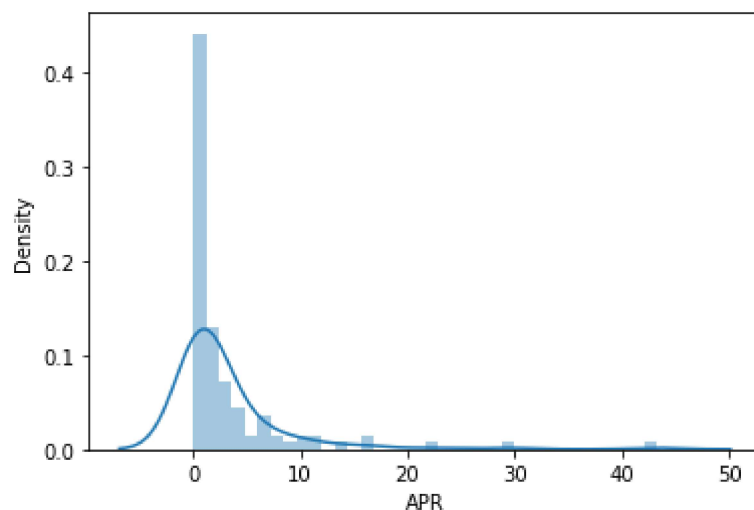


```
In [6]: sns.distplot(df['APR'])
```

C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function for histograms).

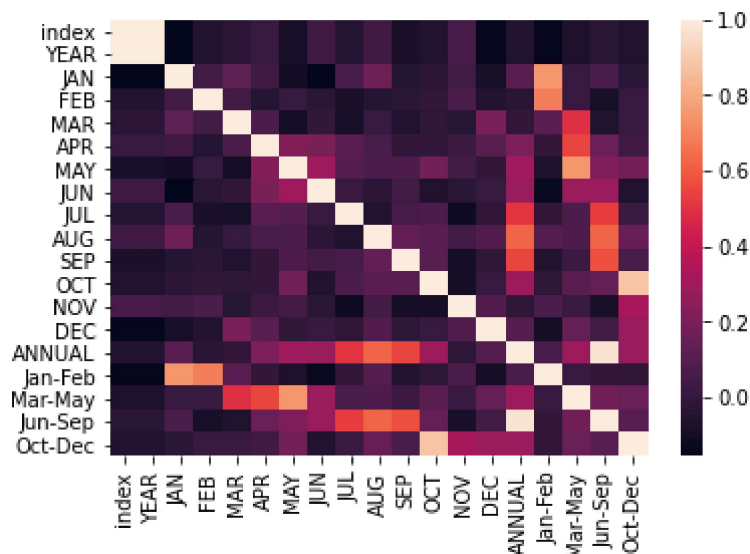
```
warnings.warn(msg, FutureWarning)
```

```
Out[6]: <AxesSubplot:xlabel='APR', ylabel='Density'>
```



```
In [7]: sns.heatmap(df.corr())
```

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



```
In [ ]:
```

