

```
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\RAYALSEEMA.csv')
df
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
0	3313	RAYALSEEMA	1902	10.0	0.2	1.7	11.0	36.8	73.6	41.3	148.3	181.7	188.5
1	3314	RAYALSEEMA	1903	30.0	0.1	0.0	3.6	80.5	67.5	127.5	140.6	219.7	95.3
2	3315	RAYALSEEMA	1904	14.8	0.0	1.7	7.1	58.8	39.8	75.1	19.4	84.7	111.5
3	3316	RAYALSEEMA	1905	6.5	6.8	17.0	18.3	44.2	66.1	50.9	219.3	36.5	180.2
4	3317	RAYALSEEMA	1906	115.3	7.2	6.8	2.1	9.6	84.1	127.9	154.4	130.4	107.7
...
109	3422	RAYALSEEMA	2011	0.8	12.1	0.0	34.6	33.0	44.5	128.9	163.6	71.2	107.5
110	3423	RAYALSEEMA	2012	2.7	0.0	2.5	32.7	38.8	47.0	139.7	120.0	69.5	113.7
111	3424	RAYALSEEMA	2013	1.3	30.6	11.5	26.8	38.9	73.8	95.7	110.3	163.2	169.3
112	3425	RAYALSEEMA	2014	0.2	0.7	12.5	5.1	46.7	66.3	68.7	115.1	81.4	104.6
113	3426	RAYALSEEMA	2015	1.9	0.0	13.4	73.4	39.7	73.0	43.1	123.6	136.3	106.7

114 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	3313	RAYALSEEMA	1902	10.0	0.2	1.7	11.0	36.8	73.6	41.3	148.3	181.7	188.5
1	3314	RAYALSEEMA	1903	30.0	0.1	0.0	3.6	80.5	67.5	127.5	140.6	219.7	95.3
2	3315	RAYALSEEMA	1904	14.8	0.0	1.7	7.1	58.8	39.8	75.1	19.4	84.7	111.5
3	3316	RAYALSEEMA	1905	6.5	6.8	17.0	18.3	44.2	66.1	50.9	219.3	36.5	180.2
4	3317	RAYALSEEMA	1906	115.3	7.2	6.8	2.1	9.6	84.1	127.9	154.4	130.4	107.7
...
109	3422	RAYALSEEMA	2011	0.8	12.1	0.0	34.6	33.0	44.5	128.9	163.6	71.2	107.5
110	3423	RAYALSEEMA	2012	2.7	0.0	2.5	32.7	38.8	47.0	139.7	120.0	69.5	113.7
111	3424	RAYALSEEMA	2013	1.3	30.6	11.5	26.8	38.9	73.8	95.7	110.3	163.2	169.3
112	3425	RAYALSEEMA	2014	0.2	0.7	12.5	5.1	46.7	66.3	68.7	115.1	81.4	104.6
113	3426	RAYALSEEMA	2015	1.9	0.0	13.4	73.4	39.7	73.0	43.1	123.6	136.3	106.7

114 rows × 20 columns



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

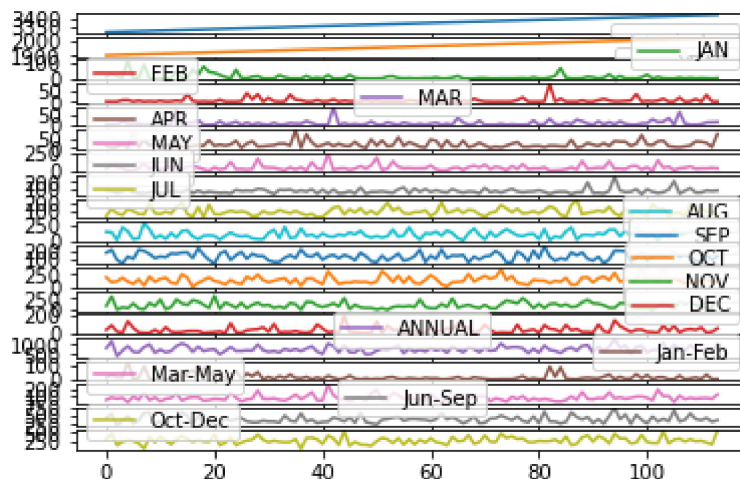
Out[4]: Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb', 'Mar-May', 'Jun-Sep', 'Oct-Dec'], dtype='object')

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

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

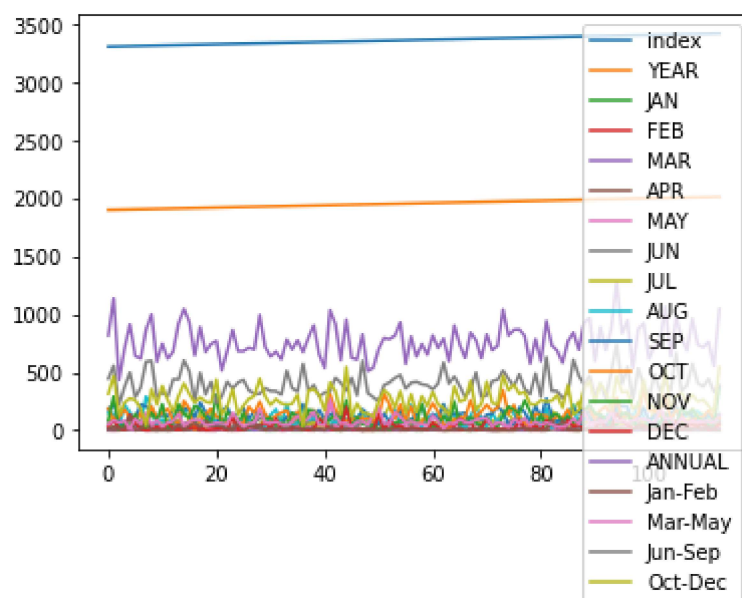
In [6]: `df.plot.line(subplots=True)`

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



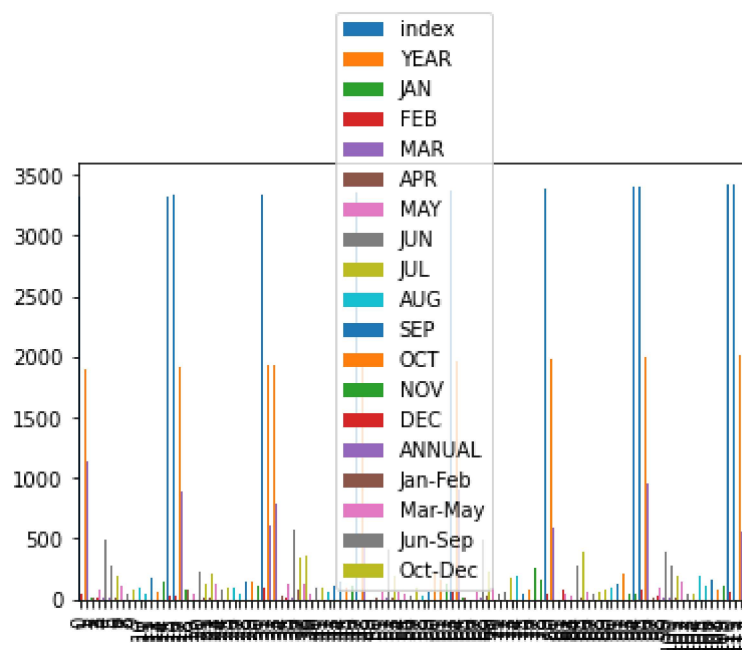
```
In [7]: df.plot.line()
```

```
Out[7]: <AxesSubplot:>
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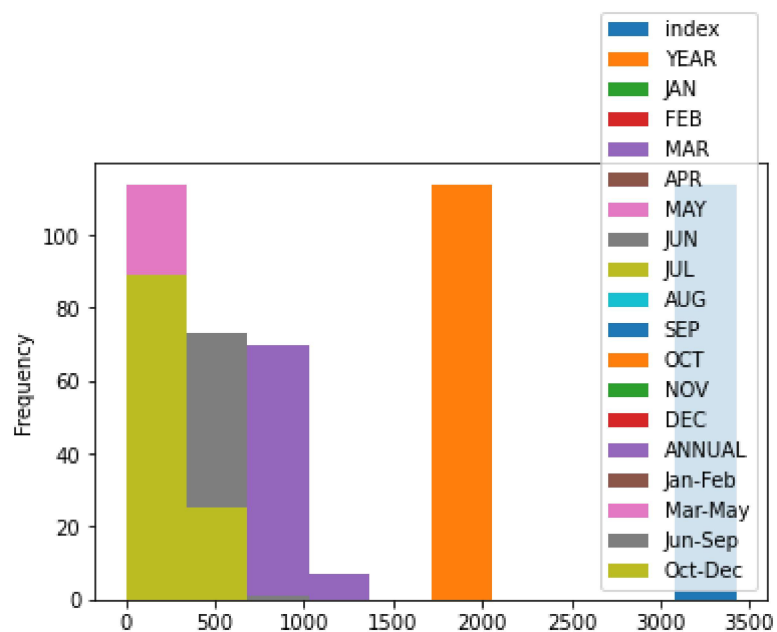
```
In [8]: df.plot.bar()
```

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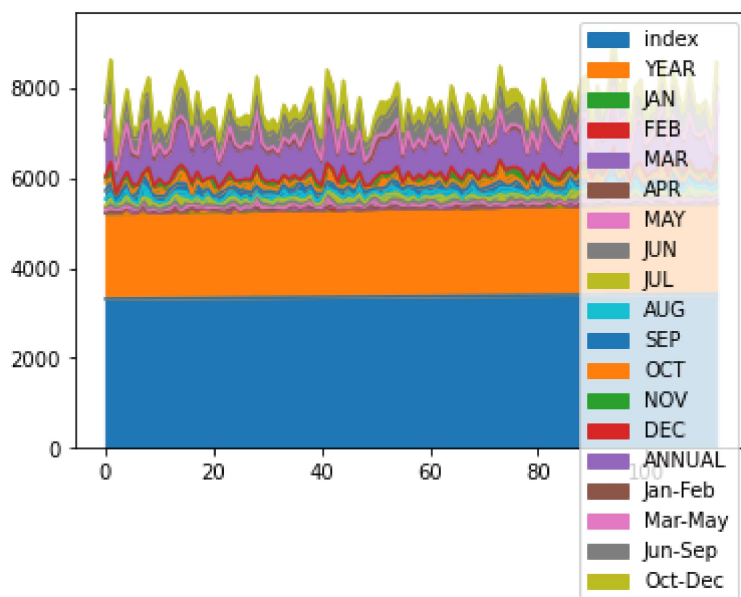
```
In [9]: df.plot.hist()
```

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



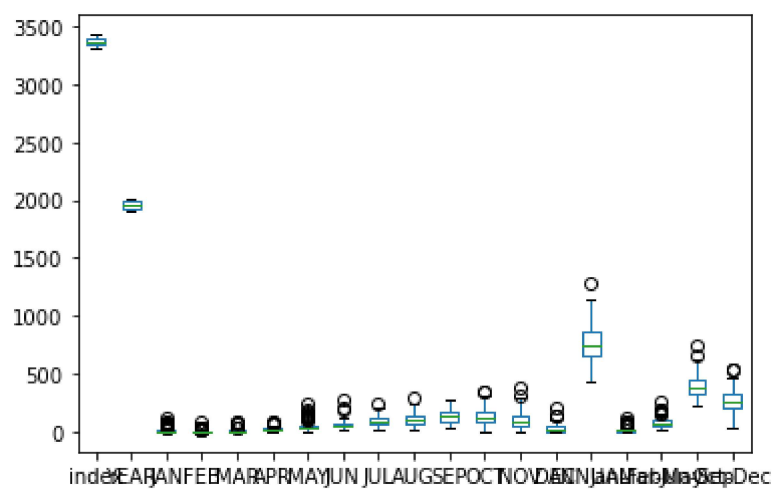
```
In [10]: df.plot.area()
```

```
Out[10]: <AxesSubplot:>
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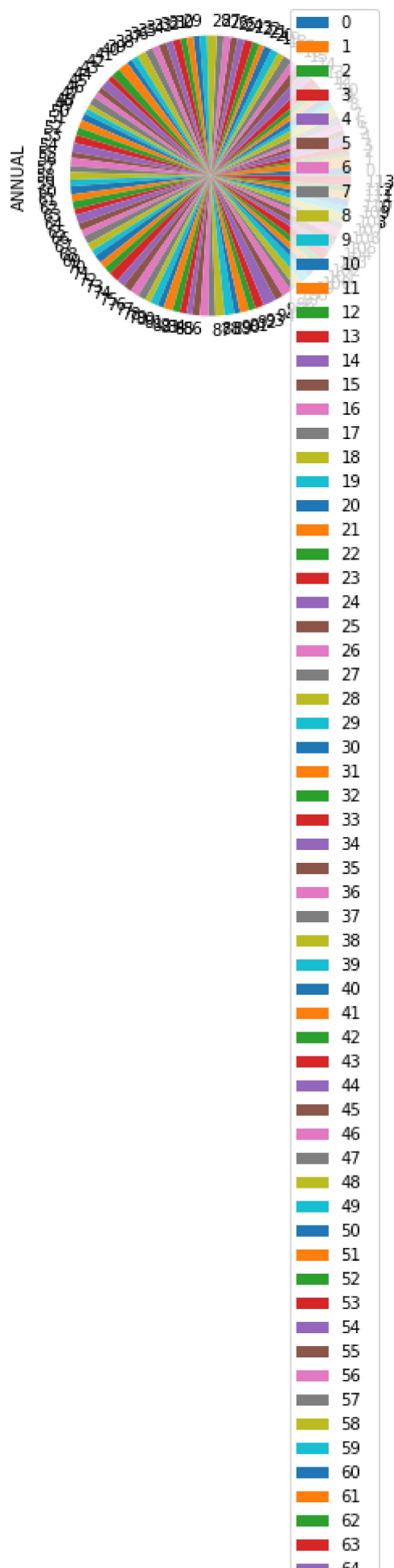
```
In [11]: df.plot.box()
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```
Out[11]: <AxesSubplot:>
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```
In [12]: df.plot.pie(y='ANNUAL')
```

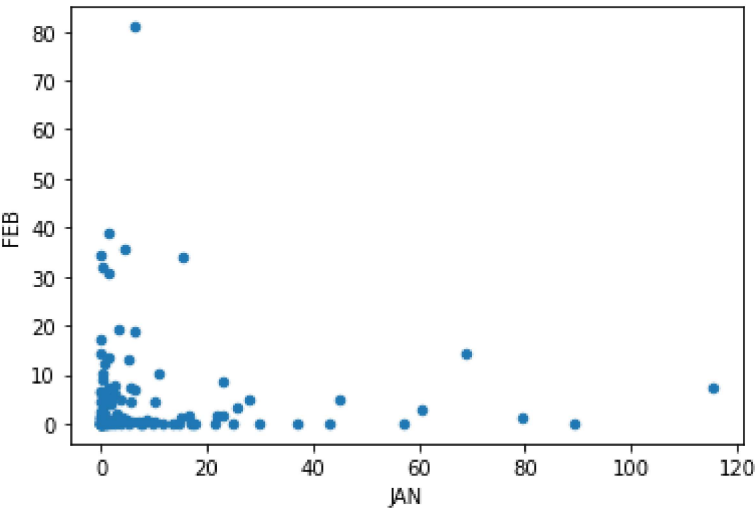
```
Out[12]: <AxesSubplot:ylabel='ANNUAL'>
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```
In [14]: df.plot.scatter(x='JAN',y='FEB')
```

Out[14]: <AxesSubplot:xlabel='JAN', ylabel='FEB'>



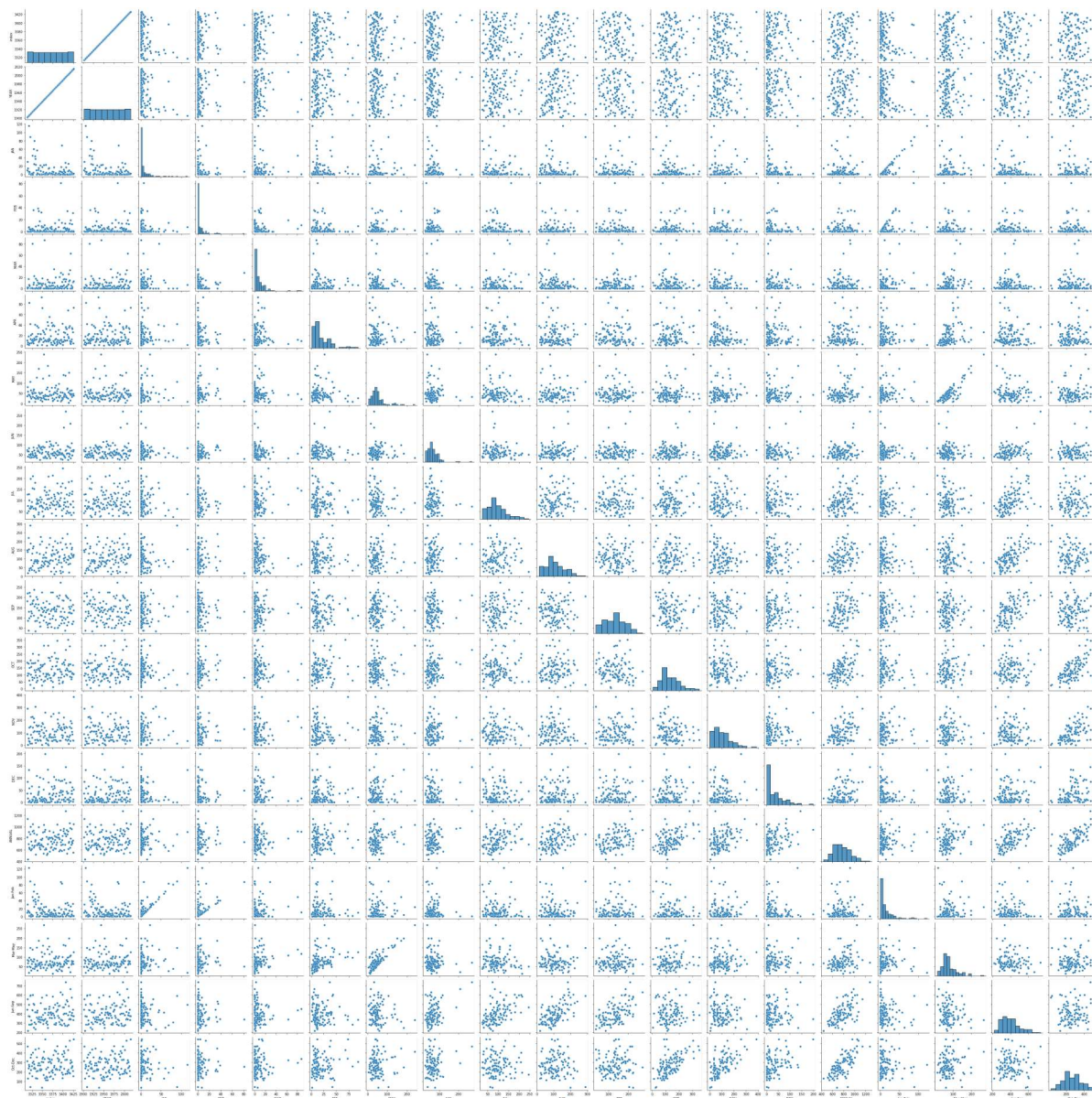
```
In [15]: df.describe()
```

Out[15]:

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000
mean	3369.500000	1958.500000	9.892982	5.289474	8.147368	19.876316	50.577193	6.000000
std	33.052988	33.052988	19.204248	10.921452	13.750959	17.638014	37.719296	3.000000
min	3313.000000	1902.000000	0.000000	0.000000	0.000000	0.700000	4.100000	2.000000
25%	3341.250000	1930.250000	0.200000	0.000000	0.400000	8.175000	29.075000	4.000000
50%	3369.500000	1958.500000	1.900000	0.950000	4.050000	12.550000	41.450000	5.000000
75%	3397.750000	1986.750000	9.950000	5.425000	10.875000	27.475000	55.225000	7.000000
max	3426.000000	2015.000000	115.300000	81.000000	86.900000	93.500000	239.800000	27.000000

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

```
Out[16]: <seaborn.axisgrid.PairGrid at 0x1ac16e83ca0>
```

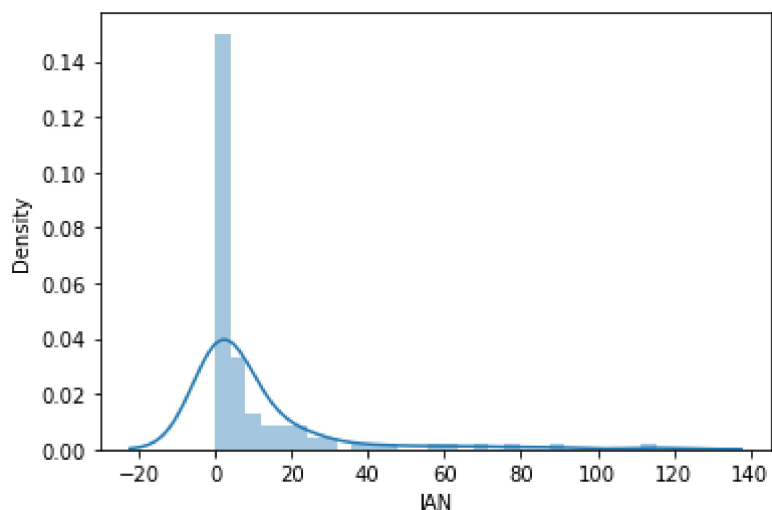


```
In [17]: sns.distplot(df['JAN'])
```

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).

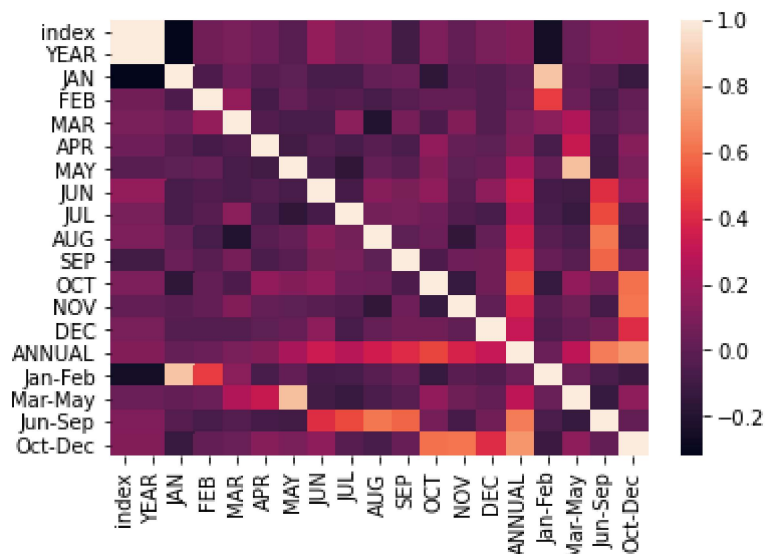
```
warnings.warn(msg, FutureWarning)
```

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



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

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

