

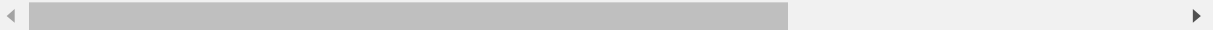
```
In [2]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

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

Out[3]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	3198	TELANGANA	1902	0.0	0.0	0.2	10.7	7.3	52.4	146.3	142.8	190.5	41.7
1	3199	TELANGANA	1903	12.9	4.6	0.0	9.9	40.7	99.2	505.2	246.7	191.9	155.8
2	3200	TELANGANA	1904	0.0	0.0	10.8	0.8	14.7	104.2	139.5	50.0	162.3	44.4
3	3201	TELANGANA	1905	0.0	4.3	12.8	27.6	32.2	129.5	82.4	237.3	179.1	19.6
4	3202	TELANGANA	1906	22.5	1.2	13.4	2.4	0.7	211.1	210.8	226.7	96.3	20.5
...
109	3307	TELANGANA	2011	0.0	11.9	2.6	25.6	9.3	83.9	268.2	225.9	107.6	13.9
110	3308	TELANGANA	2012	6.7	0.0	0.2	14.0	8.4	124.4	300.3	229.9	202.4	83.6
111	3309	TELANGANA	2013	2.4	29.0	0.2	24.4	8.5	213.4	453.8	230.6	161.4	205.9
112	3310	TELANGANA	2014	0.2	2.9	58.3	10.3	73.3	62.3	146.0	205.2	146.8	29.6
113	3311	TELANGANA	2015	17.5	0.0	43.0	65.7	23.3	266.9	104.4	160.5	158.3	15.6

114 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	3198	TELANGANA	1902	0.0	0.0	0.2	10.7	7.3	52.4	146.3	142.8	190.5	41.7
1	3199	TELANGANA	1903	12.9	4.6	0.0	9.9	40.7	99.2	505.2	246.7	191.9	155.8
2	3200	TELANGANA	1904	0.0	0.0	10.8	0.8	14.7	104.2	139.5	50.0	162.3	44.4
3	3201	TELANGANA	1905	0.0	4.3	12.8	27.6	32.2	129.5	82.4	237.3	179.1	19.6
4	3202	TELANGANA	1906	22.5	1.2	13.4	2.4	0.7	211.1	210.8	226.7	96.3	20.5
...
109	3307	TELANGANA	2011	0.0	11.9	2.6	25.6	9.3	83.9	268.2	225.9	107.6	13.9
110	3308	TELANGANA	2012	6.7	0.0	0.2	14.0	8.4	124.4	300.3	229.9	202.4	83.6
111	3309	TELANGANA	2013	2.4	29.0	0.2	24.4	8.5	213.4	453.8	230.6	161.4	205.9
112	3310	TELANGANA	2014	0.2	2.9	58.3	10.3	73.3	62.3	146.0	205.2	146.8	29.6
113	3311	TELANGANA	2015	17.5	0.0	43.0	65.7	23.3	266.9	104.4	160.5	158.3	15.6

114 rows × 20 columns



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

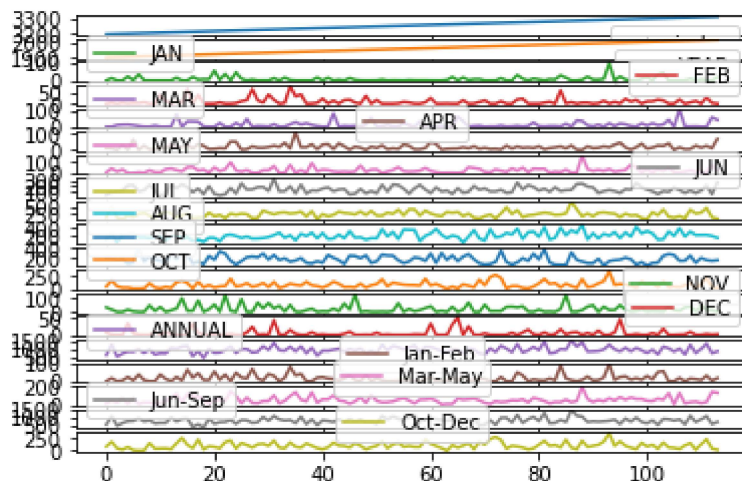
Out[5]: Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb', 'Mar-May', 'Jun-Sep', 'Oct-Dec'], dtype='object')

In [6]: `df.info()`

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 114 entries, 0 to 113
Data columns (total 20 columns):
#   Column                Non-Null Count  Dtype
---  -
0   index                 114 non-null   int64
1   SUBDIVISION           114 non-null   object
2   YEAR                  114 non-null   int64
3   JAN                   114 non-null   float64
4   FEB                   114 non-null   float64
5   MAR                   114 non-null   float64
6   APR                   114 non-null   float64
7   MAY                   114 non-null   float64
8   JUN                   114 non-null   float64
9   JUL                   114 non-null   float64
10  AUG                   114 non-null   float64
11  SEP                   114 non-null   float64
12  OCT                   114 non-null   float64
13  NOV                   114 non-null   float64
14  DEC                   114 non-null   float64
15  ANNUAL                114 non-null   float64
16  Jan-Feb              114 non-null   float64
17  Mar-May              114 non-null   float64
18  Jun-Sep              114 non-null   float64
19  Oct-Dec              114 non-null   float64
dtypes: float64(17), int64(2), object(1)
memory usage: 18.7+ KB
```

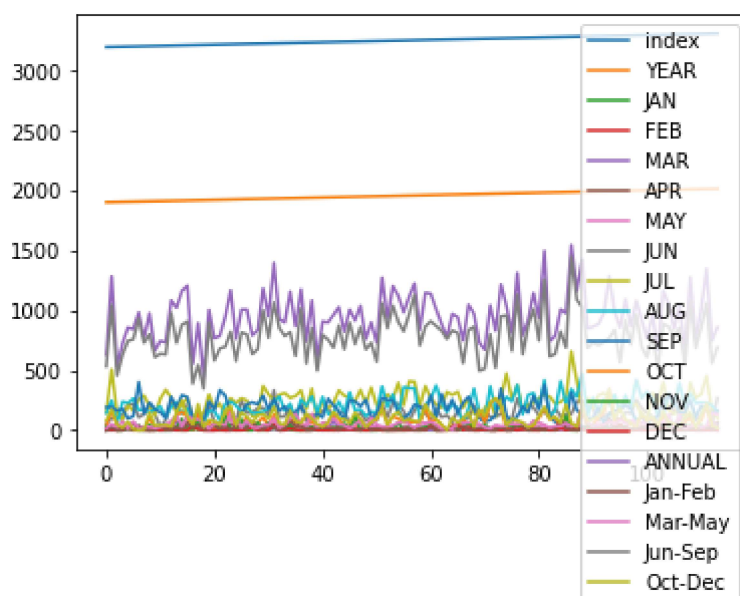
In [7]: `df.plot.line(subplots=True)`

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



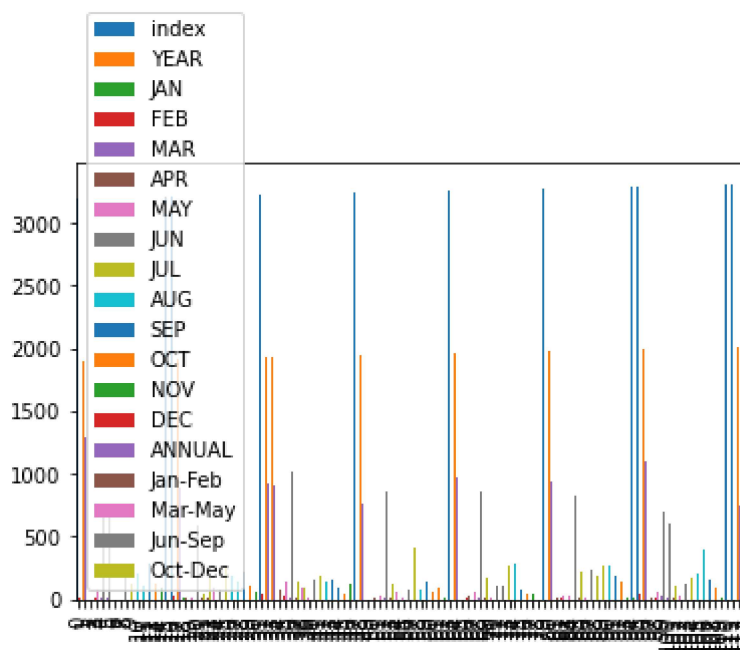
```
In [8]: df.plot.line()
```

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



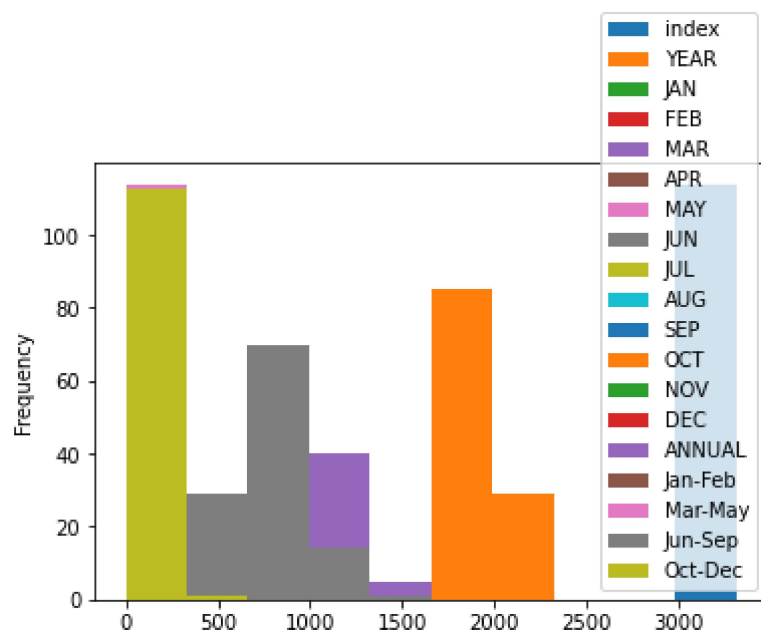
```
In [9]: df.plot.bar()
```

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



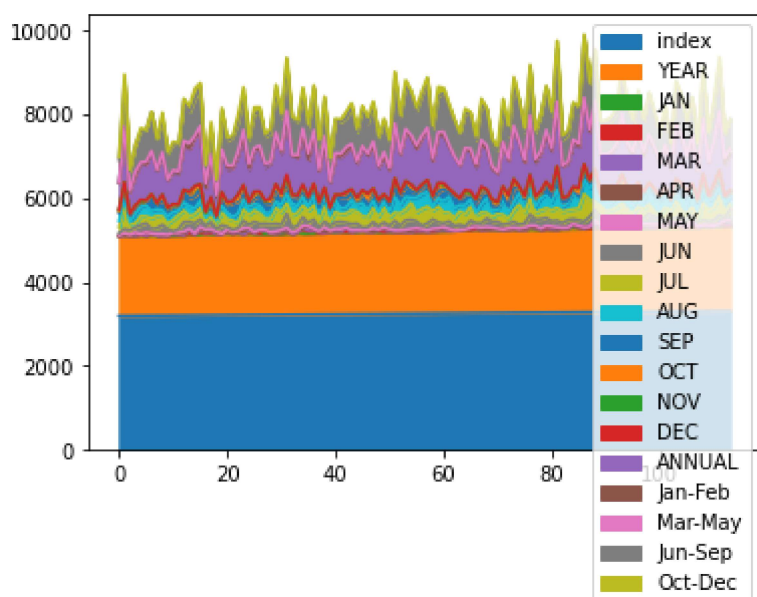
```
In [10]: df.plot.hist()
```

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



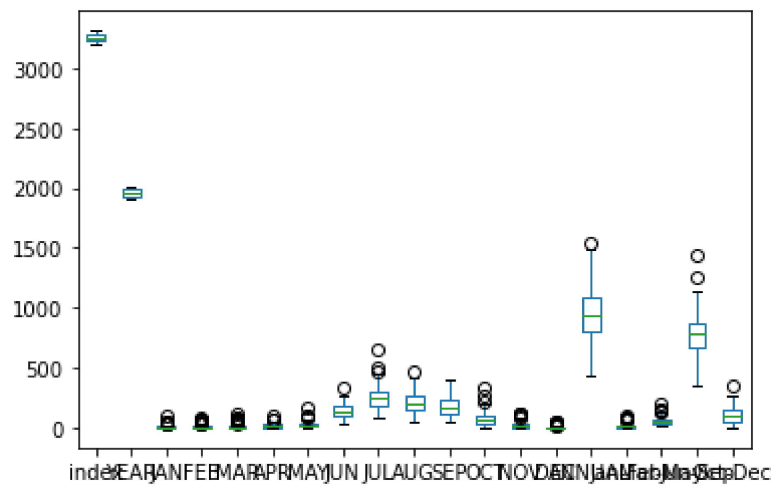
```
In [11]: df.plot.area()
```

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



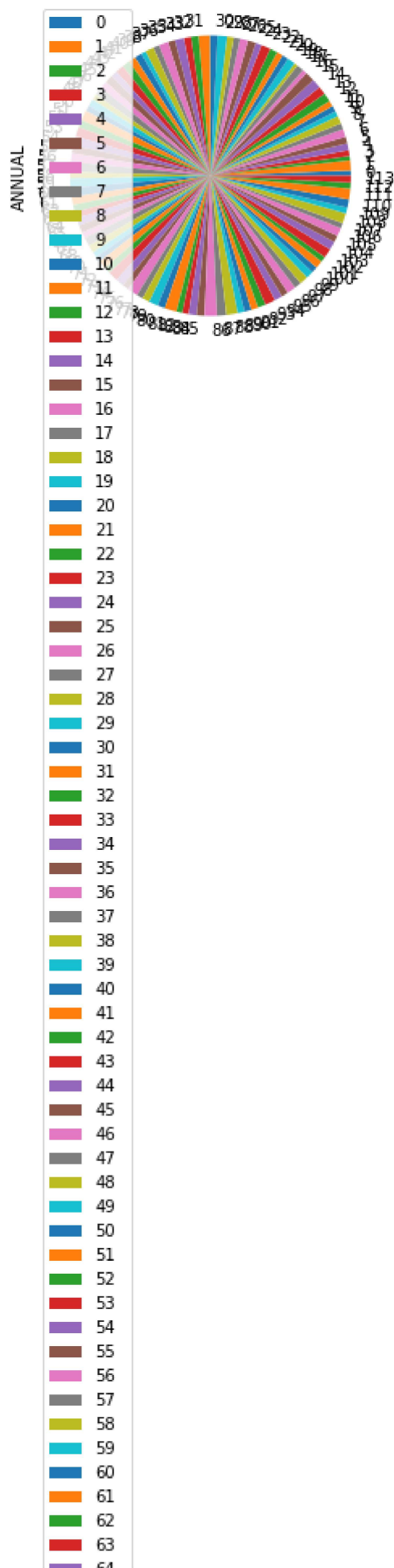
```
In [12]: df.plot.box()
```

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



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

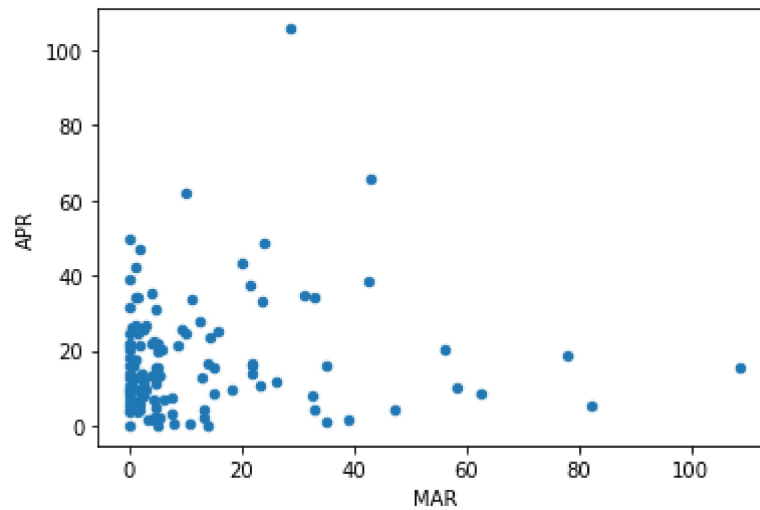
```
Out[13]: <AxesSubplot:ylabel='ANNUAL'>
```

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

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



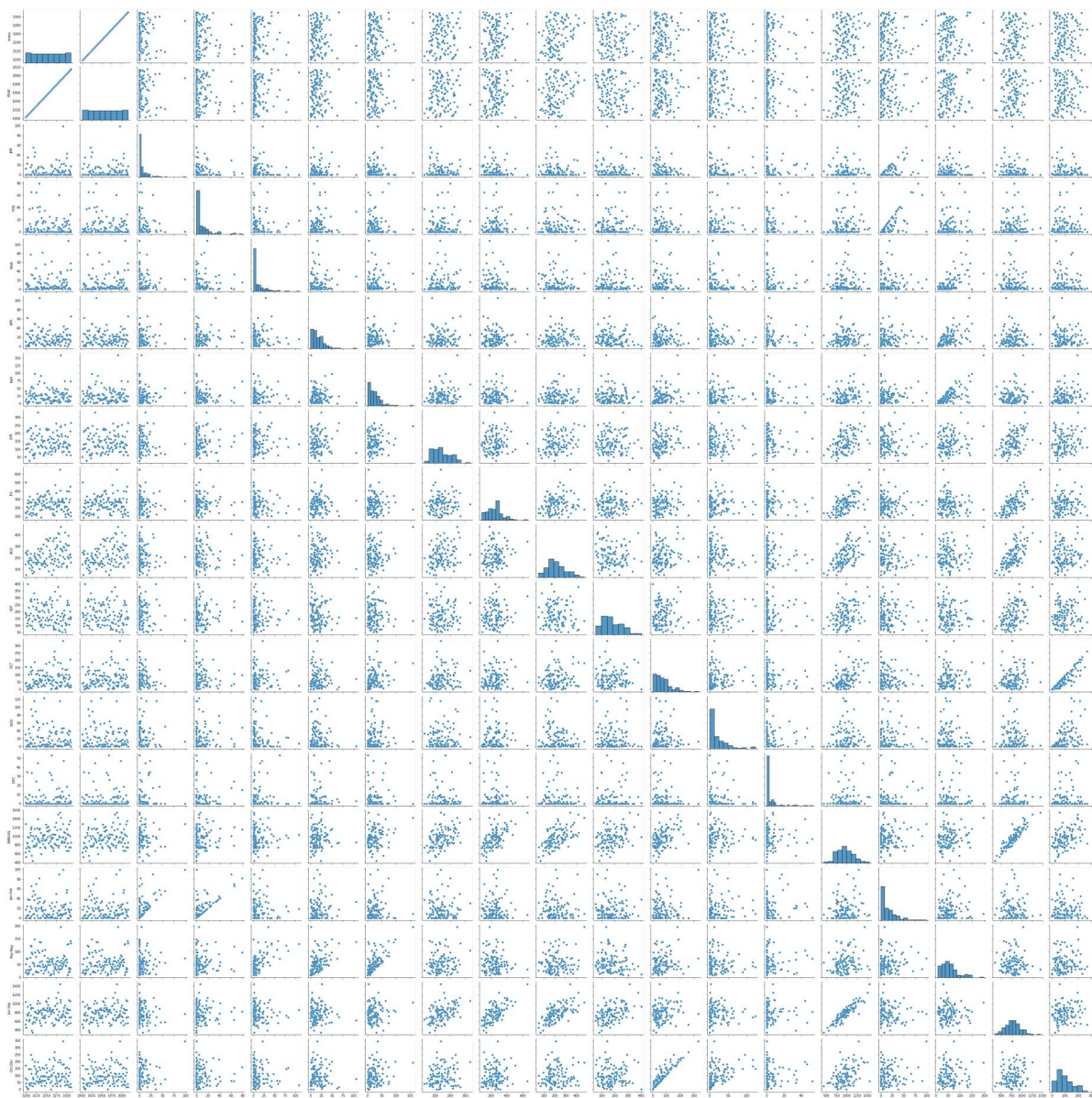
```
In [15]: df.describe()
```

```
Out[15]:
```

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	11
mean	3254.500000	1958.500000	7.709649	9.407018	12.657018	17.948246	25.403509	14
std	33.052988	33.052988	13.942302	14.987002	18.859255	15.796758	23.745021	5
min	3198.000000	1902.000000	0.000000	0.000000	0.000000	0.100000	0.200000	2
25%	3226.250000	1930.250000	0.000000	0.000000	1.400000	6.925000	8.425000	10
50%	3254.500000	1958.500000	1.000000	3.350000	4.700000	14.000000	20.500000	13
75%	3282.750000	1986.750000	9.750000	13.625000	15.275000	24.625000	34.550000	18
max	3311.000000	2015.000000	98.700000	79.100000	108.600000	105.600000	159.800000	33

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

```
Out[16]: <seaborn.axisgrid.PairGrid at 0x19c1e498af0>
```

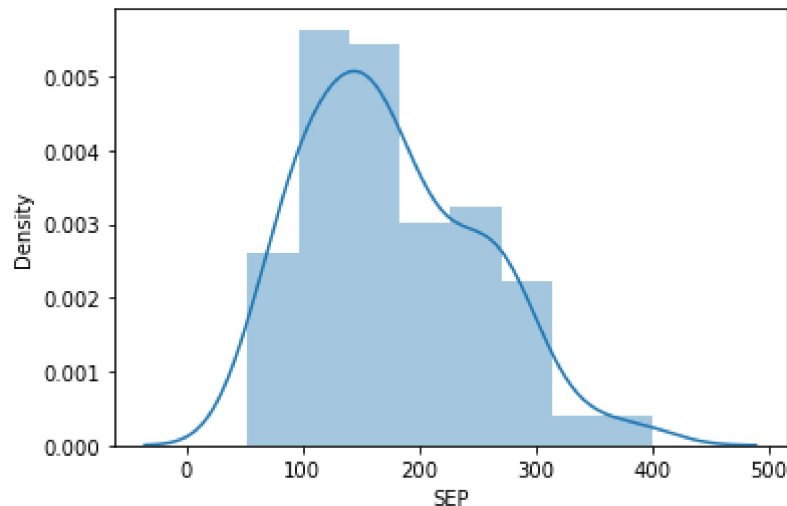


```
In [17]: sns.distplot(df['SEP'])
```

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).

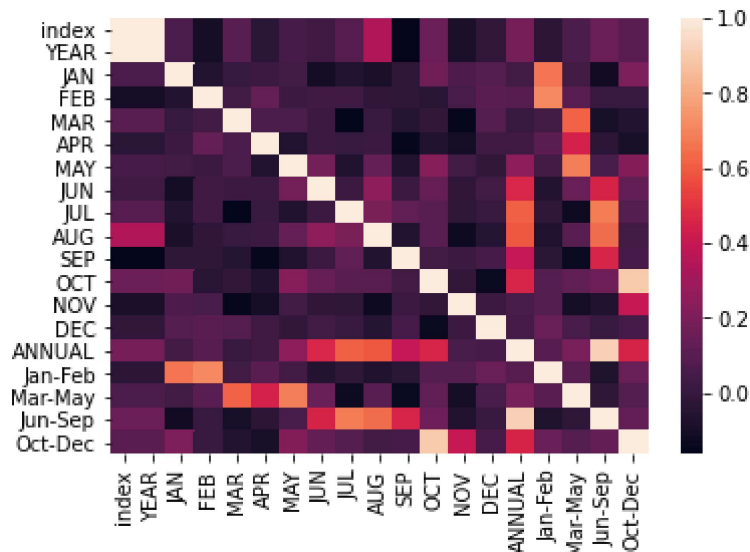
```
warnings.warn(msg, FutureWarning)
```

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



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

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



```
In [ ]:
```

