

```
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')
```

7.ORISSA

```
In [87]: b=a.head(782)
b=b.tail(115)
b
```

Out[87]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
667	667	ORISSA	1901	39.5	65.1	16.1	51.6	79.0	78.2	288.4	307.7	185.3	76.1
668	668	ORISSA	1902	3.4	0.2	14.2	101.1	56.7	108.3	437.4	349.1	202.7	33.1
669	669	ORISSA	1903	19.7	18.9	10.5	34.6	73.3	154.3	410.4	295.2	265.6	228.1
670	670	ORISSA	1904	0.2	12.2	20.6	10.1	100.2	342.9	336.7	350.4	227.8	111.1
671	671	ORISSA	1905	24.3	17.2	66.3	56.9	107.5	92.0	330.1	281.4	344.1	36.1
...
777	777	ORISSA	2011	3.7	16.2	4.9	58.2	75.6	210.1	199.6	358.6	398.7	20.1
778	778	ORISSA	2012	50.8	3.6	0.9	34.8	21.3	169.6	324.3	417.0	242.4	66.1
779	779	ORISSA	2013	3.3	7.8	2.1	53.6	57.7	272.6	380.0	254.9	208.1	391.1
780	780	ORISSA	2014	0.0	17.6	25.1	11.7	111.9	92.2	496.2	386.3	281.1	111.1
781	781	ORISSA	2015	15.1	3.3	10.5	67.6	32.6	238.6	294.8	264.0	237.0	24.1

115 rows × 20 columns

◀ ▶

```
In [88]: c=b[['YEAR','JAN','FEB','MAR','APR']]
c
```

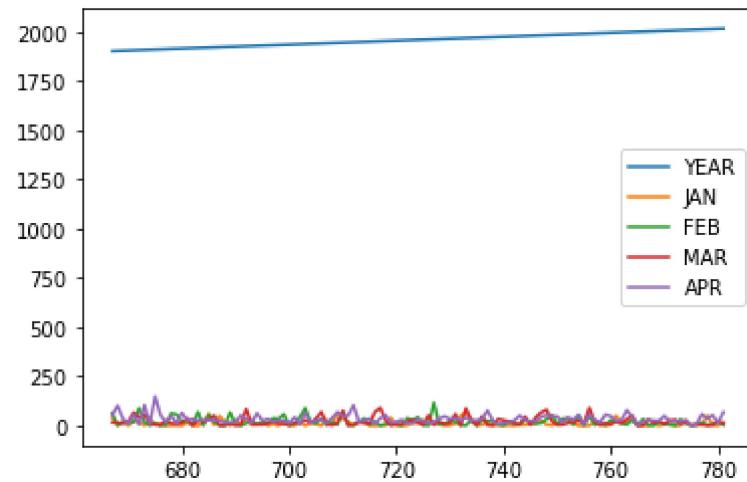
Out[88]:

	YEAR	JAN	FEB	MAR	APR
667	1901	39.5	65.1	16.1	51.6
668	1902	3.4	0.2	14.2	101.1
669	1903	19.7	18.9	10.5	34.6
670	1904	0.2	12.2	20.6	10.1
671	1905	24.3	17.2	66.3	56.9
...
777	2011	3.7	16.2	4.9	58.2
778	2012	50.8	3.6	0.9	34.8
779	2013	3.3	7.8	2.1	53.6
780	2014	0.0	17.6	25.1	11.7
781	2015	15.1	3.3	10.5	67.6

115 rows × 5 columns

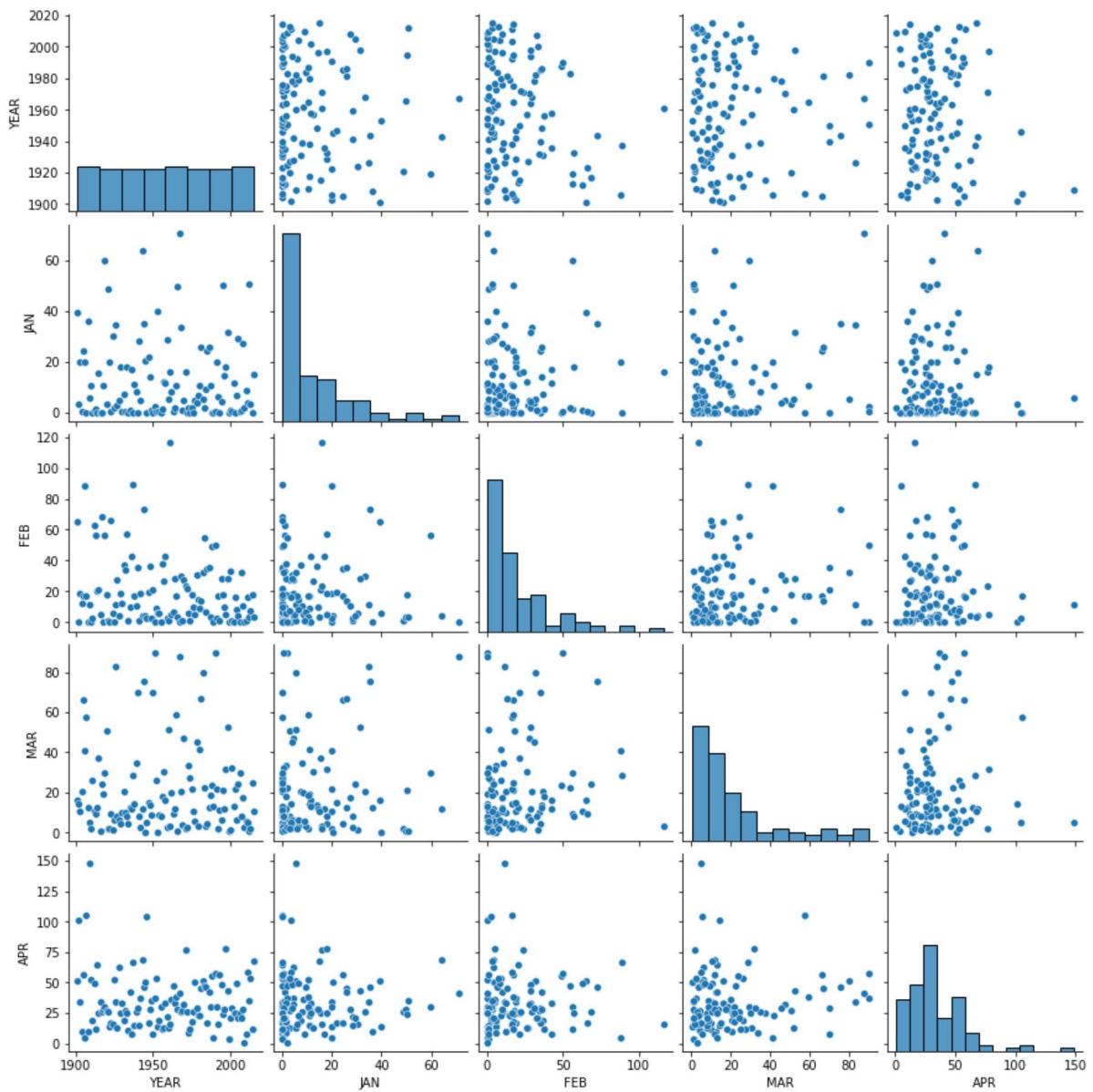
In [89]: `c.plot.line()`

Out[89]: <AxesSubplot:>



```
In [90]: sns.pairplot(c)
```

```
Out[90]: <seaborn.axisgrid.PairGrid at 0x24b68869580>
```

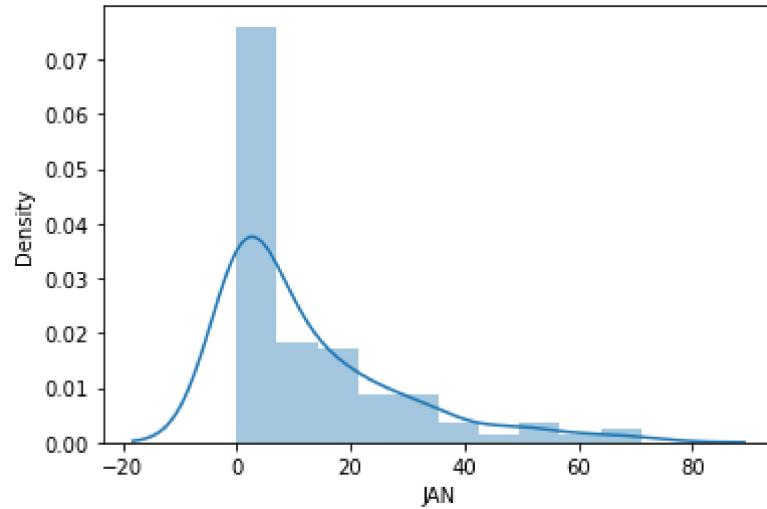


In [91]: `sns.distplot(c['JAN'])`

```
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).
```

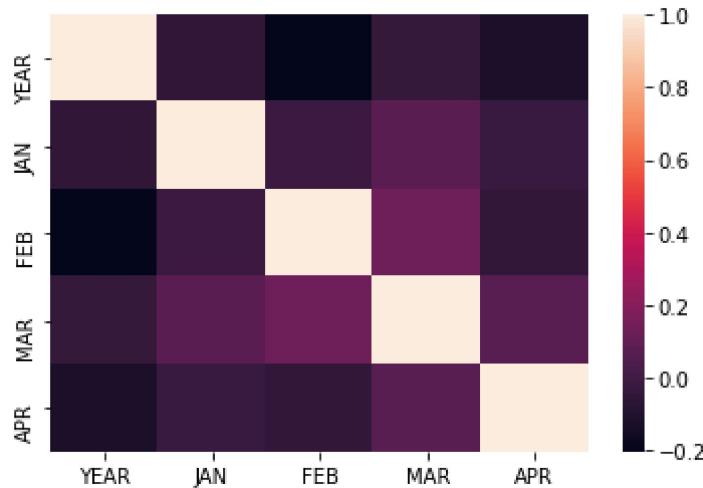
```
warnings.warn(msg, FutureWarning)
```

Out[91]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



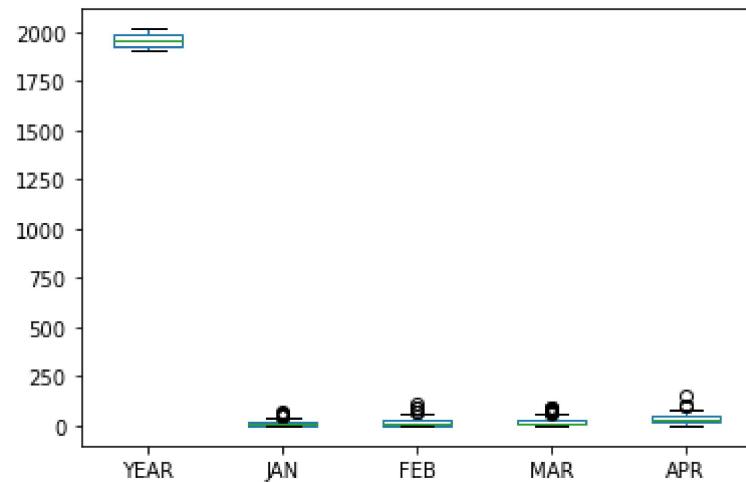
In [92]: `sns.heatmap(c.corr())`

Out[92]: <AxesSubplot:>



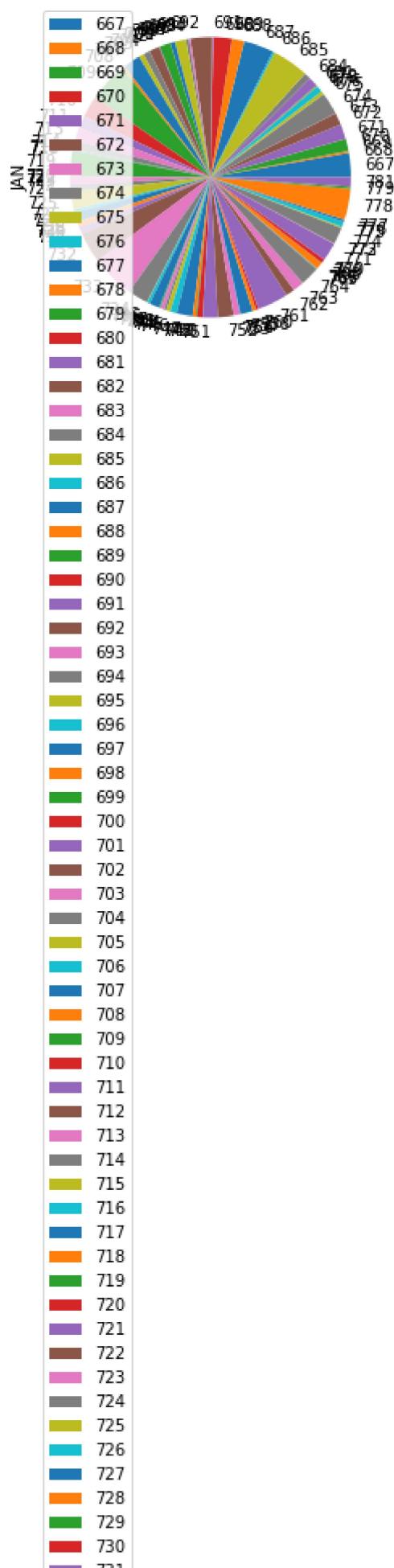
In [93]: `c.plot.box()`

Out[93]: <AxesSubplot:>



```
In [94]: c.plot.pie(y='JAN')
```

```
Out[94]: <AxesSubplot:ylabel='JAN'>
```

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8. JHARKHAND

In [95]:

```
b=a.head(896)
b=b.tail(115)
b
```

Out[95]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
781	781	ORISSA	2015	15.1	3.3	10.5	67.6	32.6	238.6	294.8	264.0	237.0	24.7
782	782	JHARKHAND	1901	92.7	66.6	11.1	18.4	33.5	70.9	269.4	415.1	248.0	37.3
783	783	JHARKHAND	1902	4.2	7.7	13.2	28.5	59.8	89.9	456.1	204.9	306.6	17.6
784	784	JHARKHAND	1903	25.1	19.5	10.7	32.8	56.4	142.1	206.1	280.8	190.2	210.1
785	785	JHARKHAND	1904	2.5	17.0	38.1	9.1	116.1	308.9	494.1	336.1	125.6	30.6
...
891	891	JHARKHAND	2010	0.2	2.3	0.9	6.3	29.2	92.6	170.2	155.1	160.5	55.1
892	892	JHARKHAND	2011	3.3	2.5	6.4	25.4	55.0	349.0	181.8	403.2	324.6	23.3
893	893	JHARKHAND	2012	34.6	10.3	1.5	9.6	6.6	121.1	287.2	282.4	217.6	37.8
894	894	JHARKHAND	2013	1.1	17.9	1.6	22.3	85.0	181.5	211.1	278.1	173.8	281.1
895	895	JHARKHAND	2014	9.9	47.5	22.9	1.9	98.2	139.7	321.3	290.9	178.2	44.9

115 rows × 20 columns



In [97]:

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

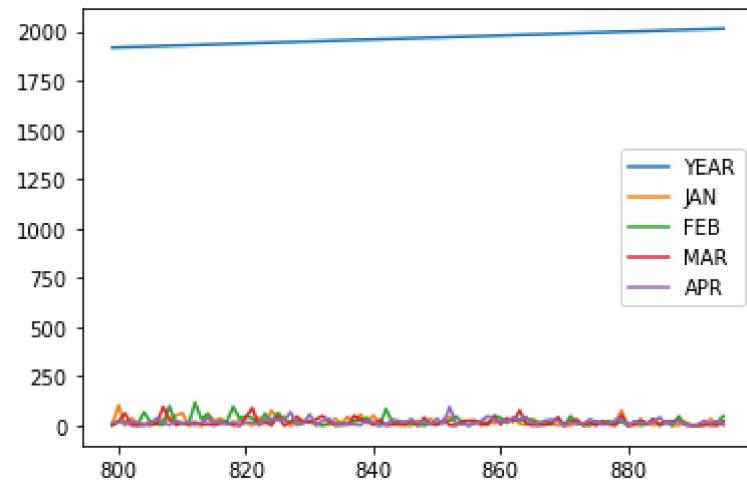
Out[97]:

	YEAR	JAN	FEB	MAR	APR
799	1918	4.2	2.4	3.6	15.5
800	1919	102.9	16.2	23.5	19.0
801	1920	0.0	19.5	62.6	8.8
802	1921	37.1	11.0	1.4	20.8
803	1922	8.2	6.2	0.0	14.5
...
891	2010	0.2	2.3	0.9	6.3
892	2011	3.3	2.5	6.4	25.4
893	2012	34.6	10.3	1.5	9.6
894	2013	1.1	17.9	1.6	22.3
895	2014	9.9	47.5	22.9	1.9

97 rows × 5 columns

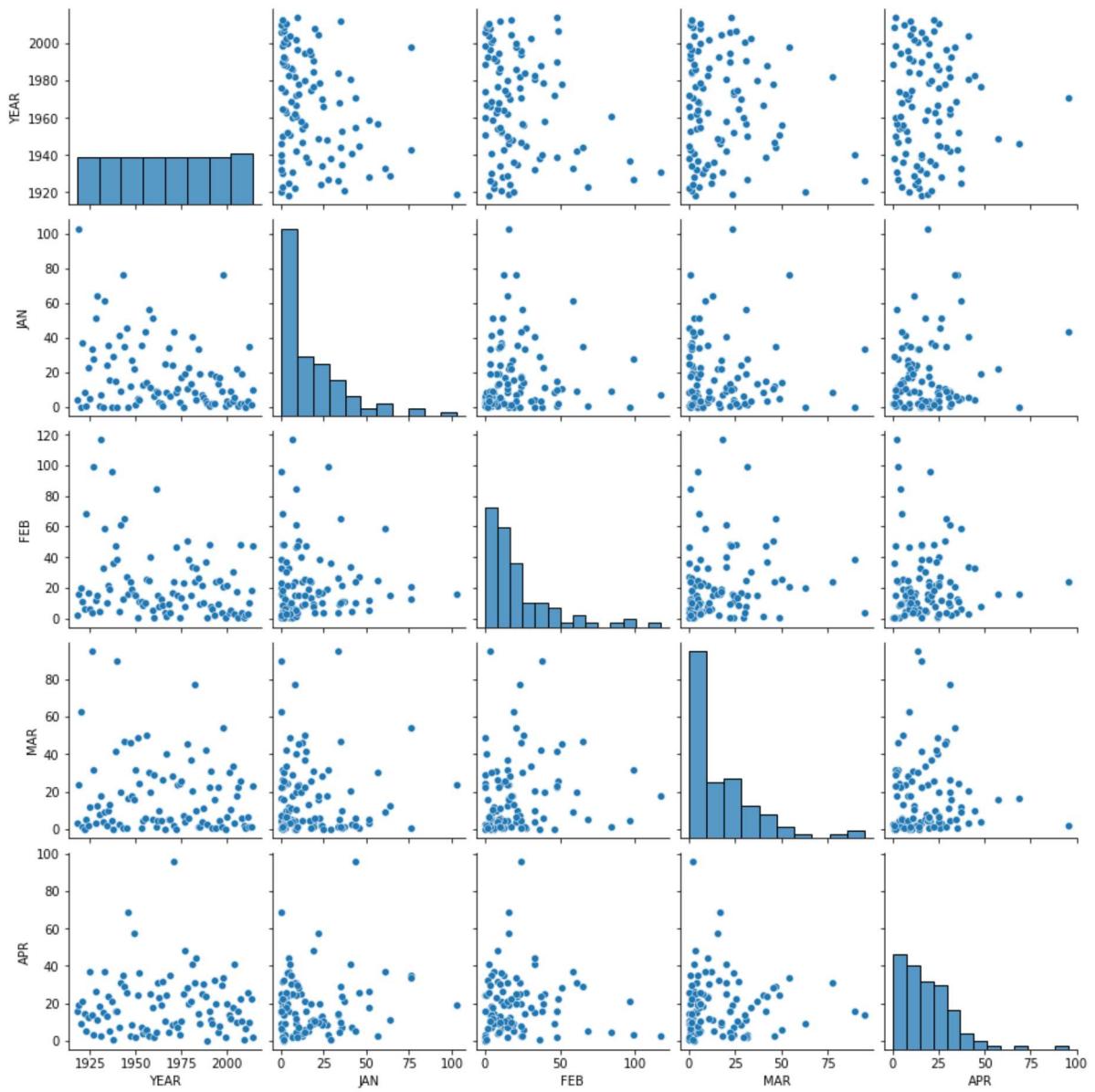
In [98]: `c.plot.line()`

Out[98]: <AxesSubplot:>



```
In [99]: sns.pairplot(c)
```

```
Out[99]: <seaborn.axisgrid.PairGrid at 0x24b6fd8efd0>
```

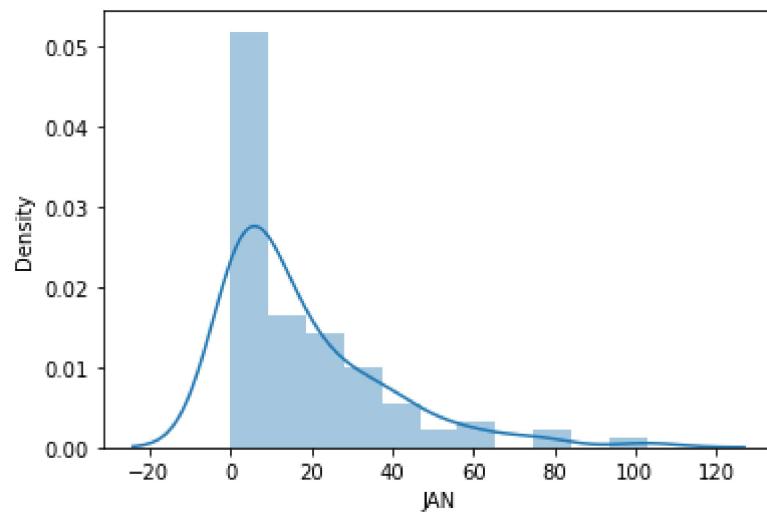


In [100]: `sns.distplot(c['JAN'])`

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).

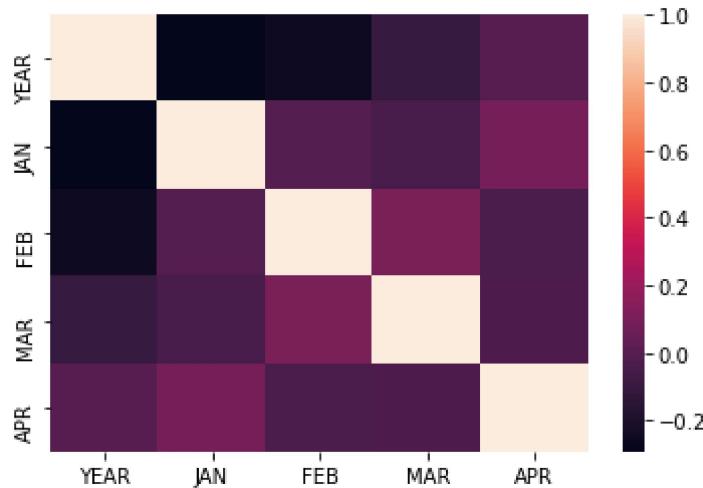
```
warnings.warn(msg, FutureWarning)
```

Out[100]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



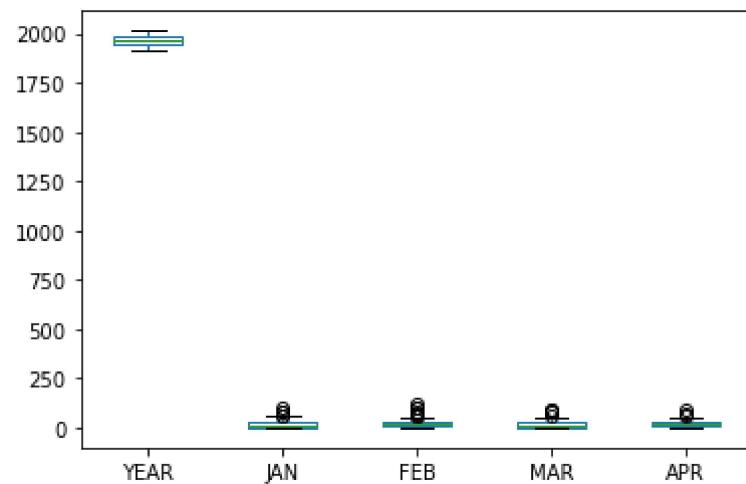
In [101]: `sns.heatmap(c.corr())`

Out[101]: <AxesSubplot:>



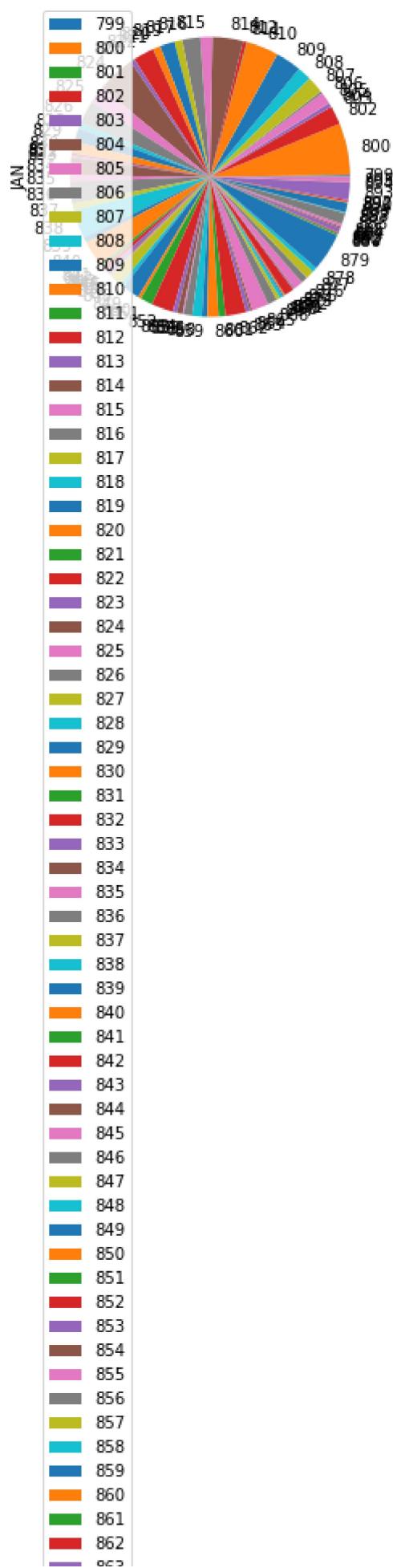
In [102]: `c.plot.box()`

Out[102]: <AxesSubplot:>



```
In [103]: c.plot.pie(y='JAN')
```

```
Out[103]: <AxesSubplot:ylabel='JAN'>
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9. BIHAR

In [104]: `b=a.head(1012)`
`b`

Out[104]:

	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
...
1007	1007	BIHAR	2011	4.2	7.7	9.2	23.9	74.5	211.0	241.1	278.7	234.1	1
1008	1008	BIHAR	2012	18.1	2.7	7.3	20.4	18.8	96.2	354.0	240.4	233.8	3
1009	1009	BIHAR	2013	5.1	22.6	0.6	32.3	89.5	183.3	182.0	213.6	143.3	19
1010	1010	BIHAR	2014	17.0	33.5	8.4	0.7	103.9	115.2	265.4	307.6	160.3	4
1011	1011	BIHAR	2015	12.8	1.8	27.2	38.7	39.5	122.1	231.5	287.0	101.7	1

1012 rows × 20 columns



In [105]: `b=b.tail(115)`
`b`

Out[105]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
897	897	BIHAR	1901	51.8	19.6	11.9	1.1	65.6	66.3	245.9	319.4	155.1	8.
898	898	BIHAR	1902	4.6	0.7	24.3	17.3	66.3	118.2	361.0	225.5	358.7	28.
899	899	BIHAR	1903	5.3	4.7	2.0	4.7	28.2	192.9	115.0	342.6	173.9	147.
900	900	BIHAR	1904	6.3	1.7	3.5	5.3	118.7	191.6	394.4	351.3	84.4	98.
901	901	BIHAR	1905	16.0	30.1	32.6	21.4	77.5	50.5	409.1	495.3	353.9	11.
...
1007	1007	BIHAR	2011	4.2	7.7	9.2	23.9	74.5	211.0	241.1	278.7	234.1	10.
1008	1008	BIHAR	2012	18.1	2.7	7.3	20.4	18.8	96.2	354.0	240.4	233.8	34.
1009	1009	BIHAR	2013	5.1	22.6	0.6	32.3	89.5	183.3	182.0	213.6	143.3	197.
1010	1010	BIHAR	2014	17.0	33.5	8.4	0.7	103.9	115.2	265.4	307.6	160.3	47.
1011	1011	BIHAR	2015	12.8	1.8	27.2	38.7	39.5	122.1	231.5	287.0	101.7	10.

115 rows × 20 columns



In [106]: `c=b[['YEAR','JAN','FEB','MAR','APR']]`
`c`

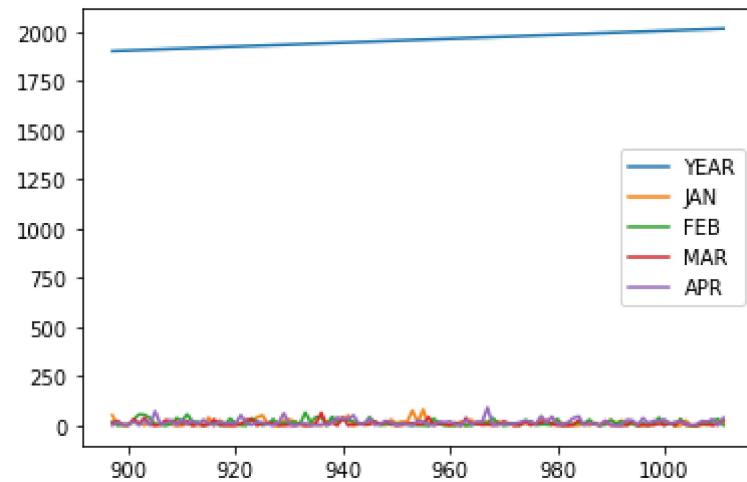
Out[106]:

	YEAR	JAN	FEB	MAR	APR
897	1901	51.8	19.6	11.9	1.1
898	1902	4.6	0.7	24.3	17.3
899	1903	5.3	4.7	2.0	4.7
900	1904	6.3	1.7	3.5	5.3
901	1905	16.0	30.1	32.6	21.4
...
1007	2011	4.2	7.7	9.2	23.9
1008	2012	18.1	2.7	7.3	20.4
1009	2013	5.1	22.6	0.6	32.3
1010	2014	17.0	33.5	8.4	0.7
1011	2015	12.8	1.8	27.2	38.7

115 rows × 5 columns

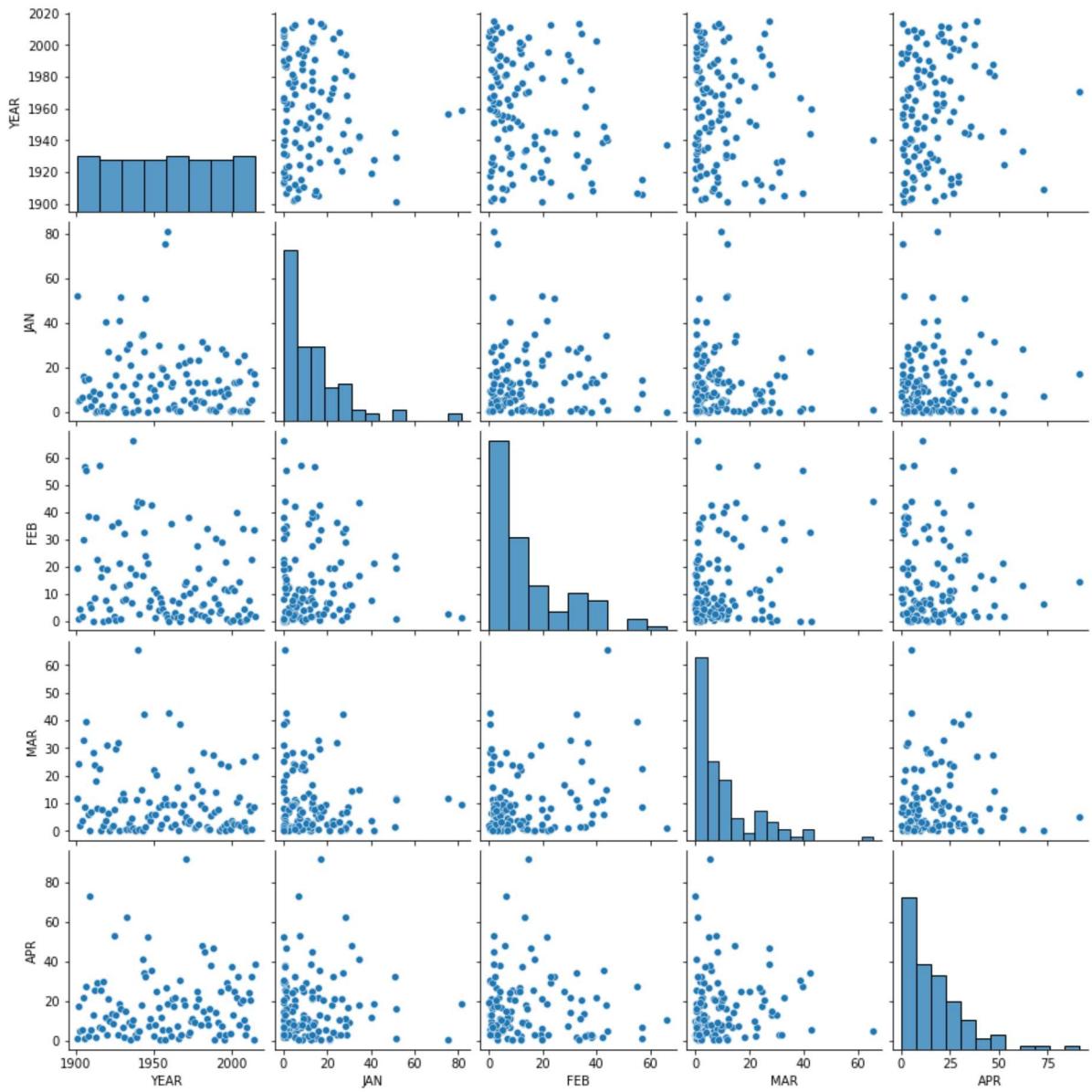
In [107]: `c.plot.line()`

Out[107]: <AxesSubplot:>



```
In [108]: sns.pairplot(c)
```

```
Out[108]: <seaborn.axisgrid.PairGrid at 0x24b72281ee0>
```

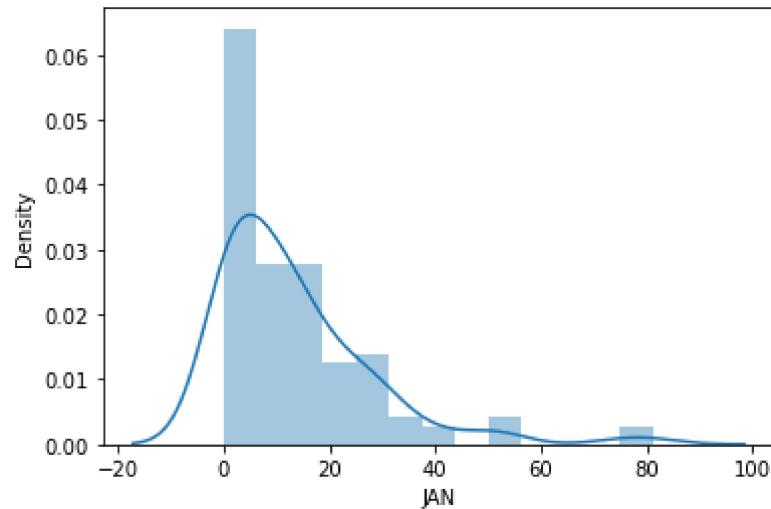


In [109]: `sns.distplot(c['JAN'])`

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).

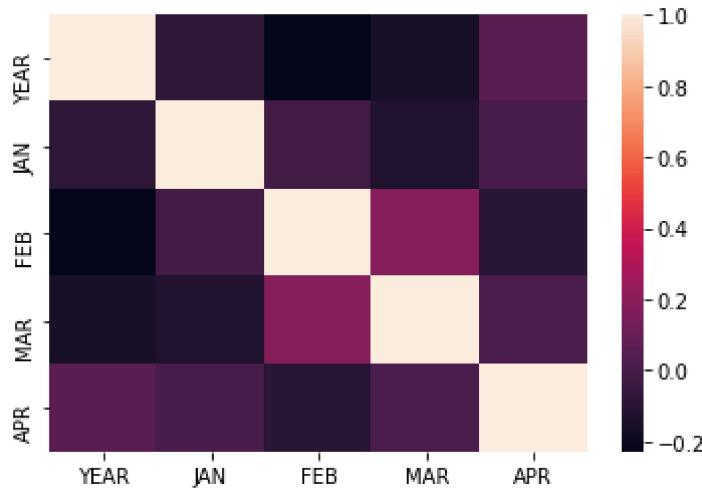
```
warnings.warn(msg, FutureWarning)
```

Out[109]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



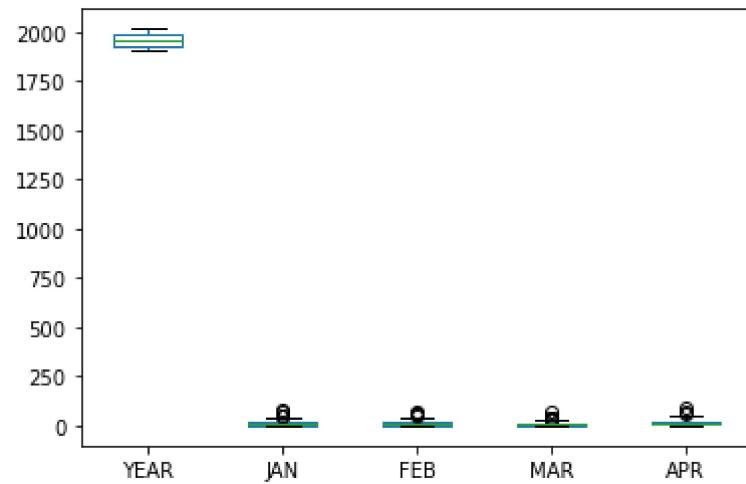
In [110]: `sns.heatmap(c.corr())`

Out[110]: <AxesSubplot:>



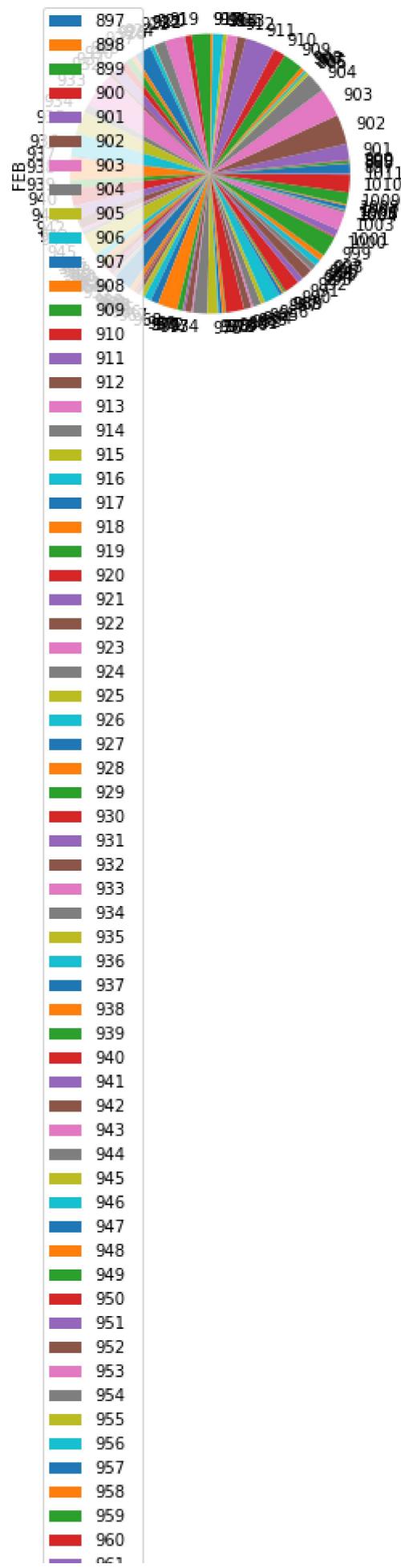
In [111]: `c.plot.box()`

Out[111]: <AxesSubplot:>



```
In [112]: c.plot.pie(y='FEB')
```

```
Out[112]: <AxesSubplot:ylabel='FEB'>
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10. EAST UTTAR PRADESH

In [113]: `b=a.head(1126)`
`b`

Out[113]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	O
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
...
1121	1121	EAST UTTAR PRADESH	2010	2.2	10.0	0.0	0.0	14.7	23.9	220.8	215.9	184.5	1
1122	1122	EAST UTTAR PRADESH	2011	1.0	2.7	1.6	2.9	32.2	163.8	197.9	232.1	146.4	
1123	1123	EAST UTTAR PRADESH	2012	20.3	1.2	3.4	2.8	0.2	18.5	234.2	156.0	164.4	
1124	1124	EAST UTTAR PRADESH	2013	6.1	59.6	2.7	8.7	1.1	309.7	230.0	246.1	78.2	9
1125	1125	EAST UTTAR PRADESH	2014	47.4	25.8	15.4	1.7	10.7	47.8	224.5	138.1	106.7	7

1126 rows × 20 columns



In [115]: `b=b.tail(114)`
`b`

Out[115]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1012	1012	EAST UTTAR PRADESH	1901	62.6	31.3	8.2	1.1	13.6	21.8	226.5	285.6	215.4	4.9
1013	1013	EAST UTTAR PRADESH	1902	6.1	2.3	2.4	2.0	21.4	32.5	411.5	155.4	257.2	13.2
1014	1014	EAST UTTAR PRADESH	1903	8.2	0.4	1.3	0.7	15.3	71.6	115.3	420.2	258.7	324.7
1015	1015	EAST UTTAR PRADESH	1904	7.3	1.5	8.3	0.4	28.7	148.0	359.4	328.8	95.0	50.6
1016	1016	EAST UTTAR PRADESH	1905	16.8	23.6	20.0	5.4	15.4	17.3	302.4	316.2	169.5	3.3
...
1121	1121	EAST UTTAR PRADESH	2010	2.2	10.0	0.0	0.0	14.7	23.9	220.8	215.9	184.5	15.5
1122	1122	EAST UTTAR PRADESH	2011	1.0	2.7	1.6	2.9	32.2	163.8	197.9	232.1	146.4	0.6
1123	1123	EAST UTTAR PRADESH	2012	20.3	1.2	3.4	2.8	0.2	18.5	234.2	156.0	164.4	0.7
1124	1124	EAST UTTAR PRADESH	2013	6.1	59.6	2.7	8.7	1.1	309.7	230.0	246.1	78.2	97.4
1125	1125	EAST UTTAR PRADESH	2014	47.4	25.8	15.4	1.7	10.7	47.8	224.5	138.1	106.7	74.7

114 rows × 20 columns



```
In [116]: c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]  
c
```

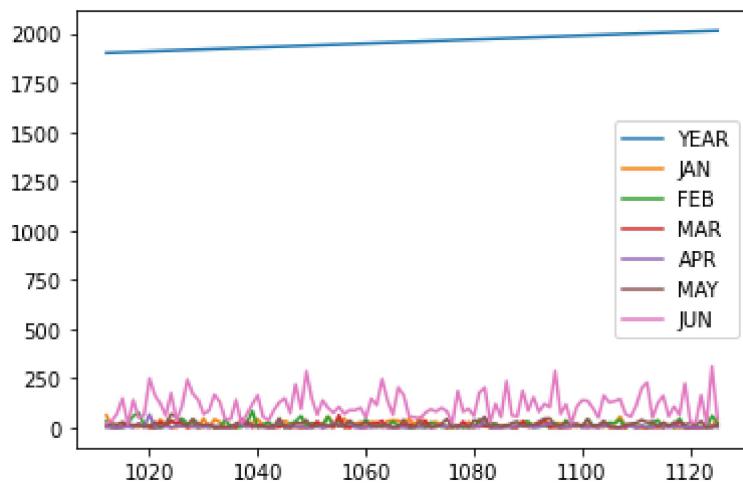
Out[116]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
1012	1901	62.6	31.3	8.2	1.1	13.6	21.8
1013	1902	6.1	2.3	2.4	2.0	21.4	32.5
1014	1903	8.2	0.4	1.3	0.7	15.3	71.6
1015	1904	7.3	1.5	8.3	0.4	28.7	148.0
1016	1905	16.8	23.6	20.0	5.4	15.4	17.3
...
1121	2010	2.2	10.0	0.0	0.0	14.7	23.9
1122	2011	1.0	2.7	1.6	2.9	32.2	163.8
1123	2012	20.3	1.2	3.4	2.8	0.2	18.5
1124	2013	6.1	59.6	2.7	8.7	1.1	309.7
1125	2014	47.4	25.8	15.4	1.7	10.7	47.8

114 rows × 7 columns

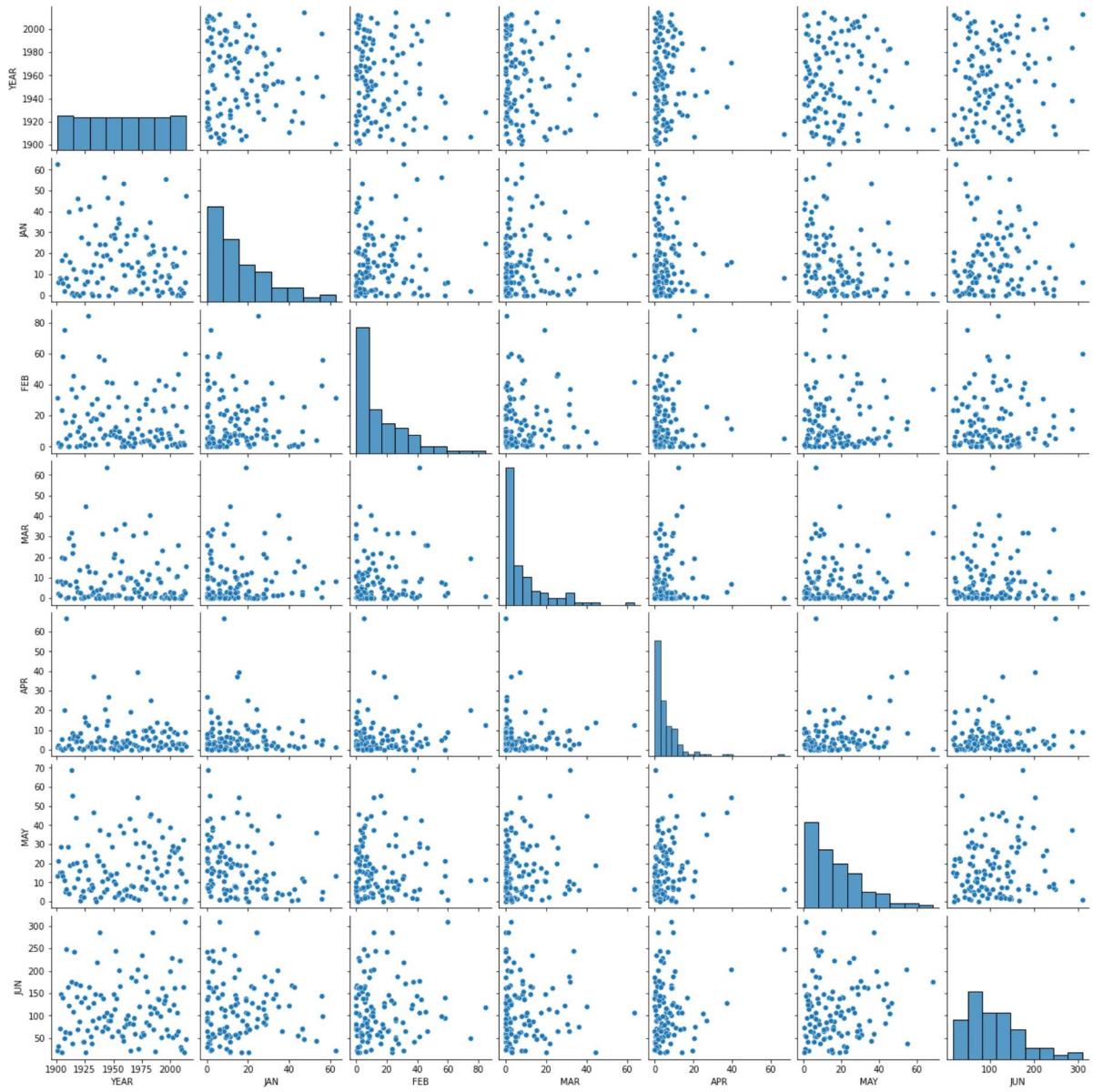
```
In [117]: c.plot.line()
```

Out[117]: <AxesSubplot:>



```
In [118]: sns.pairplot(c)
```

```
Out[118]: <seaborn.axisgrid.PairGrid at 0x24b73c4efd0>
```

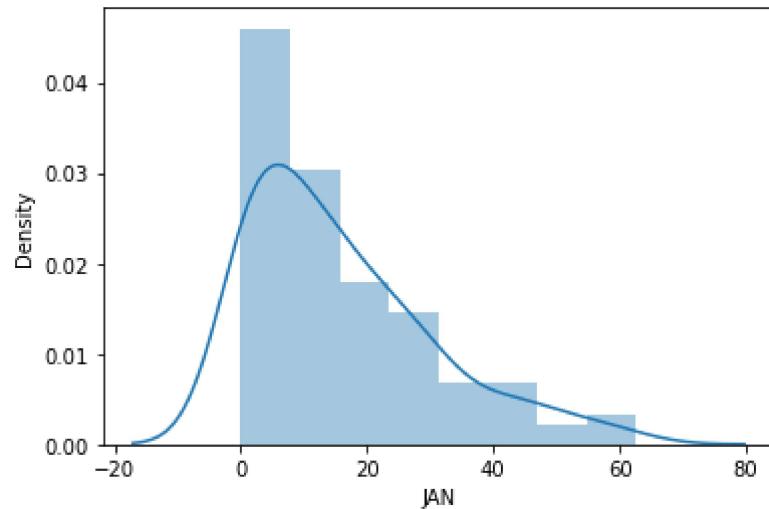


In [119]: `sns.distplot(c['JAN'])`

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).

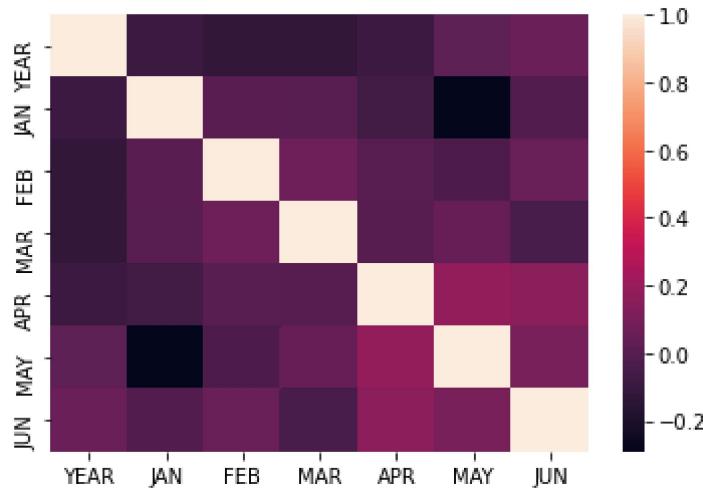
```
warnings.warn(msg, FutureWarning)
```

Out[119]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



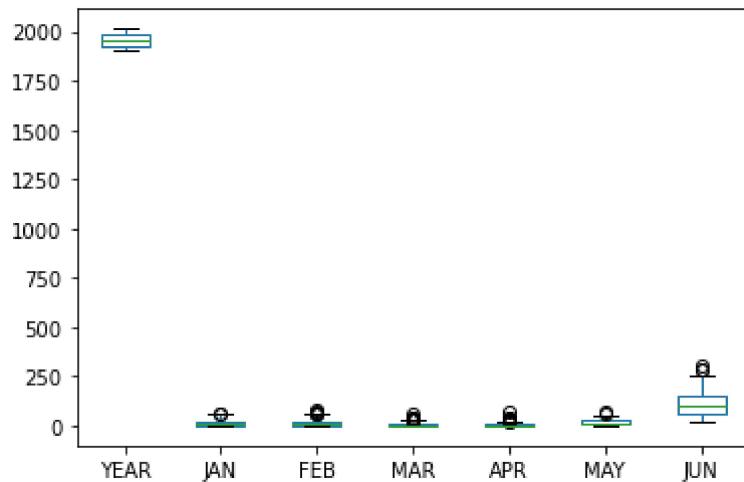
In [120]: `sns.heatmap(c.corr())`

Out[120]: <AxesSubplot:>



In [121]: `c.plot.box()`

Out[121]: <AxesSubplot:>



11. WEST UTTAR PRADESH

```
In [123]: b=a.head(1242)
b=b.tail(115)
b
```

Out[123]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1127	1127	WEST UTTAR PRADESH	1901	51.4	25.6	9.5	0.7	5.6	23.8	201.9	374.3	67.7	7.6
1128	1128	WEST UTTAR PRADESH	1902	4.6	4.6	0.6	4.8	7.2	54.5	325.9	180.6	143.1	9.6
1129	1129	WEST UTTAR PRADESH	1903	13.4	0.4	1.2	0.0	8.2	32.7	145.4	279.1	150.4	177.3
1130	1130	WEST UTTAR PRADESH	1904	6.3	2.0	29.7	0.4	24.8	68.5	358.8	311.1	97.1	2.7
1131	1131	WEST UTTAR PRADESH	1905	32.3	26.6	14.8	3.6	7.1	18.9	139.8	95.0	92.2	0.2
...
1237	1237	WEST UTTAR PRADESH	2011	2.1	10.4	3.9	2.8	29.6	175.9	215.9	232.3	101.7	0.7
1238	1238	WEST UTTAR PRADESH	2012	14.5	0.1	1.4	4.7	0.3	4.0	145.1	149.1	67.8	0.5
1239	1239	WEST UTTAR PRADESH	2013	20.4	69.5	3.5	1.6	2.1	190.6	233.9	287.1	52.2	61.2
1240	1240	WEST UTTAR PRADESH	2014	48.3	29.4	22.6	5.3	11.0	22.0	151.6	81.0	84.7	14.6
1241	1241	WEST UTTAR PRADESH	2015	31.6	7.2	66.8	21.0	8.1	72.0	194.2	143.5	26.5	6.9

115 rows × 20 columns



In [124]: `c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]
c`

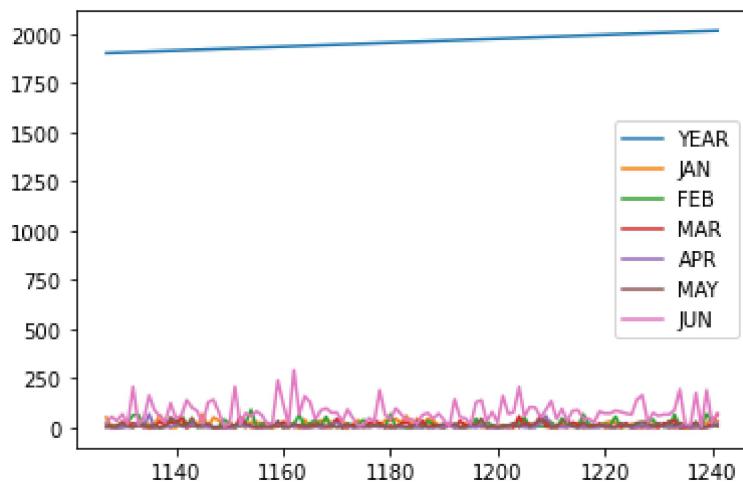
Out[124]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
1127	1901	51.4	25.6	9.5	0.7	5.6	23.8
1128	1902	4.6	4.6	0.6	4.8	7.2	54.5
1129	1903	13.4	0.4	1.2	0.0	8.2	32.7
1130	1904	6.3	2.0	29.7	0.4	24.8	68.5
1131	1905	32.3	26.6	14.8	3.6	7.1	18.9
...
1237	2011	2.1	10.4	3.9	2.8	29.6	175.9
1238	2012	14.5	0.1	1.4	4.7	0.3	4.0
1239	2013	20.4	69.5	3.5	1.6	2.1	190.6
1240	2014	48.3	29.4	22.6	5.3	11.0	22.0
1241	2015	31.6	7.2	66.8	21.0	8.1	72.0

115 rows × 7 columns

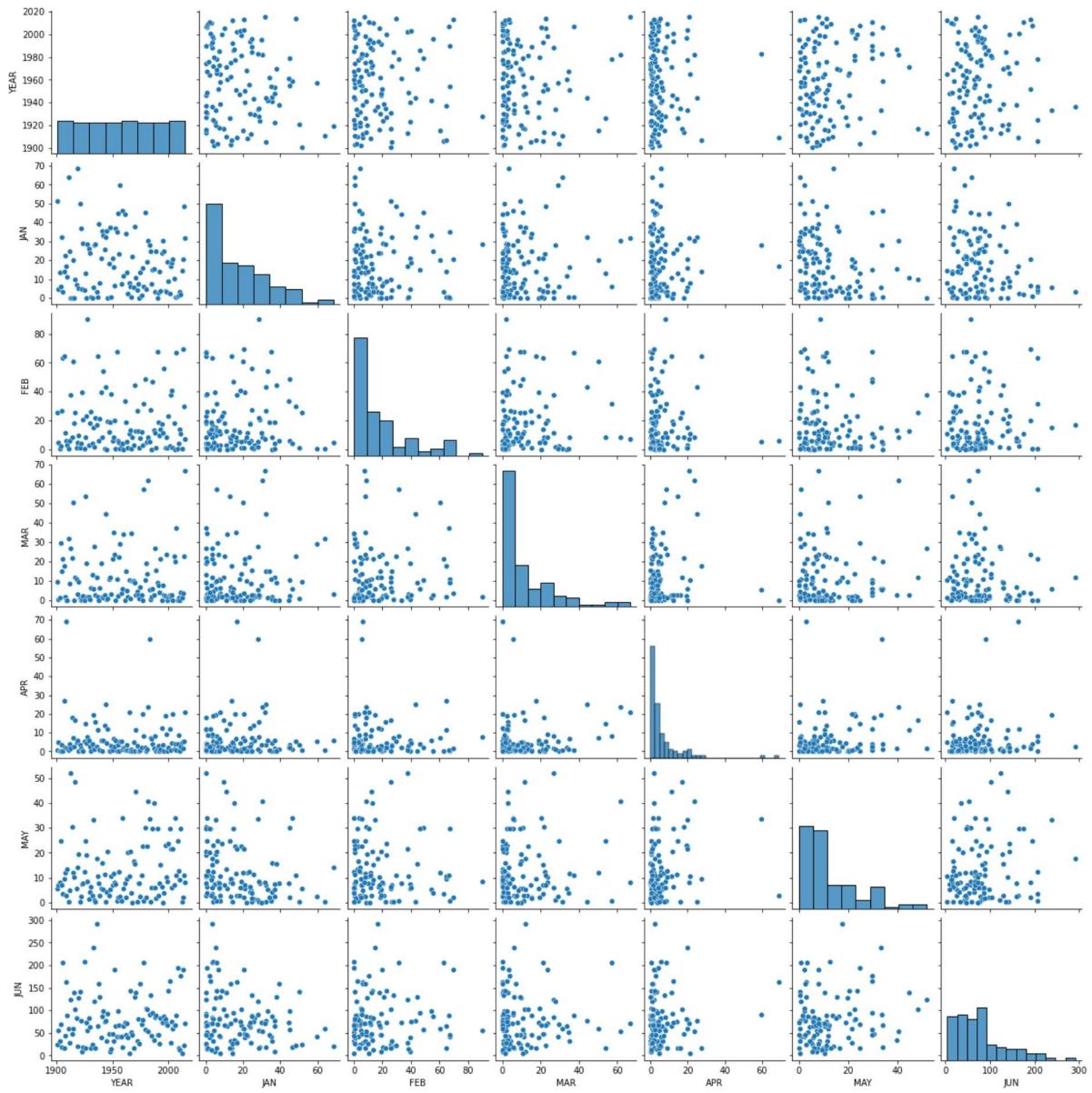
In [125]: `c.plot.line()`

Out[125]: <AxesSubplot:>



```
In [126]: sns.pairplot(c)
```

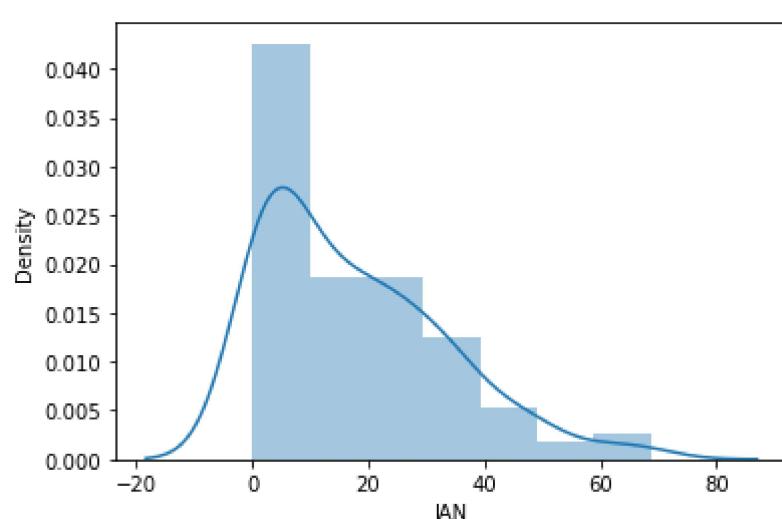
```
Out[126]: <seaborn.axisgrid.PairGrid at 0x24b76b9d3d0>
```



In [127]: `sns.distplot(c['JAN'])`

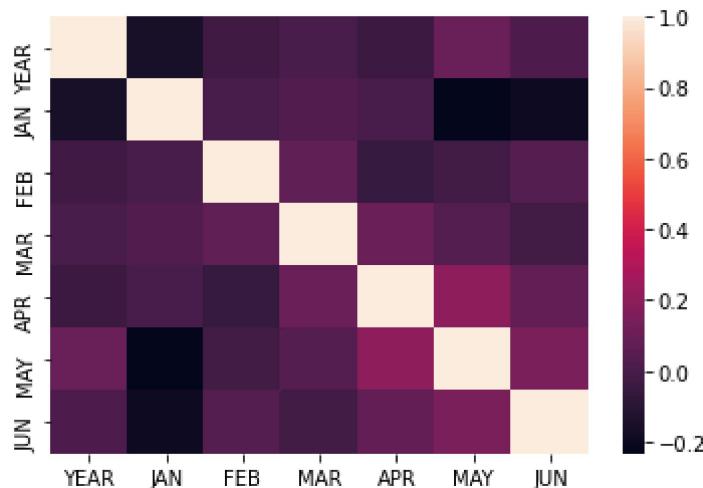
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function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

Out[127]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



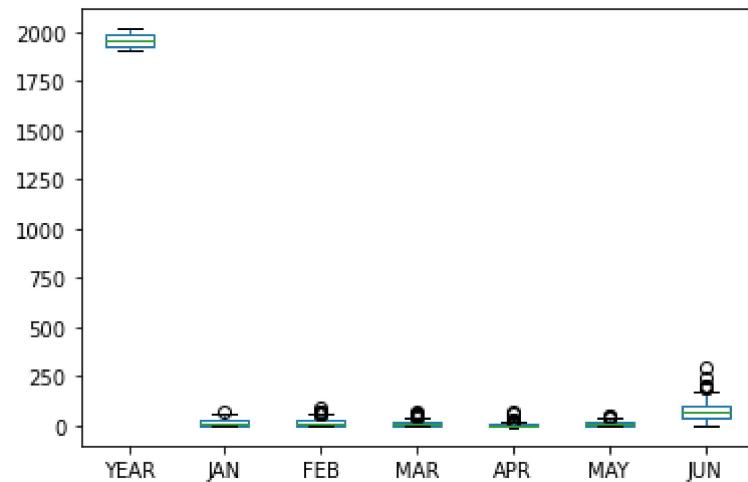
In [128]: `sns.heatmap(c.corr())`

Out[128]: <AxesSubplot:>



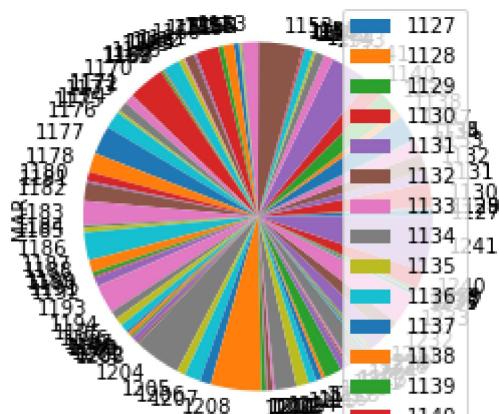
In [129]: `c.plot.box()`

Out[129]: <AxesSubplot:>

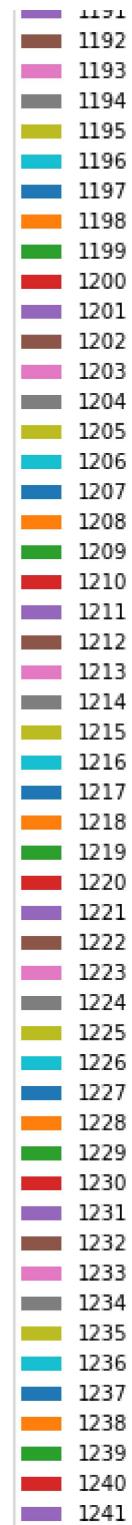


```
In [130]: c.plot.pie(y='MAR')
```

```
Out[130]: <AxesSubplot:ylabel='MAR'>
```

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12. UTTARAKHAND

In [132]:

```
b=a.head(1357)
b=b.tail(115)
b
```

Out[132]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1242	1242	UTTARAKHAND	1901	134.5	81.4	44.5	5.9	60.8	33.6	381.1	612.3	167.1	110.0	10.0	1.0
1243	1243	UTTARAKHAND	1902	0.0	17.0	52.2	63.7	52.1	113.1	444.1	327.5	220.4	148.4	52.3	1.0
1244	1244	UTTARAKHAND	1903	68.0	7.9	87.6	10.3	37.5	83.0	251.6	442.7	249.3	111.3	359.4	110.0
1245	1245	UTTARAKHAND	1904	40.0	5.2	78.3	13.6	61.1	180.1	449.6	417.2	174.1	107.9	264.2	1.0
1246	1246	UTTARAKHAND	1905	115.4	80.7	99.8	26.1	70.3	111.5	299.9	349.5	129.5	10.0	1.0	1.0
...
1352	1352	UTTARAKHAND	2011	30.9	65.2	18.0	30.9	84.2	223.1	433.3	523.7	148.4	110.0	359.4	110.0
1353	1353	UTTARAKHAND	2012	38.8	11.9	28.1	39.2	9.1	46.0	387.1	419.5	220.6	148.4	523.7	110.0
1354	1354	UTTARAKHAND	2013	73.0	188.3	22.0	24.7	18.2	488.9	413.4	359.4	111.3	10.0	1.0	1.0
1355	1355	UTTARAKHAND	2014	45.9	99.9	68.4	37.6	52.9	62.9	462.7	264.2	107.9	110.0	1.0	1.0
1356	1356	UTTARAKHAND	2015	54.5	62.6	127.3	57.3	38.0	186.6	337.0	305.3	52.6	110.0	1.0	1.0

115 rows × 20 columns

In [133]:

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

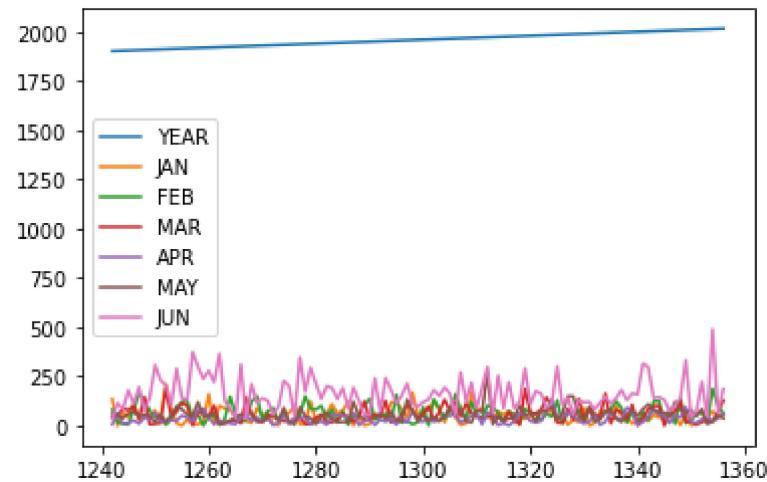
Out[133]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
1242	1901	134.5	81.4	44.5	5.9	60.8	33.6
1243	1902	0.0	17.0	52.2	63.7	52.1	113.1
1244	1903	68.0	7.9	87.6	10.3	37.5	83.0
1245	1904	40.0	5.2	78.3	13.6	61.1	180.1
1246	1905	115.4	80.7	99.8	26.1	70.3	111.5
...
1352	2011	30.9	65.2	18.0	30.9	84.2	223.1
1353	2012	38.8	11.9	28.1	39.2	9.1	46.0
1354	2013	73.0	188.3	22.0	24.7	18.2	488.9
1355	2014	45.9	99.9	68.4	37.6	52.9	62.9
1356	2015	54.5	62.6	127.3	57.3	38.0	186.6

115 rows × 7 columns

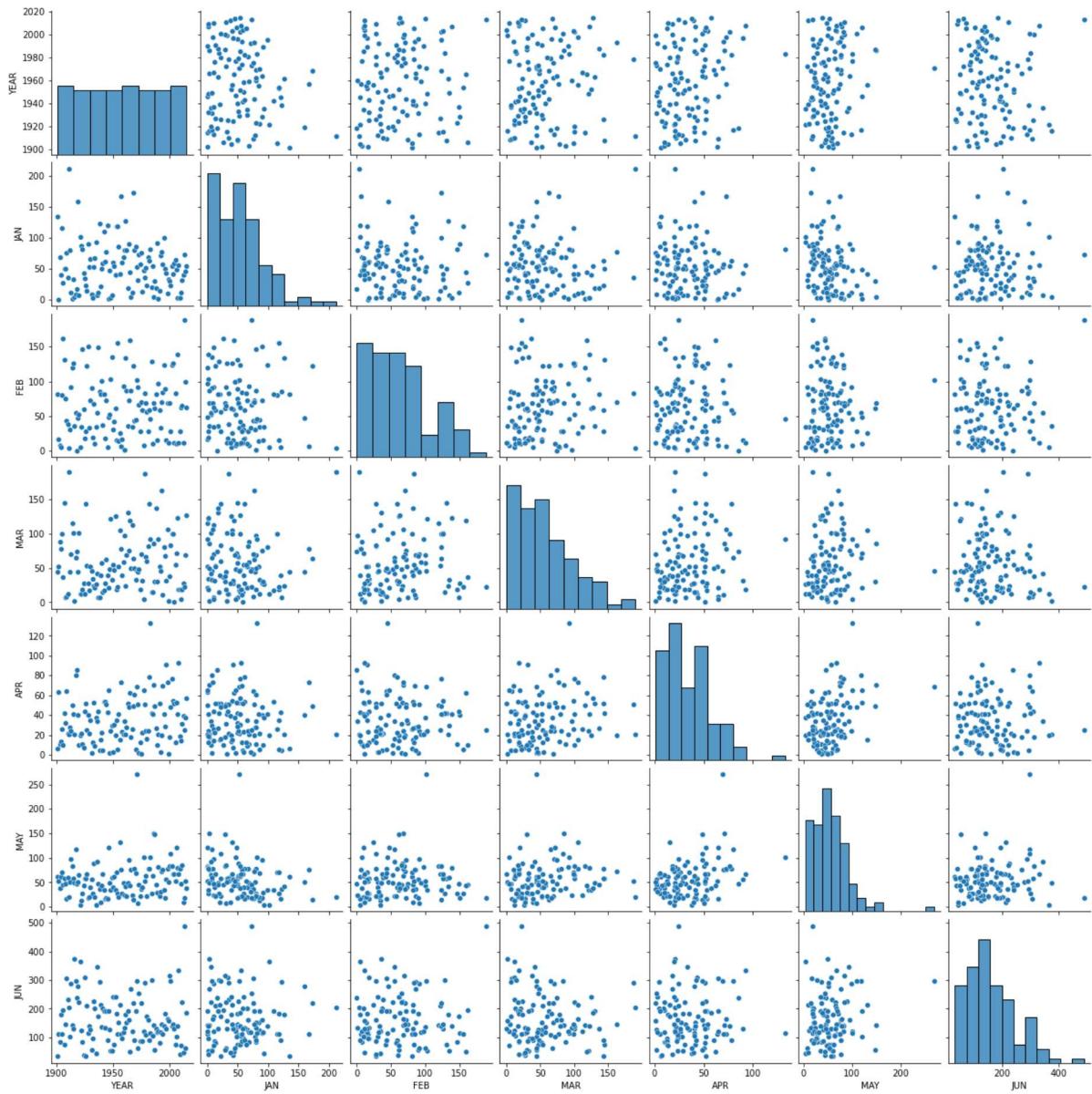
In [134]: `c.plot.line()`

Out[134]: <AxesSubplot:>



```
In [135]: sns.pairplot(c)
```

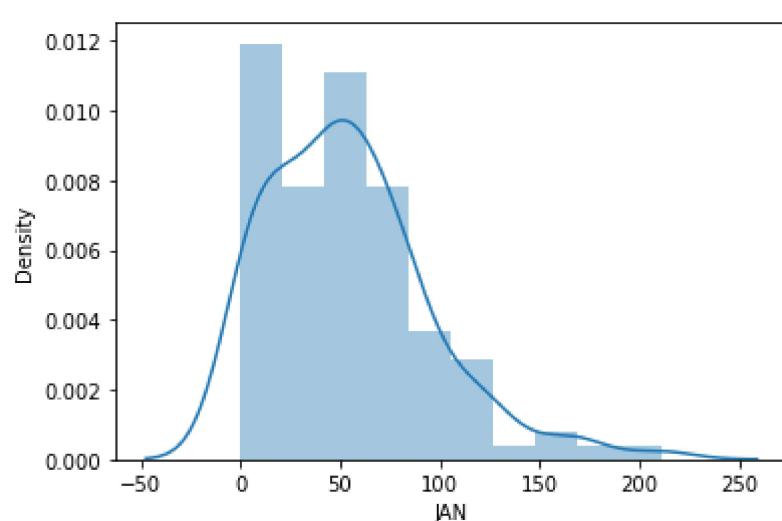
```
Out[135]: <seaborn.axisgrid.PairGrid at 0x24b79e734f0>
```



In [136]: `sns.distplot(c['JAN'])`

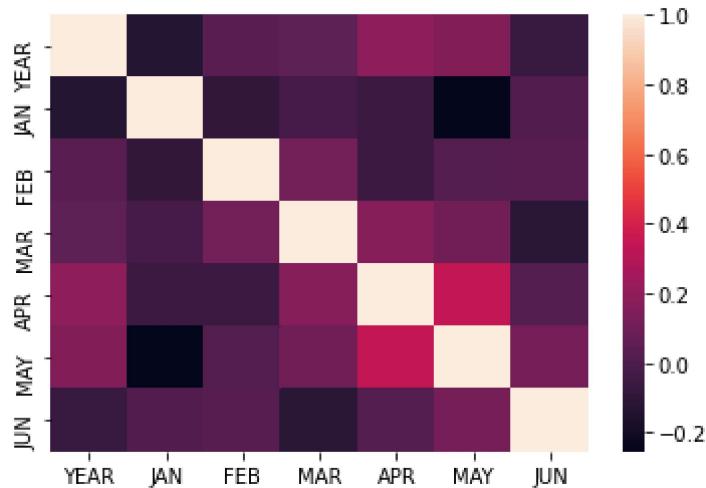
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function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

Out[136]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



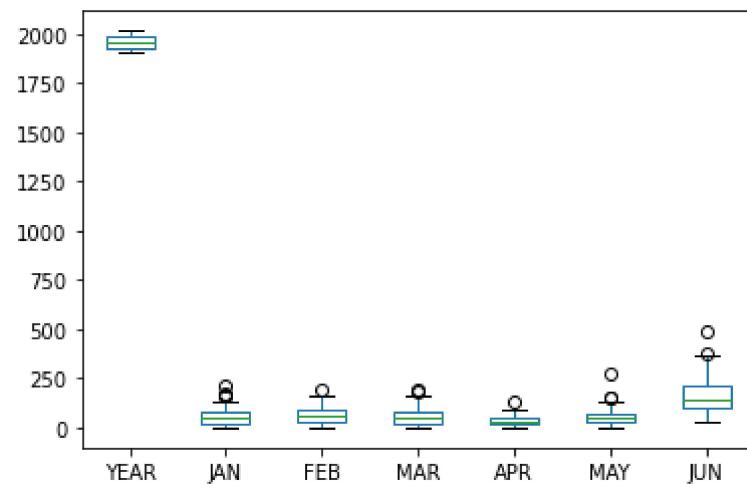
In [137]: `sns.heatmap(c.corr())`

Out[137]: <AxesSubplot:>



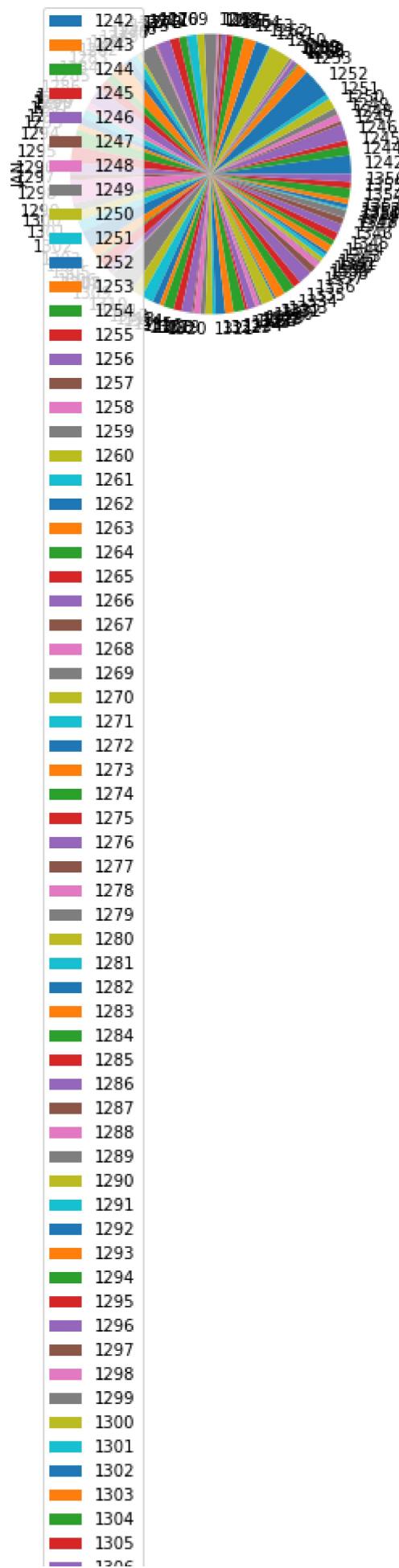
In [138]: `c.plot.box()`

Out[138]: <AxesSubplot:>



```
In [139]: c.plot.pie(y='JAN')
```

```
Out[139]: <AxesSubplot:ylabel='JAN'>
```

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In []: