Importing Libraries

In [33]:
```python
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

Importing Datasets

In [34]:
```python
df=pd.read_csv("rainfall_orissa.csv")
df
```

Out[34]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC⁻
0	667	ORISSA	1901	39.5	65.1	16.1	51.6	79.0	78.2	288.4	307.7	185.3	76.(
1	668	ORISSA	1902	3.4	0.2	14.2	101.1	56.7	108.3	437.4	349.1	202.7	33.2
2	669	ORISSA	1903	19.7	18.9	10.5	34.6	73.3	154.3	410.4	295.2	265.6	228.!
3	670	ORISSA	1904	0.2	12.2	20.6	10.1	100.2	342.9	336.7	350.4	227.8	111.!
4	671	ORISSA	1905	24.3	17.2	66.3	56.9	107.5	92.0	330.1	281.4	344.1	36.4
...	...	...	...	...	...	...	...	...	...	...	...	...	..
110	777	ORISSA	2011	3.7	16.2	4.9	58.2	75.6	210.1	199.6	358.6	398.7	20.2
111	778	ORISSA	2012	50.8	3.6	0.9	34.8	21.3	169.6	324.3	417.0	242.4	66.(
112	779	ORISSA	2013	3.3	7.8	2.1	53.6	57.7	272.6	380.0	254.9	208.1	391.(
113	780	ORISSA	2014	0.0	17.6	25.1	11.7	111.9	92.2	496.2	386.3	281.1	111.!
114	781	ORISSA	2015	15.1	3.3	10.5	67.6	32.6	238.6	294.8	264.0	237.0	24.⁻

115 rows × 20 columns

Data Cleaning and Data Preprocessing

In [35]:
```python
df=df.dropna()
```

In [36]:
```python
df.columns
```

Out[36]:
```
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')
```
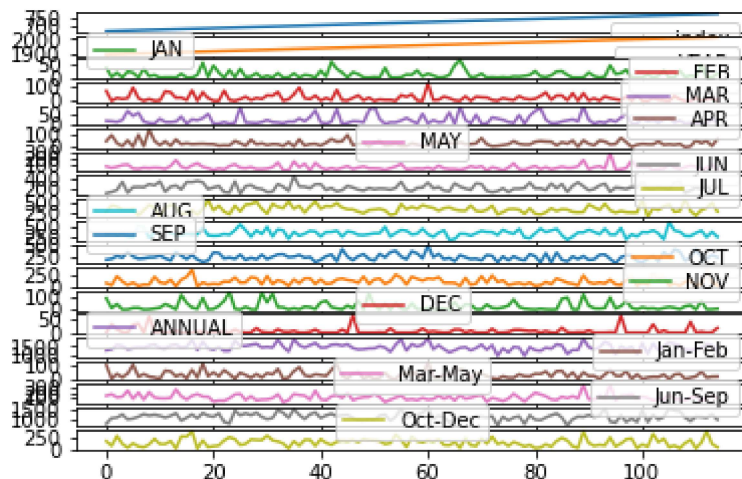
In [37]: `df.info()`

```
<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 [38]: `df.plot.line(subplots=True)`

Out[38]:
```
array([<AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>], dtype=object)
```
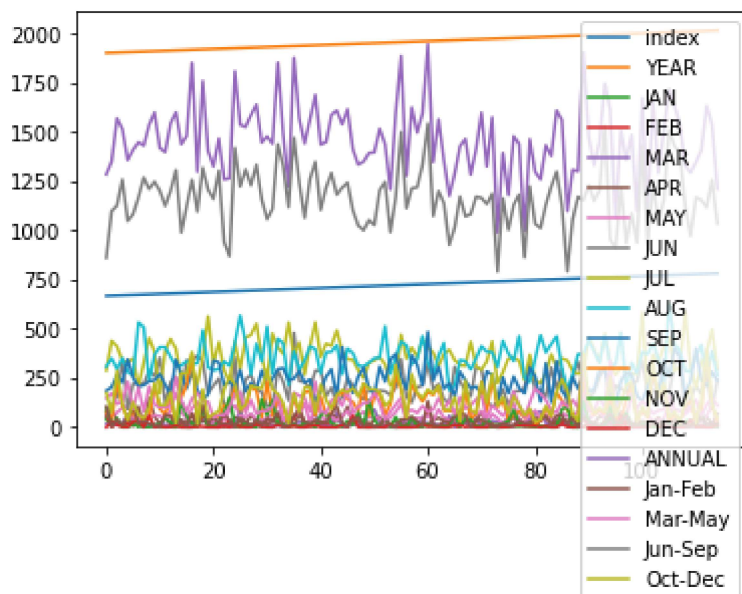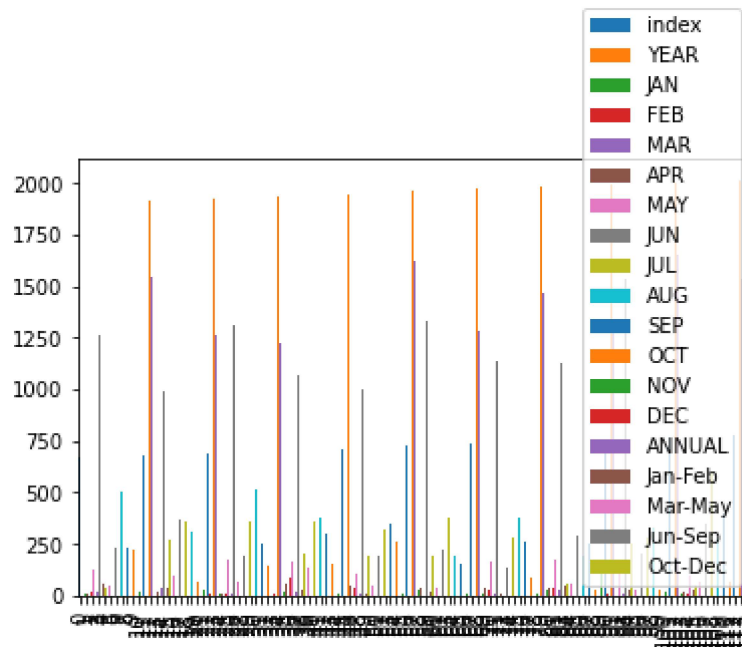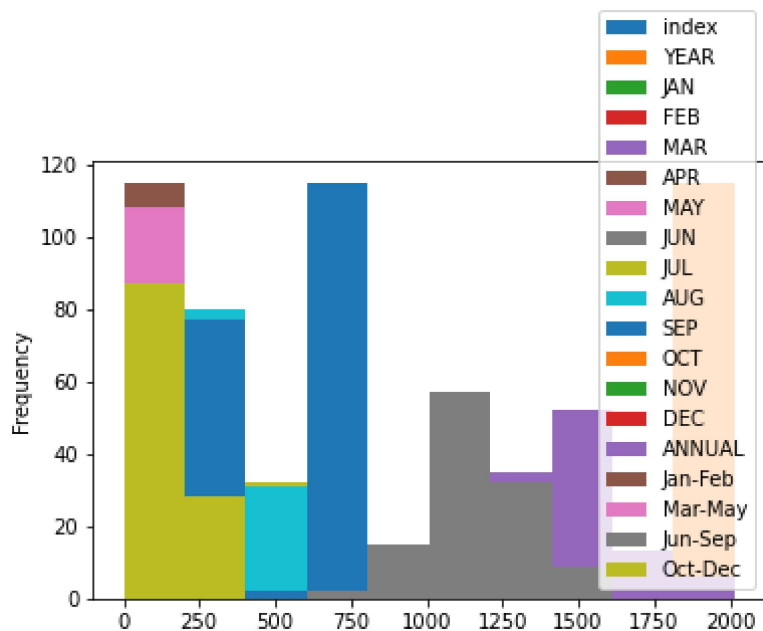

Line chart

In [39]: `df.plot.line()`

Out[39]: `<AxesSubplot:>`

Bar chart

In [40]: `df.plot.bar()`

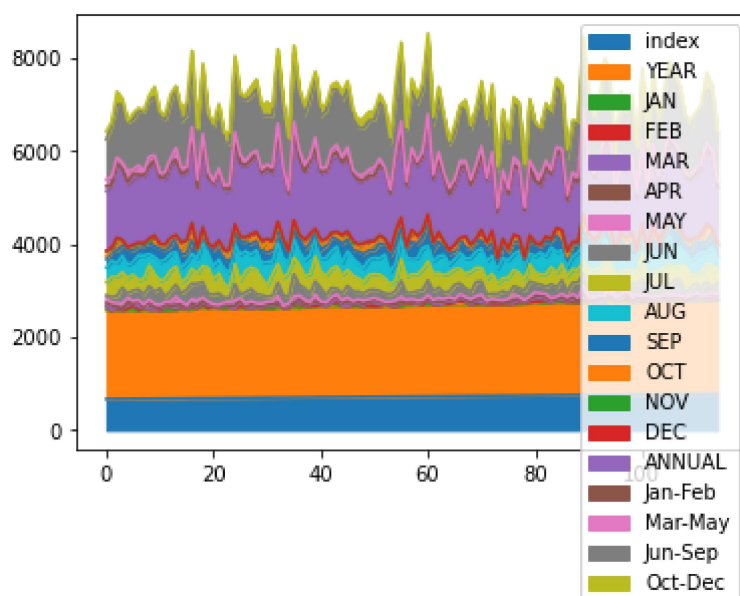Out[40]: `<AxesSubplot:>`

Histogram

In [41]: `df.plot.hist()`

Out[41]: `<AxesSubplot:ylabel='Frequency'>`
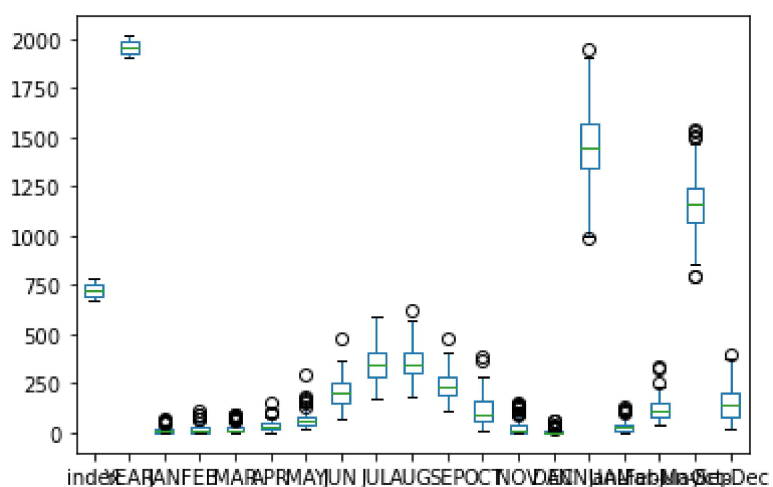

Area chart

In [42]: `df.plot.area()`

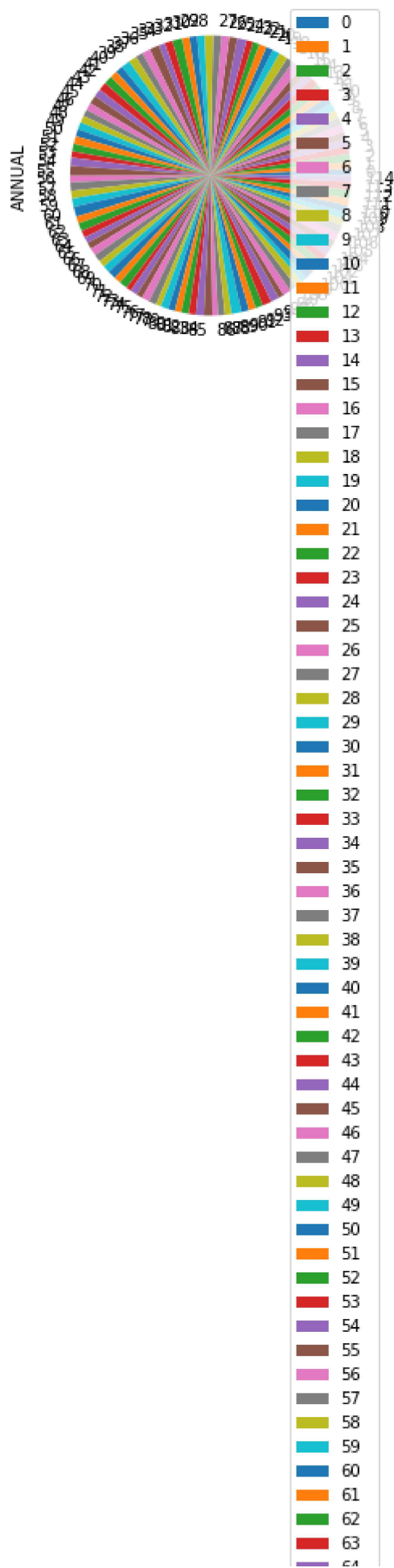Out[42]: `<AxesSubplot:>`

Box chart

In [43]: `df.plot.box()`

Out[43]: `<AxesSubplot:>`

Pie chart

In [44]:
```python
df.plot.pie(y='ANNUAL' )
```

Out[44]: <AxesSubplot:ylabel='ANNUAL'>

▬	64
▬	65
▬	66
▬	67
▬	68
▬	69
▬	70
▬	71
▬	72
▬	73
▬	74
▬	75
▬	76
▬	77
▬	78
▬	79
▬	80
▬	81
▬	82
▬	83
▬	84
▬	85
▬	86
▬	87
▬	88
▬	89
▬	90
▬	91
▬	92
▬	93
▬	94
▬	95
▬	96
▬	97
▬	98
▬	99
▬	100
▬	101
▬	102
▬	103
▬	104
▬	105
▬	106
▬	107
▬	108
▬	109
▬	110
▬	111
▬	112
▬	113
▬	114
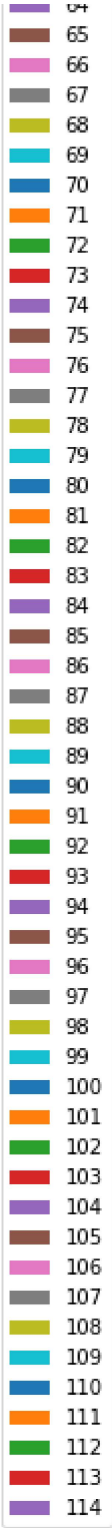
Scatter chart

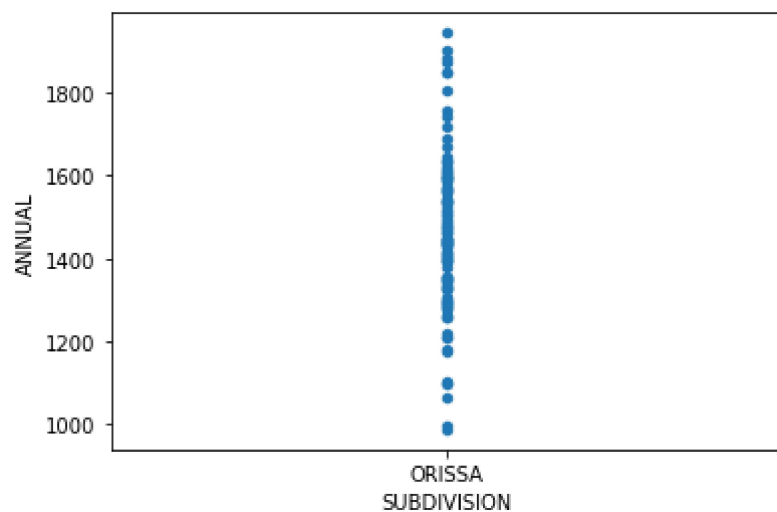In [45]: `df.plot.scatter(x='SUBDIVISION' ,y='ANNUAL')`

Out[45]: `<AxesSubplot:xlabel='SUBDIVISION', ylabel='ANNUAL'>`
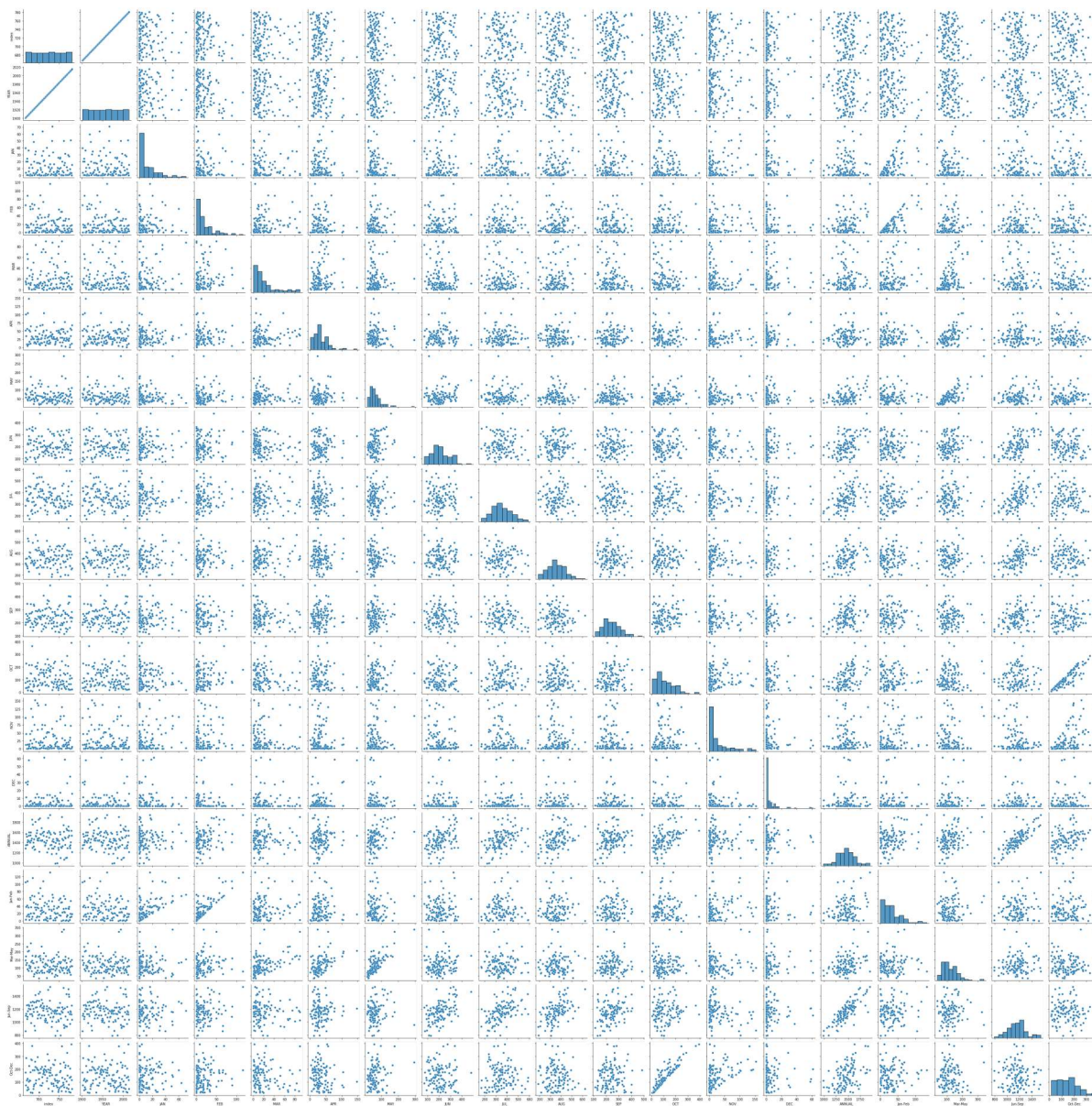

Seaborn

In [46]:   sns.pairplot(df)

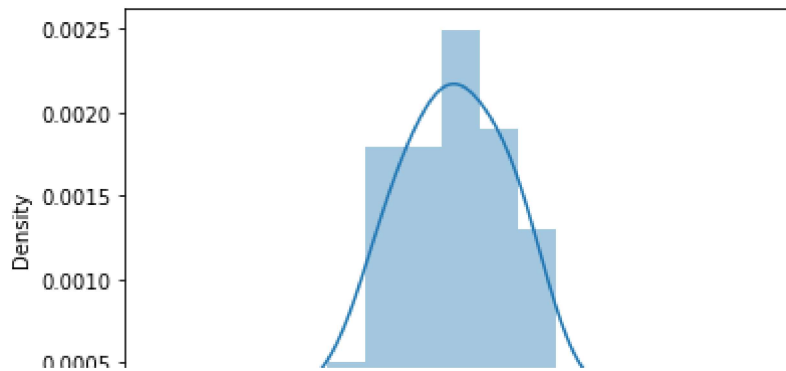Out[46]:   <seaborn.axisgrid.PairGrid at 0x1d908b77640>

In [47]: `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[47]: `<AxesSubplot:xlabel='ANNUAL', ylabel='Density'>`

In [48]: `sns.heatmap(df.corr())`

Out[48]: `<AxesSubplot:>`