Importing Libraries

In [1]:
```
import numpy as np
import pandas as pdrainfall_jammu _ kashmir
import seaborn as sns
import matplotlib.pyplot as plt
```

Importing Datasets

In [2]:
```
df=pd.read_csv("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

Data Cleaning and Data Preprocessing

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

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')
```

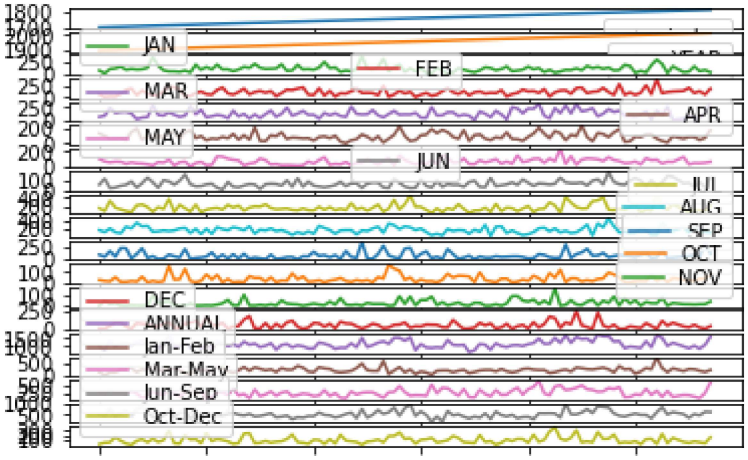
In [5]:
```
df.info()
```

```
<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
```

Line chart

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

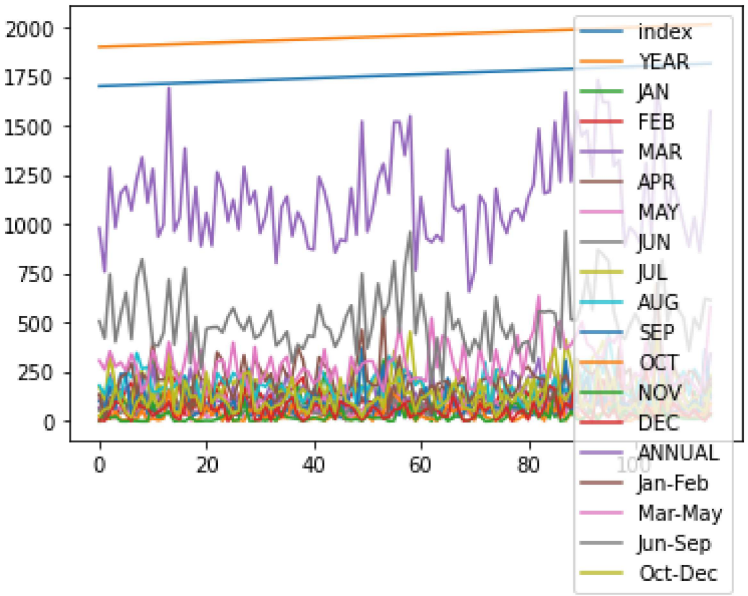
Out[6]:
```
array([<AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
    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



Line chart

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

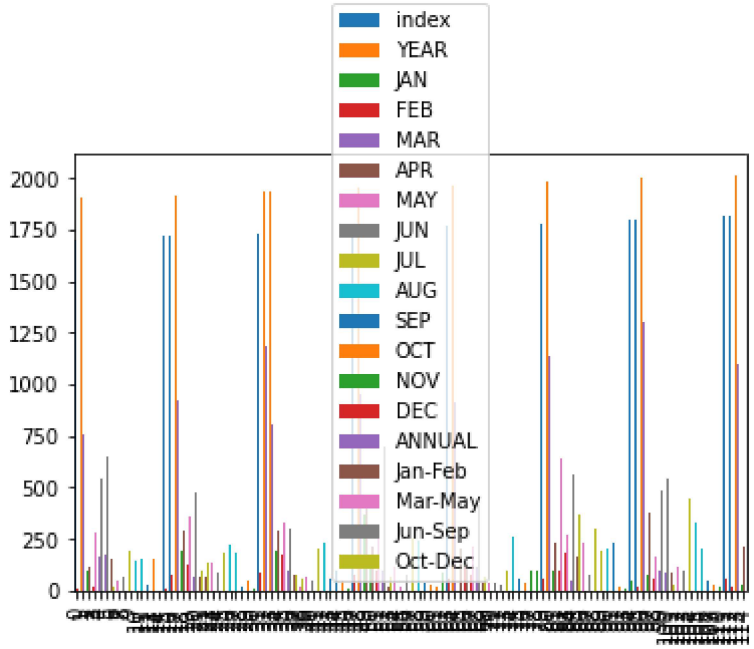
Out[7]:
```
<AxesSubplot:>
```



Bar chart

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

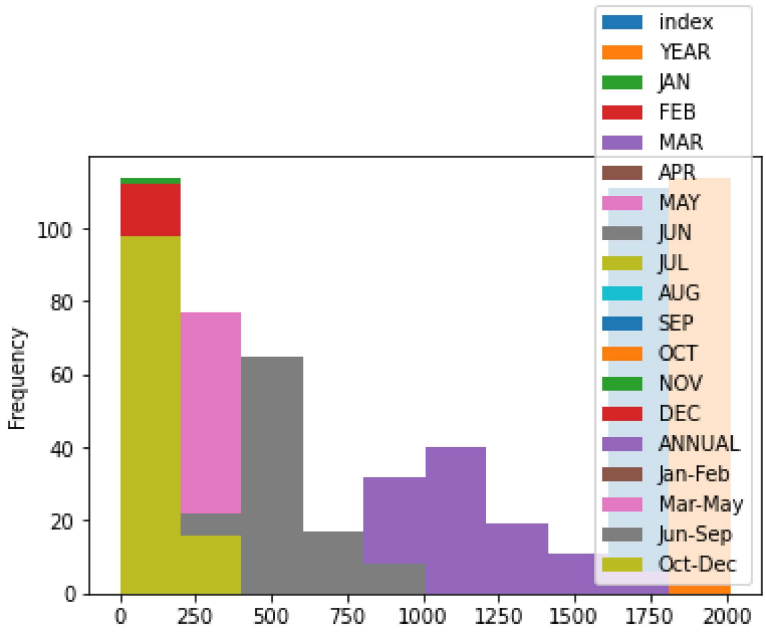
Out[8]: <AxesSubplot:>



Histogram

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

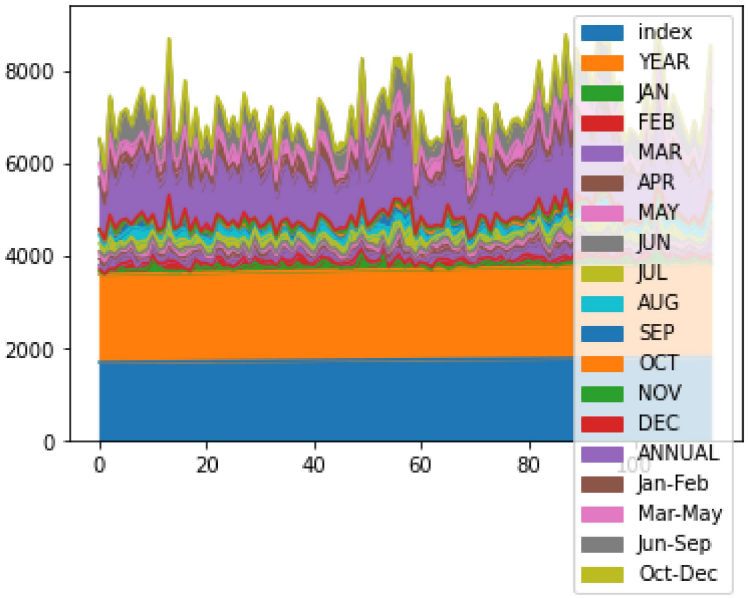
Out[9]: <AxesSubplot:ylabel='Frequency'>



Area chart

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

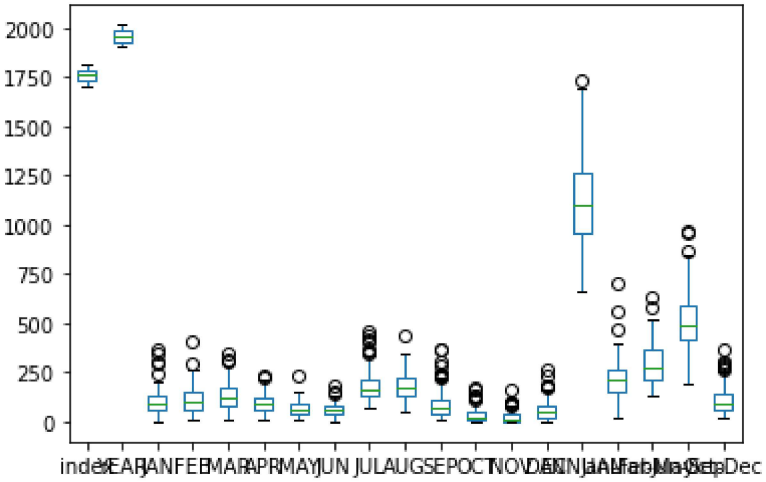
Out[10]: <AxesSubplot:>



Box chart

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

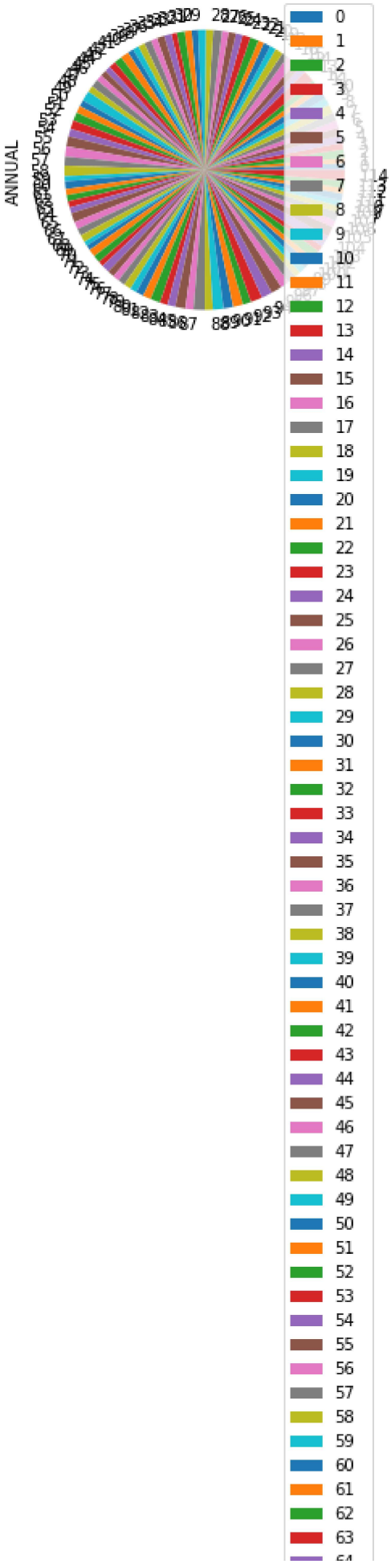
Out[11]: <AxesSubplot:>



Pie chart

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

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


ANNUAL
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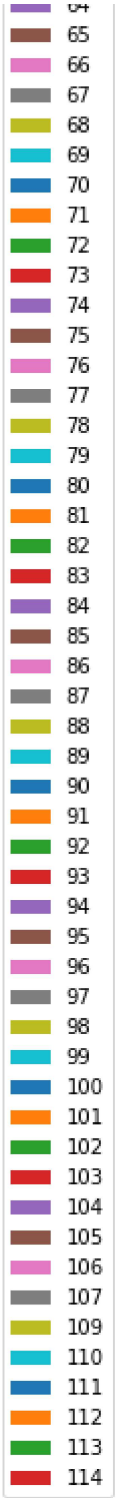
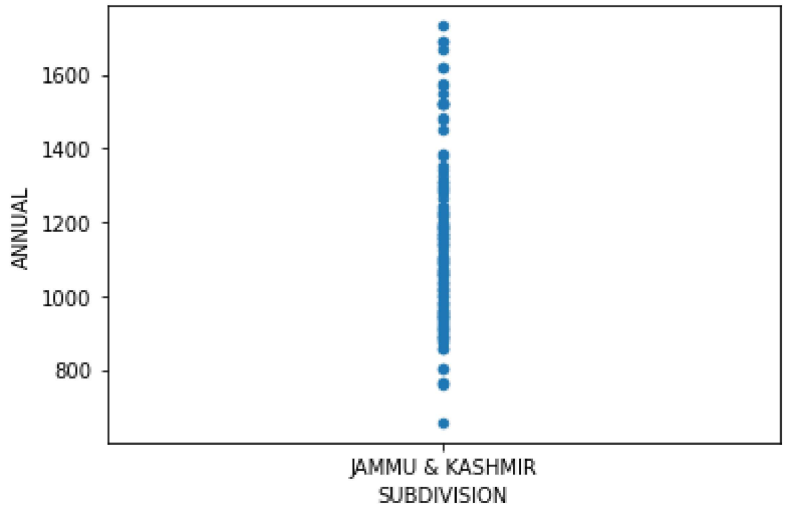


Scatter chart

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

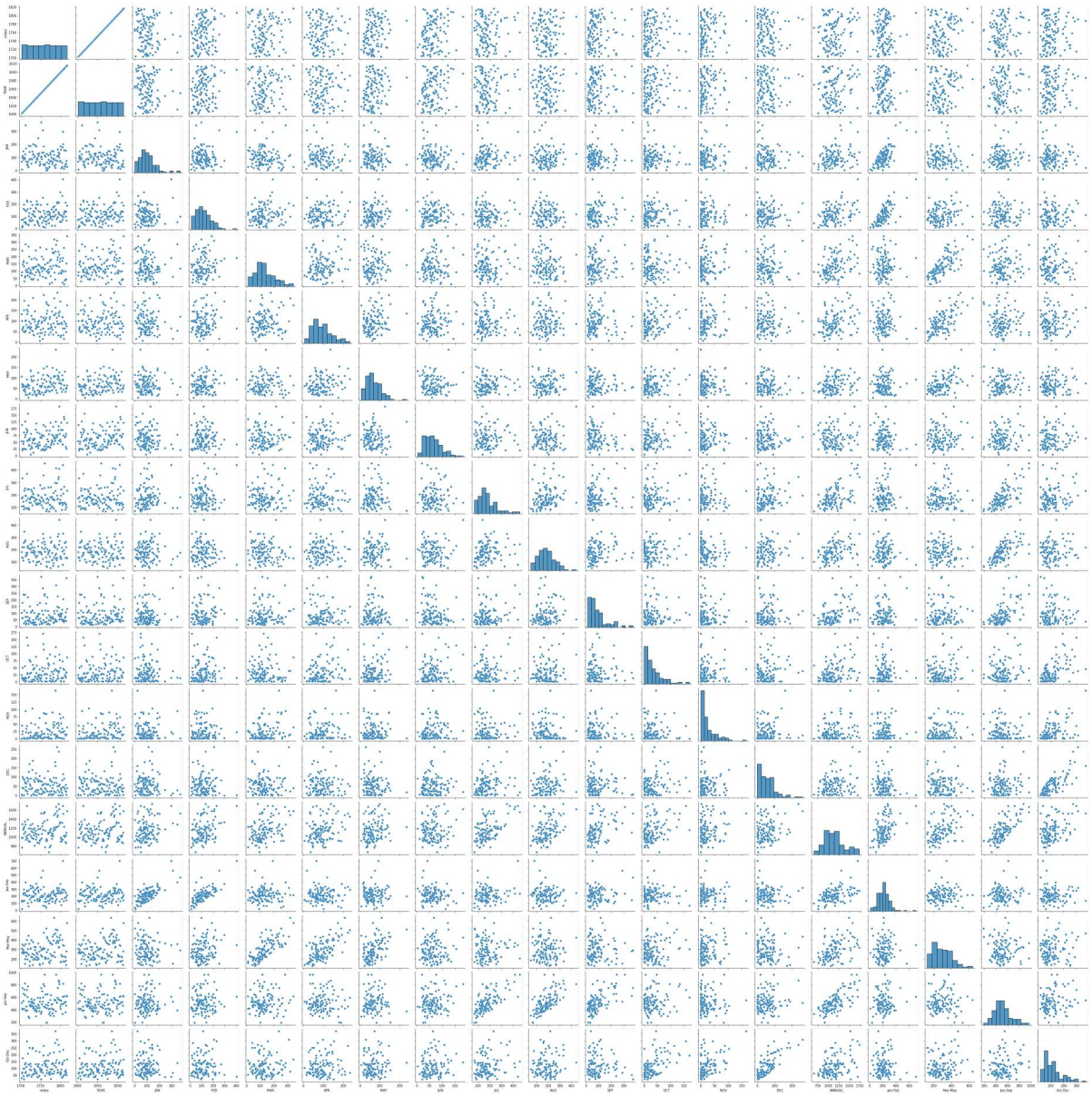
Out[13]:
```
<AxesSubplot:xlabel='SUBDIVISION', ylabel='ANNUAL'>
```



Seaborn

In [14]:
```
sns.pairplot(df)
```

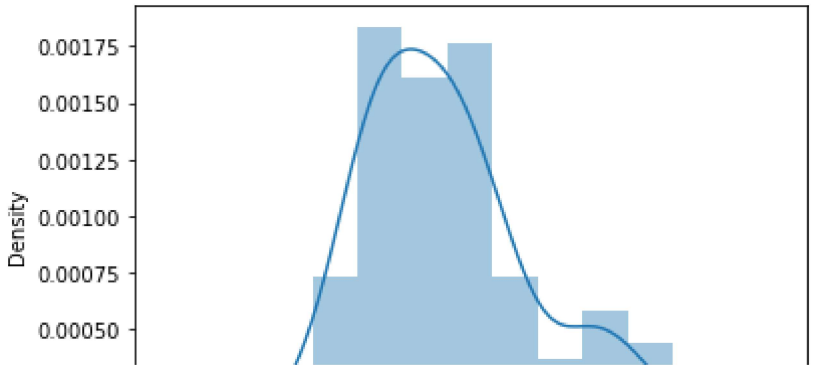
Out[14]:
```
<seaborn.axisgrid.PairGrid at 0x193b2e75ca0>
```



In [15]:
```
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[15]: <AxesSubplot:xlabel='ANNUAL', ylabel='Density'>



In [16]:
```
sns.heatmap(df.corr())
```

Out[16]: <AxesSubplot:>