

```
In [8]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.linear_model import LogisticRegression
from sklearn.preprocessing import StandardScaler
import re
from sklearn.datasets import load_digits
from sklearn.model_selection import train_test_split
```

```
In [9]: a=pd.read_csv(r"C:\Users\user\Downloads\FP2_RainFall\rainfall in india 1901-2010.csv")
a
```

Out[9]:

		index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
0	0		ANDAMAN & NICOBAR ISLANDS	1901	49.2	87.1	29.2	2.3	528.8	517.5	365.1	481.1	332.6
1	1		ANDAMAN & NICOBAR ISLANDS	1902	0.0	159.8	12.2	0.0	446.1	537.1	228.9	753.7	666.2
2	2		ANDAMAN & NICOBAR ISLANDS	1903	12.7	144.0	0.0	1.0	235.1	479.9	728.4	326.7	339.0
3	3		ANDAMAN & NICOBAR ISLANDS	1904	9.4	14.7	0.0	202.4	304.5	495.1	502.0	160.1	820.4
4	4		ANDAMAN & NICOBAR ISLANDS	1905	1.3	0.0	3.3	26.9	279.5	628.7	368.7	330.5	297.0
...
4111	4111	LAKSHADWEEP	LAKSHADWEEP	2011	5.1	2.8	3.1	85.9	107.2	153.6	350.2	254.0	255.2
4112	4112	LAKSHADWEEP	LAKSHADWEEP	2012	19.2	0.1	1.6	76.8	21.2	327.0	231.5	381.2	179.8
4113	4113	LAKSHADWEEP	LAKSHADWEEP	2013	26.2	34.4	37.5	5.3	88.3	426.2	296.4	154.4	180.0
4114	4114	LAKSHADWEEP	LAKSHADWEEP	2014	53.2	16.1	4.4	14.9	57.4	244.1	116.1	466.1	132.2
4115	4115	LAKSHADWEEP	LAKSHADWEEP	2015	2.2	0.5	3.7	87.1	133.1	296.6	257.5	146.4	160.4

4116 rows × 20 columns



```
In [10]: a.columns
```

```
Out[10]: 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')
```

13. HARYANA DELHI & CHANDIGARH

In [142]:

```
b=a.head(1472)
b=b.tail(115)
b
```

Out[142]:

		index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1357	1357		HARYANA DELHI & CHANDIGARH	1901	35.4	28.9	11.1	0.0	5.1	13.2	126.4	151.5	10.5	2.0
1358	1358		HARYANA DELHI & CHANDIGARH	1902	0.0	0.7	2.9	10.2	15.8	74.6	149.3	97.1	59.8	9.3
1359	1359		HARYANA DELHI & CHANDIGARH	1903	14.7	0.5	2.3	0.5	8.5	8.6	151.6	138.2	97.7	4.0
1360	1360		HARYANA DELHI & CHANDIGARH	1904	7.6	0.7	48.0	0.5	29.3	34.3	109.7	162.9	102.3	1.5
1361	1361		HARYANA DELHI & CHANDIGARH	1905	44.8	20.8	14.0	1.3	7.4	20.1	93.6	23.1	92.6	0.0
...
1467	1467		HARYANA DELHI & CHANDIGARH	2011	0.7	26.7	6.9	8.9	28.7	94.4	85.0	127.3	133.1	0.0
1468	1468		HARYANA DELHI & CHANDIGARH	2012	8.2	0.2	0.1	11.8	3.8	5.3	68.1	196.6	90.7	2.4
1469	1469		HARYANA DELHI & CHANDIGARH	2013	21.1	52.2	5.3	3.3	1.4	62.1	96.5	161.9	42.8	10.9
1470	1470		HARYANA DELHI & CHANDIGARH	2014	13.0	17.3	26.8	7.5	20.3	25.9	72.3	34.8	67.3	10.5
1471	1471		HARYANA DELHI & CHANDIGARH	2015	12.4	6.6	71.8	34.8	8.4	43.7	130.3	89.2	32.1	3.7

115 rows × 20 columns



In [143]: `c=b[['YEAR','JAN','FEB','MAR','APR']]`

c

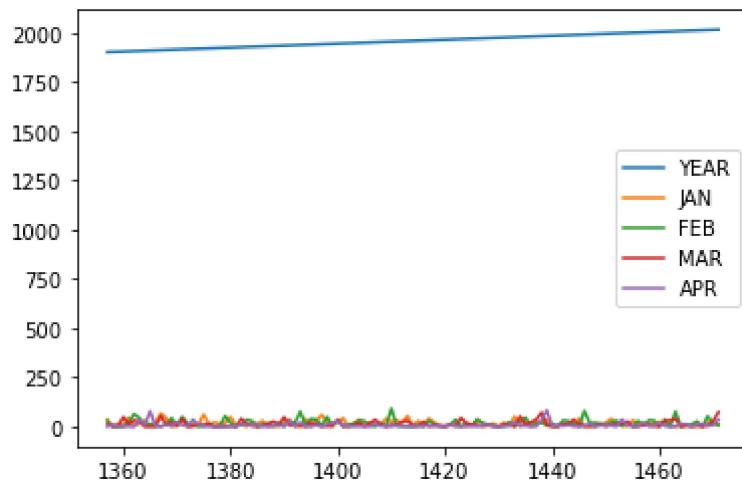
Out[143]:

	YEAR	JAN	FEB	MAR	APR
1357	1901	35.4	28.9	11.1	0.0
1358	1902	0.0	0.7	2.9	10.2
1359	1903	14.7	0.5	2.3	0.5
1360	1904	7.6	0.7	48.0	0.5
1361	1905	44.8	20.8	14.0	1.3
...
1467	2011	0.7	26.7	6.9	8.9
1468	2012	8.2	0.2	0.1	11.8
1469	2013	21.1	52.2	5.3	3.3
1470	2014	13.0	17.3	26.8	7.5
1471	2015	12.4	6.6	71.8	34.8

115 rows × 5 columns

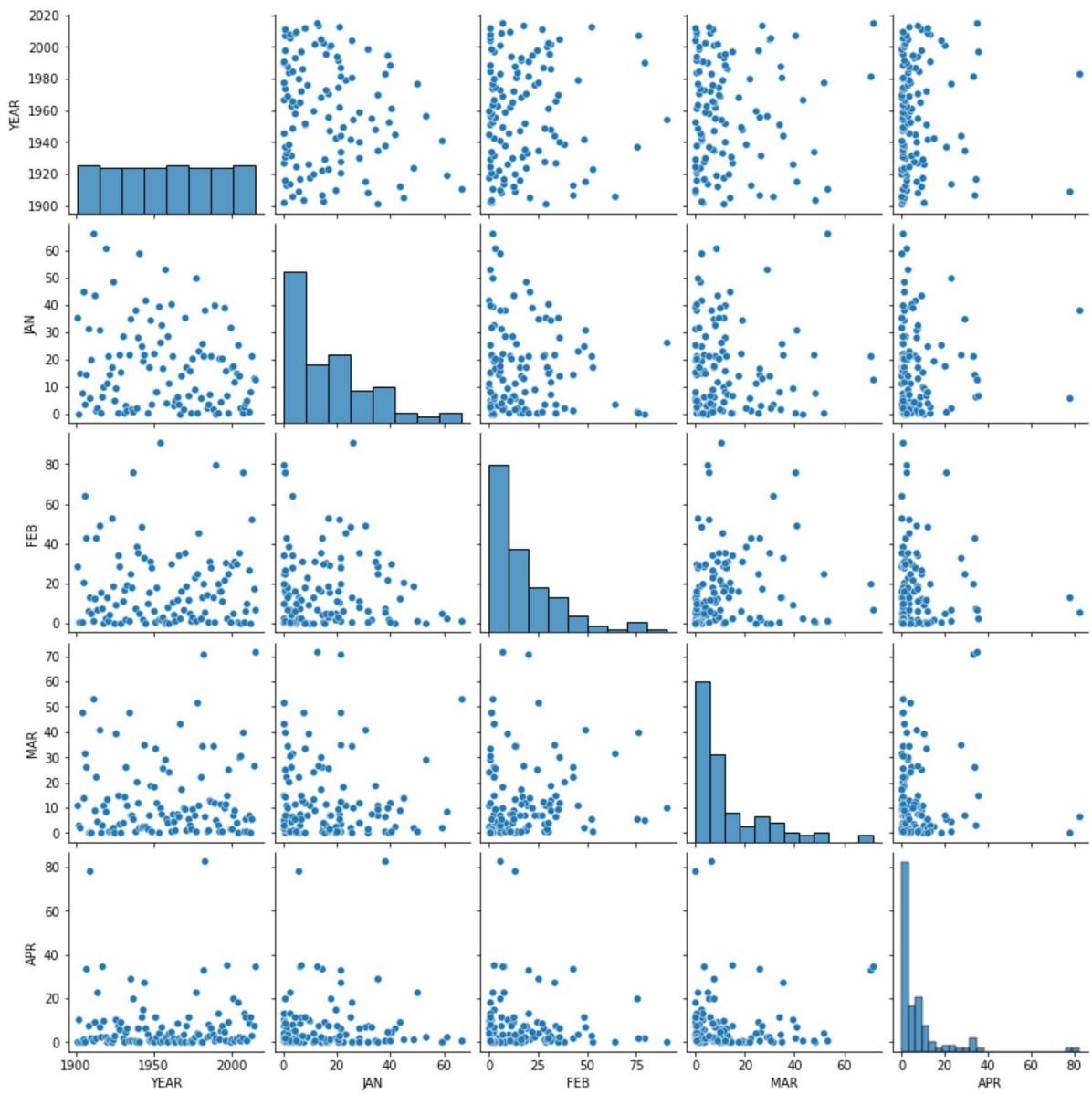
In [144]: `c.plot.line()`

Out[144]: <AxesSubplot:>



```
In [145]: sns.pairplot(c)
```

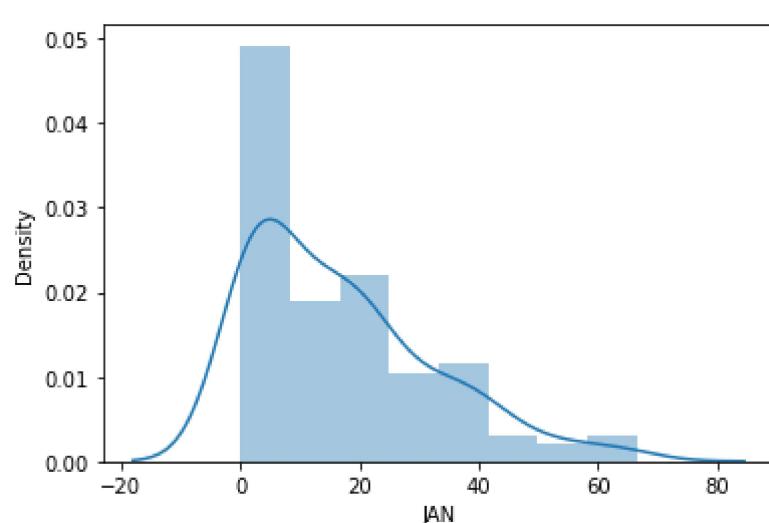
```
Out[145]: <seaborn.axisgrid.PairGrid at 0x24b7ce31670>
```



In [146]: `sns.distplot(c['JAN'])`

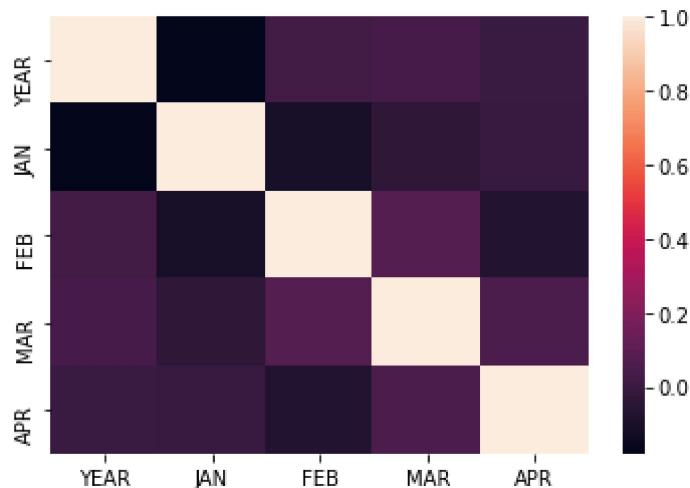
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function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

Out[146]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



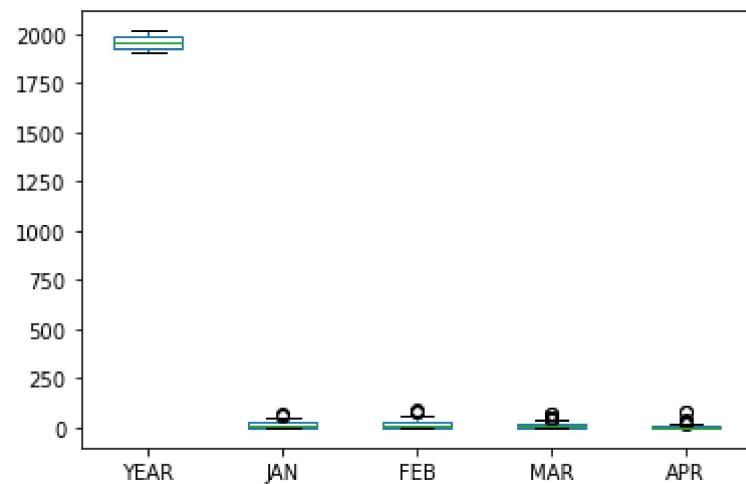
In [147]: `sns.heatmap(c.corr())`

Out[147]: <AxesSubplot:>



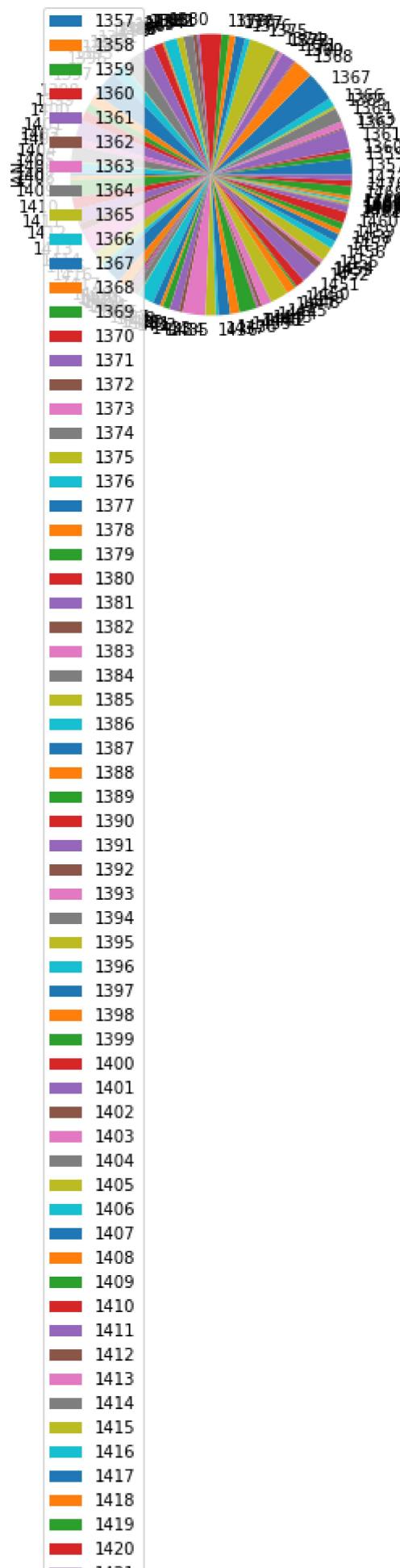
In [148]: `c.plot.box()`

Out[148]: <AxesSubplot:>



```
In [149]: c.plot.pie(y='JAN')
```

```
Out[149]: <AxesSubplot:ylabel='JAN'>
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14. PUNJAB

In [150]:

```
b=a.head(1587)
b=b.tail(115)
b
```

Out[150]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1472	1472	PUNJAB	1901	55.7	50.1	25.2	2.1	25.2	10.4	178.2	145.0	24.4	3.7
1473	1473	PUNJAB	1902	0.0	0.8	9.9	10.9	29.6	49.9	125.6	94.9	67.2	9.0
1474	1474	PUNJAB	1903	29.5	0.5	45.0	1.3	9.2	5.2	212.2	119.1	132.5	6.9
1475	1475	PUNJAB	1904	24.2	1.7	87.8	1.2	13.8	22.0	59.9	124.0	73.8	7.4
1476	1476	PUNJAB	1905	53.0	40.3	24.3	0.5	2.2	19.2	122.6	50.3	111.1	1.2
...
1582	1582	PUNJAB	2011	3.5	35.6	8.2	17.8	18.9	162.9	120.9	193.5	140.2	0.0
1583	1583	PUNJAB	2012	62.6	3.2	1.9	31.1	1.6	11.9	120.2	135.1	112.3	2.2
1584	1584	PUNJAB	2013	9.3	50.1	11.6	3.4	3.6	120.3	117.9	217.1	24.4	16.2
1585	1585	PUNJAB	2014	21.8	20.1	30.3	24.5	20.8	20.6	76.3	41.9	105.8	6.0
1586	1586	PUNJAB	2015	17.7	31.3	68.5	29.8	16.7	48.3	130.2	88.6	69.2	9.0

115 rows × 20 columns



In [151]:

```
c=b[['YEAR','JAN','FEB','MAR','APR']]
c
```

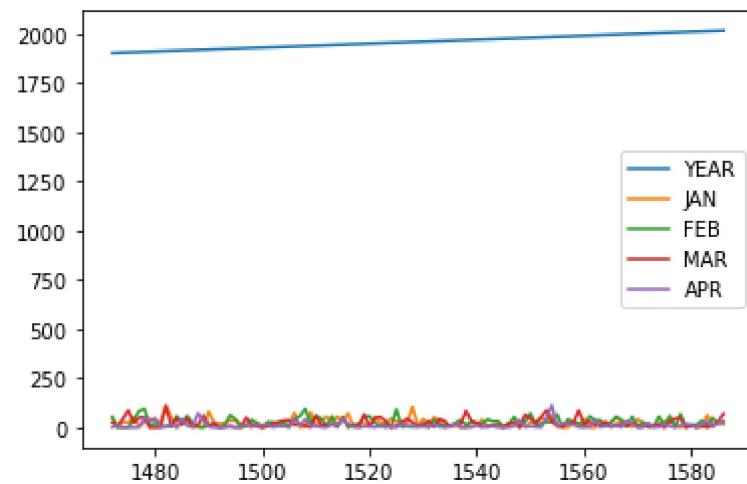
Out[151]:

	YEAR	JAN	FEB	MAR	APR
1472	1901	55.7	50.1	25.2	2.1
1473	1902	0.0	0.8	9.9	10.9
1474	1903	29.5	0.5	45.0	1.3
1475	1904	24.2	1.7	87.8	1.2
1476	1905	53.0	40.3	24.3	0.5
...
1582	2011	3.5	35.6	8.2	17.8
1583	2012	62.6	3.2	1.9	31.1
1584	2013	9.3	50.1	11.6	3.4
1585	2014	21.8	20.1	30.3	24.5
1586	2015	17.7	31.3	68.5	29.8

115 rows × 5 columns

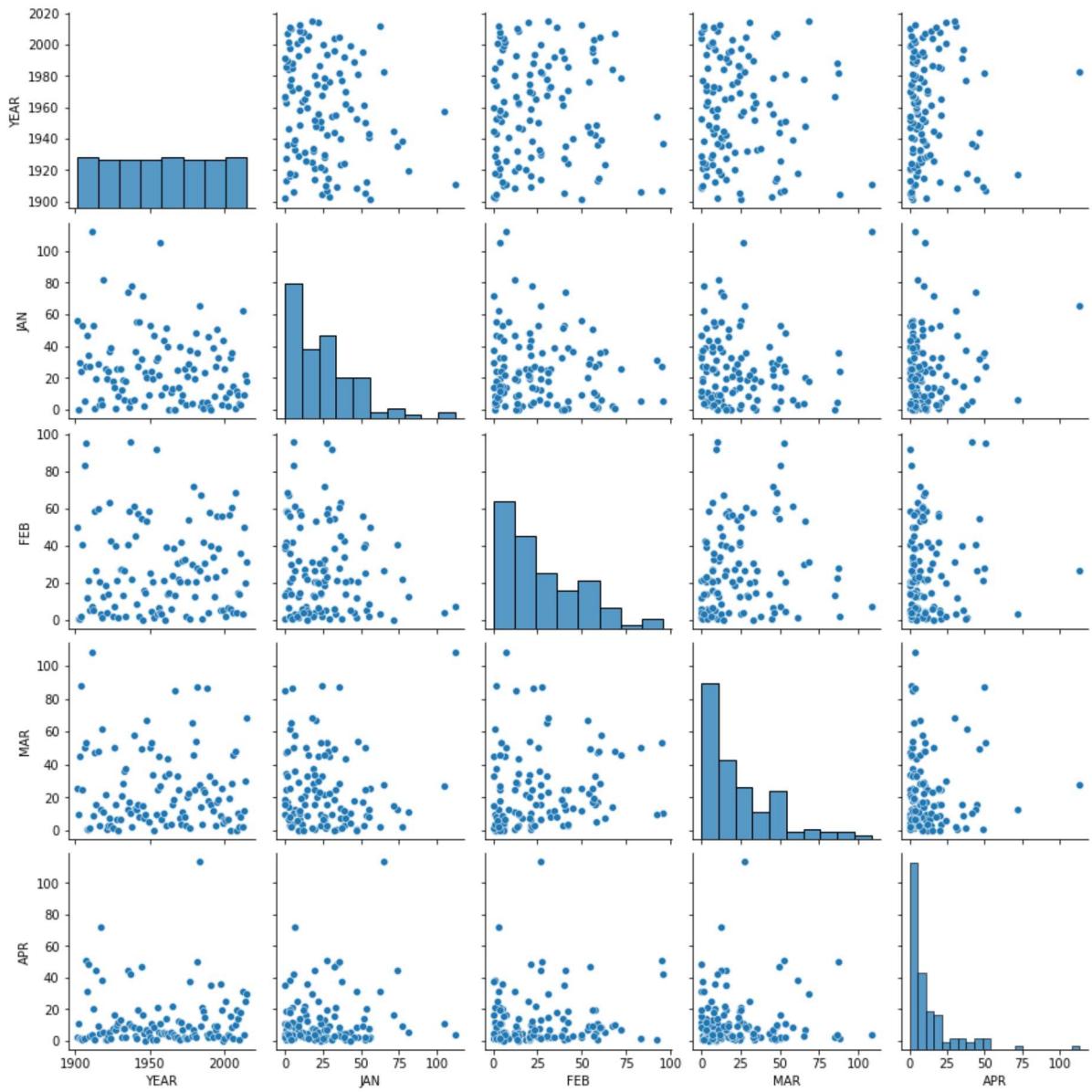
In [152]: `c.plot.line()`

Out[152]: <AxesSubplot:>



```
In [153]: sns.pairplot(c)
```

```
Out[153]: <seaborn.axisgrid.PairGrid at 0x24b7f95a850>
```

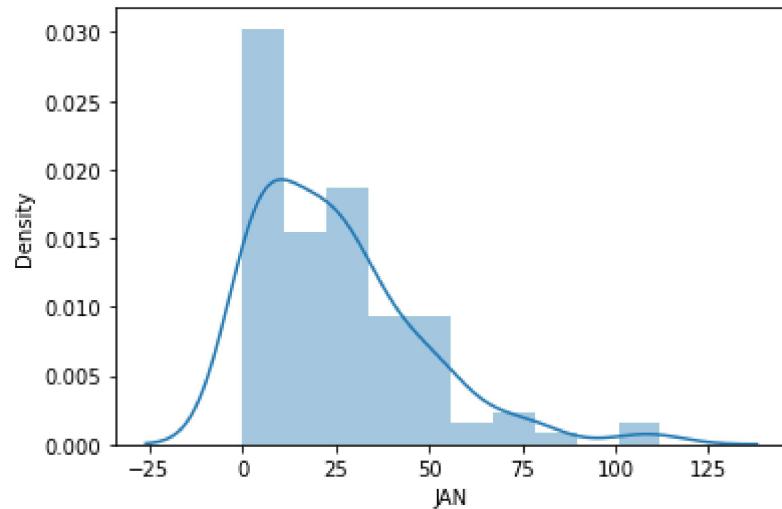


In [154]: `sns.distplot(c['JAN'])`

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).

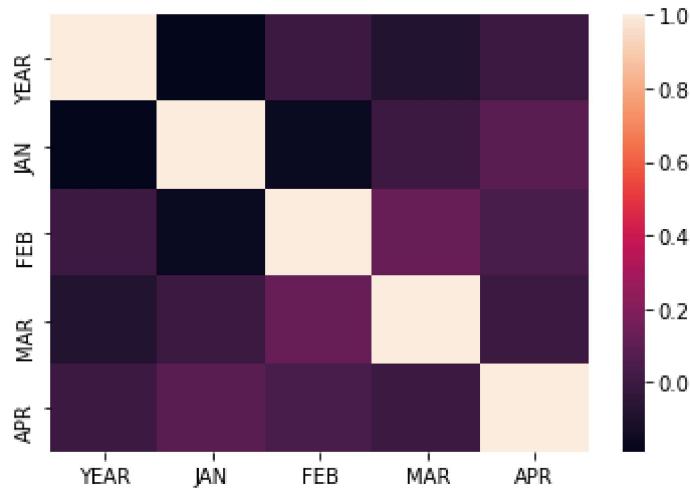
```
warnings.warn(msg, FutureWarning)
```

Out[154]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



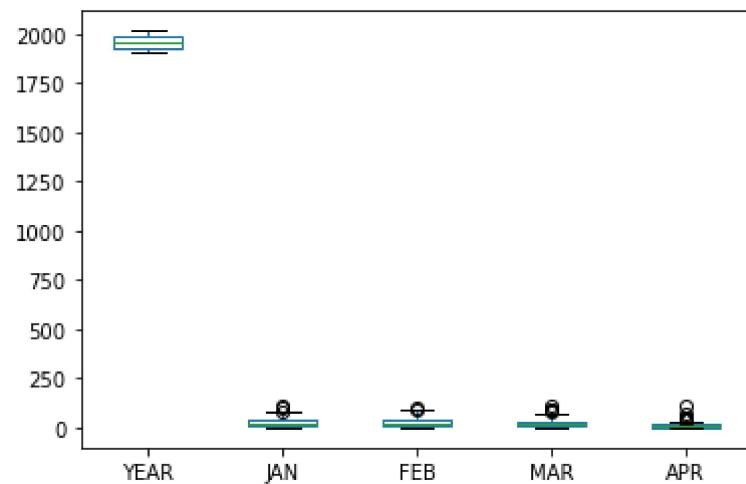
In [155]: `sns.heatmap(c.corr())`

Out[155]: <AxesSubplot:>



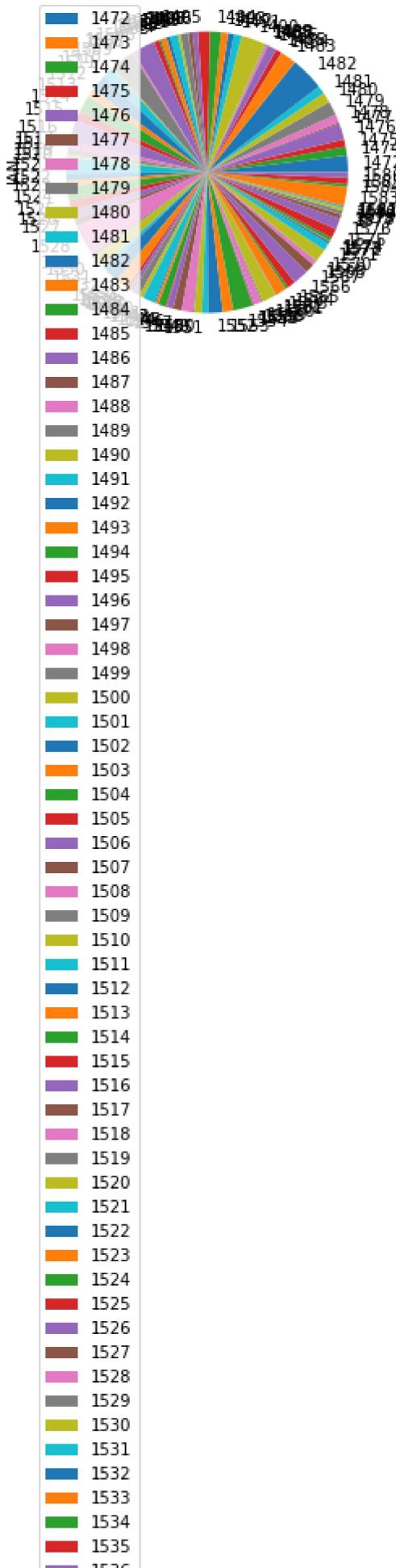
In [156]: `c.plot.box()`

Out[156]: <AxesSubplot:>



```
In [157]: c.plot.pie(y='JAN')
```

```
Out[157]: <AxesSubplot:ylabel='JAN'>
```

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15. HIMACHAL PRADESH

In [158]: `b=a.head(1701)`
`b`

Out[158]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	C
0	0	ANDAMAN & NICOBAR ISLANDS	1901	49.2	87.1	29.2	2.3	528.8	517.5	365.1	481.1	332.6	38
1	1	ANDAMAN & NICOBAR ISLANDS	1902	0.0	159.8	12.2	0.0	446.1	537.1	228.9	753.7	666.2	19
2	2	ANDAMAN & NICOBAR ISLANDS	1903	12.7	144.0	0.0	1.0	235.1	479.9	728.4	326.7	339.0	18
3	3	ANDAMAN & NICOBAR ISLANDS	1904	9.4	14.7	0.0	202.4	304.5	495.1	502.0	160.1	820.4	22
4	4	ANDAMAN & NICOBAR ISLANDS	1905	1.3	0.0	3.3	26.9	279.5	628.7	368.7	330.5	297.0	26
...
1696	1696	HIMACHAL PRADESH	2010	25.5	96.6	45.1	60.3	81.4	108.5	291.8	274.1	176.7	1
1697	1697	HIMACHAL PRADESH	2011	43.9	97.4	49.7	62.4	45.1	118.3	177.7	380.2	120.3	1
1698	1698	HIMACHAL PRADESH	2012	92.3	51.3	28.4	55.9	9.4	31.1	241.5	280.6	133.1	1
1699	1699	HIMACHAL PRADESH	2013	79.9	182.6	76.6	28.9	32.6	233.6	208.8	240.0	65.8	1
1700	1700	HIMACHAL PRADESH	2014	69.6	124.9	125.2	60.6	68.9	51.7	203.6	146.7	84.6	1

1701 rows × 20 columns



In [162]: `b=b.tail(114)`
`b`

Out[162]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1587	1587	HIMACHAL PRADESH	1901	137.8	174.5	75.0	19.2	89.6	32.7	280.5	459.7	53.0	3	10	10
1588	1588	HIMACHAL PRADESH	1902	6.5	27.0	104.4	76.2	61.3	78.8	258.6	199.3	113.4	23	10	10
1589	1589	HIMACHAL PRADESH	1903	76.5	21.4	213.7	25.4	54.7	32.2	157.7	256.5	107.9	5	10	10
1590	1590	HIMACHAL PRADESH	1904	79.3	22.4	131.7	48.0	90.3	33.1	241.1	184.3	56.4	51	10	10
1591	1591	HIMACHAL PRADESH	1905	81.3	76.8	160.2	39.3	50.4	43.6	191.1	132.8	119.1	0	10	10
...
1696	1696	HIMACHAL PRADESH	2010	25.5	96.6	45.1	60.3	81.4	108.5	291.8	274.1	176.7	30	10	10
1697	1697	HIMACHAL PRADESH	2011	43.9	97.4	49.7	62.4	45.1	118.3	177.7	380.2	120.3	6	10	10
1698	1698	HIMACHAL PRADESH	2012	92.3	51.3	28.4	55.9	9.4	31.1	241.5	280.6	133.1	3	10	10
1699	1699	HIMACHAL PRADESH	2013	79.9	182.6	76.6	28.9	32.6	233.6	208.8	240.0	65.8	21	10	10
1700	1700	HIMACHAL PRADESH	2014	69.6	124.9	125.2	60.6	68.9	51.7	203.6	146.7	84.6	19	10	10

114 rows × 20 columns



In [163]: `c=b[['YEAR','JAN','FEB','MAR','APR']]`

`c`

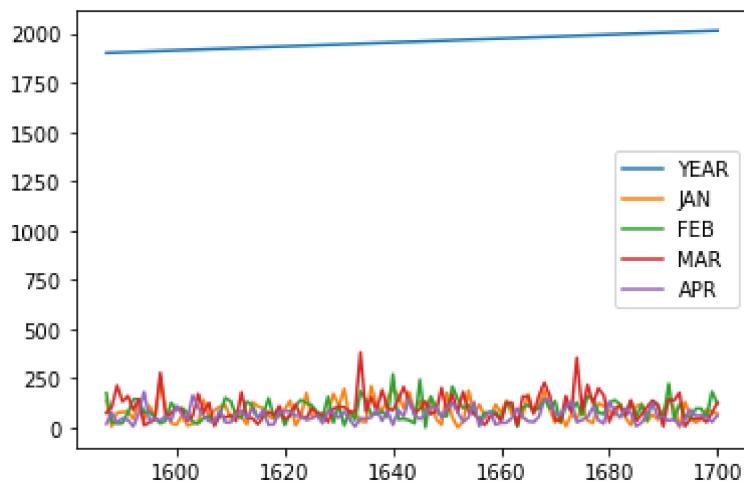
Out[163]:

	YEAR	JAN	FEB	MAR	APR
1587	1901	137.8	174.5	75.0	19.2
1588	1902	6.5	27.0	104.4	76.2
1589	1903	76.5	21.4	213.7	25.4
1590	1904	79.3	22.4	131.7	48.0
1591	1905	81.3	76.8	160.2	39.3
...
1696	2010	25.5	96.6	45.1	60.3
1697	2011	43.9	97.4	49.7	62.4
1698	2012	92.3	51.3	28.4	55.9
1699	2013	79.9	182.6	76.6	28.9
1700	2014	69.6	124.9	125.2	60.6

114 rows × 5 columns

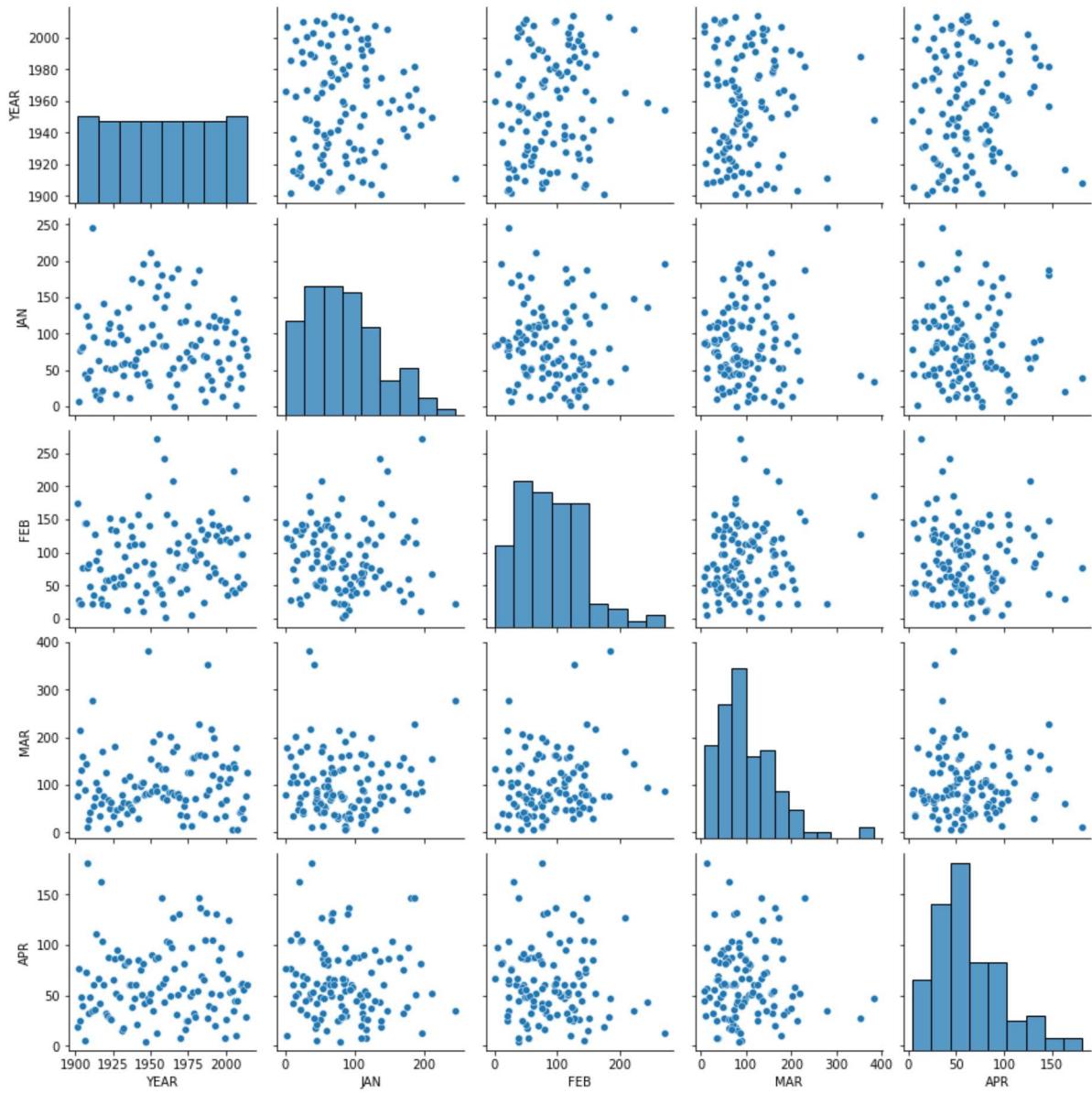
In [164]: `c.plot.line()`

Out[164]: <AxesSubplot:>



```
In [165]: sns.pairplot(c)
```

```
Out[165]: <seaborn.axisgrid.PairGrid at 0x24b010ae0a0>
```

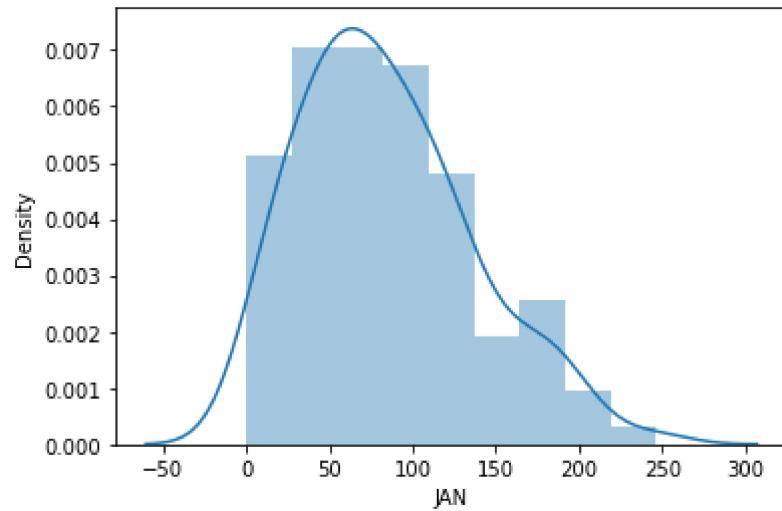


In [166]: `sns.distplot(c['JAN'])`

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).

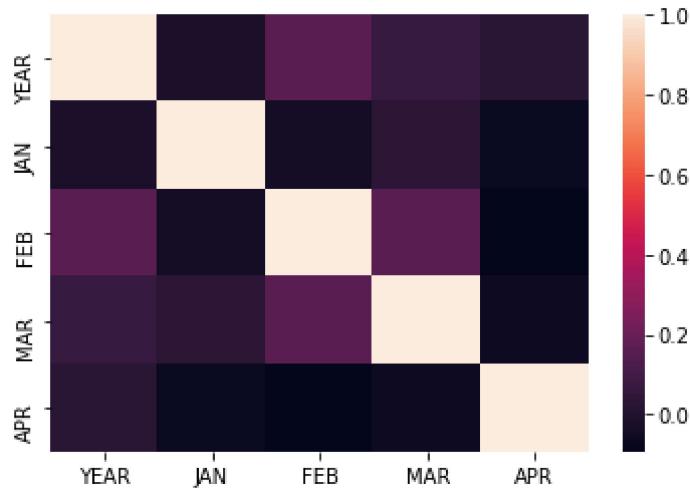
```
warnings.warn(msg, FutureWarning)
```

Out[166]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



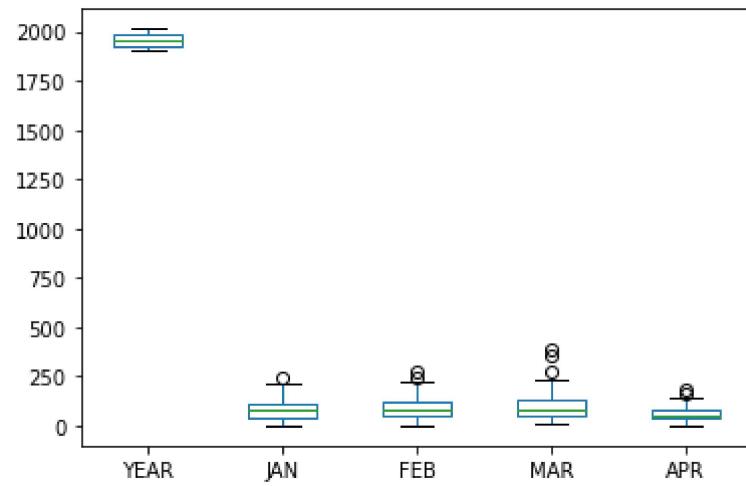
In [167]: `sns.heatmap(c.corr())`

Out[167]: <AxesSubplot:>



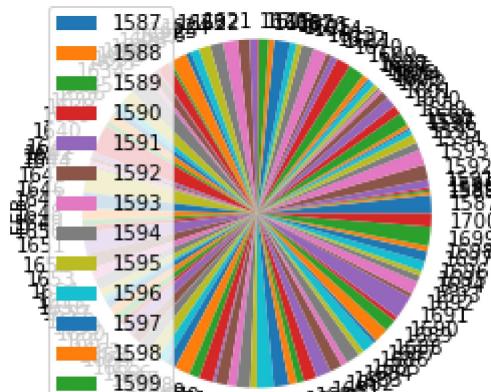
In [168]: `c.plot.box()`

Out[168]: <AxesSubplot:>



```
In [169]: c.plot.pie(y='FEB')
```

```
Out[169]: <AxesSubplot:ylabel='FEB'>
```

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16. JAMMU & KASHMIR

In [170]: `b=a.head(1817)`
`b`

Out[170]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
0	0	ANDAMAN & NICOBAR ISLANDS	1901	49.2	87.1	29.2	2.3	528.8	517.5	365.1	481.1	332.6
1	1	ANDAMAN & NICOBAR ISLANDS	1902	0.0	159.8	12.2	0.0	446.1	537.1	228.9	753.7	666.2
2	2	ANDAMAN & NICOBAR ISLANDS	1903	12.7	144.0	0.0	1.0	235.1	479.9	728.4	326.7	339.0
3	3	ANDAMAN & NICOBAR ISLANDS	1904	9.4	14.7	0.0	202.4	304.5	495.1	502.0	160.1	820.4
4	4	ANDAMAN & NICOBAR ISLANDS	1905	1.3	0.0	3.3	26.9	279.5	628.7	368.7	330.5	297.0
...
1812	1812	JAMMU & KASHMIR	2011	43.4	211.6	97.8	89.0	32.4	72.5	81.6	131.2	72.0
1813	1813	JAMMU & KASHMIR	2012	150.9	95.8	45.2	86.6	48.9	32.6	118.8	264.9	106.7
1814	1814	JAMMU & KASHMIR	2013	52.2	136.4	41.9	47.4	47.4	80.5	125.1	219.1	41.2
1815	1815	JAMMU & KASHMIR	2014	75.8	64.0	153.1	76.1	52.7	25.3	100.5	134.6	362.8
1816	1816	JAMMU & KASHMIR	2015	27.9	187.2	341.4	173.3	64.6	121.4	233.2	129.2	130.2

1817 rows × 20 columns



In [171]: `b=b.tail(114)`
`b`

Out[171]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	O
1703	1703	JAMMU & KASHMIR	1902	6.5	9.7	91.3	100.5	70.7	113.3	108.4	136.9	62.2	1
1704	1704	JAMMU & KASHMIR	1903	96.2	21.5	238.6	58.7	57.3	18.9	332.5	218.6	176.9	1
1705	1705	JAMMU & KASHMIR	1904	110.6	17.3	145.2	64.5	67.8	25.9	182.3	132.2	62.3	5
1706	1706	JAMMU & KASHMIR	1905	146.7	76.3	161.4	71.7	65.2	43.3	145.2	111.5	239.7	
1707	1707	JAMMU & KASHMIR	1906	81.0	160.4	167.2	49.3	39.4	52.2	107.0	257.4	237.0	
...
1812	1812	JAMMU & KASHMIR	2011	43.4	211.6	97.8	89.0	32.4	72.5	81.6	131.2	72.0	1
1813	1813	JAMMU & KASHMIR	2012	150.9	95.8	45.2	86.6	48.9	32.6	118.8	264.9	106.7	1
1814	1814	JAMMU & KASHMIR	2013	52.2	136.4	41.9	47.4	47.4	80.5	125.1	219.1	41.2	3
1815	1815	JAMMU & KASHMIR	2014	75.8	64.0	153.1	76.1	52.7	25.3	100.5	134.6	362.8	3
1816	1816	JAMMU & KASHMIR	2015	27.9	187.2	341.4	173.3	64.6	121.4	233.2	129.2	130.2	8

114 rows × 20 columns



```
In [172]: c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]  
c
```

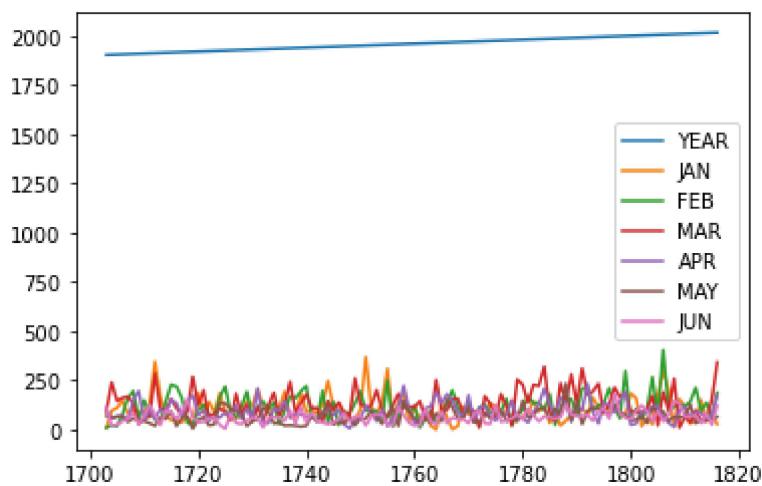
Out[172]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
1703	1902	6.5	9.7	91.3	100.5	70.7	113.3
1704	1903	96.2	21.5	238.6	58.7	57.3	18.9
1705	1904	110.6	17.3	145.2	64.5	67.8	25.9
1706	1905	146.7	76.3	161.4	71.7	65.2	43.3
1707	1906	81.0	160.4	167.2	49.3	39.4	52.2
...
1812	2011	43.4	211.6	97.8	89.0	32.4	72.5
1813	2012	150.9	95.8	45.2	86.6	48.9	32.6
1814	2013	52.2	136.4	41.9	47.4	47.4	80.5
1815	2014	75.8	64.0	153.1	76.1	52.7	25.3
1816	2015	27.9	187.2	341.4	173.3	64.6	121.4

114 rows × 7 columns

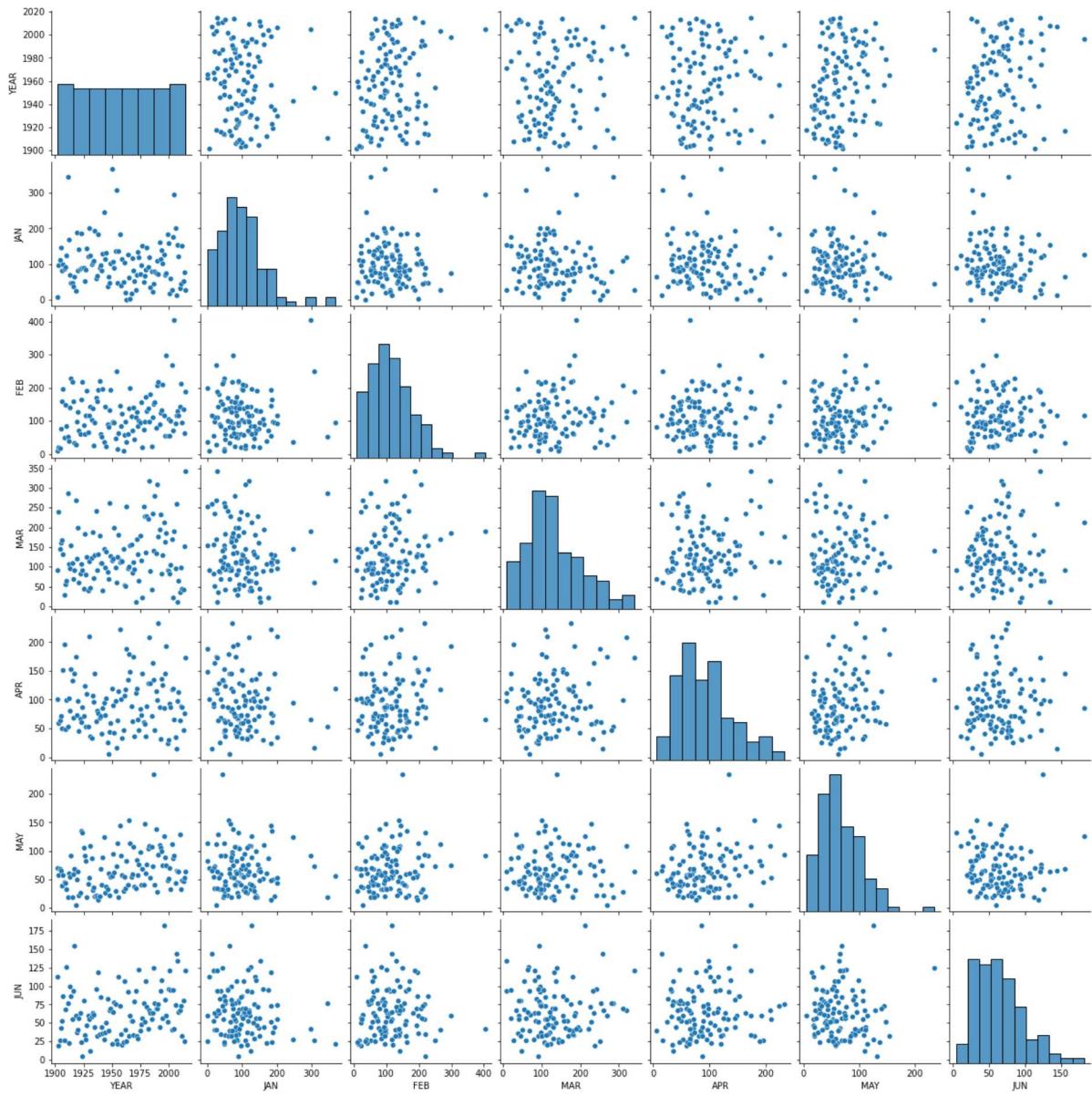
```
In [173]: c.plot.line()
```

Out[173]: <AxesSubplot:>



```
In [174]: sns.pairplot(c)
```

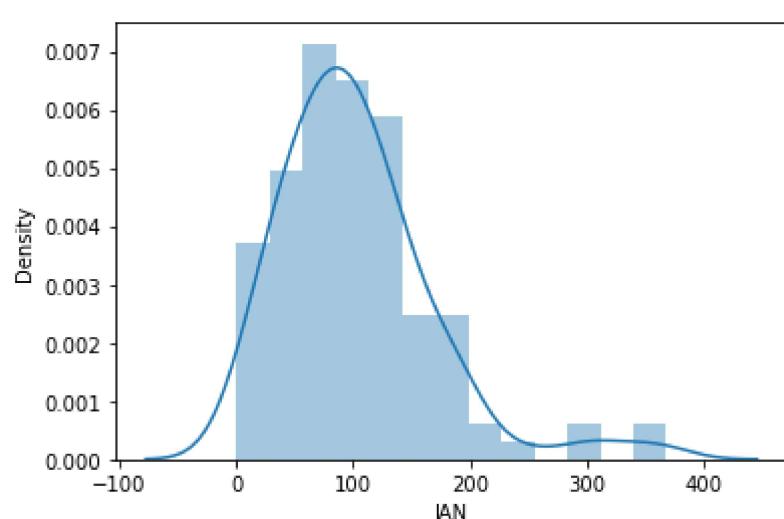
```
Out[174]: <seaborn.axisgrid.PairGrid at 0x24b03708e50>
```



In [175]: `sns.distplot(c['JAN'])`

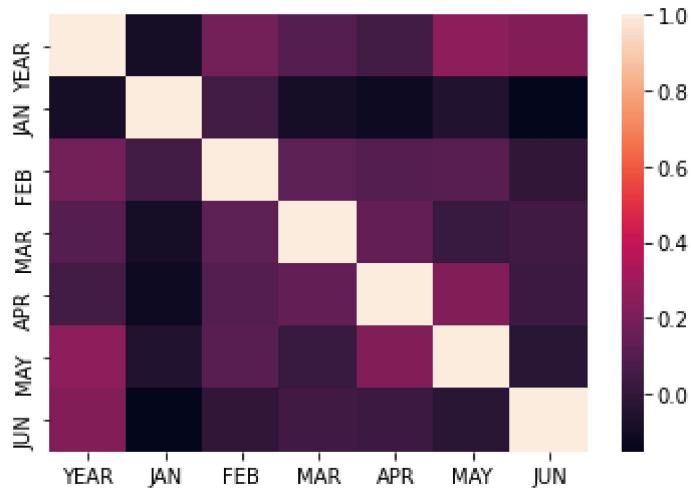
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function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

Out[175]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



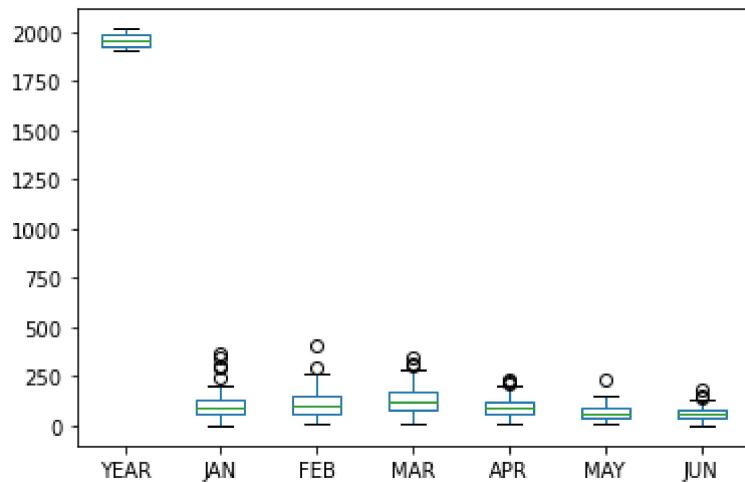
In [176]: `sns.heatmap(c.corr())`

Out[176]: <AxesSubplot:>



In [177]: `c.plot.box()`

Out[177]: <AxesSubplot:>



17. WEST RAJASTHAN

In [178]:

```
b=a.head(1932)
b=b.tail(115)
b
```

Out[178]:

		index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1817	1817		WEST RAJASTHAN	1901	6.7	0.0	1.1	0.0	6.1	3.0	79.0	59.2	1.0	2.1
1818	1818		WEST RAJASTHAN	1902	0.0	0.0	0.0	0.5	4.0	49.1	27.0	71.3	41.8	1.8
1819	1819		WEST RAJASTHAN	1903	1.7	1.3	5.5	0.0	4.2	2.7	154.8	87.1	49.3	0.1
1820	1820		WEST RAJASTHAN	1904	3.8	2.9	16.3	0.7	11.4	14.6	39.8	45.6	21.4	1.4
1821	1821		WEST RAJASTHAN	1905	6.3	4.8	0.7	1.3	0.3	4.9	30.1	0.6	64.5	0.0
...
1927	1927		WEST RAJASTHAN	2011	0.0	11.8	1.5	1.5	7.8	24.4	88.5	166.8	116.3	0.1
1928	1928		WEST RAJASTHAN	2012	0.5	0.0	0.0	9.5	10.4	5.3	40.4	166.7	92.0	1.9
1929	1929		WEST RAJASTHAN	2013	8.6	21.8	4.2	3.1	1.7	37.6	104.5	138.2	58.7	10.1
1930	1930		WEST RAJASTHAN	2014	0.8	2.2	4.7	8.4	23.0	13.8	94.3	69.6	84.9	0.5
1931	1931		WEST RAJASTHAN	2015	1.4	0.9	30.3	25.2	15.5	53.2	234.6	60.5	35.7	1.1

115 rows × 20 columns



In [179]: `c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]
c`

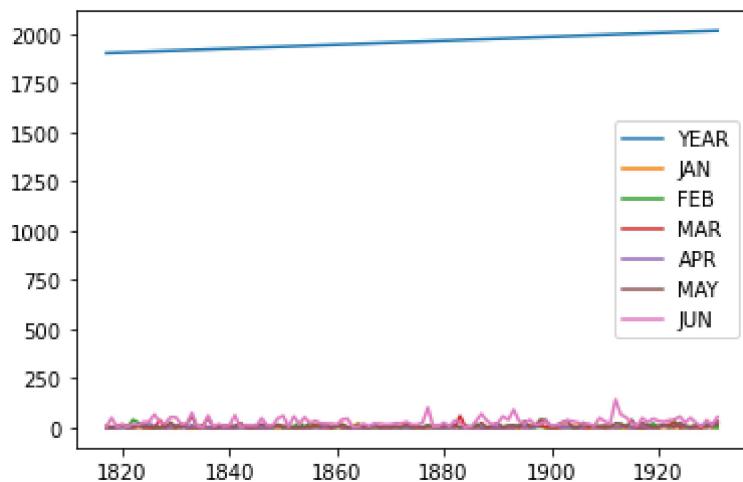
Out[179]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
1817	1901	6.7	0.0	1.1	0.0	6.1	3.0
1818	1902	0.0	0.0	0.0	0.5	4.0	49.1
1819	1903	1.7	1.3	5.5	0.0	4.2	2.7
1820	1904	3.8	2.9	16.3	0.7	11.4	14.6
1821	1905	6.3	4.8	0.7	1.3	0.3	4.9
...
1927	2011	0.0	11.8	1.5	1.5	7.8	24.4
1928	2012	0.5	0.0	0.0	9.5	10.4	5.3
1929	2013	8.6	21.8	4.2	3.1	1.7	37.6
1930	2014	0.8	2.2	4.7	8.4	23.0	13.8
1931	2015	1.4	0.9	30.3	25.2	15.5	53.2

115 rows × 7 columns

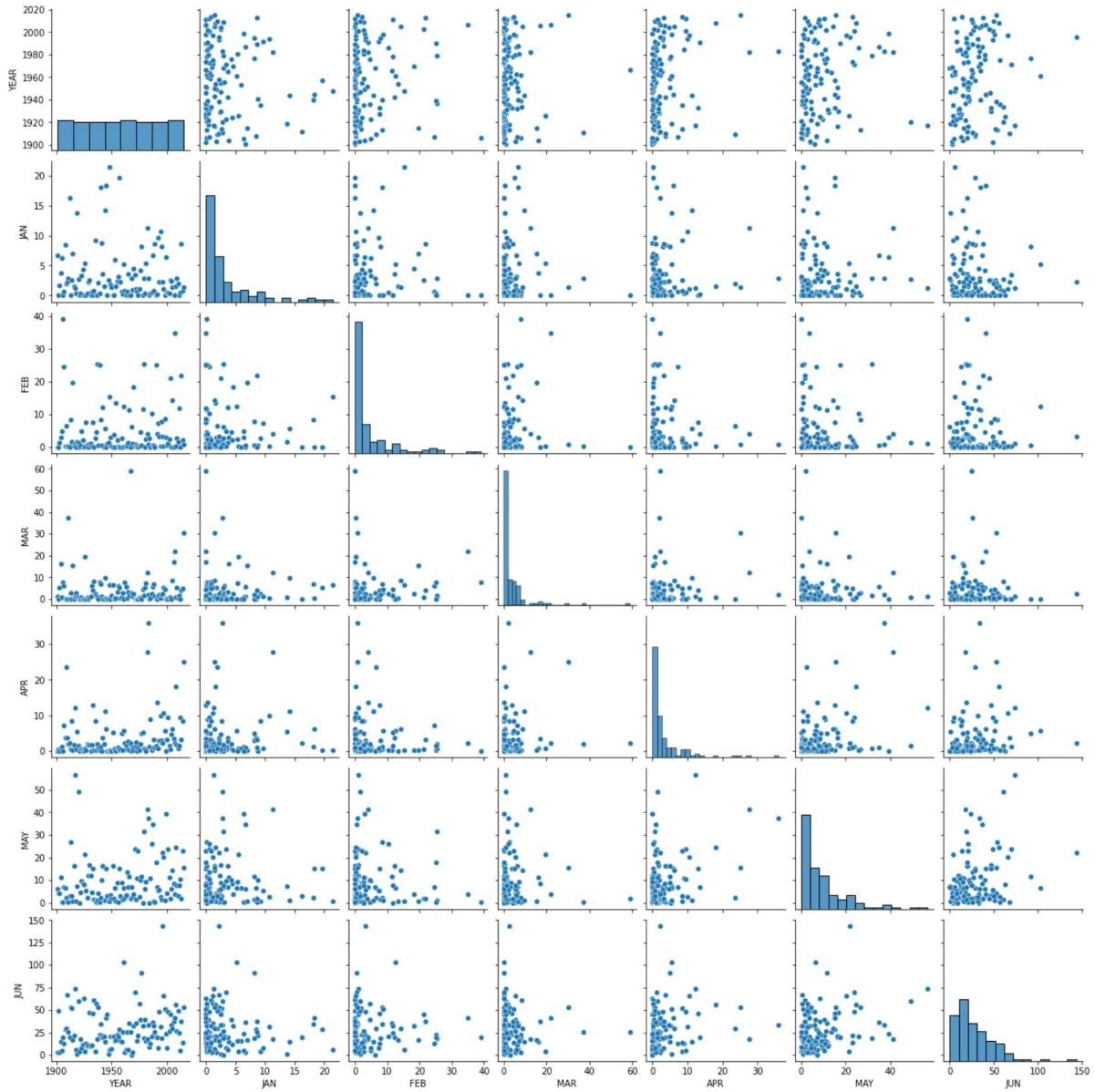
In [180]: `c.plot.line()`

Out[180]: <AxesSubplot:>



```
In [181]: sns.pairplot(c)
```

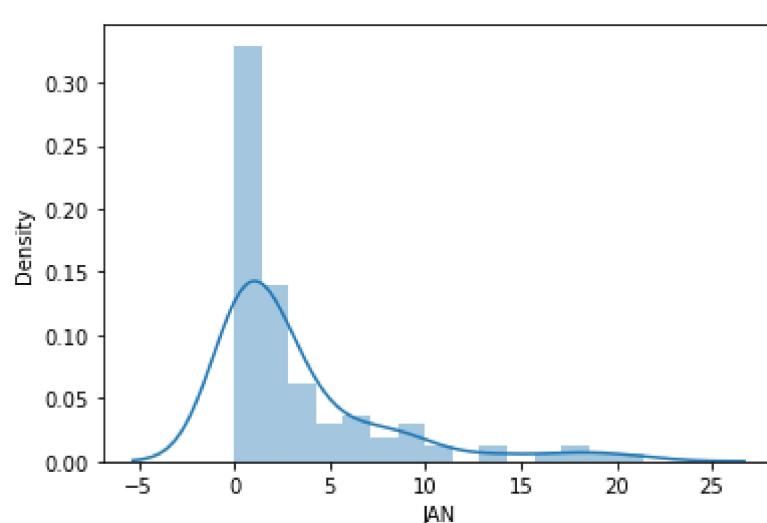
```
Out[181]: <seaborn.axisgrid.PairGrid at 0x24b066d2940>
```



In [182]: `sns.distplot(c['JAN'])`

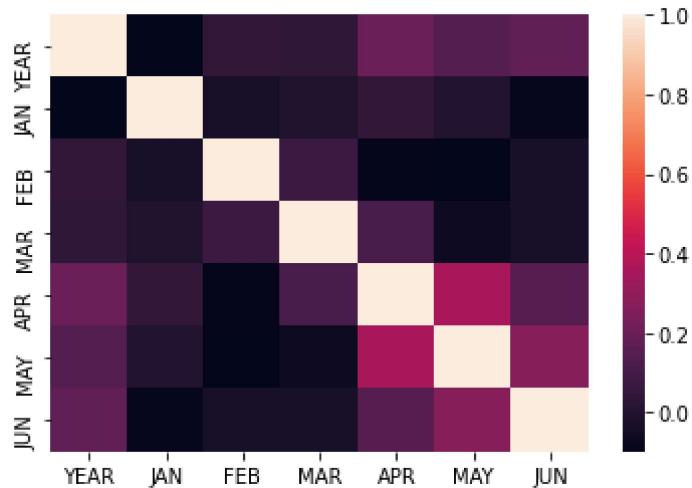
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function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

Out[182]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



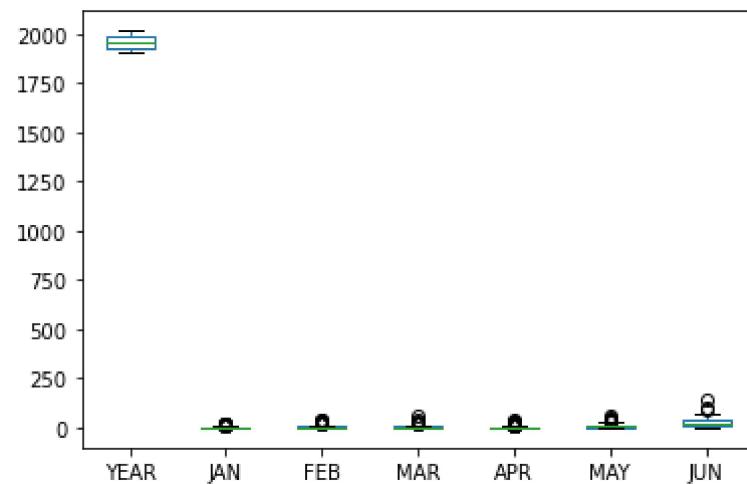
In [183]: `sns.heatmap(c.corr())`

Out[183]: <AxesSubplot:>



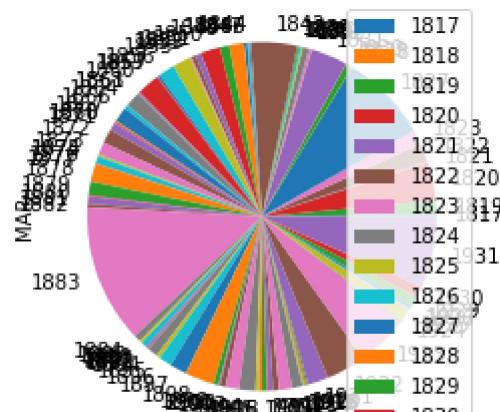
In [184]: `c.plot.box()`

Out[184]: <AxesSubplot:>

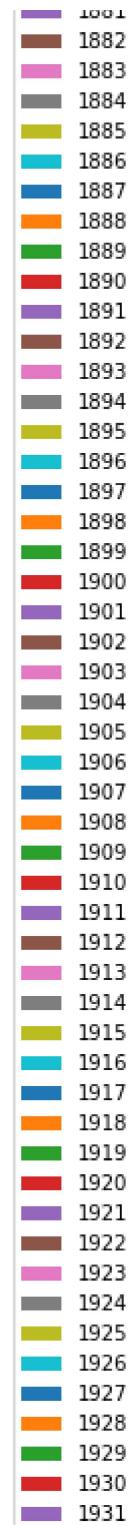


```
In [185]: c.plot.pie(y='MAR')
```

```
Out[185]: <AxesSubplot:ylabel='MAR'>
```

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18. EAST RAJASTHAN

```
In [186]: b=a.head(2047)
b=b.tail(115)
b
```

Out[186]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1932	1932	EAST RAJASTHAN	1901	21.6	8.9	2.9	0.7	5.0	15.0	164.8	175.6	7.5	9.8
1933	1933	EAST RAJASTHAN	1902	4.1	0.7	0.0	1.8	9.9	34.6	247.6	116.7	145.6	14.4
1934	1934	EAST RAJASTHAN	1903	1.9	0.7	1.3	0.1	12.9	15.6	238.2	229.1	168.5	17.8
1935	1935	EAST RAJASTHAN	1904	4.3	5.5	21.7	0.2	27.5	49.9	289.7	223.5	50.2	1.5
1936	1936	EAST RAJASTHAN	1905	4.1	8.8	3.2	1.6	2.0	14.4	130.5	30.9	83.8	0.0
...
2042	2042	EAST RAJASTHAN	2011	0.0	11.2	0.2	0.5	5.1	140.9	193.6	284.1	166.4	0.0
2043	2043	EAST RAJASTHAN	2012	1.9	0.0	0.0	3.6	9.5	11.2	170.5	365.0	131.3	0.5
2044	2044	EAST RAJASTHAN	2013	1.4	21.7	0.4	3.2	1.0	90.6	319.0	278.5	88.0	30.6
2045	2045	EAST RAJASTHAN	2014	28.4	10.0	6.4	7.3	8.4	23.5	197.1	261.0	136.9	3.2
2046	2046	EAST RAJASTHAN	2015	12.1	0.1	55.9	15.9	3.5	96.4	297.6	142.8	20.1	5.0

115 rows × 20 columns



In [187]:

```
c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]  
c
```

Out[187]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
1932	1901	21.6	8.9	2.9	0.7	5.0	15.0
1933	1902	4.1	0.7	0.0	1.8	9.9	34.6
1934	1903	1.9	0.7	1.3	0.1	12.9	15.6
1935	1904	4.3	5.5	21.7	0.2	27.5	49.9
1936	1905	4.1	8.8	3.2	1.6	2.0	14.4
...
2042	2011	0.0	11.2	0.2	0.5	5.1	140.9
2043	2012	1.9	0.0	0.0	3.6	9.5	11.2
2044	2013	1.4	21.7	0.4	3.2	1.0	90.6
2045	2014	28.4	10.0	6.4	7.3	8.4	23.5
2046	2015	12.1	0.1	55.9	15.9	3.5	96.4

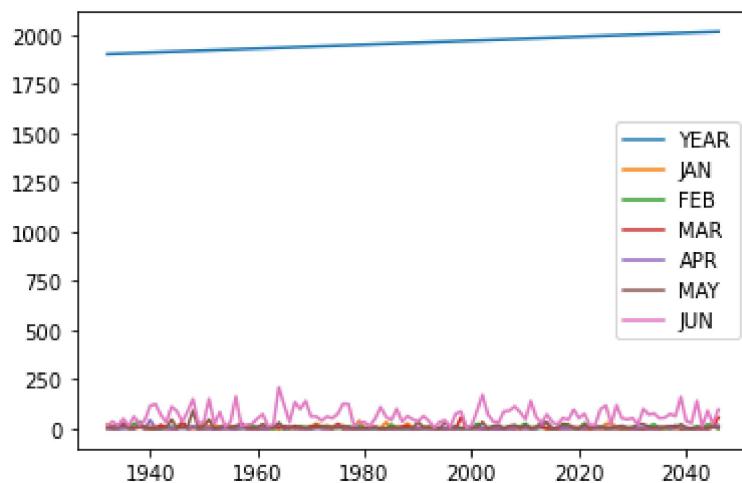
115 rows × 7 columns

In [188]:

```
c.plot.line()
```

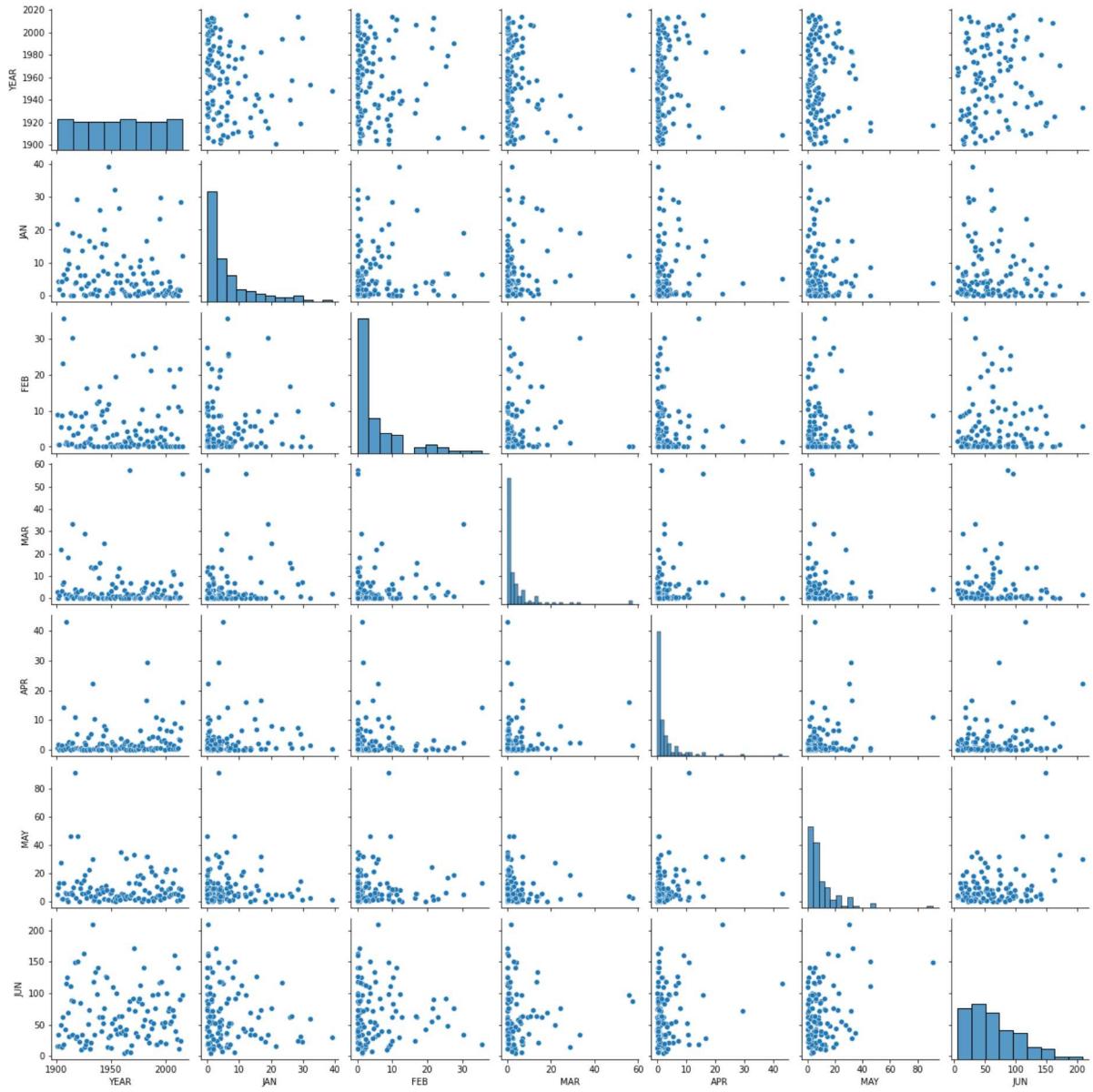
Out[188]:

```
<AxesSubplot:>
```



```
In [189]: sns.pairplot(c)
```

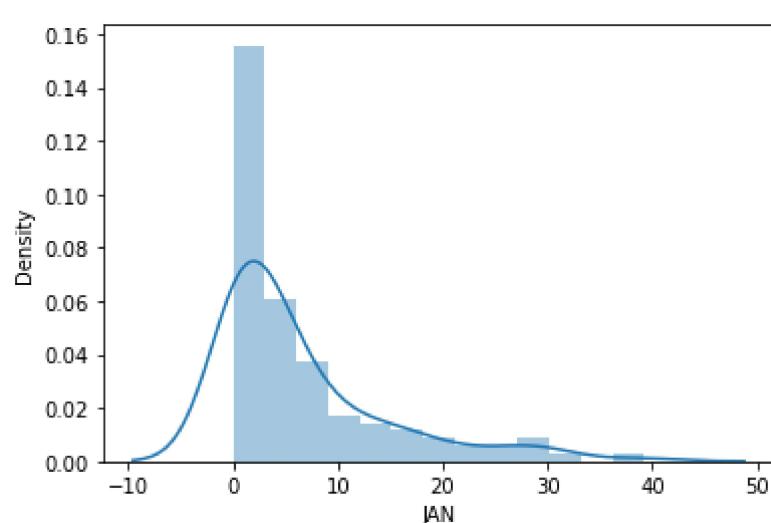
```
Out[189]: <seaborn.axisgrid.PairGrid at 0x24b09b5dbb0>
```



In [190]: `sns.distplot(c['JAN'])`

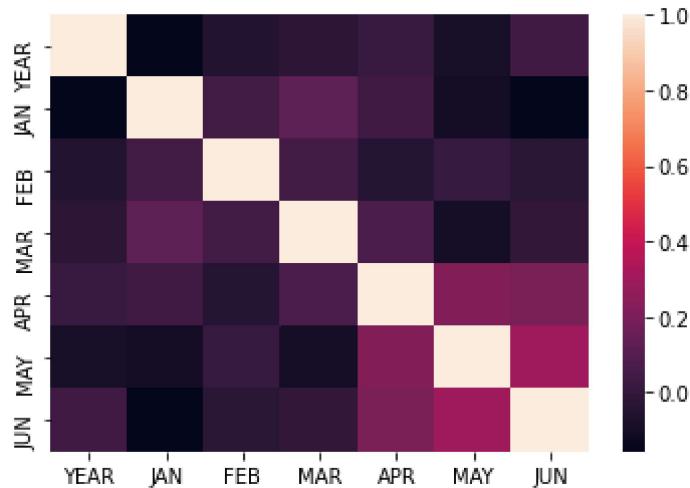
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function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

Out[190]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



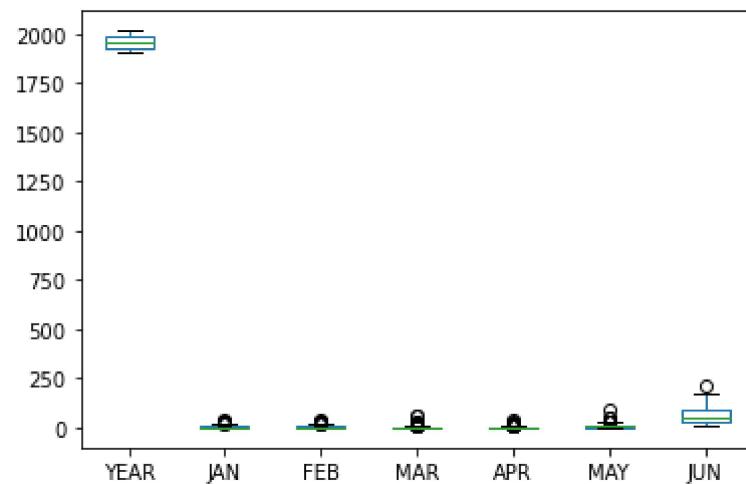
In [191]: `sns.heatmap(c.corr())`

Out[191]: <AxesSubplot:>



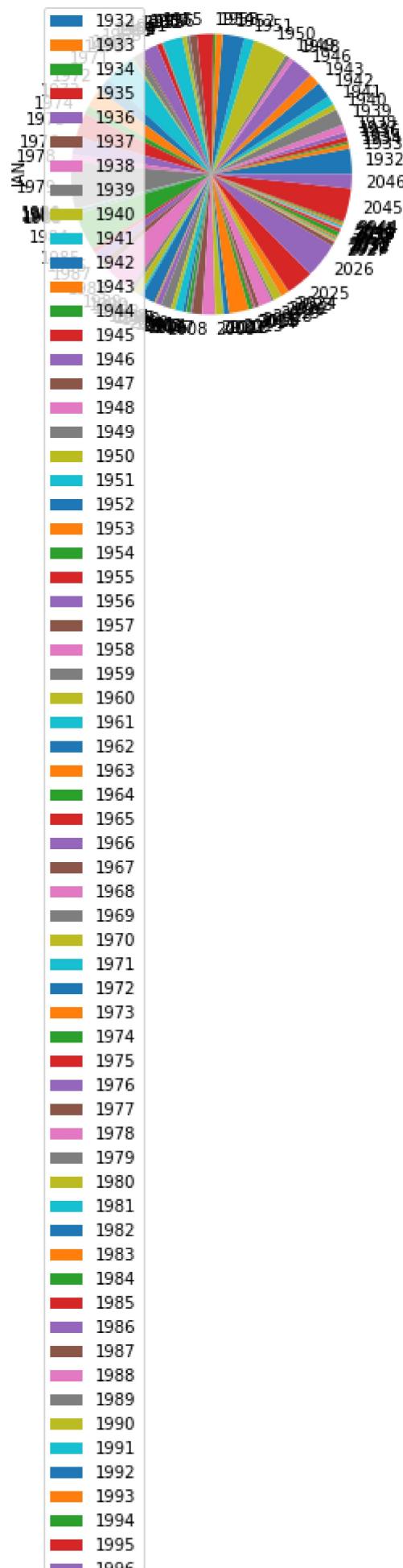
In [192]: `c.plot.box()`

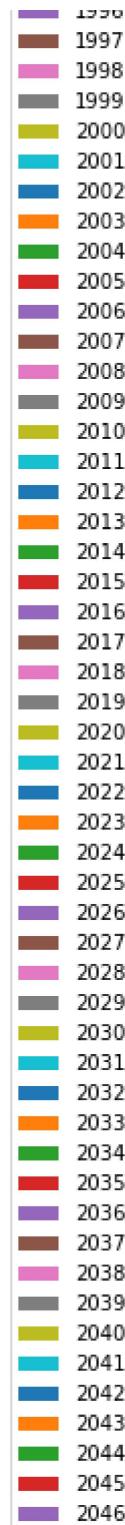
Out[192]: <AxesSubplot:>



```
In [193]: c.plot.pie(y='JAN')
```

```
Out[193]: <AxesSubplot:ylabel='JAN'>
```



In []: