

```
In [18]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
In [19]: df=pd.read_csv(r'C:\Users\user\Desktop\rainfall\WEST MADHYA PRADESH.csv')
df
```

Out[19]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	2047	WEST MADHYA PRADESH	1901	25.8	5.8	5.8	2.8	2.1	41.2	228.9	349.9	47.9	5.6
1	2048	WEST MADHYA PRADESH	1902	22.1	8.4	0.0	2.0	5.9	35.9	401.9	179.4	194.1	37.9
2	2049	WEST MADHYA PRADESH	1903	5.3	0.0	0.0	0.0	22.3	50.6	304.9	261.1	250.2	55.1
3	2050	WEST MADHYA PRADESH	1904	3.2	15.5	14.8	0.0	12.0	96.6	273.0	218.6	125.9	3.3
4	2051	WEST MADHYA PRADESH	1905	3.5	4.4	1.1	0.8	3.0	36.1	326.3	137.6	183.5	0.3
...
110	2157	WEST MADHYA PRADESH	2011	0.0	1.7	0.1	1.8	3.6	241.5	306.7	343.3	165.0	0.2
111	2158	WEST MADHYA PRADESH	2012	6.2	0.0	0.0	0.9	3.1	48.2	439.2	341.2	194.3	2.1
112	2159	WEST MADHYA PRADESH	2013	1.7	31.1	8.5	2.8	0.4	263.7	485.1	432.6	98.9	68.7
113	2160	WEST MADHYA PRADESH	2014	25.6	34.4	4.6	1.4	1.4	30.6	337.4	211.0	192.6	7.0
114	2161	WEST MADHYA PRADESH	2015	40.2	6.4	53.5	13.3	2.0	154.1	428.2	276.6	55.6	11.0

115 rows × 20 columns



```
In [20]: df=df.dropna()
df
```

Out[20]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	2047	WEST MADHYA PRADESH	1901	25.8	5.8	5.8	2.8	2.1	41.2	228.9	349.9	47.9	5.6
1	2048	WEST MADHYA PRADESH	1902	22.1	8.4	0.0	2.0	5.9	35.9	401.9	179.4	194.1	37.9
2	2049	WEST MADHYA PRADESH	1903	5.3	0.0	0.0	0.0	22.3	50.6	304.9	261.1	250.2	55.1
3	2050	WEST MADHYA PRADESH	1904	3.2	15.5	14.8	0.0	12.0	96.6	273.0	218.6	125.9	3.3
4	2051	WEST MADHYA PRADESH	1905	3.5	4.4	1.1	0.8	3.0	36.1	326.3	137.6	183.5	0.3
...
110	2157	WEST MADHYA PRADESH	2011	0.0	1.7	0.1	1.8	3.6	241.5	306.7	343.3	165.0	0.2
111	2158	WEST MADHYA PRADESH	2012	6.2	0.0	0.0	0.9	3.1	48.2	439.2	341.2	194.3	2.1
112	2159	WEST MADHYA PRADESH	2013	1.7	31.1	8.5	2.8	0.4	263.7	485.1	432.6	98.9	68.7
113	2160	WEST MADHYA PRADESH	2014	25.6	34.4	4.6	1.4	1.4	30.6	337.4	211.0	192.6	7.0
114	2161	WEST MADHYA PRADESH	2015	40.2	6.4	53.5	13.3	2.0	154.1	428.2	276.6	55.6	11.0

114 rows × 20 columns



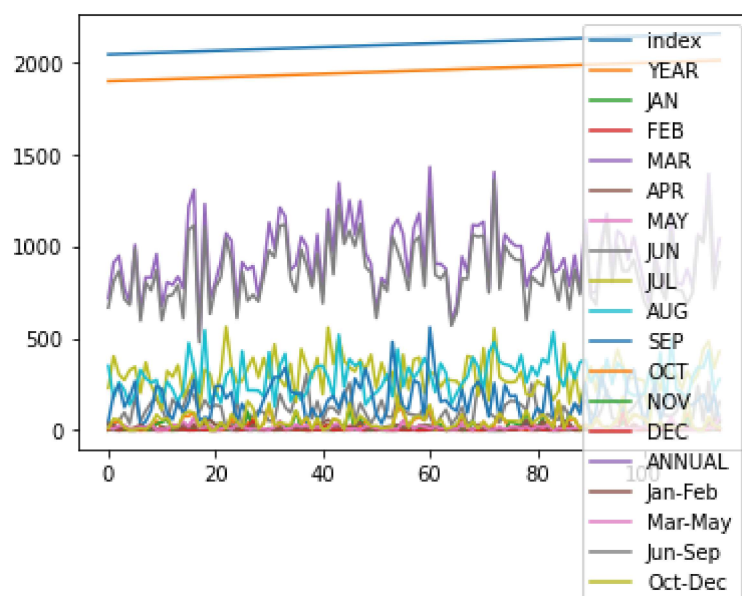
```
In [21]: df.columns
```

```
Out[21]: 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')
```



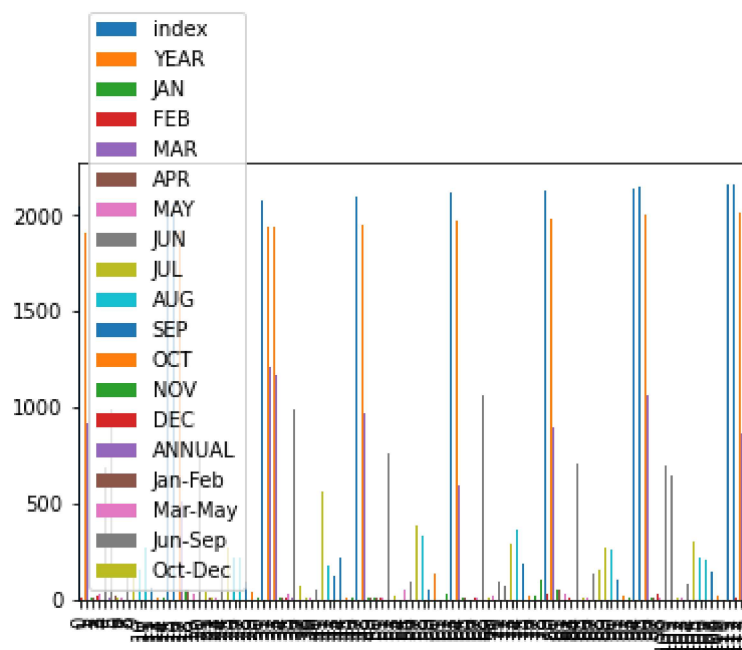
```
In [24]: df.plot.line()
```

```
Out[24]: <AxesSubplot:>
```



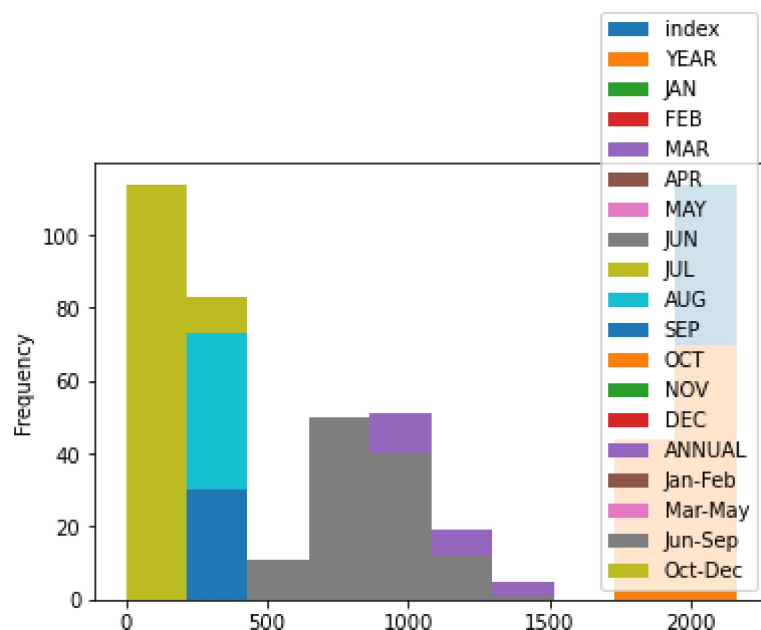
```
In [25]: df.plot.bar()
```

```
Out[25]: <AxesSubplot:>
```



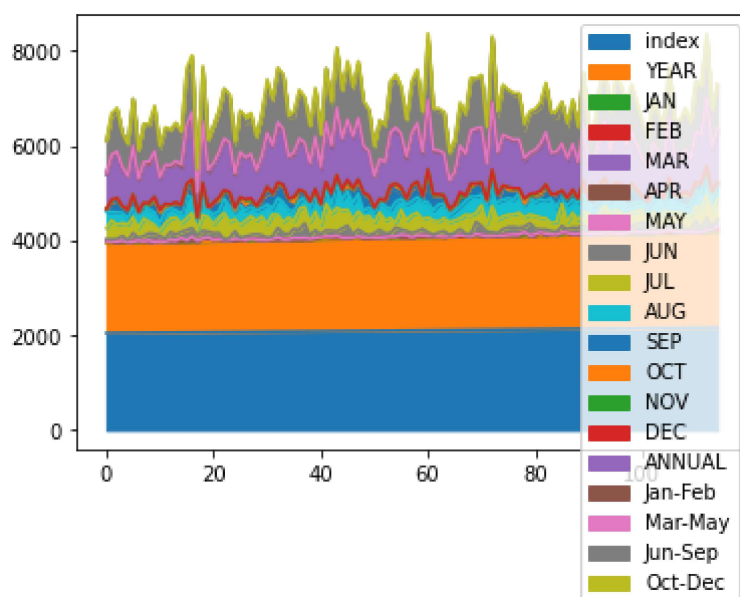
```
In [26]: df.plot.hist()
```

```
Out[26]: <AxesSubplot:ylabel='Frequency'>
```



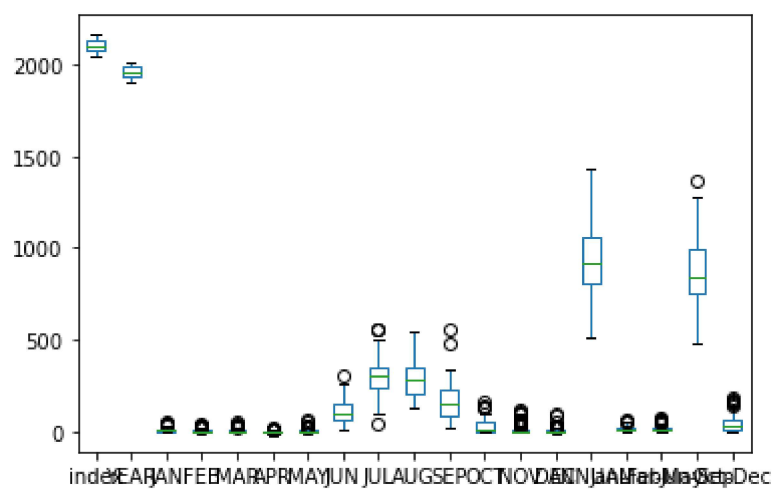
```
In [27]: df.plot.area()
```

```
Out[27]: <AxesSubplot:>
```



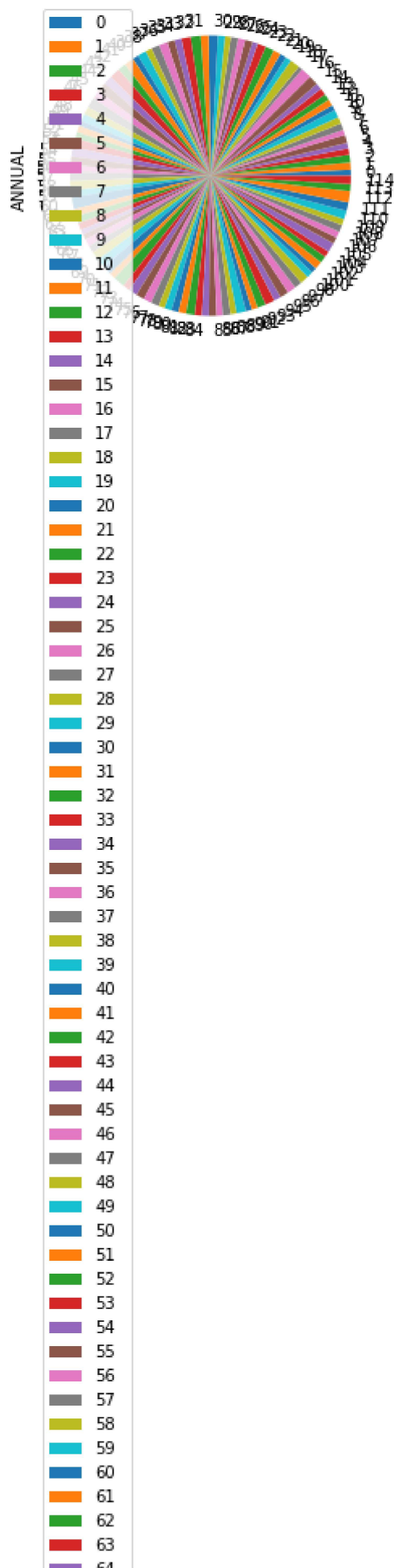
```
In [28]: df.plot.box()
```

```
Out[28]: <AxesSubplot:>
```



```
In [29]: df.plot.pie(y='ANNUAL')
```

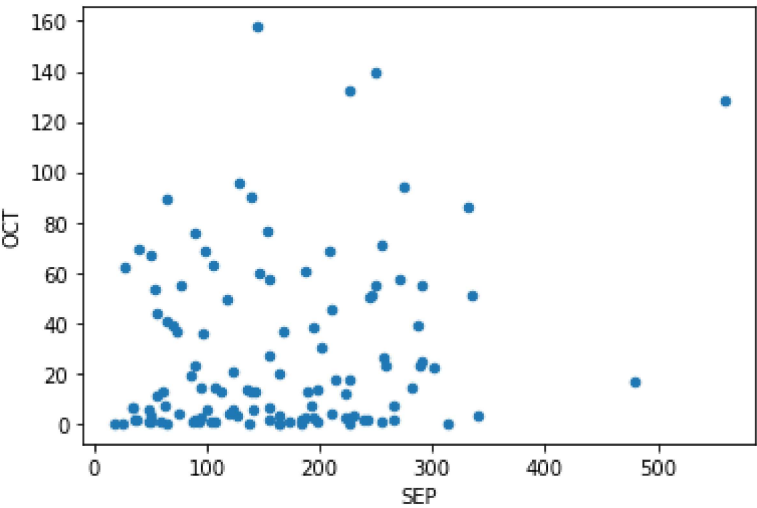
```
Out[29]: <AxesSubplot:ylabel='ANNUAL'>
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```
In [30]: df.plot.scatter(x='SEP',y='OCT')
```

Out[30]: <AxesSubplot:xlabel='SEP', ylabel='OCT'>



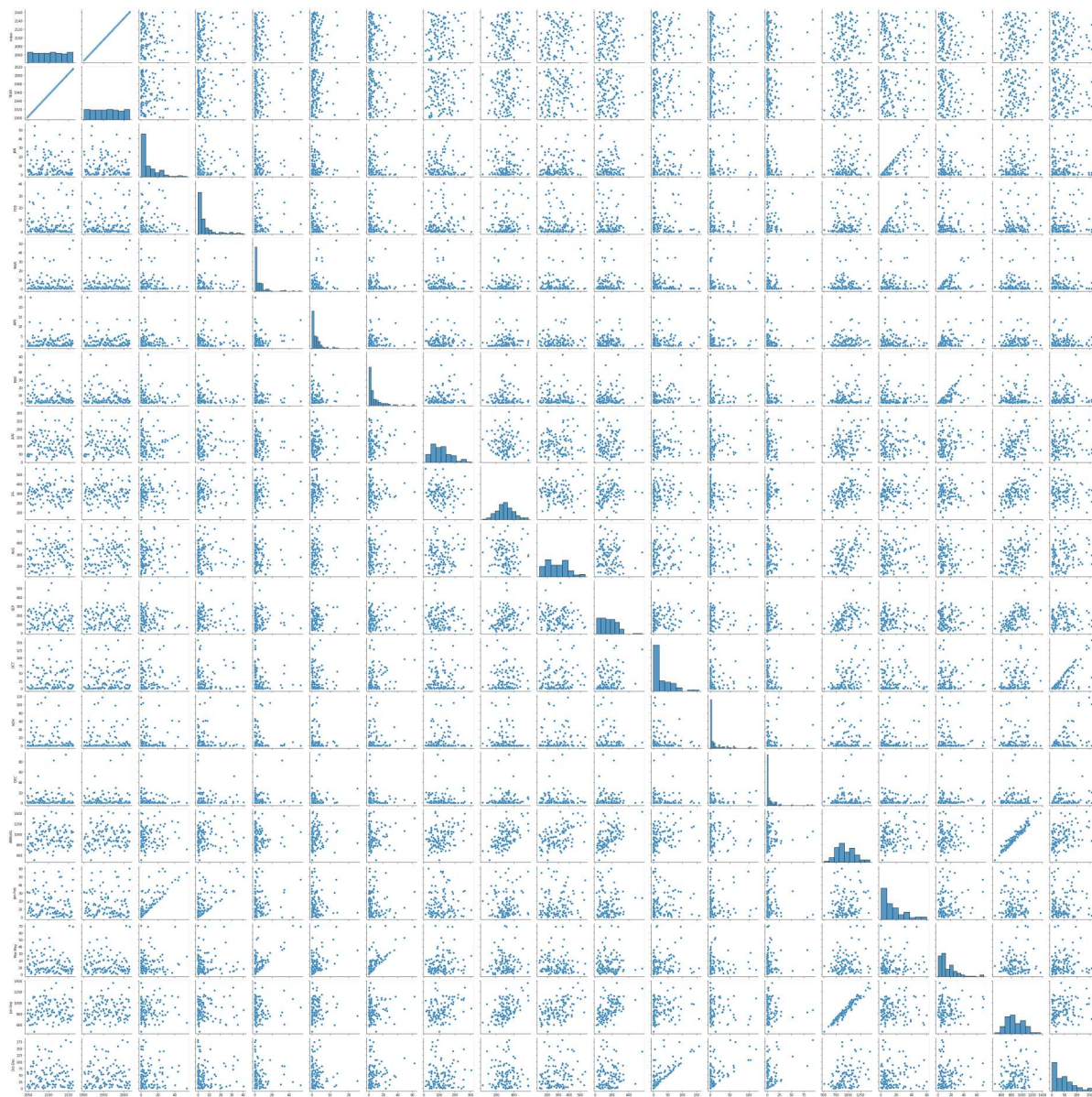
```
In [31]: df.describe()
```

Out[31]:

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	114
mean	2103.631579	1957.631579	9.321930	6.307895	5.217544	2.395614	7.460526	114
std	33.252923	33.252923	11.274584	8.993755	8.973109	3.491922	10.230153	61
min	2047.000000	1901.000000	0.000000	0.000000	0.000000	0.000000	0.000000	114
25%	2075.250000	1929.250000	0.925000	0.525000	0.225000	0.200000	1.325000	61
50%	2103.500000	1957.500000	5.000000	2.800000	2.050000	1.400000	3.500000	104
75%	2131.750000	1985.750000	14.700000	8.200000	6.400000	3.000000	9.675000	144
max	2161.000000	2015.000000	54.100000	40.500000	53.500000	24.800000	62.700000	304

```
sns.pairplot(df)
```

```
<seaborn.axisgrid.PairGrid at 0x2031a15f700>
```

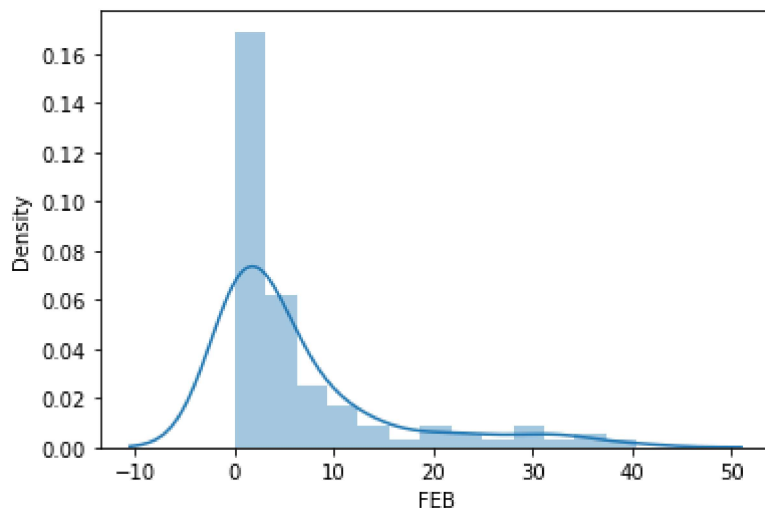


```
In [33]: sns.distplot(df['FEB'])
```

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).

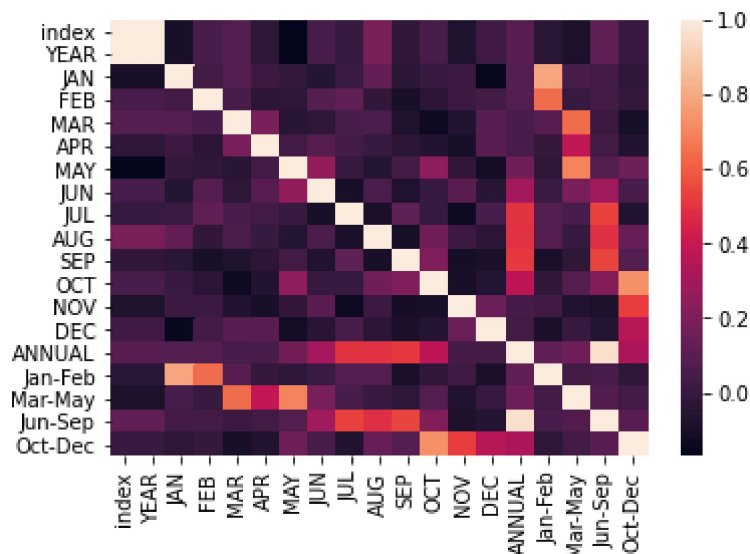
```
warnings.warn(msg, FutureWarning)
```

```
Out[33]: <AxesSubplot:xlabel='FEB', ylabel='Density'>
```



```
In [34]: sns.heatmap(df.corr())
```

```
Out[34]: <AxesSubplot:>
```



```
In [ ]:
```

