Importing Libraries ¶

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

Importing Datasets

In [3]:
```
df=pd.read_csv("rainfall_assam _ meghalaya.csv")
df
```

Out[3]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
0	207	ASSAM & MEGHALAYA	1901	27.1	19.5	30.6	223.0	207.0	524.9	430.6	464.1	291.4	163.
1	208	ASSAM & MEGHALAYA	1902	9.3	10.2	105.6	350.0	262.1	620.7	510.8	536.0	441.3	97.
2	209	ASSAM & MEGHALAYA	1903	19.9	25.4	103.6	140.6	206.6	607.4	362.7	551.9	306.4	159.
3	210	ASSAM & MEGHALAYA	1904	11.1	56.1	51.9	457.1	375.2	385.7	477.6	438.8	245.9	115.
4	211	ASSAM & MEGHALAYA	1905	19.9	16.9	137.9	213.0	275.5	521.7	439.1	649.1	276.0	200.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
110	317	ASSAM & MEGHALAYA	2011	11.1	11.4	109.0	92.1	238.3	316.0	395.8	302.6	221.6	30.
111	318	ASSAM & MEGHALAYA	2012	15.2	6.9	28.8	279.1	185.8	729.7	444.3	289.2	411.6	199.
112	319	ASSAM & MEGHALAYA	2013	1.1	9.6	44.0	112.8	346.7	286.2	367.8	289.7	229.3	126.
113	320	ASSAM & MEGHALAYA	2014	2.0	28.3	29.3	51.5	351.1	426.4	374.4	484.6	420.2	35.
114	321	ASSAM & MEGHALAYA	2015	13.4	15.5	37.5	250.9	332.5	558.5	300.1	590.9	279.9	62.

115 rows × 20 columns

Data Cleaning and Data Preprocessing

In [4]:
```
df=df.dropna()
```

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')
```

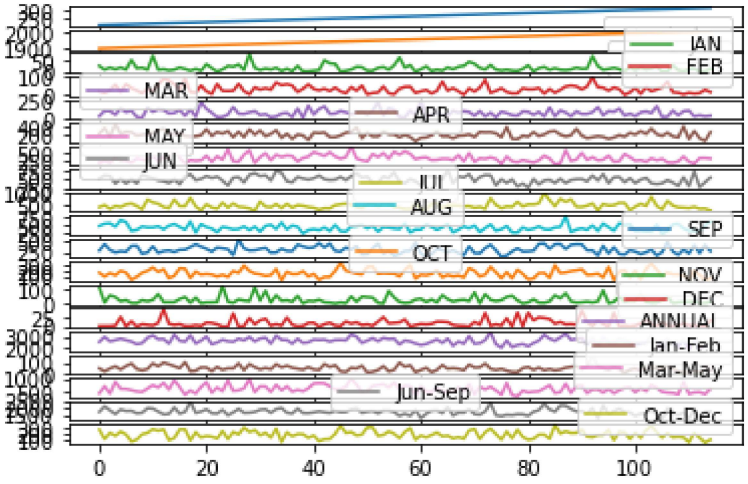
In [6]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 115 entries, 0 to 114
Data columns (total 20 columns):
 #   Column       Non-Null Count  Dtype  
---  ------       --------------  -----  
 0   index        115 non-null    int64  
 1   SUBDIVISION  115 non-null    object 
 2   YEAR         115 non-null    int64  
 3   JAN          115 non-null    float64
 4   FEB          115 non-null    float64
 5   MAR          115 non-null    float64
 6   APR          115 non-null    float64
 7   MAY          115 non-null    float64
 8   JUN          115 non-null    float64
 9   JUL          115 non-null    float64
 10  AUG          115 non-null    float64
 11  SEP          115 non-null    float64
 12  OCT          115 non-null    float64
 13  NOV          115 non-null    float64
 14  DEC          115 non-null    float64
 15  ANNUAL       115 non-null    float64
 16  Jan-Feb      115 non-null    float64
 17  Mar-May      115 non-null    float64
 18  Jun-Sep      115 non-null    float64
 19  Oct-Dec      115 non-null    float64
dtypes: float64(17), int64(2), object(1)
memory usage: 18.9+ KB
```

Line chart

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

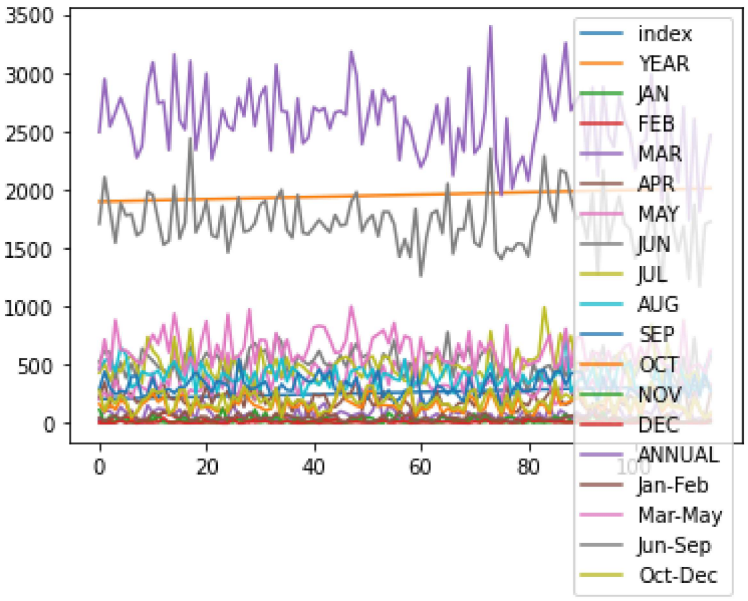
Out[7]:
```
array([<AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
    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



Line chart

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

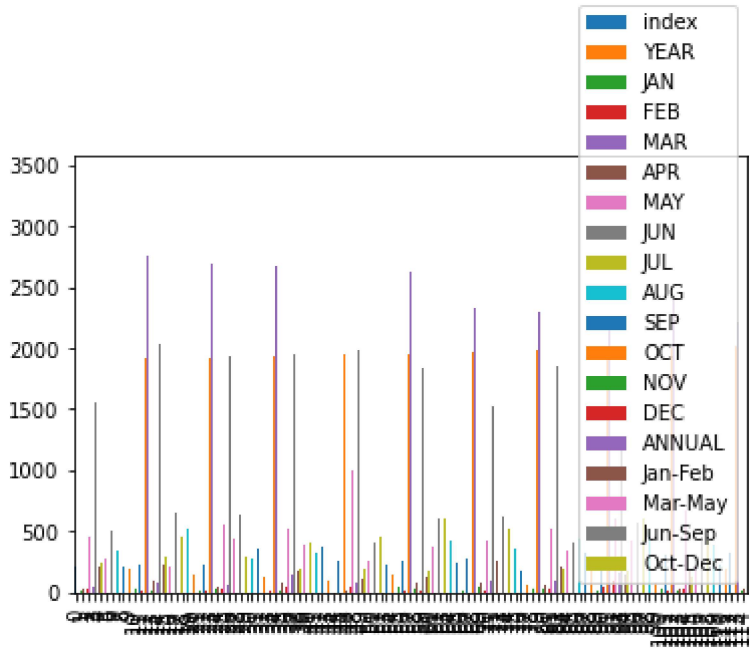
Out[8]:
```
<AxesSubplot:>
```



Bar chart

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

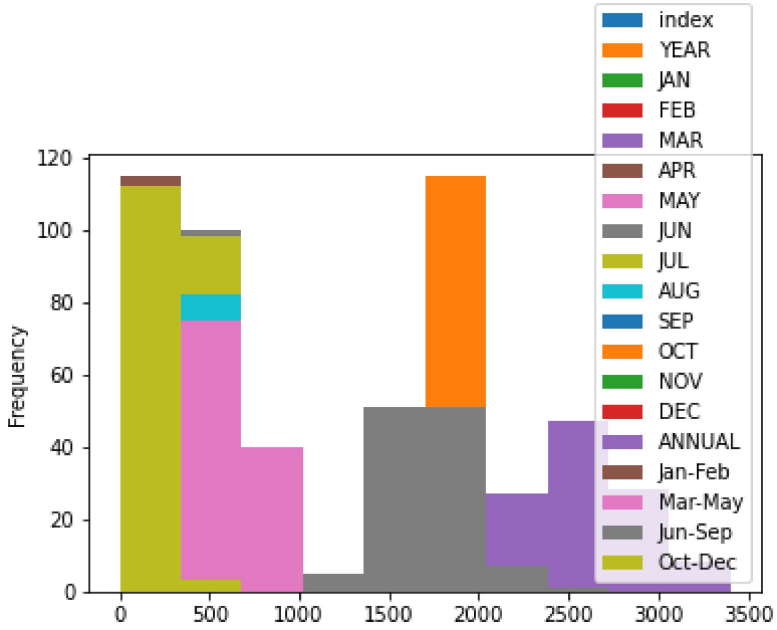
Out[9]: <AxesSubplot:>



Histogram

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

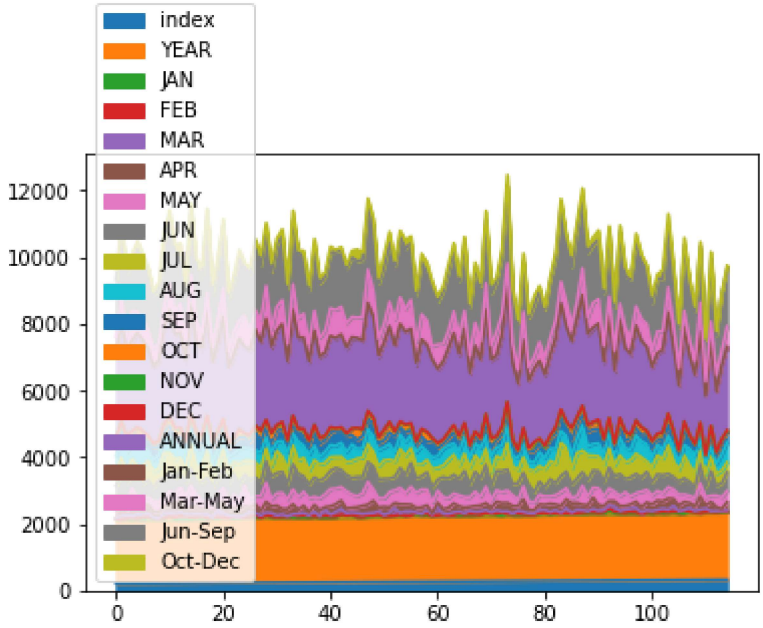
Out[10]: <AxesSubplot:ylabel='Frequency'>



Area chart

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

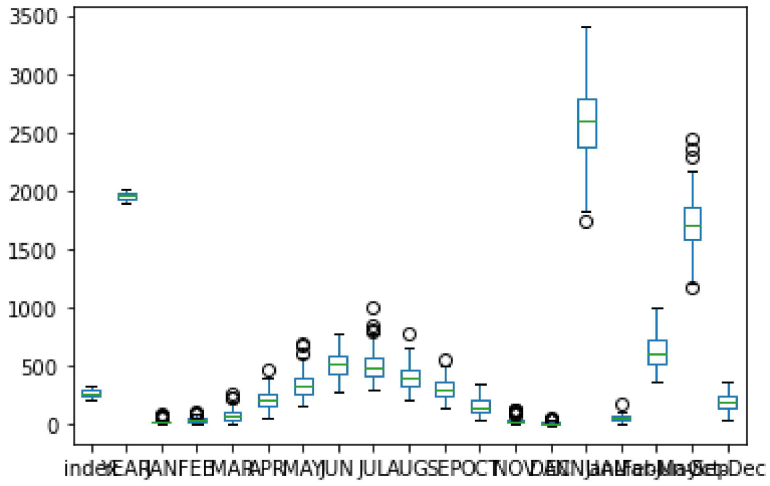
Out[11]: <AxesSubplot:>



Box chart

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

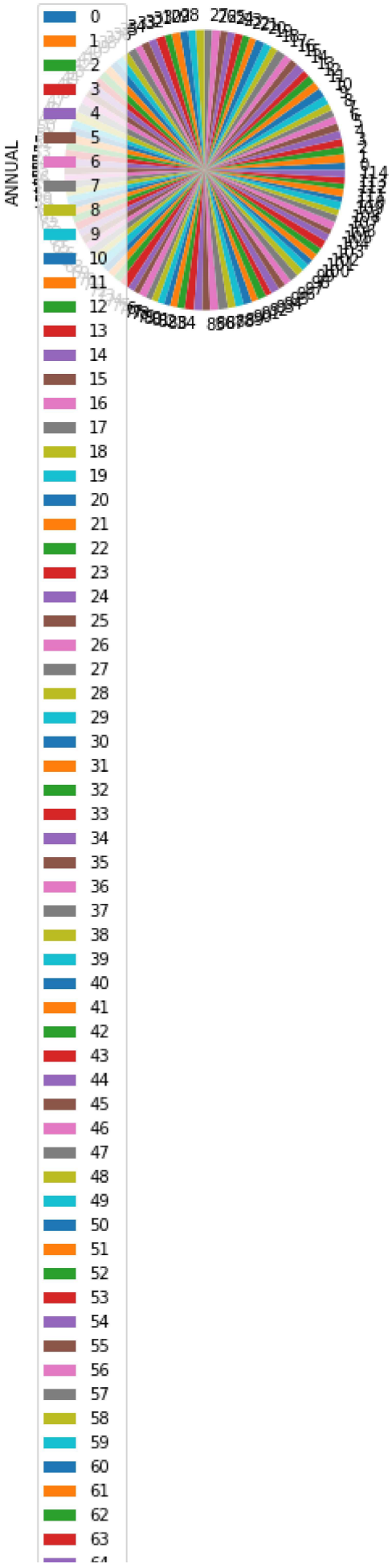
Out[12]: <AxesSubplot:>



Pie chart

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

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


ANNUAL
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2
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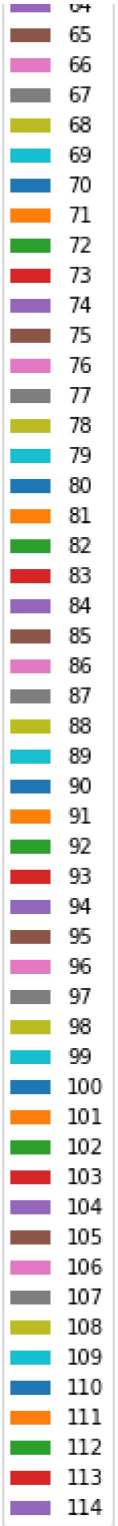
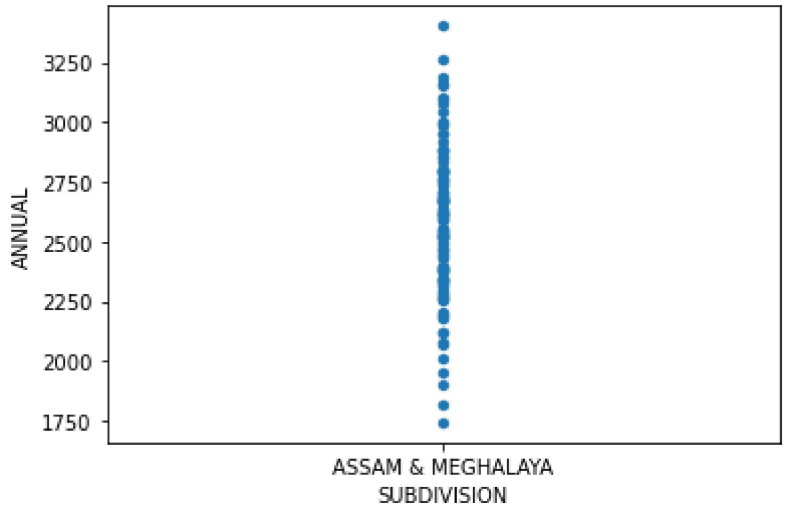


Scatter chart

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

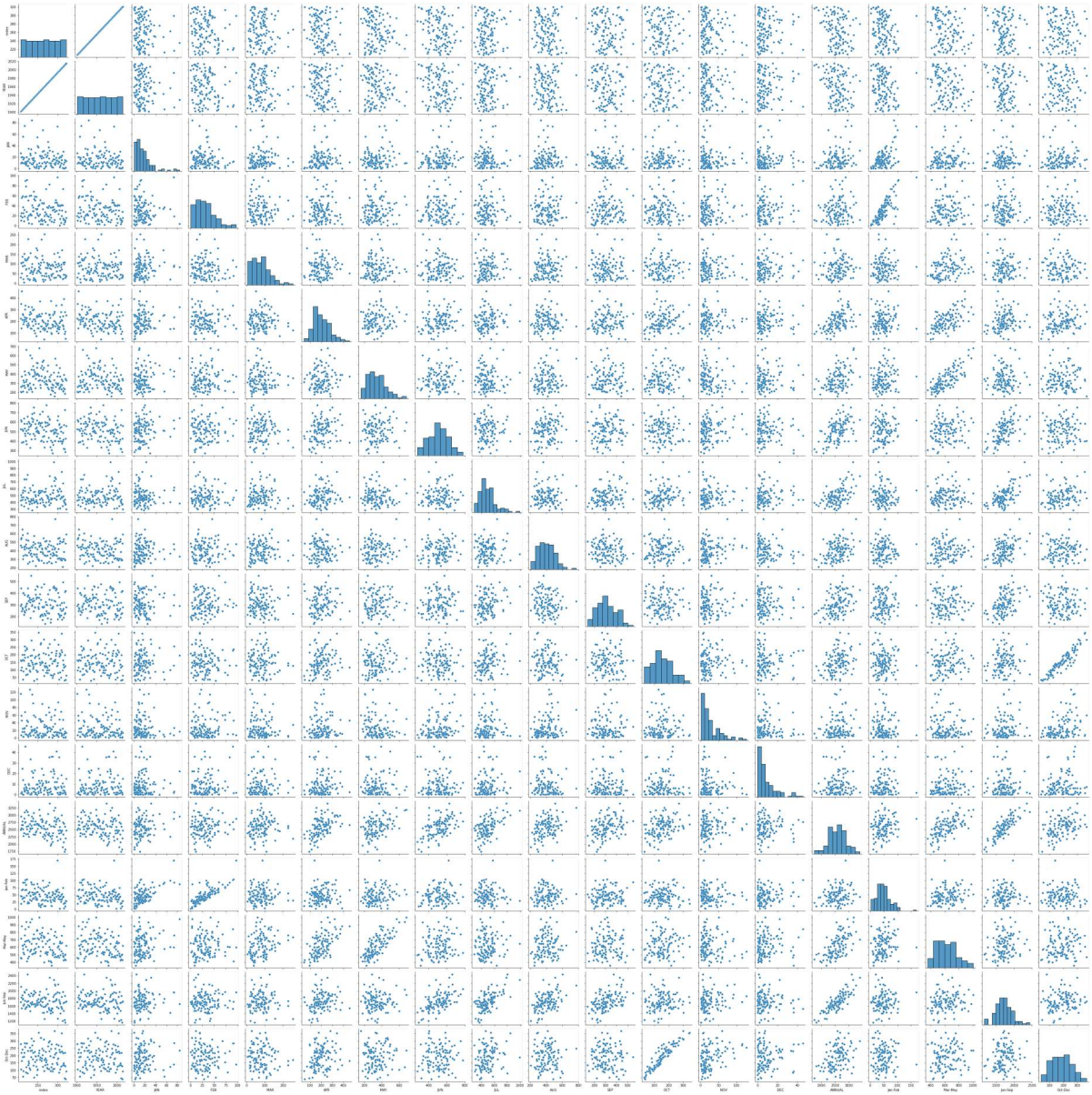
Out[14]:
```
<AxesSubplot:xlabel='SUBDIVISION', ylabel='ANNUAL'>
```



Seaborn

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

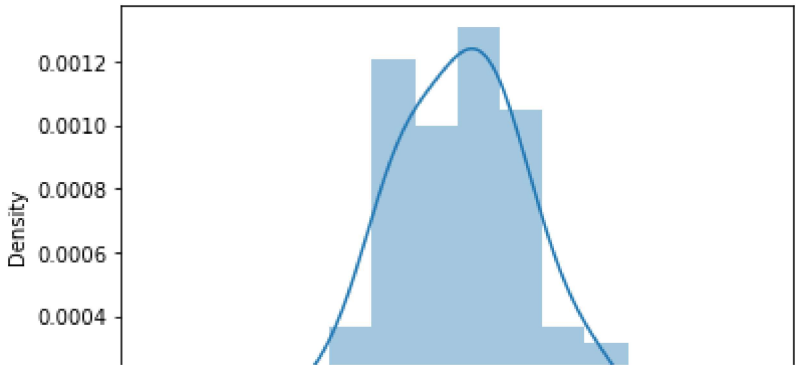
Out[15]:
```
<seaborn.axisgrid.PairGrid at 0x2f11fd8ed30>
```



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

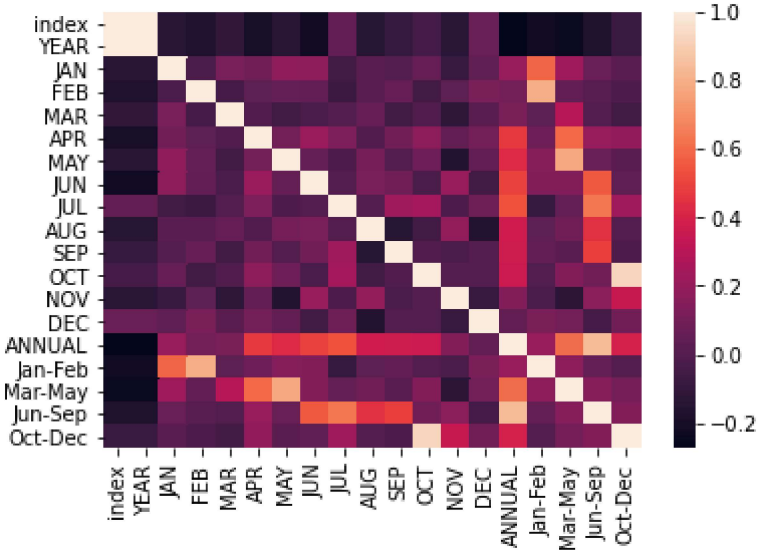
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: F
utureWarning: `distplot` is a deprecated function and will be removed in a
future version. Please adapt your code to use either `displot` (a figure-le
vel function with similar flexibility) or `histplot` (an axes-level functio
n for histograms).
  warnings.warn(msg, FutureWarning)
```

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



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

Out[17]: <AxesSubplot:>



In [ ]: