

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

```
In [3]: df=pd.read_csv(r'C:\Users\user\Desktop\rainfall\EAST MADHYA PRADESH.csv')
df
```

Out[3]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	2162	EAST MADHYA PRADESH	1901	48.5	38.1	15.7	10.7	6.2	61.0	367.5	589.2	189.9	5.9
1	2163	EAST MADHYA PRADESH	1902	14.9	8.9	0.0	3.6	2.7	28.0	411.9	227.0	236.6	17.0
2	2164	EAST MADHYA PRADESH	1903	5.6	2.9	0.3	0.9	37.5	67.5	261.4	366.7	257.4	177.9
3	2165	EAST MADHYA PRADESH	1904	2.0	15.3	48.2	0.0	8.6	109.9	443.2	316.6	135.6	44.8
4	2166	EAST MADHYA PRADESH	1905	15.9	8.0	14.3	12.3	10.2	34.4	292.4	243.3	250.9	2.9
...
110	2272	EAST MADHYA PRADESH	2011	0.6	1.9	0.3	7.1	4.7	332.5	323.6	326.9	276.5	1.1
111	2273	EAST MADHYA PRADESH	2012	39.4	0.7	0.6	1.1	1.2	67.8	398.9	351.7	172.6	12.7
112	2274	EAST MADHYA PRADESH	2013	2.0	43.4	14.1	9.5	0.3	311.9	456.2	480.8	78.0	124.2
113	2275	EAST MADHYA PRADESH	2014	32.1	49.7	17.8	5.1	2.5	91.8	283.4	231.8	139.6	56.4
114	2276	EAST MADHYA PRADESH	2015	37.3	11.0	73.4	25.8	6.3	139.2	262.2	272.1	71.6	38.2

115 rows × 20 columns

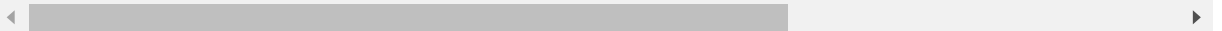


```
In [4]: df=df.dropna()
df
```

Out[4]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	2162	EAST MADHYA PRADESH	1901	48.5	38.1	15.7	10.7	6.2	61.0	367.5	589.2	189.9	5.9
1	2163	EAST MADHYA PRADESH	1902	14.9	8.9	0.0	3.6	2.7	28.0	411.9	227.0	236.6	17.0
2	2164	EAST MADHYA PRADESH	1903	5.6	2.9	0.3	0.9	37.5	67.5	261.4	366.7	257.4	177.9
3	2165	EAST MADHYA PRADESH	1904	2.0	15.3	48.2	0.0	8.6	109.9	443.2	316.6	135.6	44.8
4	2166	EAST MADHYA PRADESH	1905	15.9	8.0	14.3	12.3	10.2	34.4	292.4	243.3	250.9	2.9
...
110	2272	EAST MADHYA PRADESH	2011	0.6	1.9	0.3	7.1	4.7	332.5	323.6	326.9	276.5	1.1
111	2273	EAST MADHYA PRADESH	2012	39.4	0.7	0.6	1.1	1.2	67.8	398.9	351.7	172.6	12.7
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113	2275	EAST MADHYA PRADESH	2014	32.1	49.7	17.8	5.1	2.5	91.8	283.4	231.8	139.6	56.4
114	2276	EAST MADHYA PRADESH	2015	37.3	11.0	73.4	25.8	6.3	139.2	262.2	272.1	71.6	38.2

115 rows × 20 columns



```
In [5]: df.columns
```

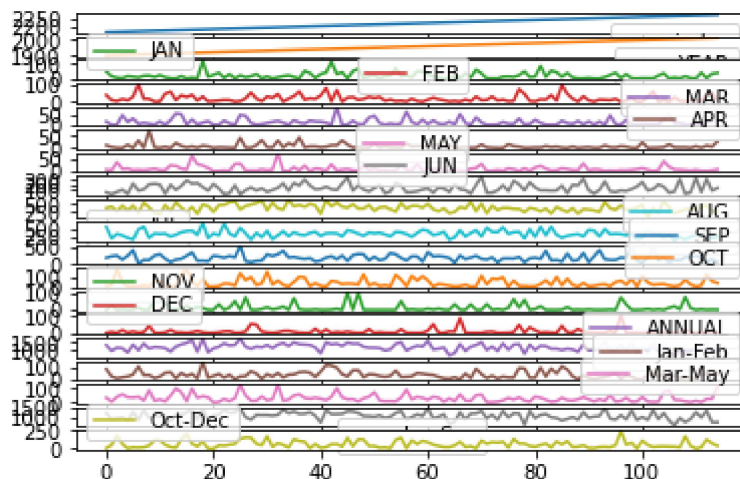
```
Out[5]: Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY',
              'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb',
              'Mar-May', 'Jun-Sep', 'Oct-Dec'],
              dtype='object')
```

In [6]: 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
```

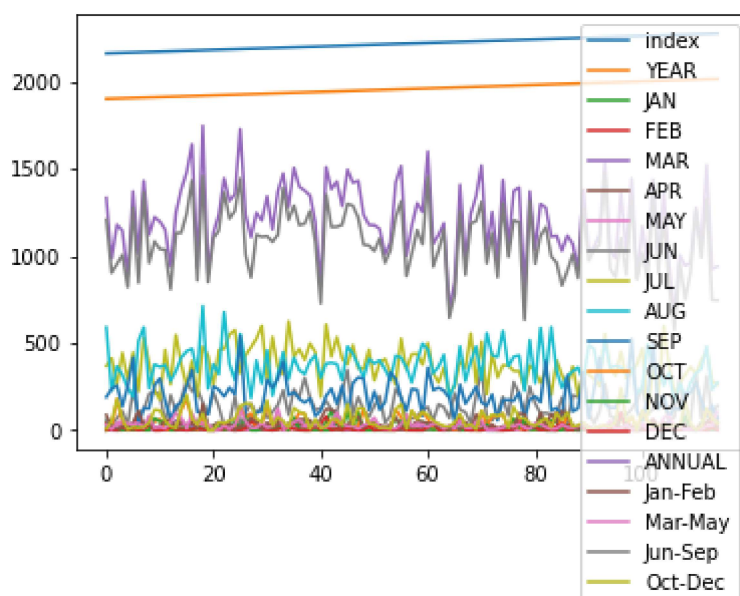
In [7]: df.plot.line(subplots=True)

Out[7]: array([<AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>, <AxesSubplot:~>], dtype=object)



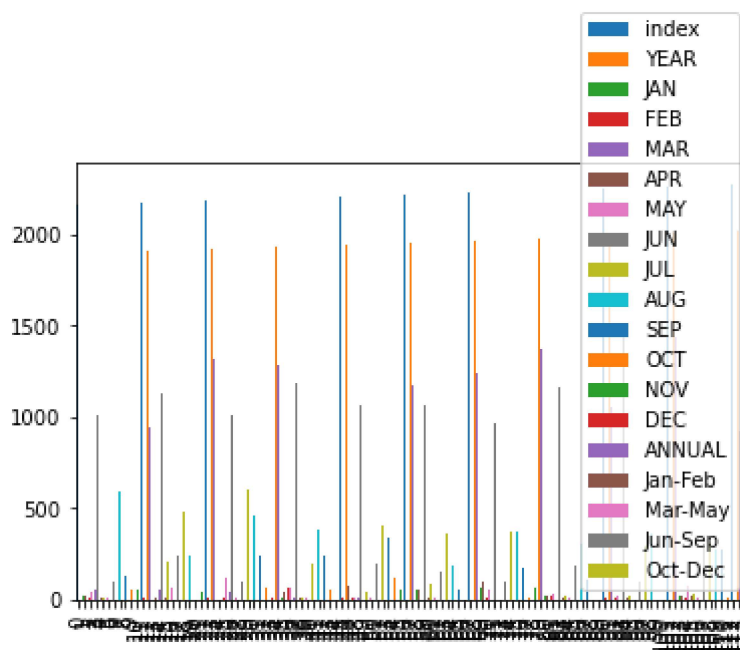
```
In [8]: df.plot.line()
```

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



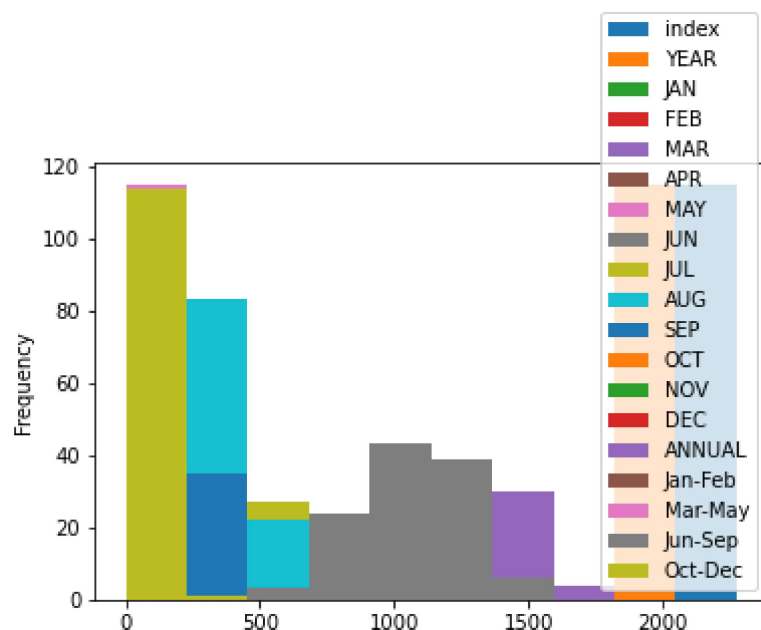
```
In [9]: df.plot.bar()
```

```
Out[9]: <AxesSubplot:>
```



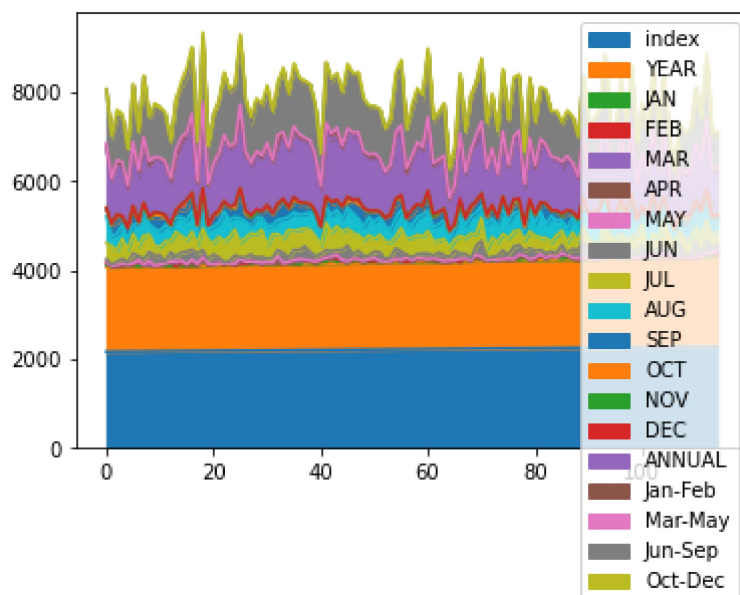
```
In [10]: df.plot.hist()
```

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



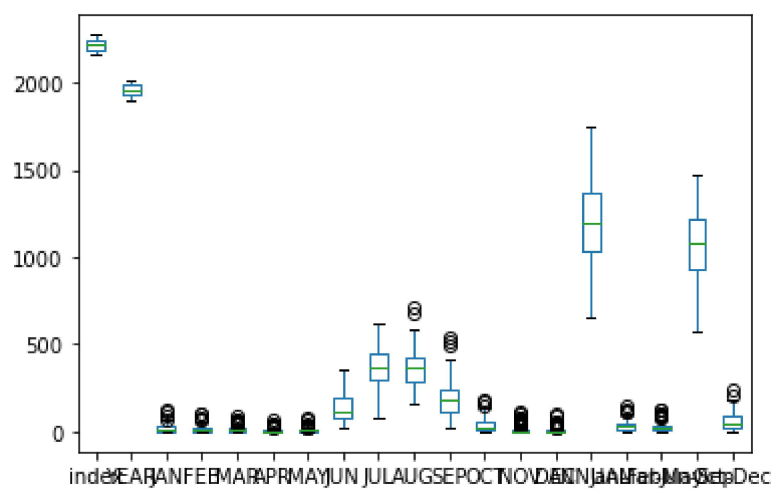
```
In [11]: df.plot.area()
```

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



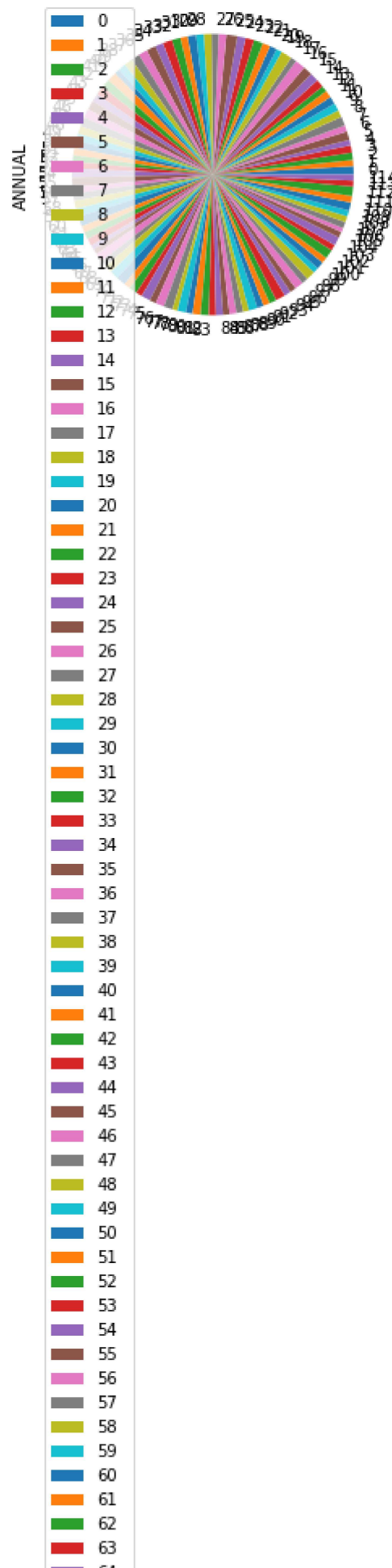
```
In [12]: df.plot.box()
```

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



```
In [13]: df.plot.pie(y='ANNUAL')
```

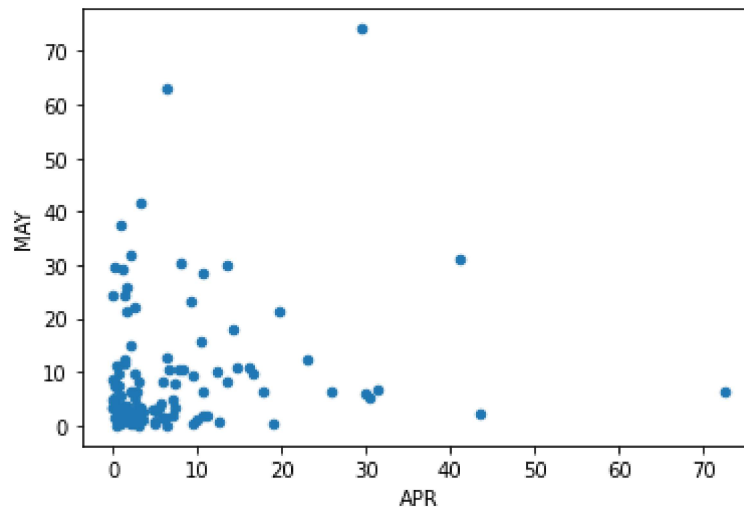
```
Out[13]: <AxesSubplot:ylabel='ANNUAL'>
```

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```
In [14]: df.plot.scatter(x='APR',y='MAY')
```

```
Out[14]: <AxesSubplot:xlabel='APR', ylabel='MAY'>
```



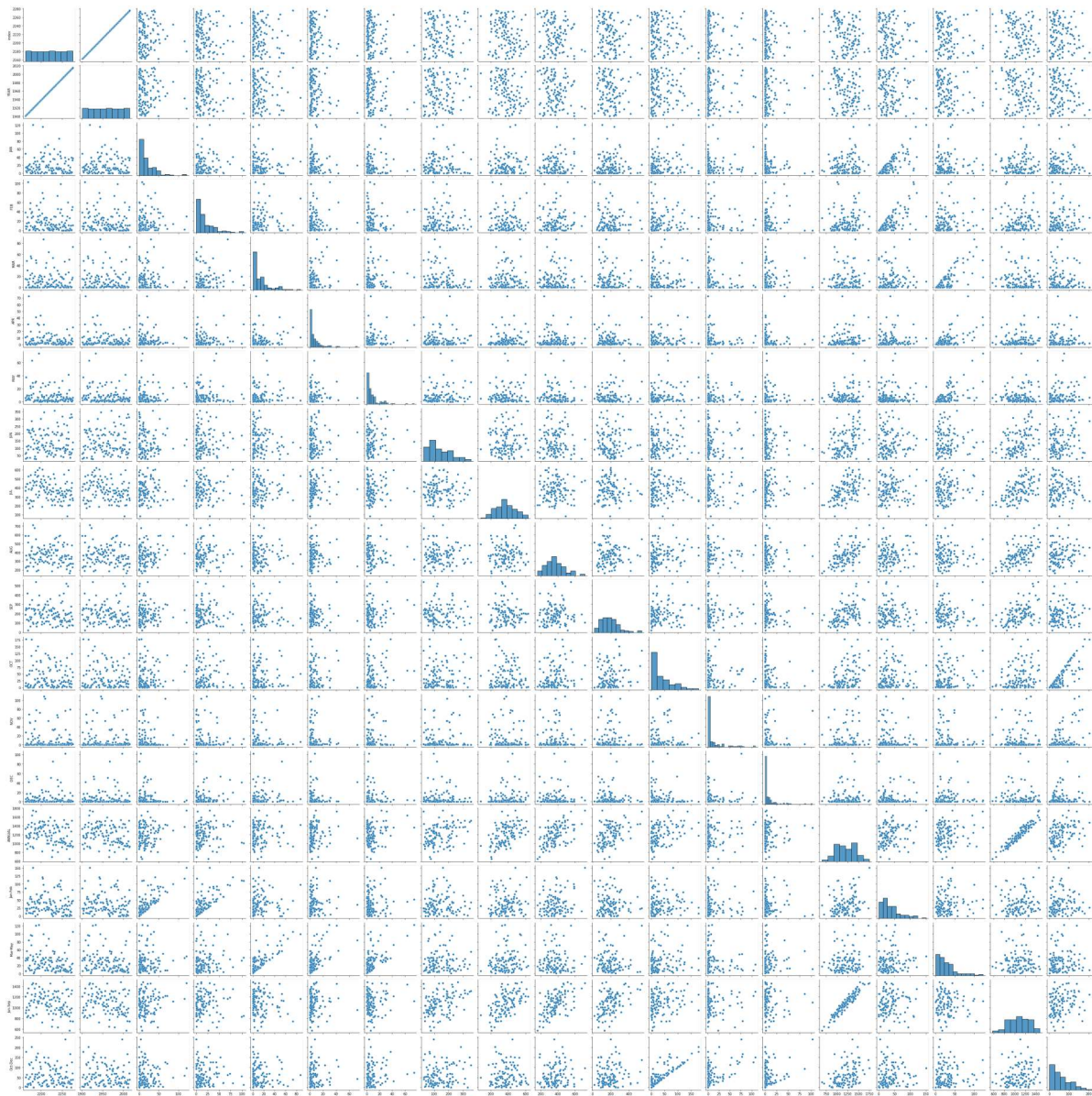
```
In [15]: df.describe()
```

```
Out[15]:
```

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	115.000000	115.000000	115.000000	115.000000	115.000000	115.000000	115.000000	11
mean	2219.000000	1958.000000	19.401739	18.693913	13.637391	7.188696	9.273043	14
std	33.341666	33.341666	22.318347	20.795522	17.354996	10.473272	12.145379	7
min	2162.000000	1901.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2
25%	2190.500000	1929.500000	2.200000	3.650000	1.150000	1.350000	2.100000	8
50%	2219.000000	1958.000000	12.800000	11.300000	8.000000	3.200000	5.100000	11
75%	2247.500000	1986.500000	29.650000	27.400000	18.650000	8.750000	10.500000	19
max	2276.000000	2015.000000	120.700000	103.100000	87.300000	72.400000	74.200000	35

```
In [16]: sns.pairplot(df)
```

```
Out[16]: <seaborn.axisgrid.PairGrid at 0x16e8328cdc0>
```

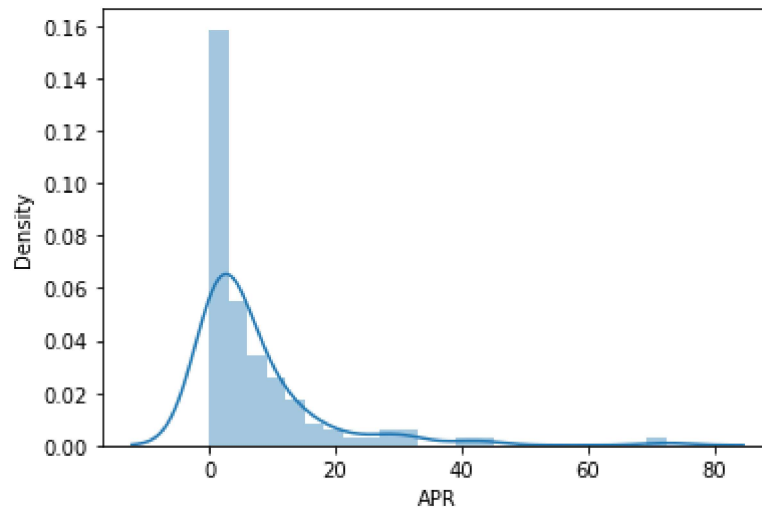


```
In [17]: sns.distplot(df['APR'])
```

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).

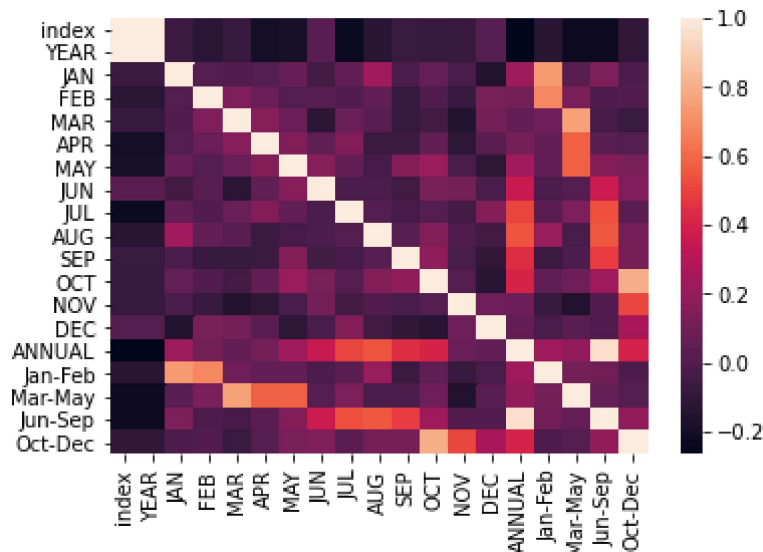
```
warnings.warn(msg, FutureWarning)
```

```
Out[17]: <AxesSubplot:xlabel='APR', ylabel='Density'>
```



```
In [18]: sns.heatmap(df.corr())
```

```
Out[18]: <AxesSubplot:>
```



```
In [ ]:
```

