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\KERALA.csv')
df
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	O
0	3888	KERALA	1902	6.7	2.6	57.3	83.9	134.5	390.9	1205.0	315.8	491.6	35
1	3889	KERALA	1903	3.2	18.6	3.1	83.6	249.7	558.6	1022.5	420.2	341.8	35
2	3890	KERALA	1904	23.7	3.0	32.2	71.5	235.7	1098.2	725.5	351.8	222.7	32
3	3891	KERALA	1905	1.2	22.3	9.4	105.9	263.3	850.2	520.5	293.6	217.2	38
4	3892	KERALA	1906	26.7	7.4	9.9	59.4	160.8	414.9	954.2	442.8	131.2	25
...	...	...	...	...	...	...	...	...	...	...	...	...	...
109	3997	KERALA	2011	20.5	45.7	24.1	165.2	124.2	788.5	536.8	492.7	391.2	22
110	3998	KERALA	2012	7.4	11.0	21.0	171.1	95.3	430.3	362.6	501.6	241.1	18
111	3999	KERALA	2013	3.9	40.1	49.9	49.3	119.3	1042.7	830.2	369.7	318.6	25
112	4000	KERALA	2014	4.6	10.3	17.9	95.7	251.0	454.4	677.8	733.9	298.8	35
113	4001	KERALA	2015	3.1	5.8	50.1	214.1	201.8	563.6	406.0	252.2	292.9	30

114 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	3888	KERALA	1902	6.7	2.6	57.3	83.9	134.5	390.9	1205.0	315.8	491.6	3
1	3889	KERALA	1903	3.2	18.6	3.1	83.6	249.7	558.6	1022.5	420.2	341.8	3
2	3890	KERALA	1904	23.7	3.0	32.2	71.5	235.7	1098.2	725.5	351.8	222.7	3
3	3891	KERALA	1905	1.2	22.3	9.4	105.9	263.3	850.2	520.5	293.6	217.2	3
4	3892	KERALA	1906	26.7	7.4	9.9	59.4	160.8	414.9	954.2	442.8	131.2	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...
109	3997	KERALA	2011	20.5	45.7	24.1	165.2	124.2	788.5	536.8	492.7	391.2	2
110	3998	KERALA	2012	7.4	11.0	21.0	171.1	95.3	430.3	362.6	501.6	241.1	1
111	3999	KERALA	2013	3.9	40.1	49.9	49.3	119.3	1042.7	830.2	369.7	318.6	2
112	4000	KERALA	2014	4.6	10.3	17.9	95.7	251.0	454.4	677.8	733.9	298.8	3
113	4001	KERALA	2015	3.1	5.8	50.1	214.1	201.8	563.6	406.0	252.2	292.9	3

114 rows × 20 columns

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

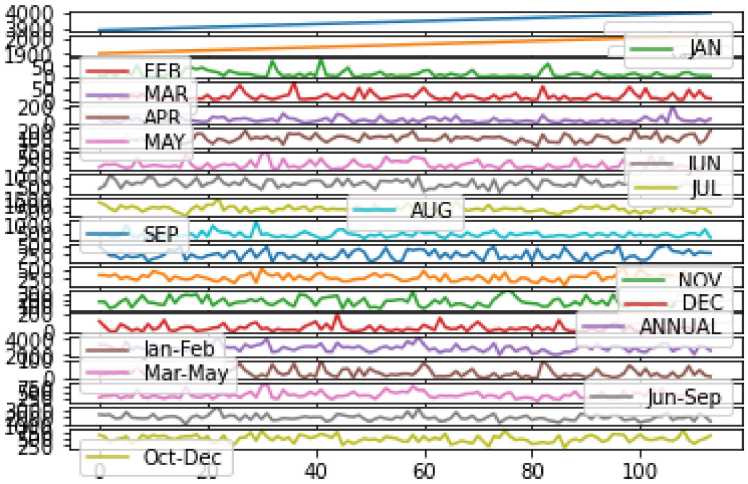
Out[4]:
```
Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY',
       'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb',
       'Mar-May', 'Jun-Sep', 'Oct-Dec'],
      dtype='object')
```

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
```

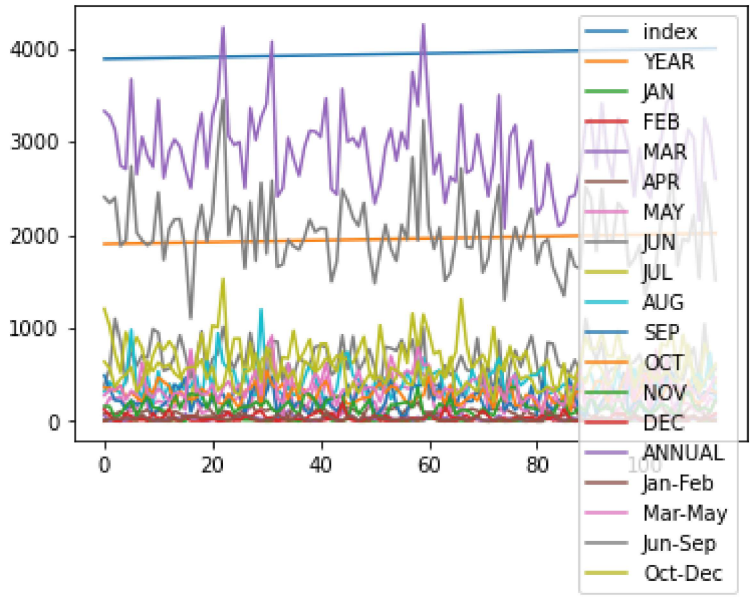
In [6]:
```
df.plot.line(subplots=True)
```

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



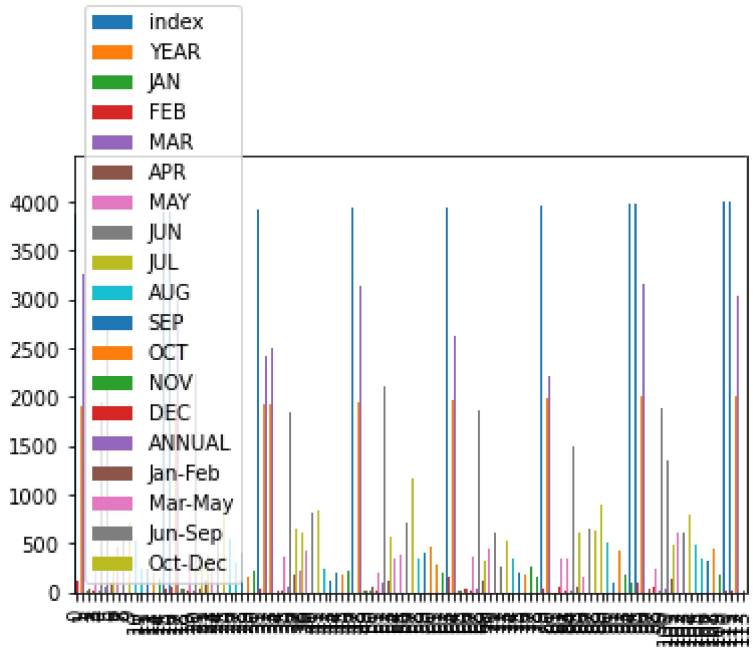
In [7]:
```
df.plot.line()
```

Out[7]: <AxesSubplot:>



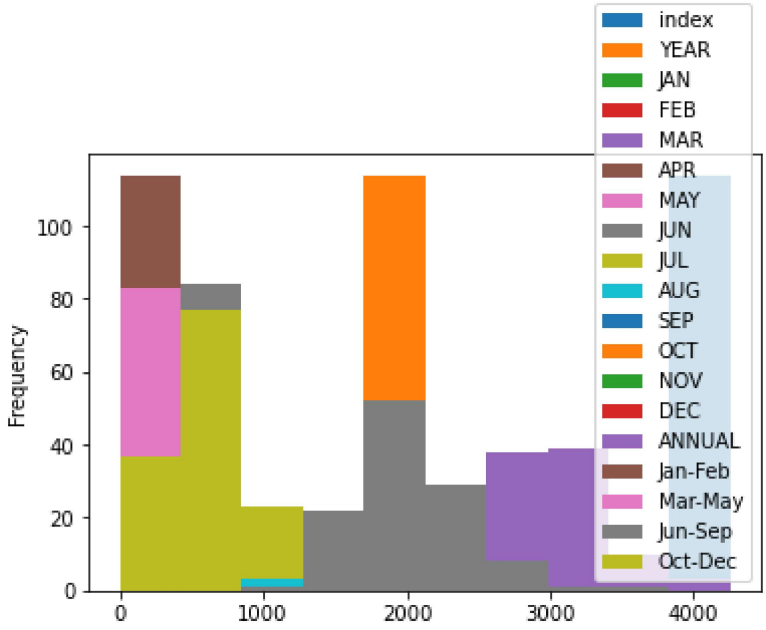
In [8]:
```
df.plot.bar()
```

Out[8]: <AxesSubplot:>



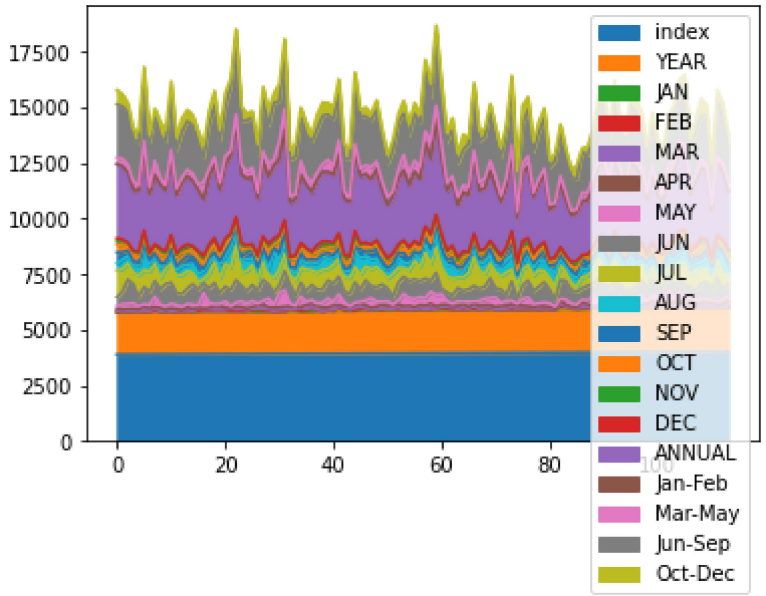
In [9]:
```
df.plot.hist()
```

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



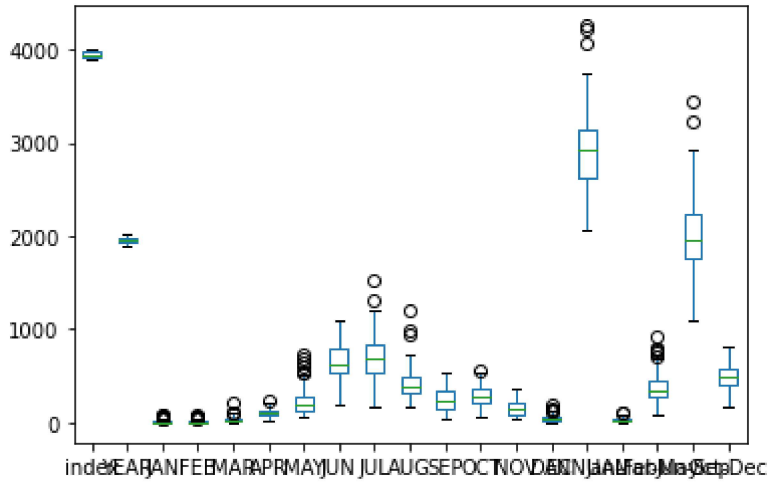
In [10]:
```
df.plot.area()
```

Out[10]: <AxesSubplot:>



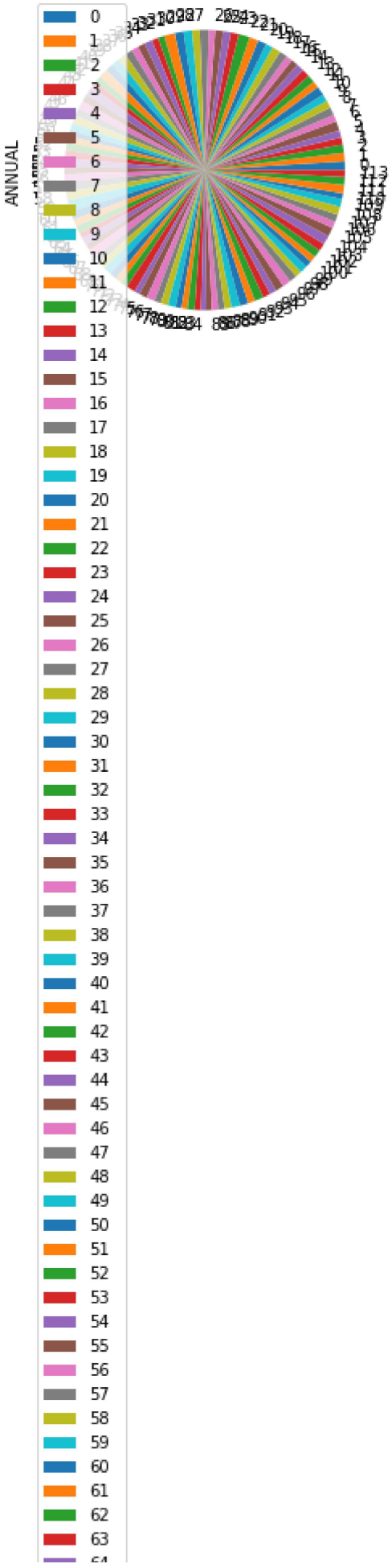
In [11]:
```
df.plot.box()
```

Out[11]: <AxesSubplot:>



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

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


ANNUAL
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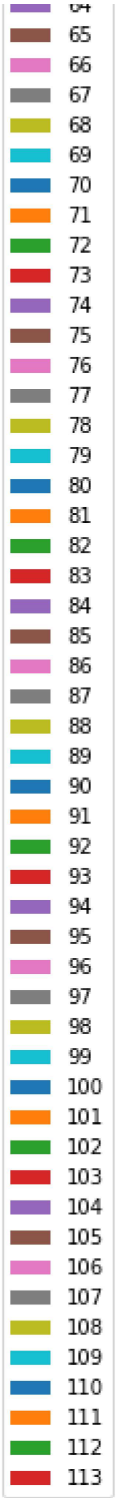
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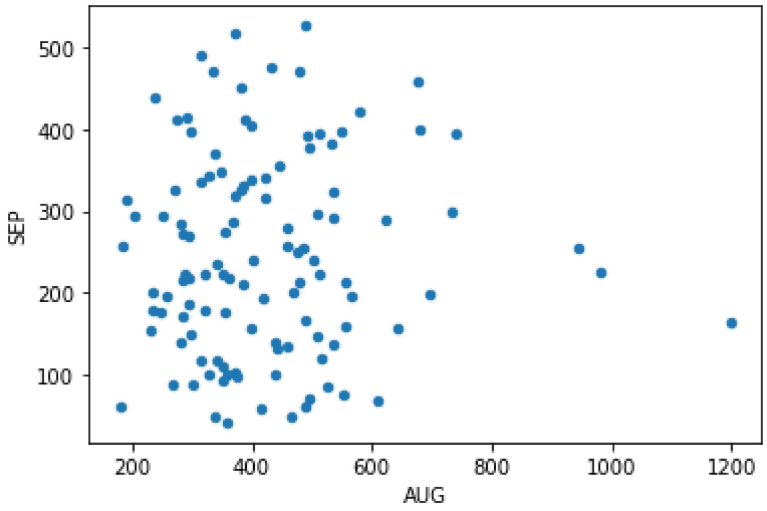
In [15]:
```
df.plot.scatter(x='AUG',y='SEP')
```

Out[15]: <AxesSubplot:xlabel='AUG', ylabel='SEP'>



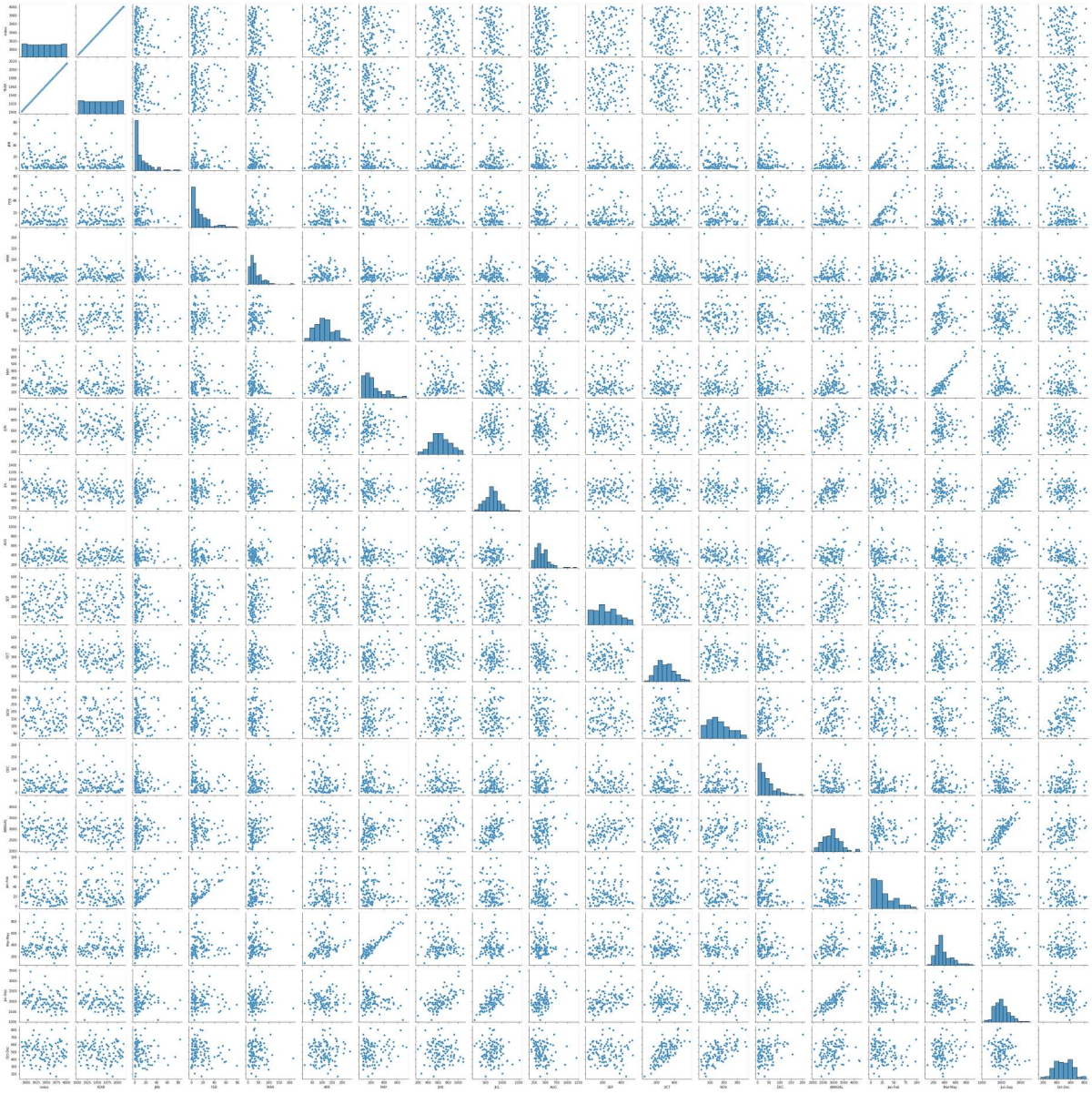
In [16]:
```
df.describe()
```

Out[16]:

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	114.000000	1
mean	3944.500000	1958.500000	12.102632	15.240351	36.685088	110.140351	230.365789	6
std	33.052988	33.052988	15.529917	16.042564	30.426433	44.627534	149.840056	1
min	3888.000000	1902.000000	0.000000	0.000000	0.100000	13.100000	53.400000	1
25%	3916.250000	1930.250000	2.175000	4.700000	18.100000	74.350000	124.275000	5
50%	3944.500000	1958.500000	5.800000	8.350000	28.300000	109.100000	188.000000	6
75%	3972.750000	1986.750000	16.800000	21.400000	49.825000	135.050000	283.175000	7
max	4001.000000	2015.000000	83.500000	79.000000	217.200000	238.000000	738.800000	10

In [17]:
```
sns.pairplot(df)
```

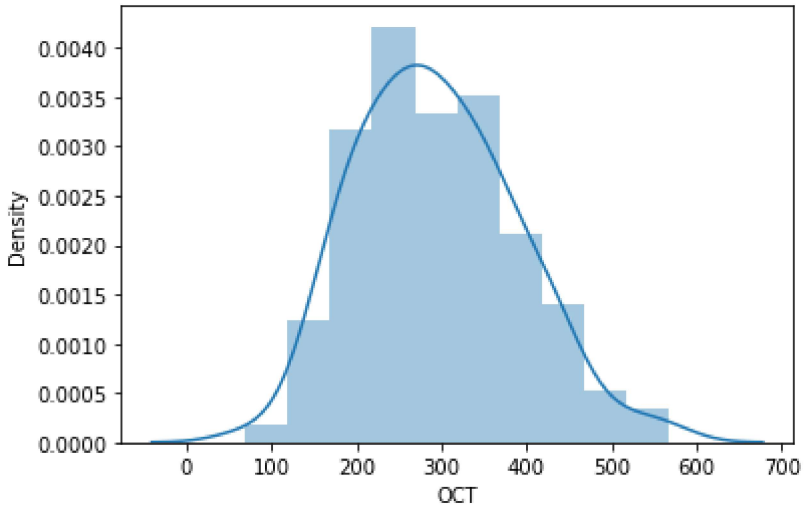
Out[17]:
```
<seaborn.axisgrid.PairGrid at 0x1f1604cdb80>
```



In [20]:
```
sns.distplot(df['OCT'])
```

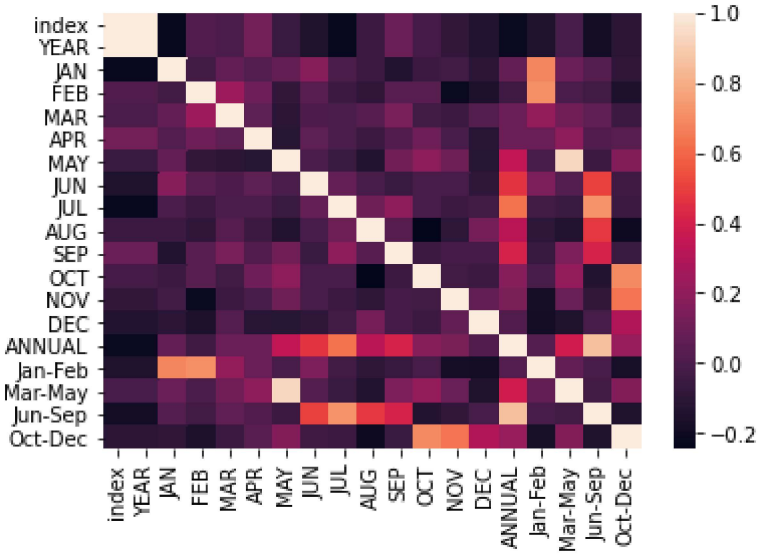
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function for hi
stograms).
  warnings.warn(msg, FutureWarning)
```

Out[20]: <AxesSubplot:xlabel='OCT', ylabel='Density'>



In [21]:
```
sns.heatmap(df.corr())
```

Out[21]: <AxesSubplot:>



In [ ]: