

```
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\JAMMU KASHMIR.csv')
df
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	O
0	1702	JAMMU & KASHMIR	1901	66.4	69.3	69.6	132.2	105.8	53.4	171.7	181.3	101.8	2
1	1703	JAMMU & KASHMIR	1902	6.5	9.7	91.3	100.5	70.7	113.3	108.4	136.9	62.2	1
2	1704	JAMMU & KASHMIR	1903	96.2	21.5	238.6	58.7	57.3	18.9	332.5	218.6	176.9	1
3	1705	JAMMU & KASHMIR	1904	110.6	17.3	145.2	64.5	67.8	25.9	182.3	132.2	62.3	5
4	1706	JAMMU & KASHMIR	1905	146.7	76.3	161.4	71.7	65.2	43.3	145.2	111.5	239.7	
...	...	...	...	...	...	...	...	...	...	...	...	...	
110	1812	JAMMU & KASHMIR	2011	43.4	211.6	97.8	89.0	32.4	72.5	81.6	131.2	72.0	1
111	1813	JAMMU & KASHMIR	2012	150.9	95.8	45.2	86.6	48.9	32.6	118.8	264.9	106.7	1
112	1814	JAMMU & KASHMIR	2013	52.2	136.4	41.9	47.4	47.4	80.5	125.1	219.1	41.2	3
113	1815	JAMMU & KASHMIR	2014	75.8	64.0	153.1	76.1	52.7	25.3	100.5	134.6	362.8	3
114	1816	JAMMU & KASHMIR	2015	27.9	187.2	341.4	173.3	64.6	121.4	233.2	129.2	130.2	8

115 rows × 20 columns



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

Out[3]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	O
0	1702	JAMMU & KASHMIR	1901	66.4	69.3	69.6	132.2	105.8	53.4	171.7	181.3	101.8	2
1	1703	JAMMU & KASHMIR	1902	6.5	9.7	91.3	100.5	70.7	113.3	108.4	136.9	62.2	1
2	1704	JAMMU & KASHMIR	1903	96.2	21.5	238.6	58.7	57.3	18.9	332.5	218.6	176.9	1
3	1705	JAMMU & KASHMIR	1904	110.6	17.3	145.2	64.5	67.8	25.9	182.3	132.2	62.3	5
4	1706	JAMMU & KASHMIR	1905	146.7	76.3	161.4	71.7	65.2	43.3	145.2	111.5	239.7	
...	...	...	...	...	...	...	...	...	...	...	...	...	
110	1812	JAMMU & KASHMIR	2011	43.4	211.6	97.8	89.0	32.4	72.5	81.6	131.2	72.0	1
111	1813	JAMMU & KASHMIR	2012	150.9	95.8	45.2	86.6	48.9	32.6	118.8	264.9	106.7	1
112	1814	JAMMU & KASHMIR	2013	52.2	136.4	41.9	47.4	47.4	80.5	125.1	219.1	41.2	3
113	1815	JAMMU & KASHMIR	2014	75.8	64.0	153.1	76.1	52.7	25.3	100.5	134.6	362.8	3
114	1816	JAMMU & KASHMIR	2015	27.9	187.2	341.4	173.3	64.6	121.4	233.2	129.2	130.2	8

114 rows × 20 columns



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

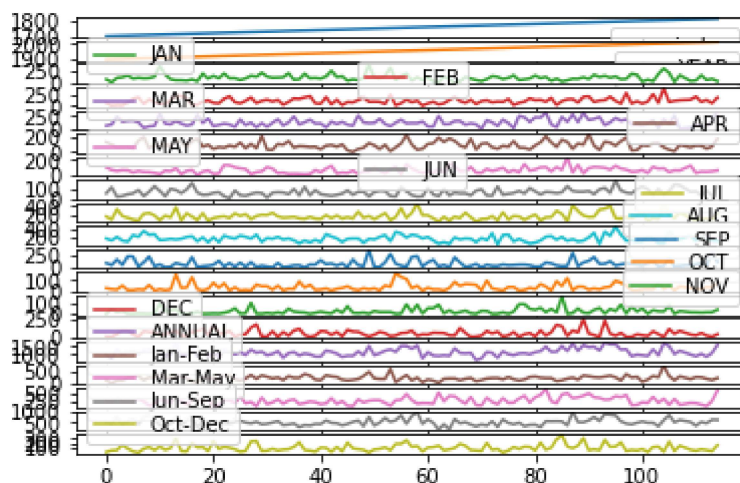
```
Out[4]: Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY',
              'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb',
              'Mar-May', 'Jun-Sep', 'Oct-Dec'],
              dtype='object')
```

In [5]: `df.info()`

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 114 entries, 0 to 114
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
```

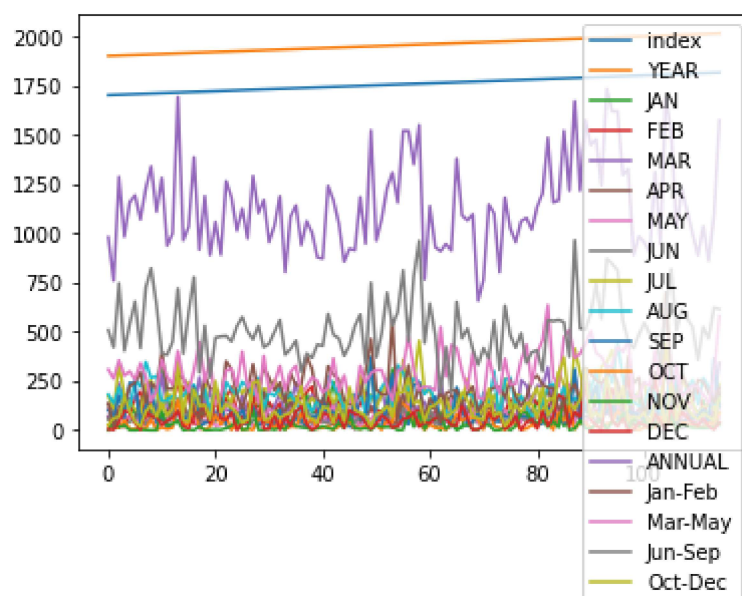
In [6]: `df.plot.line(subplots=True)`

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



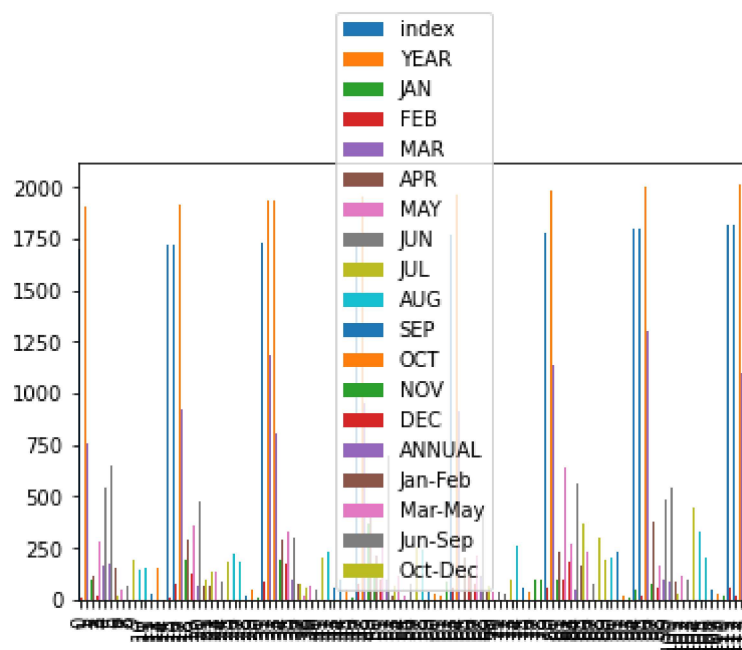
```
In [7]: df.plot.line()
```

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



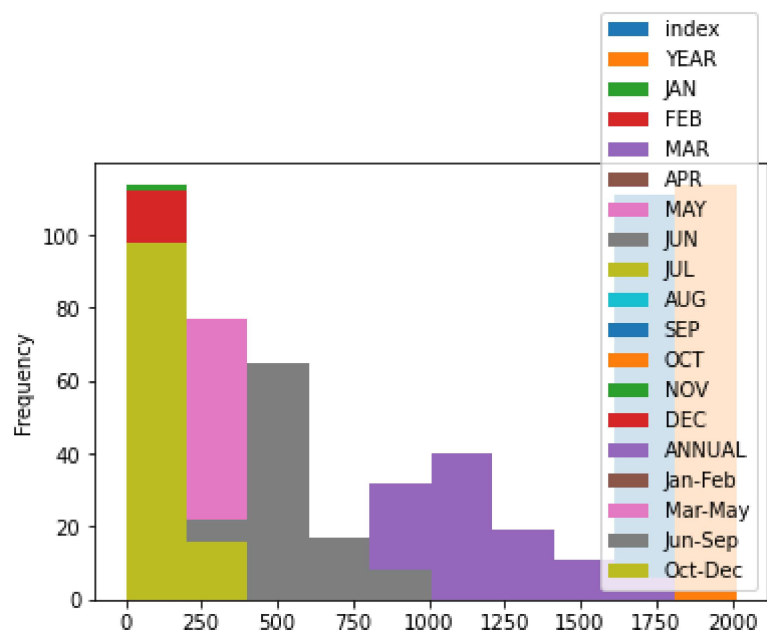
```
In [8]: df.plot.bar()
```

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



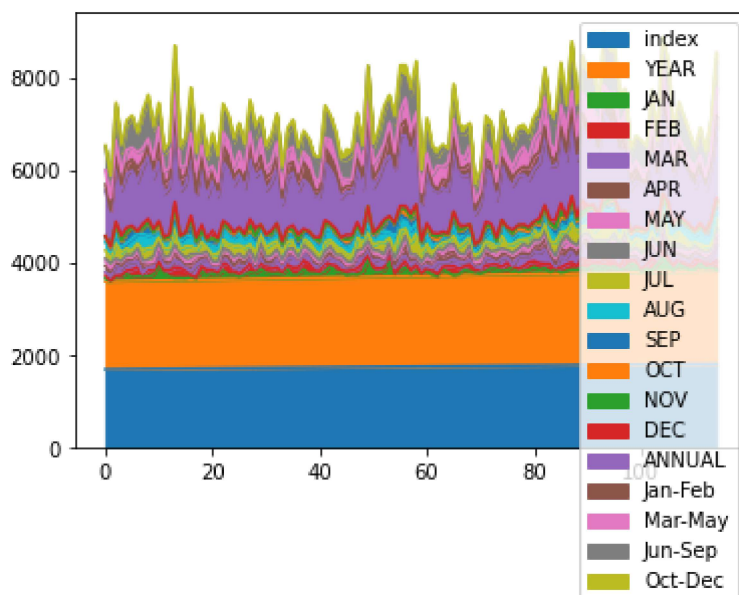
```
In [9]: df.plot.hist()
```

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



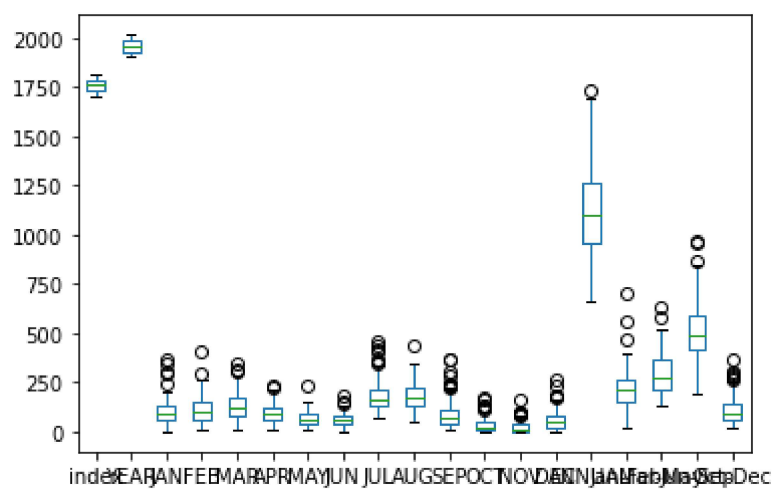
```
In [10]: df.plot.area()
```

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



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

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

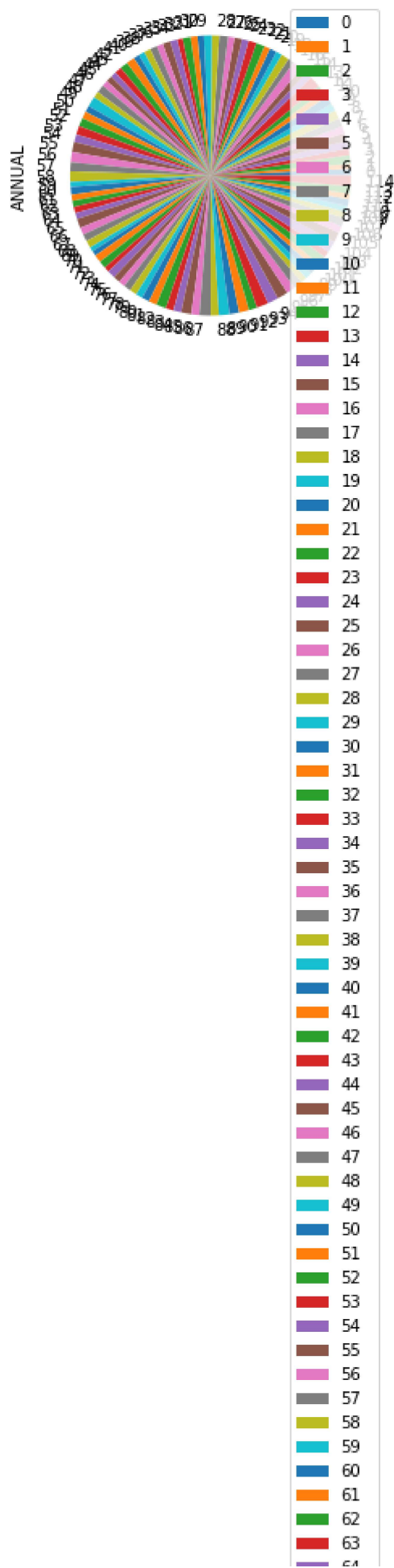




















































```
In [12]: df.plot.pie(y='ANNUAL')
```

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



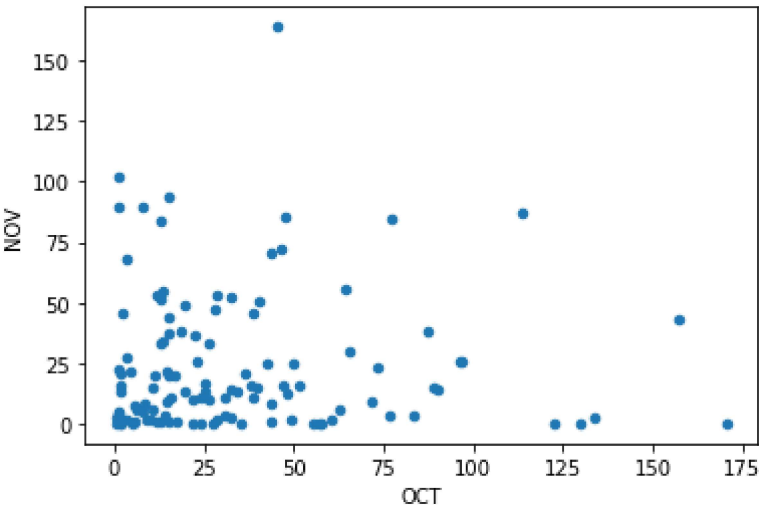




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```
In [13]: df.plot.scatter(x='OCT',y='NOV')
```

Out[13]: <AxesSubplot:xlabel='OCT', ylabel='NOV'>



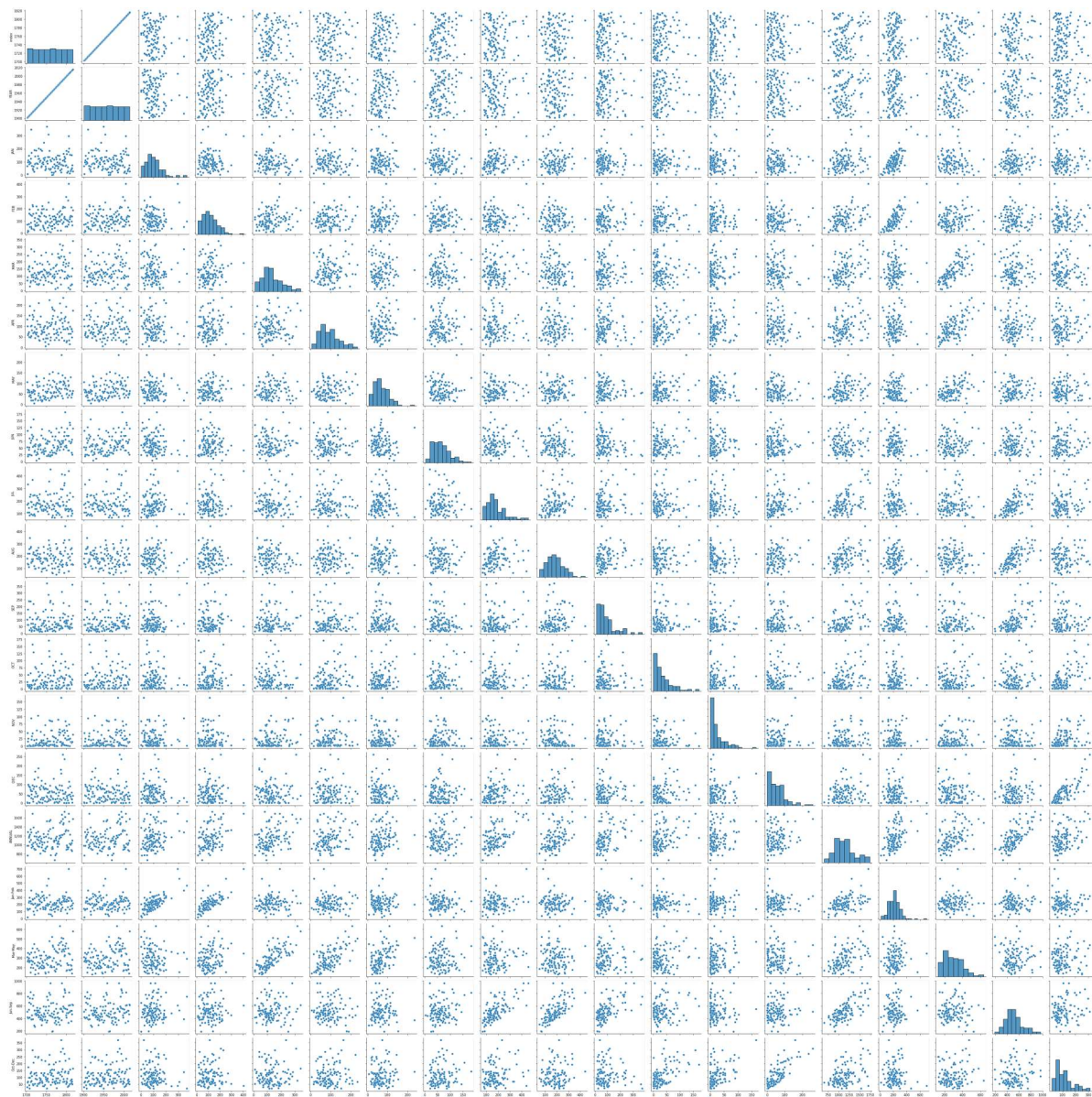
```
In [14]: df.describe()
```

Out[14]:

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	11
mean	1758.552632	1957.552632	101.870175	115.428947	131.971930	93.528947	67.504386	6
std	33.140380	33.140380	66.496789	67.229113	71.742153	48.559036	37.603315	3
min	1702.000000	1901.000000	0.000000	9.700000	9.900000	5.700000	4.700000	
25%	1730.250000	1929.250000	59.000000	64.600000	85.675000	59.475000	40.025000	3
50%	1758.500000	1957.500000	89.800000	101.950000	116.400000	86.700000	61.200000	5
75%	1786.750000	1985.750000	130.700000	149.900000	174.800000	119.450000	91.825000	8
max	1816.000000	2015.000000	367.800000	403.500000	341.400000	233.200000	234.400000	18

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

```
Out[15]: <seaborn.axisgrid.PairGrid at 0x1f76e09d880>
```

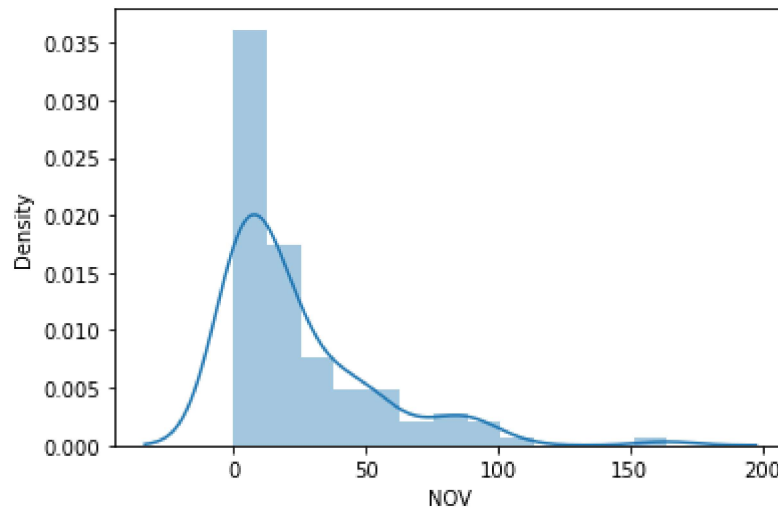


```
In [16]: sns.distplot(df['NOV'])
```

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).

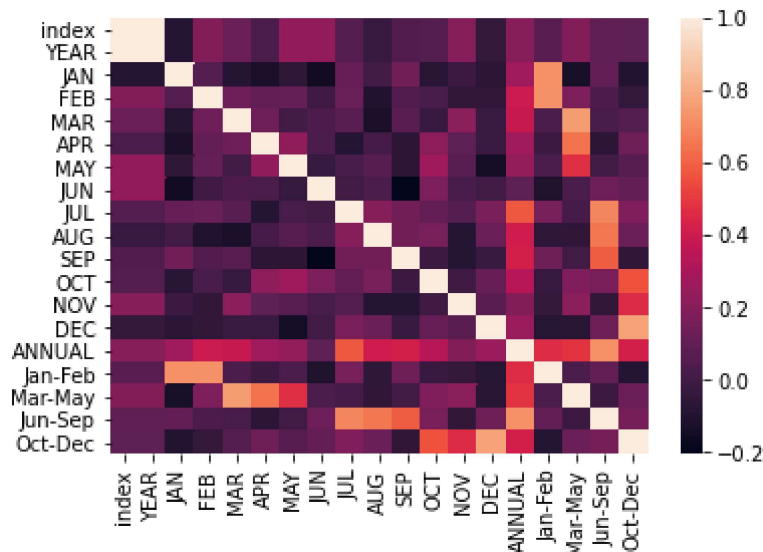
```
warnings.warn(msg, FutureWarning)
```

```
Out[16]: <AxesSubplot:xlabel='NOV', ylabel='Density'>
```



```
In [17]: sns.heatmap(df.corr())
```

```
Out[17]: <AxesSubplot:>
```



```
In [ ]:
```

