

```
In [1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
In [2]: df=pd.read_csv(r'C:\Users\user\Desktop\rainfall\WEST RAJASTHAN.csv')
df
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	
0	1817	WEST RAJASTHAN	1901	6.7	0.0	1.1	0.0	6.1	3.0	79.0	59.2	1.0	2.1	
1	1818	WEST RAJASTHAN	1902	0.0	0.0	0.0	0.5	4.0	49.1	27.0	71.3	41.8	1.8	
2	1819	WEST RAJASTHAN	1903	1.7	1.3	5.5	0.0	4.2	2.7	154.8	87.1	49.3	0.1	
3	1820	WEST RAJASTHAN	1904	3.8	2.9	16.3	0.7	11.4	14.6	39.8	45.6	21.4	1.4	
4	1821	WEST RAJASTHAN	1905	6.3	4.8	0.7	1.3	0.3	4.9	30.1	0.6	64.5	0.0	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	
110	1927	WEST RAJASTHAN	2011	0.0	11.8	1.5	1.5	7.8	24.4	88.5	166.8	116.3	0.1	
111	1928	WEST RAJASTHAN	2012	0.5	0.0	0.0	9.5	10.4	5.3	40.4	166.7	92.0	1.9	
112	1929	WEST RAJASTHAN	2013	8.6	21.8	4.2	3.1	1.7	37.6	104.5	138.2	58.7	10.1	
113	1930	WEST RAJASTHAN	2014	0.8	2.2	4.7	8.4	23.0	13.8	94.3	69.6	84.9	0.5	
114	1931	WEST RAJASTHAN	2015	1.4	0.9	30.3	25.2	15.5	53.2	234.6	60.5	35.7	1.1	

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	1817	WEST RAJASTHAN	1901	6.7	0.0	1.1	0.0	6.1	3.0	79.0	59.2	1.0	2.1	
1	1818	WEST RAJASTHAN	1902	0.0	0.0	0.0	0.5	4.0	49.1	27.0	71.3	41.8	1.8	
2	1819	WEST RAJASTHAN	1903	1.7	1.3	5.5	0.0	4.2	2.7	154.8	87.1	49.3	0.1	
3	1820	WEST RAJASTHAN	1904	3.8	2.9	16.3	0.7	11.4	14.6	39.8	45.6	21.4	1.4	
4	1821	WEST RAJASTHAN	1905	6.3	4.8	0.7	1.3	0.3	4.9	30.1	0.6	64.5	0.0	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	
110	1927	WEST RAJASTHAN	2011	0.0	11.8	1.5	1.5	7.8	24.4	88.5	166.8	116.3	0.1	
111	1928	WEST RAJASTHAN	2012	0.5	0.0	0.0	9.5	10.4	5.3	40.4	166.7	92.0	1.9	
112	1929	WEST RAJASTHAN	2013	8.6	21.8	4.2	3.1	1.7	37.6	104.5	138.2	58.7	10.1	
113	1930	WEST RAJASTHAN	2014	0.8	2.2	4.7	8.4	23.0	13.8	94.3	69.6	84.9	0.5	
114	1931	WEST RAJASTHAN	2015	1.4	0.9	30.3	25.2	15.5	53.2	234.6	60.5	35.7	1.1	

115 rows × 20 columns



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

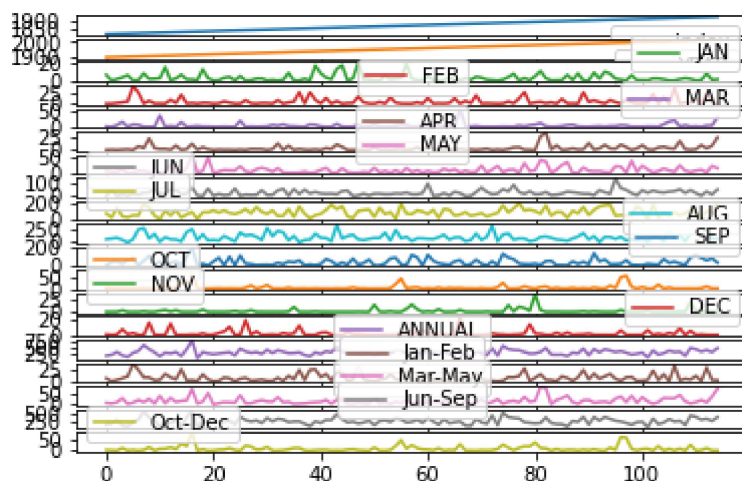
```
Out[4]: Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY',
              'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb',
              'Mar-May', 'Jun-Sep', 'Oct-Dec'],
              dtype='object')
```

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
```

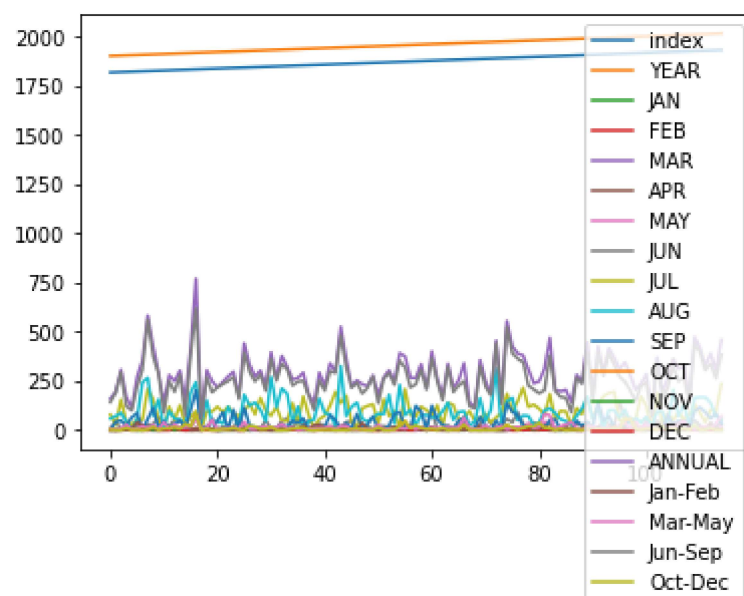
In [6]: `df.plot.line(subplots=True)`

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



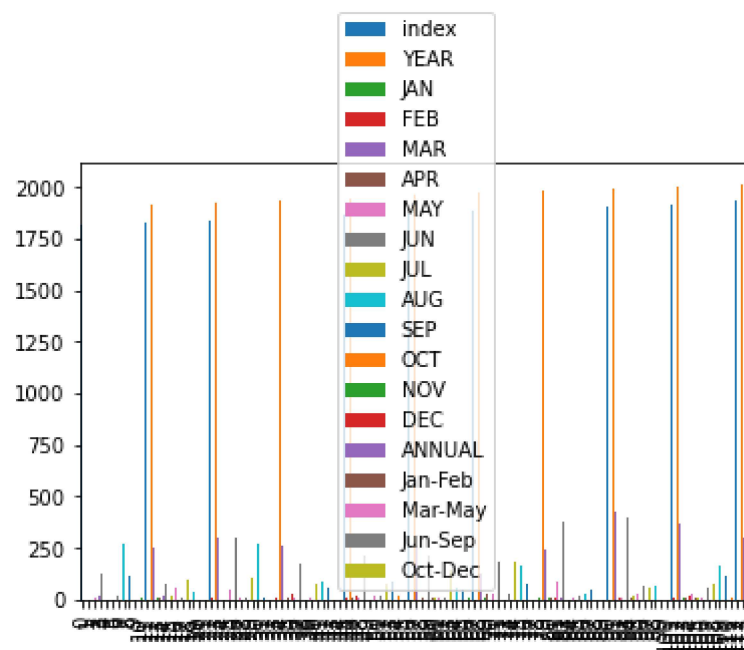
```
In [7]: df.plot.line()
```

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



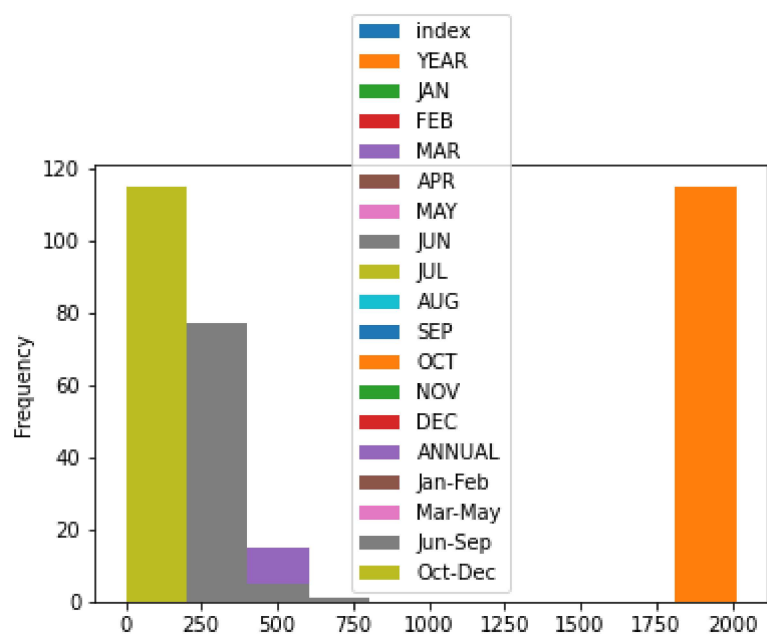
```
In [8]: df.plot.bar()
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Out[8]: <AxesSubplot:>
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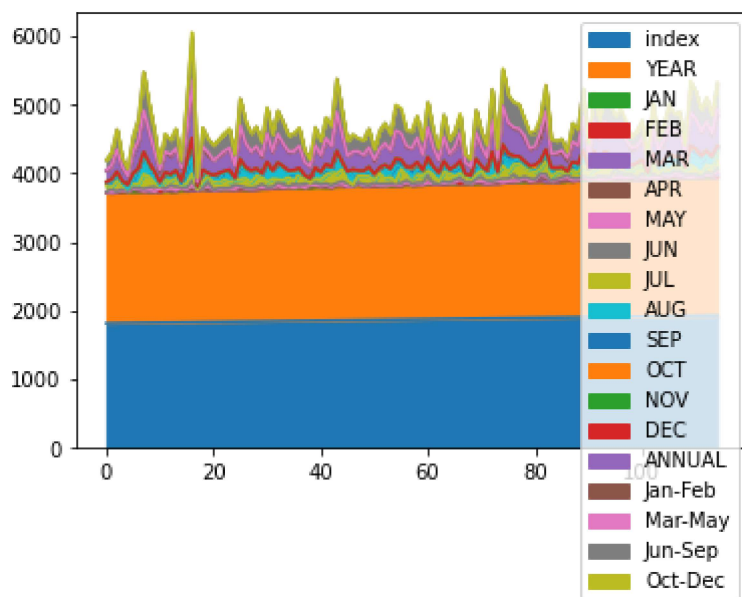
```
In [9]: df.plot.hist()
```

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



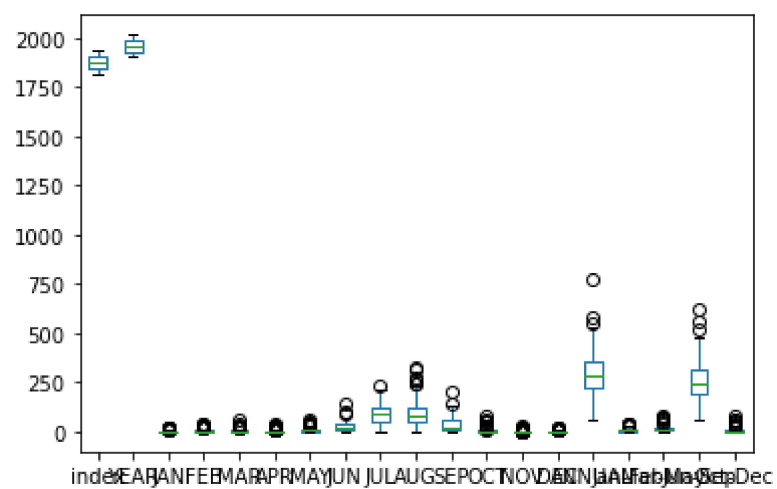
```
In [10]: df.plot.area()
```

```
Out[10]: <AxesSubplot:>
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```
In [11]: df.plot.box()
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Out[11]: <AxesSubplot:>
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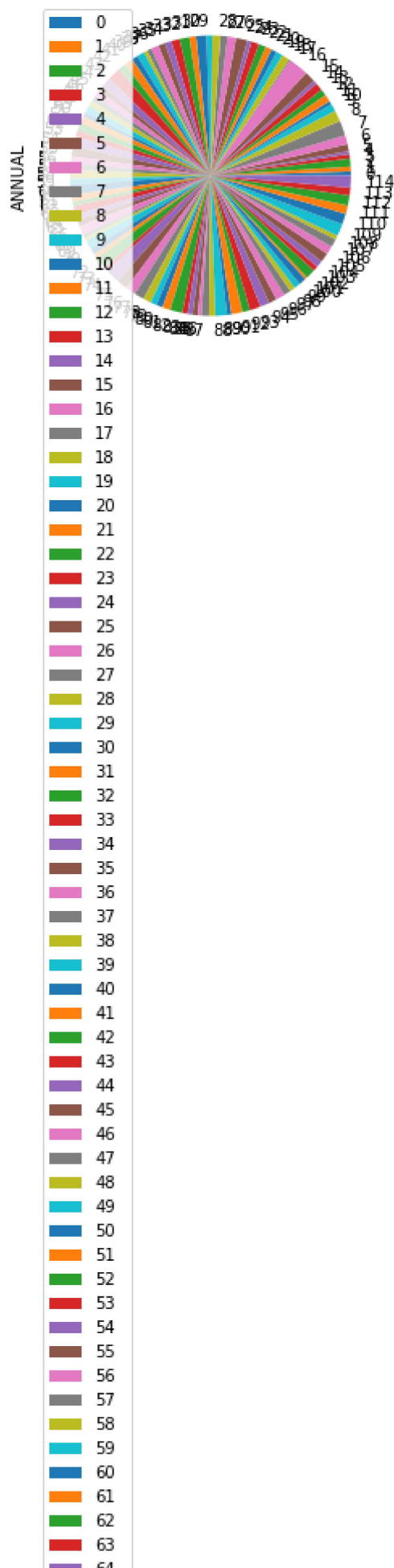


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In [12]: df.plot.pie(y='ANNUAL')
```

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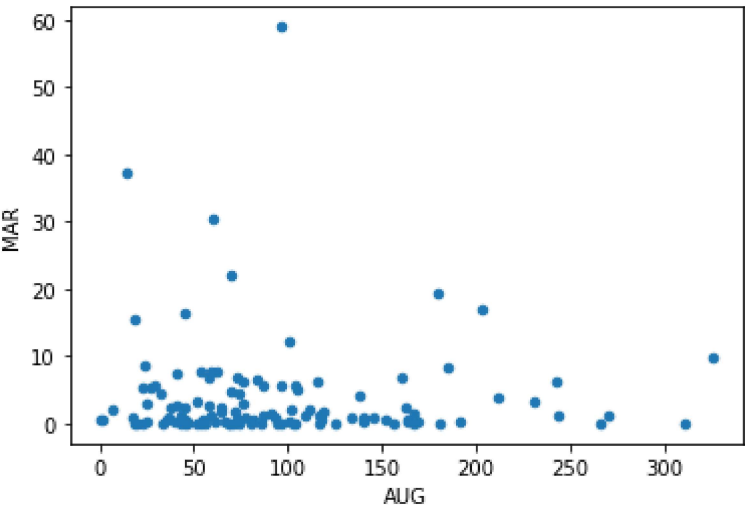




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```
In [13]: df.plot.scatter(x='AUG',y='MAR')
```

Out[13]: <AxesSubplot:xlabel='AUG', ylabel='MAR'>



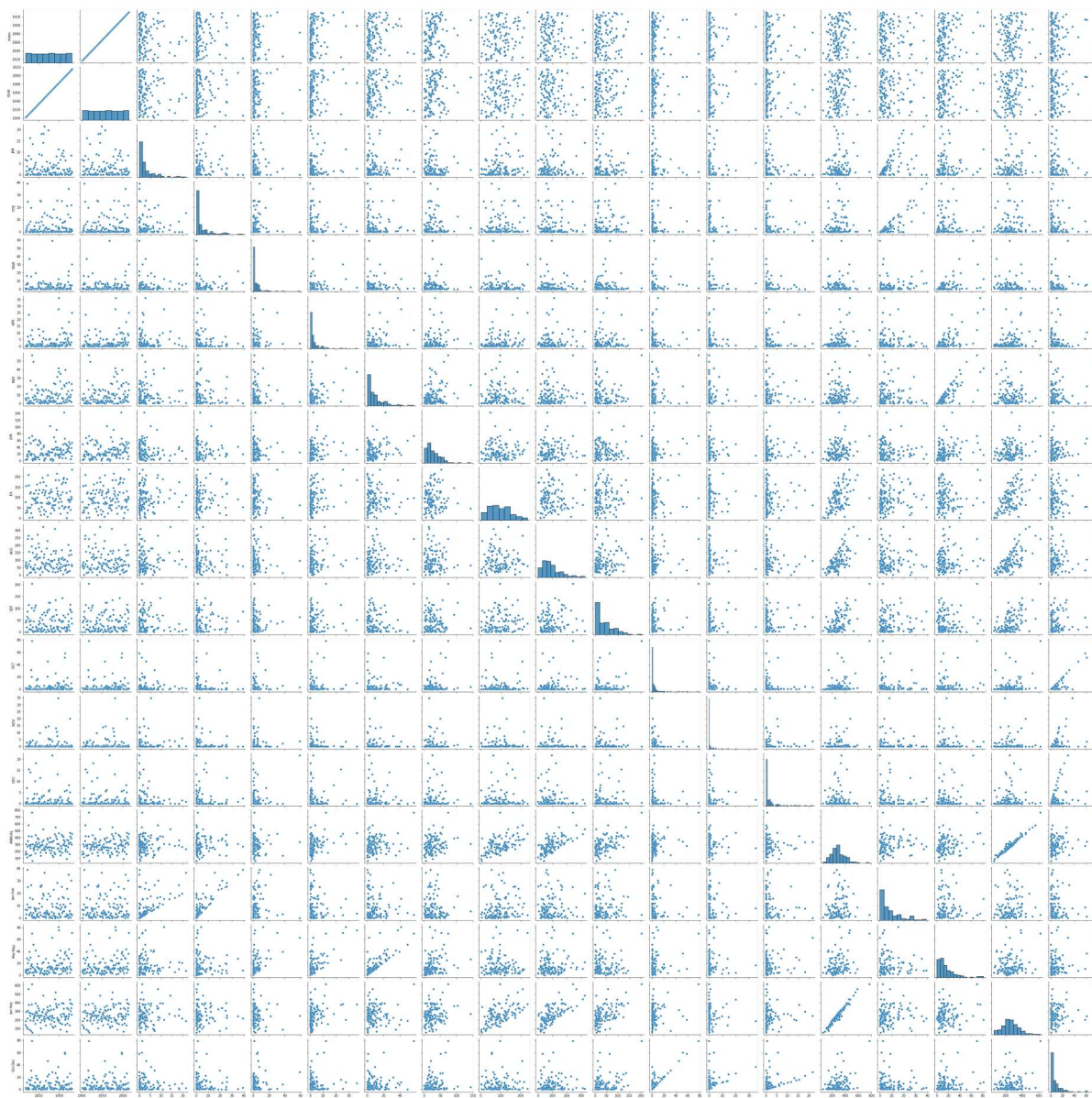
```
In [14]: df.describe()
```

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	1874.000000	1958.000000	3.327826	4.930435	3.986087	3.571304	9.443478	21.000000
std	33.341666	33.341666	4.551914	7.858800	7.813965	5.916803	10.853168	21.000000
min	1817.000000	1901.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25%	1845.500000	1929.500000	0.350000	0.200000	0.200000	0.400000	1.950000	11.000000
50%	1874.000000	1958.000000	1.600000	1.300000	1.100000	1.400000	6.100000	21.000000
75%	1902.500000	1986.500000	4.000000	5.950000	5.200000	3.750000	12.150000	31.000000
max	1931.000000	2015.000000	21.400000	39.100000	59.000000	36.100000	56.800000	141.000000

```
In [15]: sns.pairplot(df)
```

```
Out[15]: <seaborn.axisgrid.PairGrid at 0x1a6e661e7c0>
```

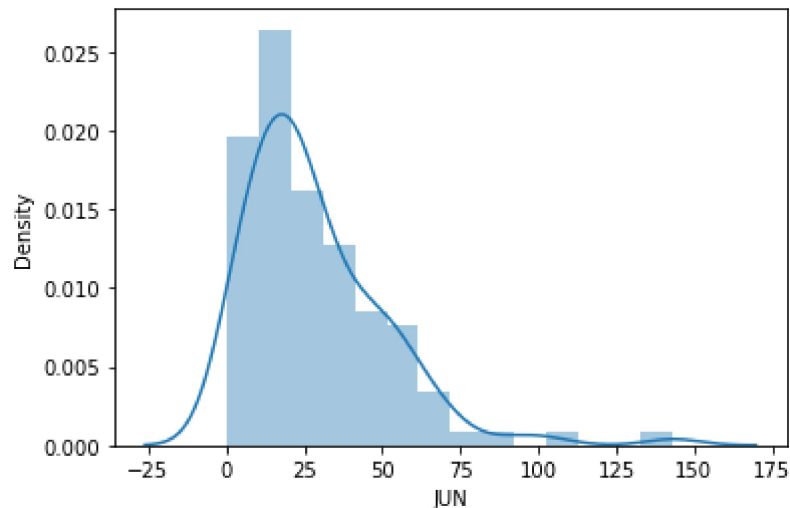


```
In [17]: sns.distplot(df['JUN'])
```

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).

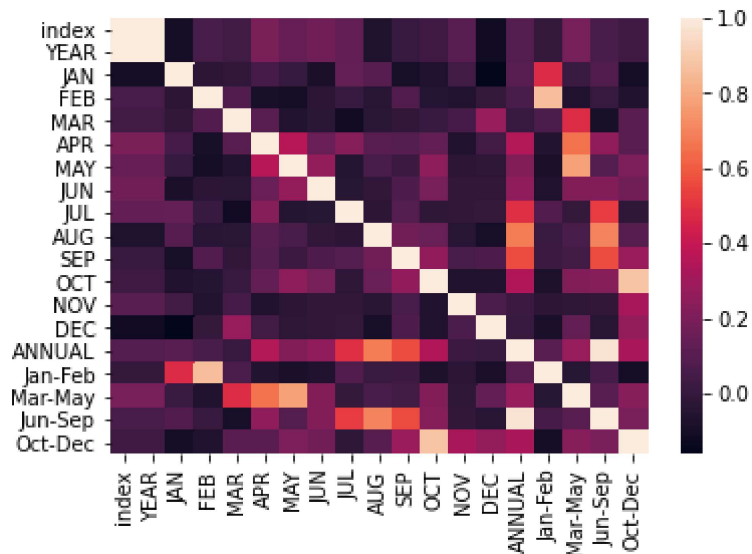
```
warnings.warn(msg, FutureWarning)
```

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



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

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



```
In [ ]:
```

