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 1901-201
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	2011	5.1	2.8	3.1	85.9	107.2	153.6	350.2	254.0	255.2
4112	4112	LAKSHADWEEP	2012	19.2	0.1	1.6	76.8	21.2	327.0	231.5	381.2	179.8
4113	4113	LAKSHADWEEP	2013	26.2	34.4	37.5	5.3	88.3	426.2	296.4	154.4	180.0
4114	4114	LAKSHADWEEP	2014	53.2	16.1	4.4	14.9	57.4	244.1	116.1	466.1	132.2
4115	4115	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')
```

25. MATATHWADA

In [243]:
```
b=a.head(2852)
b=b.tail(115)
b
```

Out[243]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
2737	2737	MATATHWADA	1901	15.8	3.3	32.1	48.5	26.5	193.1	184.1	249.8	74.0	81.
2738	2738	MATATHWADA	1902	1.3	0.0	0.4	7.2	0.8	52.4	120.9	85.2	273.3	61.
2739	2739	MATATHWADA	1903	2.6	0.8	0.0	1.7	58.3	104.4	264.2	281.9	173.3	139.
2740	2740	MATATHWADA	1904	0.0	0.9	12.1	0.3	7.2	79.2	118.4	57.3	339.0	76.
2741	2741	MATATHWADA	1905	1.3	2.0	0.0	6.6	4.8	84.6	94.8	137.6	157.8	15.
...	...	...	...	...	...	...	...	...	...	...	...	...	.
2847	2847	MATATHWADA	2011	0.0	3.8	0.7	3.5	3.1	79.2	230.1	228.5	90.0	24.
2848	2848	MATATHWADA	2012	0.0	0.0	0.0	0.6	2.3	72.2	161.1	101.4	120.0	68.
2849	2849	MATATHWADA	2013	1.5	9.4	2.6	7.9	6.4	160.9	293.4	136.9	154.1	94.
2850	2850	MATATHWADA	2014	1.4	13.4	79.0	11.9	7.0	30.4	105.0	178.9	84.5	14.
2851	2851	MATATHWADA	2015	10.1	1.6	32.0	39.6	12.3	118.3	27.4	112.2	154.3	19.

115 rows × 20 columns

In [244]:
```
c=b[['YEAR','JAN','FEB','MAR','APR']]
c
```

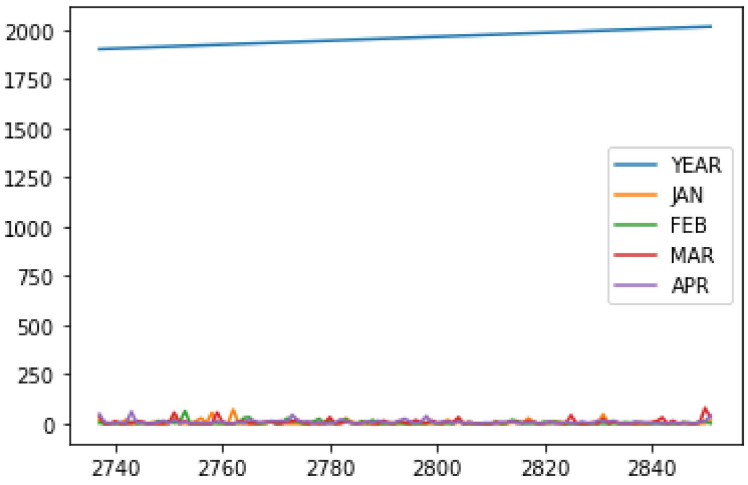
Out[244]:

	YEAR	JAN	FEB	MAR	APR
2737	1901	15.8	3.3	32.1	48.5
2738	1902	1.3	0.0	0.4	7.2
2739	1903	2.6	0.8	0.0	1.7
2740	1904	0.0	0.9	12.1	0.3
2741	1905	1.3	2.0	0.0	6.6
...	...	...	...	...	...
2847	2011	0.0	3.8	0.7	3.5
2848	2012	0.0	0.0	0.0	0.6
2849	2013	1.5	9.4	2.6	7.9
2850	2014	1.4	13.4	79.0	11.9
2851	2015	10.1	1.6	32.0	39.6

115 rows × 5 columns

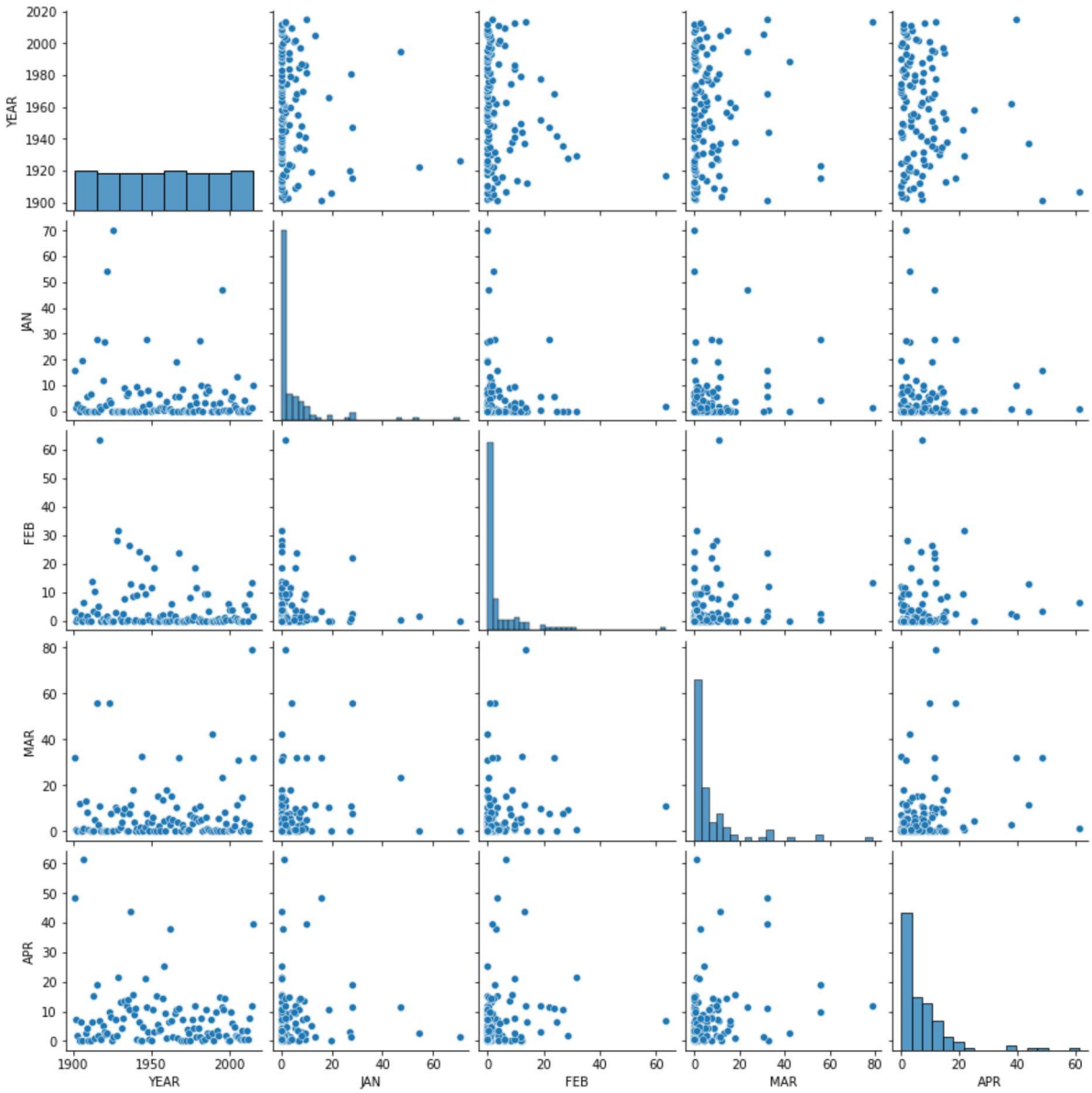
In [245]:
```
c.plot.line()
```

Out[245]: <AxesSubplot:>



In [246]:
```
sns.pairplot(c)
```

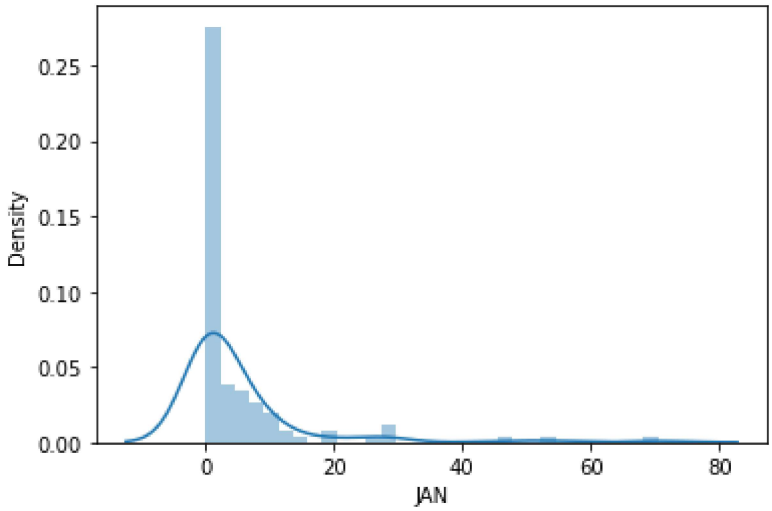
Out[246]:
```
<seaborn.axisgrid.PairGrid at 0x24b1eb09ac0>
```



In [247]:
```
sns.distplot(c['JAN'])
```

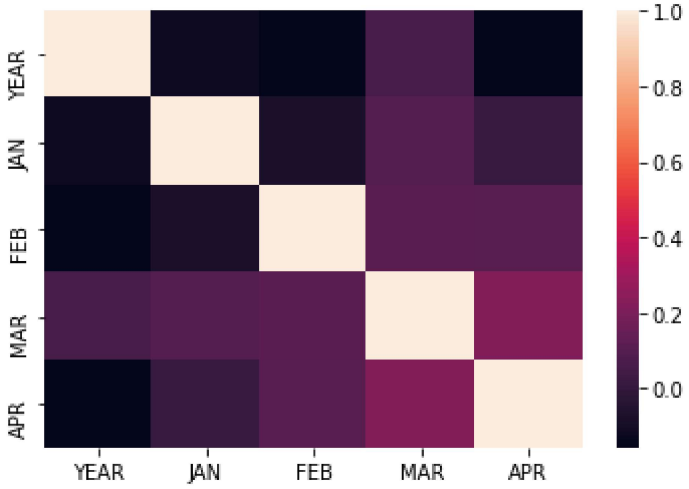
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function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

Out[247]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



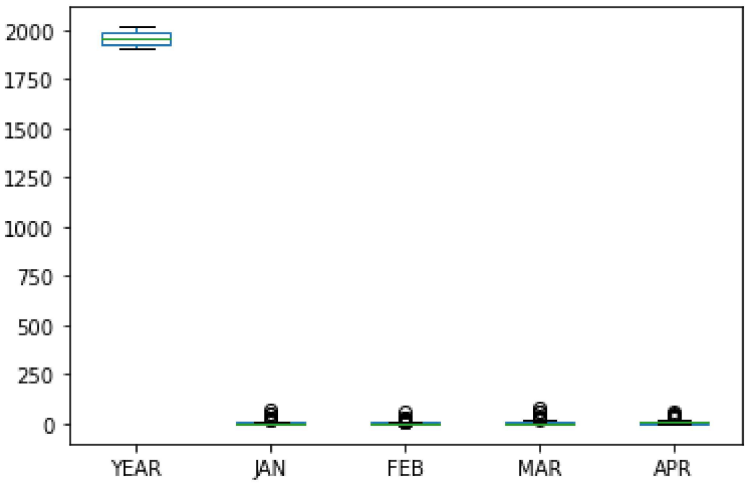
In [248]:
```
sns.heatmap(c.corr())
```

Out[248]: <AxesSubplot:>



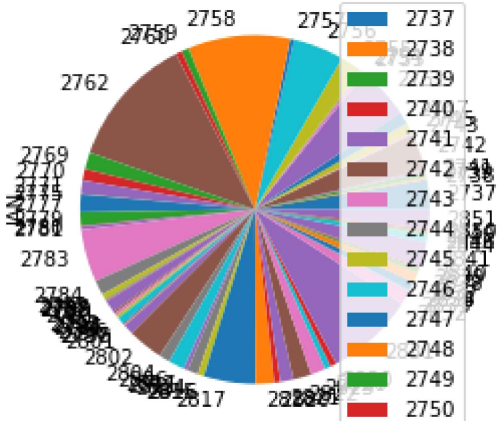
In [249]:
```
c.plot.box()
```

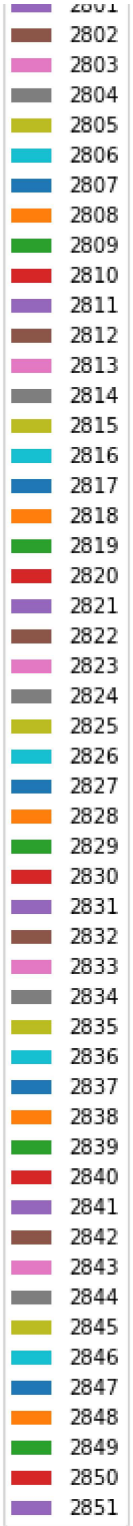
Out[249]: <AxesSubplot:>



In [250]:
```
c.plot.pie(y='JAN')
```

Out[250]:
```
<AxesSubplot:ylabel='JAN'>
```


2758
2762
2769
2783
2802
2817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26. VIDARBHA

In [251]:
```
b=a.head(2967)
b=b.tail(115)
b
```

Out[251]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
2852	2852	VIDARBHA	1901	36.8	39.9	30.9	26.1	7.3	129.7	295.3	368.8	123.4	35.2
2853	2853	VIDARBHA	1902	1.6	0.1	0.0	6.5	4.1	38.0	270.7	204.7	150.9	29.6
2854	2854	VIDARBHA	1903	5.2	4.0	0.1	2.5	37.8	121.2	475.5	325.5	154.8	100.8
2855	2855	VIDARBHA	1904	4.3	2.4	12.9	0.2	14.8	148.9	158.3	151.8	196.9	61.7
2856	2856	VIDARBHA	1905	7.3	12.7	12.4	16.2	14.0	81.0	254.5	216.3	321.3	6.0
...	...	...	...	...	...	...	...	...	...	...	...	...	..
2962	2962	VIDARBHA	2011	0.0	1.2	0.1	7.7	0.6	137.9	247.1	302.8	191.0	4.7
2963	2963	VIDARBHA	2012	3.1	0.1	0.0	0.6	0.2	125.5	370.5	316.2	249.4	34.9
2964	2964	VIDARBHA	2013	6.6	13.0	3.8	2.8	0.5	366.7	535.5	326.1	131.7	133.5
2965	2965	VIDARBHA	2014	1.2	18.3	49.6	2.6	4.0	63.3	337.6	191.7	224.9	17.3
2966	2966	VIDARBHA	2015	26.3	4.7	66.3	28.1	12.8	254.6	137.2	288.9	167.5	7.0

115 rows × 20 columns

In [252]:
```
c=b[['YEAR','JAN','FEB','MAR','APR']]
c
```

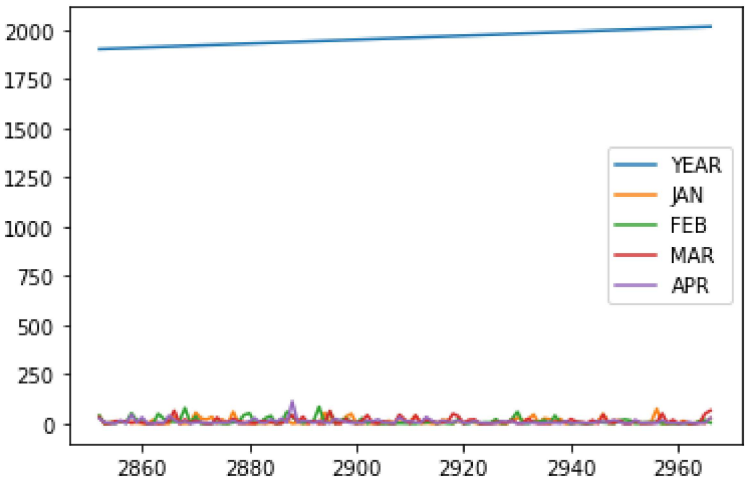
Out[252]:

	YEAR	JAN	FEB	MAR	APR
2852	1901	36.8	39.9	30.9	26.1
2853	1902	1.6	0.1	0.0	6.5
2854	1903	5.2	4.0	0.1	2.5
2855	1904	4.3	2.4	12.9	0.2
2856	1905	7.3	12.7	12.4	16.2
...	...	...	...	...	...
2962	2011	0.0	1.2	0.1	7.7
2963	2012	3.1	0.1	0.0	0.6
2964	2013	6.6	13.0	3.8	2.8
2965	2014	1.2	18.3	49.6	2.6
2966	2015	26.3	4.7	66.3	28.1

115 rows × 5 columns

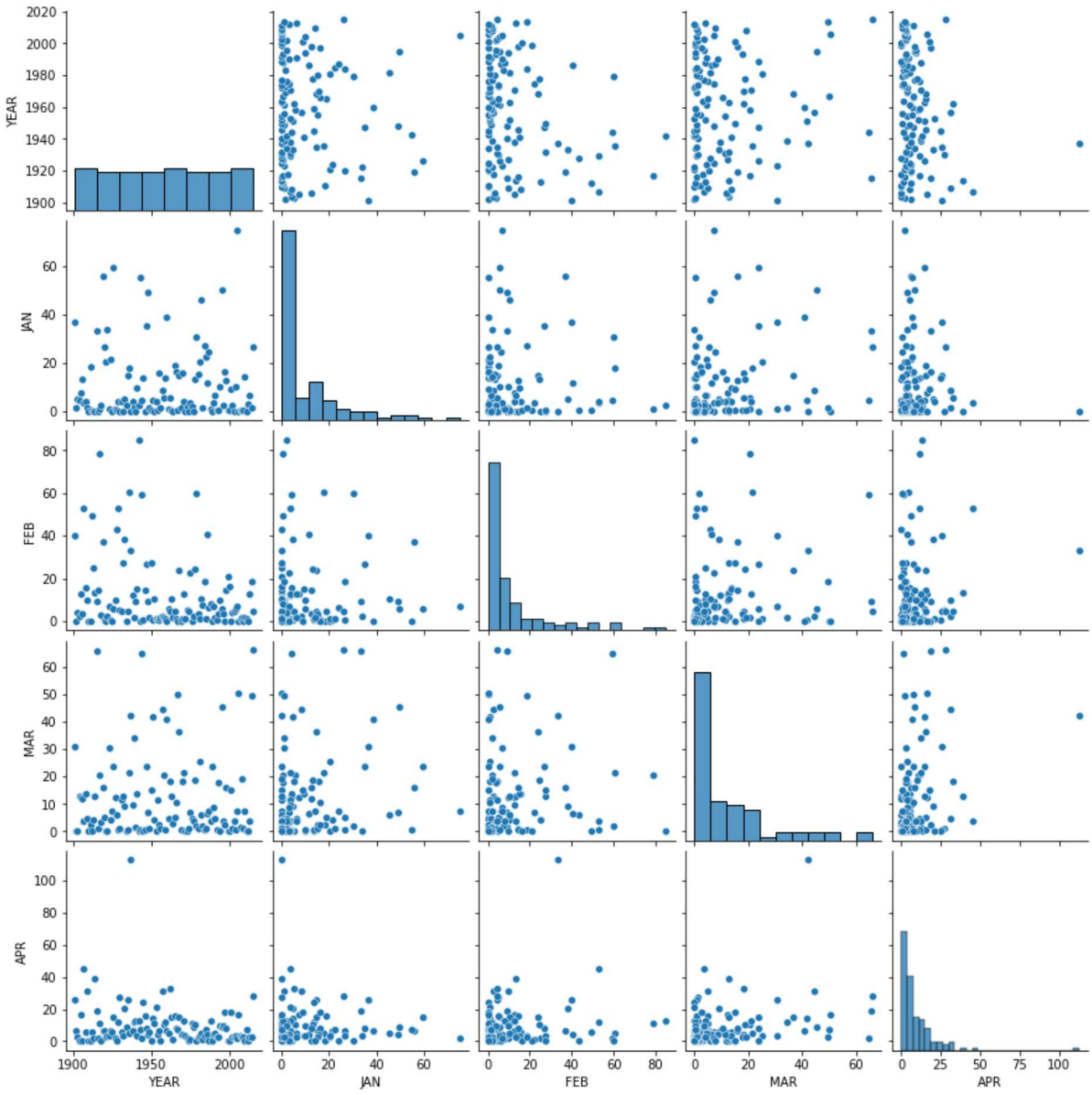
In [253]:
```
c.plot.line()
```

Out[253]: <AxesSubplot:>



In [254]:
```
sns.pairplot(c)
```

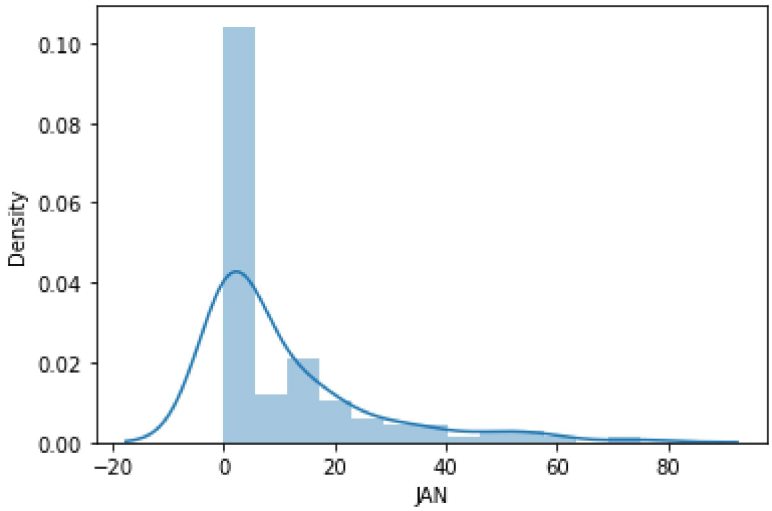
Out[254]:
```
<seaborn.axisgrid.PairGrid at 0x24b210397c0>
```



In [255]:
```
sns.distplot(c['JAN'])
```

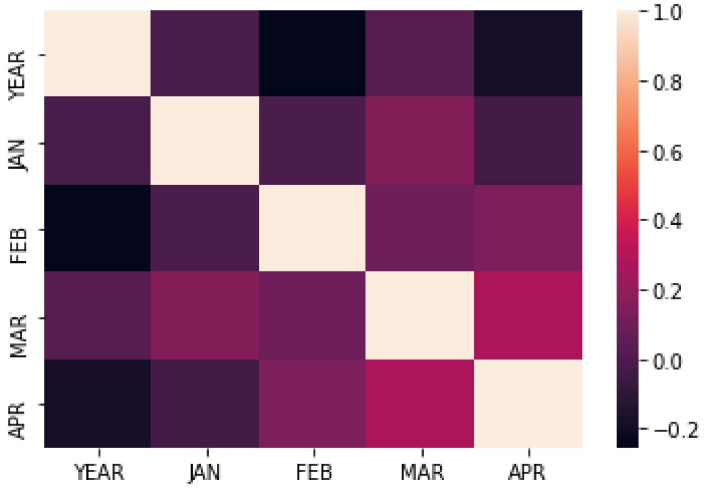
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function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

Out[255]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



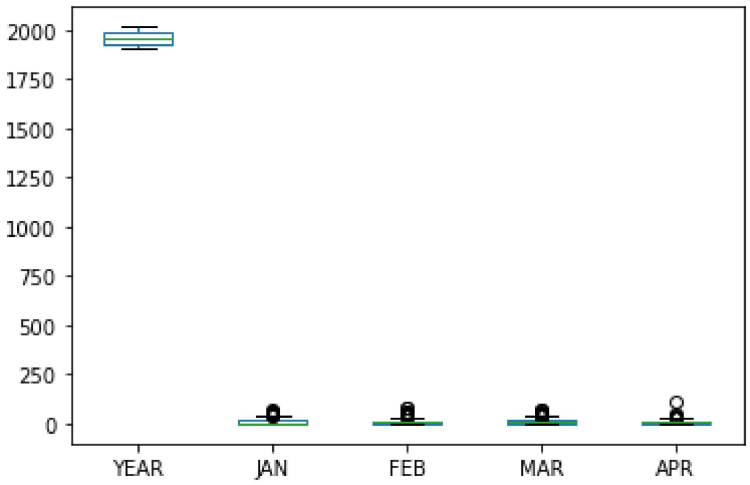
In [256]:
```
sns.heatmap(c.corr())
```

Out[256]: <AxesSubplot:>



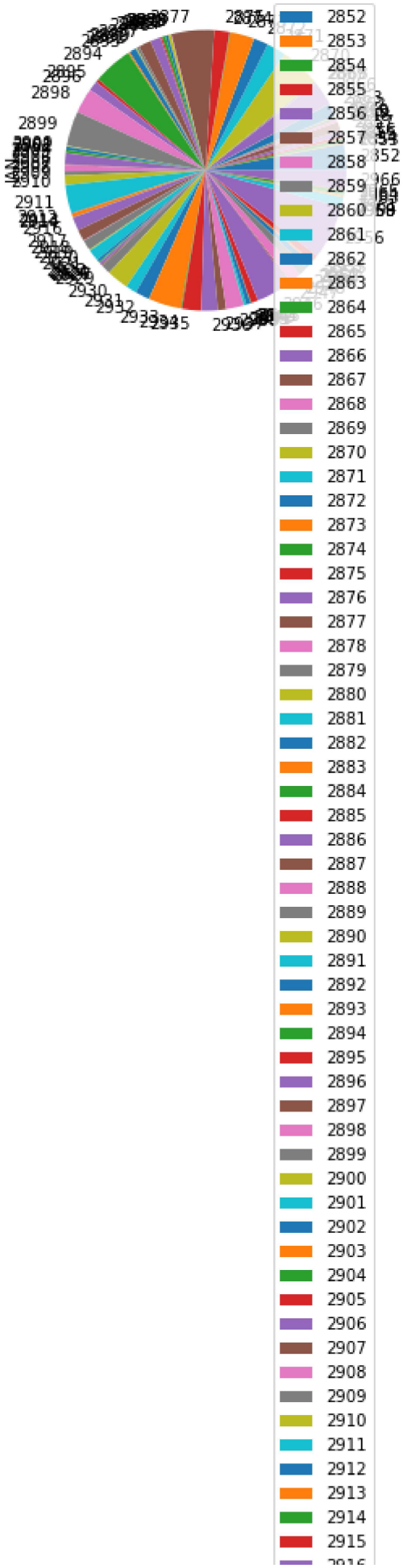
In [257]:
```
c.plot.box()
```

Out[257]: <AxesSubplot:>



In [258]:
```
c.plot.pie(y='JAN')
```

Out[258]:
```
<AxesSubplot:ylabel='JAN'>
```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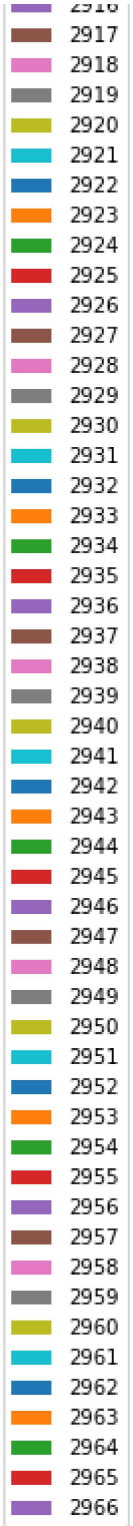


27. CHHATTISGARH

In [259]:
```
b=a.head(3082)
b
```

Out[259]:

	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
...	...	...	...	...	...	...	...	...	...	...	...	...
3077	3077	CHHATTISGARH	2011	0.3	11.5	2.6	35.0	16.8	183.5	272.6	379.8	382.2
3078	3078	CHHATTISGARH	2012	36.6	4.8	1.1	14.9	9.4	147.3	430.6	442.2	245.3
3079	3079	CHHATTISGARH	2013	2.8	19.7	4.9	45.8	5.7	263.6	418.8	336.6	140.9
3080	3080	CHHATTISGARH	2014	2.3	29.0	21.4	17.3	25.0	104.9	416.7	327.7	252.7
3081	3081	CHHATTISGARH	2015	15.8	1.2	21.2	37.0	13.0	257.6	248.6	286.6	216.9

3082 rows × 20 columns

In [260]:
```
b=b.tail(114)
b
```

Out[260]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	C
2968	2968	CHHATTISGARH	1902	0.6	6.5	0.4	13.9	10.3	37.2	403.8	236.6	198.1	
2969	2969	CHHATTISGARH	1903	6.2	13.9	0.4	6.8	51.1	110.7	365.9	396.0	212.0	16
2970	2970	CHHATTISGARH	1904	0.0	8.6	32.3	0.2	77.5	369.5	303.6	483.6	86.8	12
2971	2971	CHHATTISGARH	1905	50.3	22.6	19.0	24.6	31.8	40.4	443.7	270.8	338.8	
2972	2972	CHHATTISGARH	1906	25.0	91.0	52.5	0.0	4.1	210.1	445.2	258.3	242.3	4
...	...	...	...	...	...	...	...	...	...	...	...	...	
3077	3077	CHHATTISGARH	2011	0.3	11.5	2.6	35.0	16.8	183.5	272.6	379.8	382.2	1
3078	3078	CHHATTISGARH	2012	36.6	4.8	1.1	14.9	9.4	147.3	430.6	442.2	245.3	1
3079	3079	CHHATTISGARH	2013	2.8	19.7	4.9	45.8	5.7	263.6	418.8	336.6	140.9	18
3080	3080	CHHATTISGARH	2014	2.3	29.0	21.4	17.3	25.0	104.9	416.7	327.7	252.7	7
3081	3081	CHHATTISGARH	2015	15.8	1.2	21.2	37.0	13.0	257.6	248.6	286.6	216.9	1

114 rows × 20 columns

In [261]:
```
c=b[['YEAR','JAN','FEB','MAR','APR']]
c
```

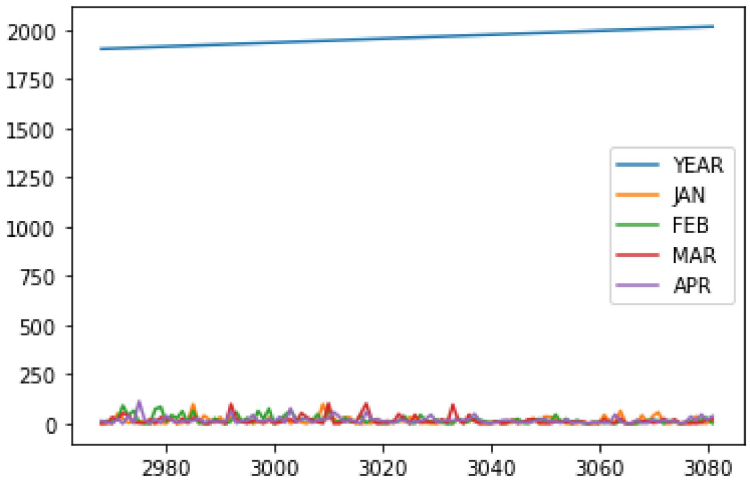
Out[261]:

	YEAR	JAN	FEB	MAR	APR
2968	1902	0.6	6.5	0.4	13.9
2969	1903	6.2	13.9	0.4	6.8
2970	1904	0.0	8.6	32.3	0.2
2971	1905	50.3	22.6	19.0	24.6
2972	1906	25.0	91.0	52.5	0.0
...	...	...	...	...	...
3077	2011	0.3	11.5	2.6	35.0
3078	2012	36.6	4.8	1.1	14.9
3079	2013	2.8	19.7	4.9	45.8
3080	2014	2.3	29.0	21.4	17.3
3081	2015	15.8	1.2	21.2	37.0

114 rows × 5 columns

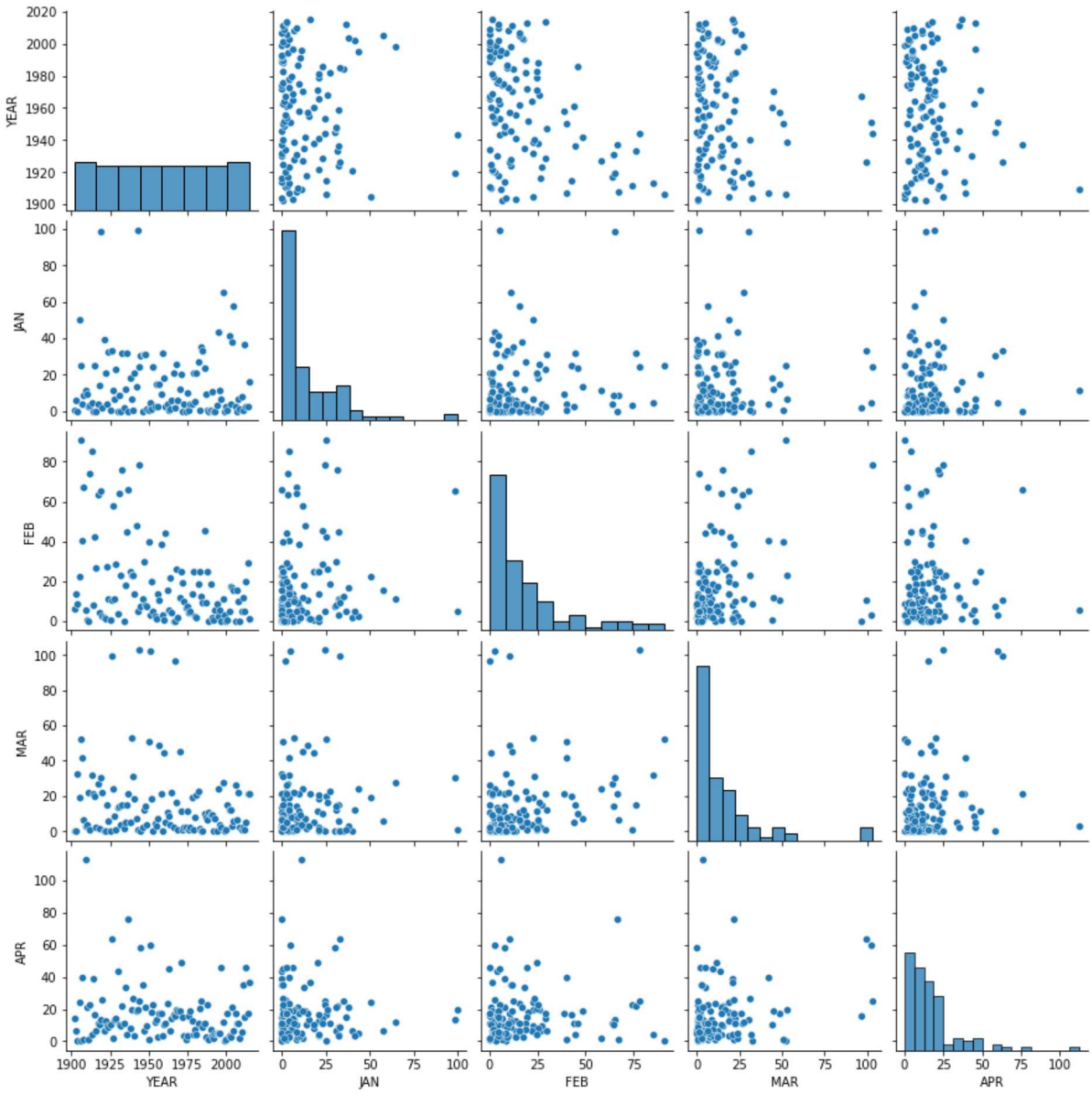
In [262]:
```
c.plot.line()
```

Out[262]: <AxesSubplot:>



In [263]:
```
sns.pairplot(c)
```

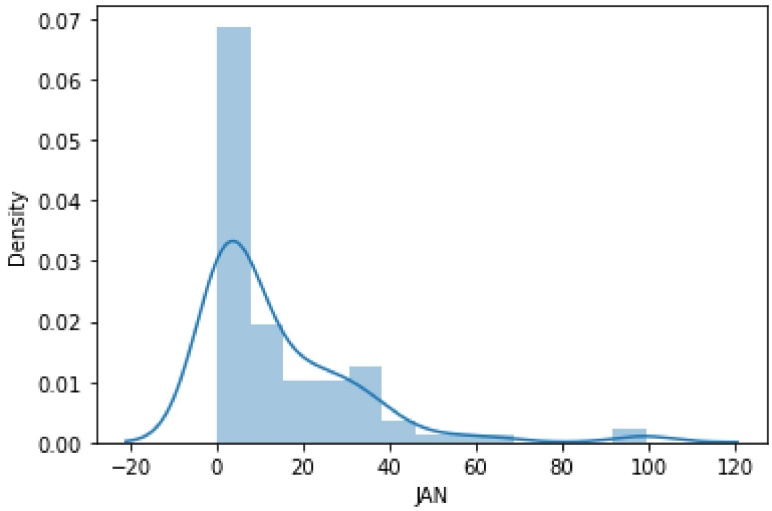
Out[263]:
```
<seaborn.axisgrid.PairGrid at 0x24b226e2fa0>
```



In [264]:
```
sns.distplot(c['JAN'])
```

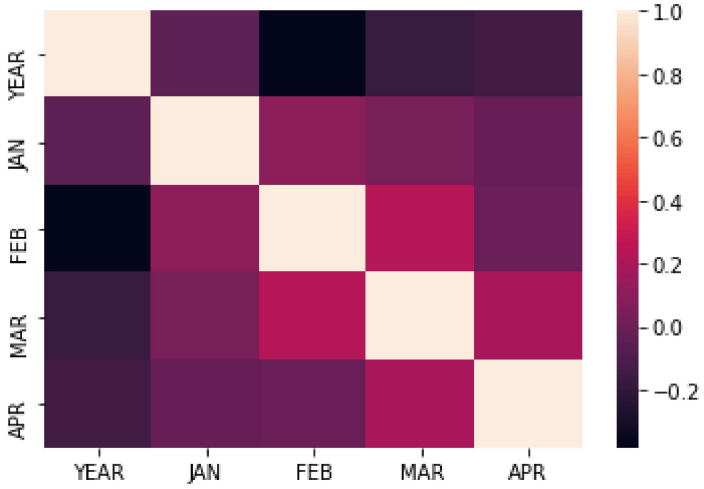
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function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

Out[264]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



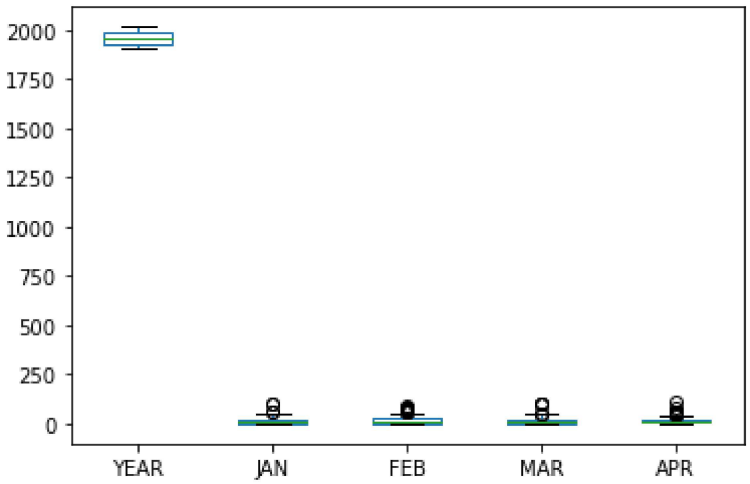
In [265]:
```
sns.heatmap(c.corr())
```

Out[265]: <AxesSubplot:>



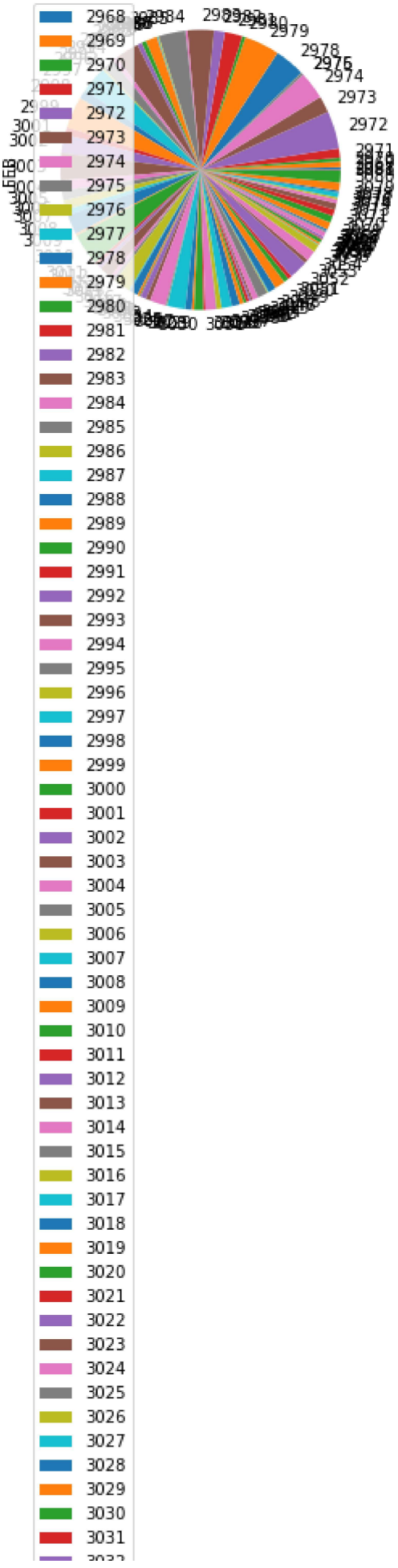
In [266]:
```
c.plot.box()
```

Out[266]: <AxesSubplot:>



In [267]:
```
c.plot.pie(y='FEB')
```

Out[267]:
```
<AxesSubplot:ylabel='FEB'>
```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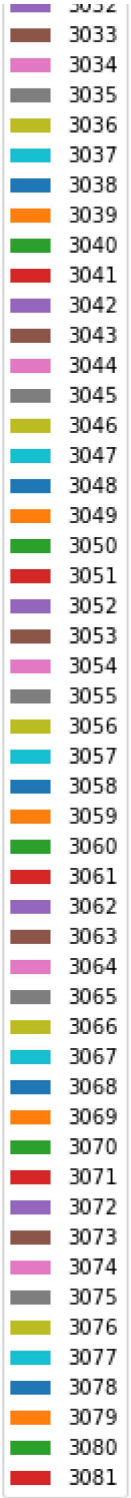


28. COASTAL ANDHRA PRADESH

In [268]:
```
b=a.head(3197)
b
```

Out[268]:

	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
...	...	...	...	...	...	...	...	...	...	...	...	...	
3192	3192	COASTAL ANDHRA PRADESH	2011	0.0	17.9	0.9	62.3	67.9	86.8	196.0	215.8	129.7	7
3193	3193	COASTAL ANDHRA PRADESH	2012	37.6	0.0	2.7	24.0	39.3	95.4	221.9	221.2	246.5	14
3194	3194	COASTAL ANDHRA PRADESH	2013	2.0	29.6	0.2	48.0	28.2	127.5	162.4	123.1	132.0	41
3195	3195	COASTAL ANDHRA PRADESH	2014	0.4	1.2	9.1	6.0	112.9	45.7	151.8	177.8	144.5	19
3196	3196	COASTAL ANDHRA PRADESH	2015	2.0	0.6	5.5	32.3	34.1	283.8	116.0	192.0	201.8	5

3197 rows × 20 columns

In [269]:
```
b=b.tail(114)
b
```

Out[269]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OC
3083	3083	COASTAL ANDHRA PRADESH	1902	2.0	0.0	2.8	23.9	37.6	72.6	144.5	236.1	204.5	262.
3084	3084	COASTAL ANDHRA PRADESH	1903	0.8	13.3	0.2	6.2	73.4	154.0	248.6	258.0	216.5	159.
3085	3085	COASTAL ANDHRA PRADESH	1904	1.3	0.0	5.4	3.0	136.3	107.8	120.2	117.7	116.8	240.
3086	3086	COASTAL ANDHRA PRADESH	1905	1.1	16.7	68.0	37.0	68.8	84.4	64.6	210.8	170.2	66.
3087	3087	COASTAL ANDHRA PRADESH	1906	3.9	23.5	9.9	2.3	11.0	252.6	155.8	241.1	126.9	92.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
3192	3192	COASTAL ANDHRA PRADESH	2011	0.0	17.9	0.9	62.3	67.9	86.8	196.0	215.8	129.7	74.
3193	3193	COASTAL ANDHRA PRADESH	2012	37.6	0.0	2.7	24.0	39.3	95.4	221.9	221.2	246.5	140.
3194	3194	COASTAL ANDHRA PRADESH	2013	2.0	29.6	0.2	48.0	28.2	127.5	162.4	123.1	132.0	411.
3195	3195	COASTAL ANDHRA PRADESH	2014	0.4	1.2	9.1	6.0	112.9	45.7	151.8	177.8	144.5	195.
3196	3196	COASTAL ANDHRA PRADESH	2015	2.0	0.6	5.5	32.3	34.1	283.8	116.0	192.0	201.8	59.

114 rows × 20 columns

In [270]:
```
c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]
c
```

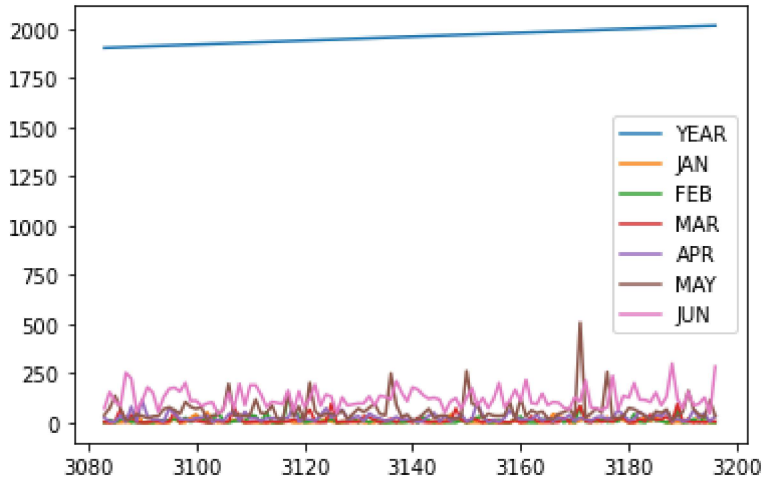
Out[270]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
3083	1902	2.0	0.0	2.8	23.9	37.6	72.6
3084	1903	0.8	13.3	0.2	6.2	73.4	154.0
3085	1904	1.3	0.0	5.4	3.0	136.3	107.8
3086	1905	1.1	16.7	68.0	37.0	68.8	84.4
3087	1906	3.9	23.5	9.9	2.3	11.0	252.6
...	...	...	...	...	...	...	...
3192	2011	0.0	17.9	0.9	62.3	67.9	86.8
3193	2012	37.6	0.0	2.7	24.0	39.3	95.4
3194	2013	2.0	29.6	0.2	48.0	28.2	127.5
3195	2014	0.4	1.2	9.1	6.0	112.9	45.7
3196	2015	2.0	0.6	5.5	32.3	34.1	283.8

114 rows × 7 columns

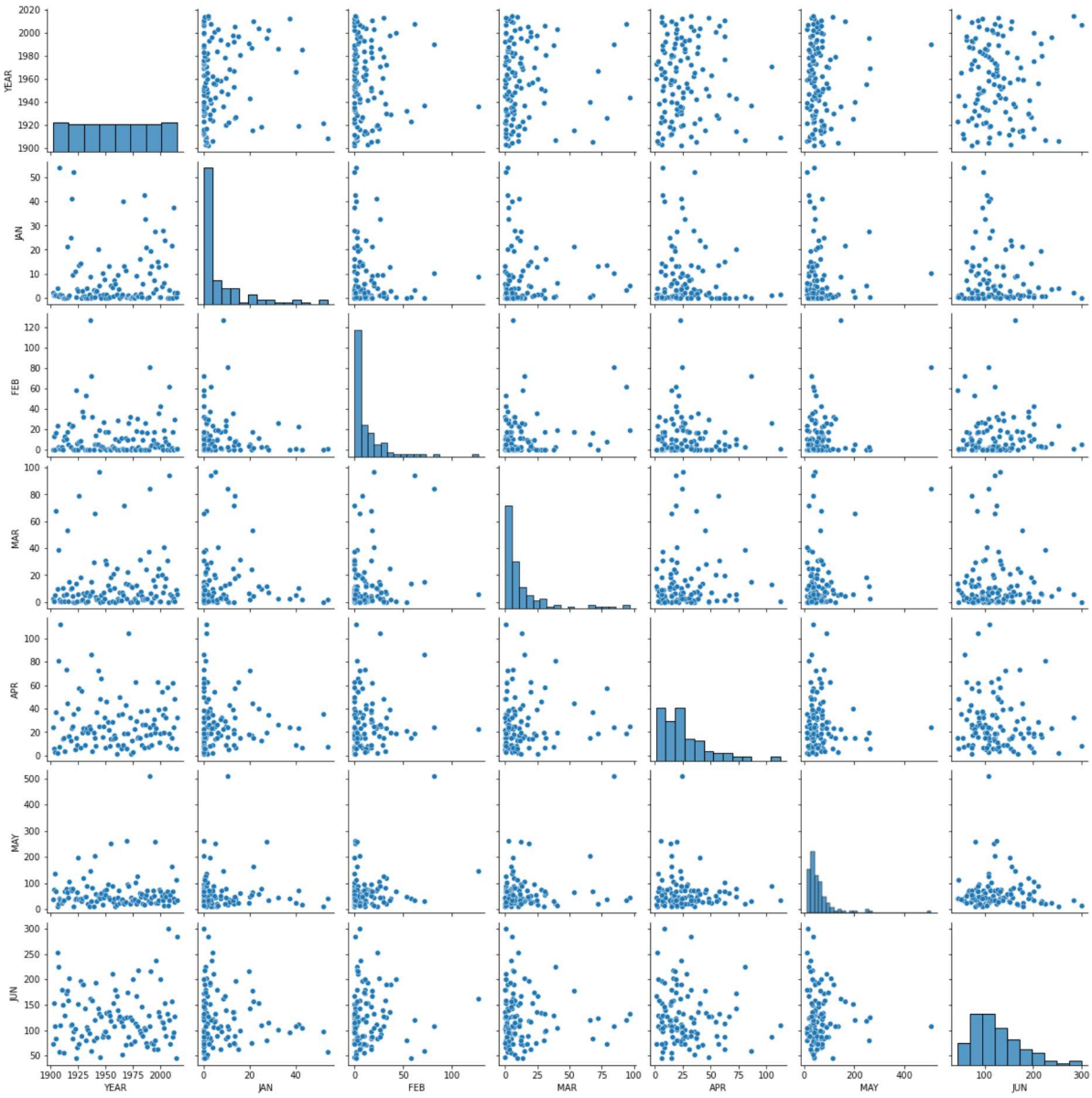
In [271]:
```
c.plot.line()
```

Out[271]: <AxesSubplot:>



In [272]:
```
sns.pairplot(c)
```

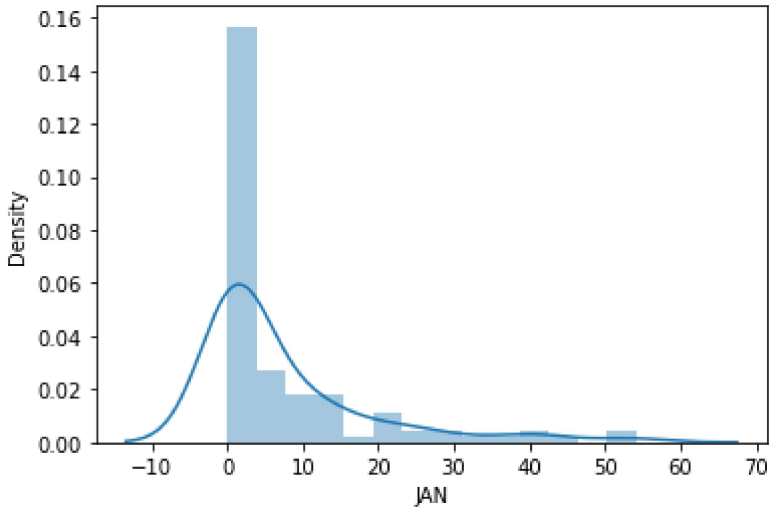
Out[272]:
```
<seaborn.axisgrid.PairGrid at 0x24b25062f40>
```



In [273]:
```
sns.distplot(c['JAN'])
```

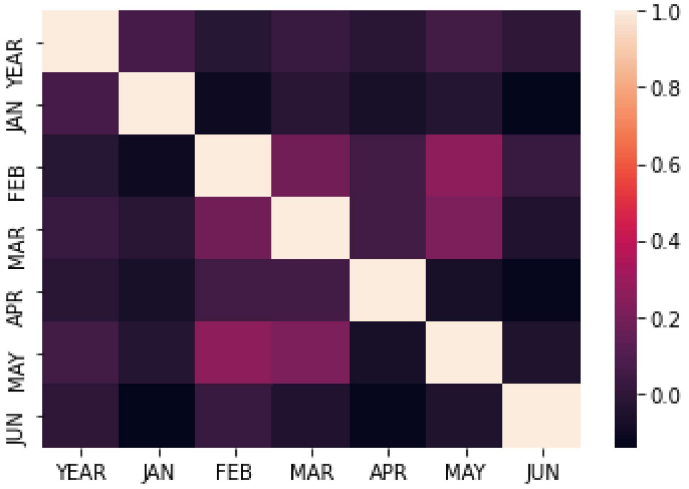
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function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

Out[273]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



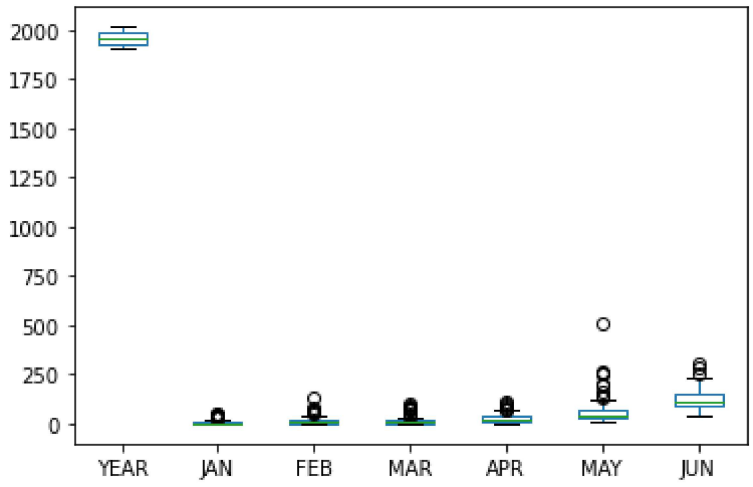
In [274]:
```
sns.heatmap(c.corr())
```

Out[274]: <AxesSubplot:>



In [275]:
```
c.plot.box()
```

Out[275]: <AxesSubplot:>



29. TELANGANA

In [276]:
```
b=a.head(3312)
b=b.tail(115)
b
```

Out[276]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
3197	3197	TELANGANA	1901	6.9	41.8	7.8	45.2	22.0	123.6	237.8	177.2	77.7	75.5
3198	3198	TELANGANA	1902	0.0	0.0	0.2	10.7	7.3	52.4	146.3	142.8	190.5	41.7
3199	3199	TELANGANA	1903	12.9	4.6	0.0	9.9	40.7	99.2	505.2	246.7	191.9	155.8
3200	3200	TELANGANA	1904	0.0	0.0	10.8	0.8	14.7	104.2	139.5	50.0	162.3	44.4
3201	3201	TELANGANA	1905	0.0	4.3	12.8	27.6	32.2	129.5	82.4	237.3	179.1	19.6
...	...	...	...	...	...	...	...	...	...	...	...	...	...
3307	3307	TELANGANA	2011	0.0	11.9	2.6	25.6	9.3	83.9	268.2	225.9	107.6	13.9
3308	3308	TELANGANA	2012	6.7	0.0	0.2	14.0	8.4	124.4	300.3	229.9	202.4	83.6
3309	3309	TELANGANA	2013	2.4	29.0	0.2	24.4	8.5	213.4	453.8	230.6	161.4	205.9
3310	3310	TELANGANA	2014	0.2	2.9	58.3	10.3	73.3	62.3	146.0	205.2	146.8	29.6
3311	3311	TELANGANA	2015	17.5	0.0	43.0	65.7	23.3	266.9	104.4	160.5	158.3	15.6

115 rows × 20 columns

In [277]:
```
c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]
c
```

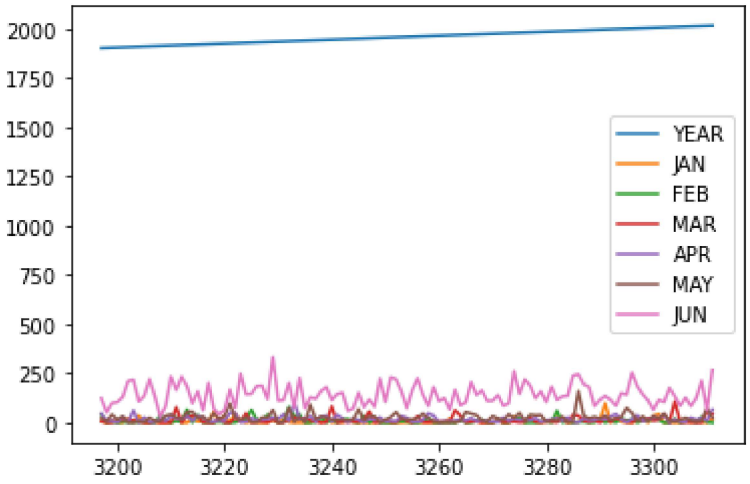
Out[277]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
3197	1901	6.9	41.8	7.8	45.2	22.0	123.6
3198	1902	0.0	0.0	0.2	10.7	7.3	52.4
3199	1903	12.9	4.6	0.0	9.9	40.7	99.2
3200	1904	0.0	0.0	10.8	0.8	14.7	104.2
3201	1905	0.0	4.3	12.8	27.6	32.2	129.5
...	...	...	...	...	...	...	...
3307	2011	0.0	11.9	2.6	25.6	9.3	83.9
3308	2012	6.7	0.0	0.2	14.0	8.4	124.4
3309	2013	2.4	29.0	0.2	24.4	8.5	213.4
3310	2014	0.2	2.9	58.3	10.3	73.3	62.3
3311	2015	17.5	0.0	43.0	65.7	23.3	266.9

115 rows × 7 columns

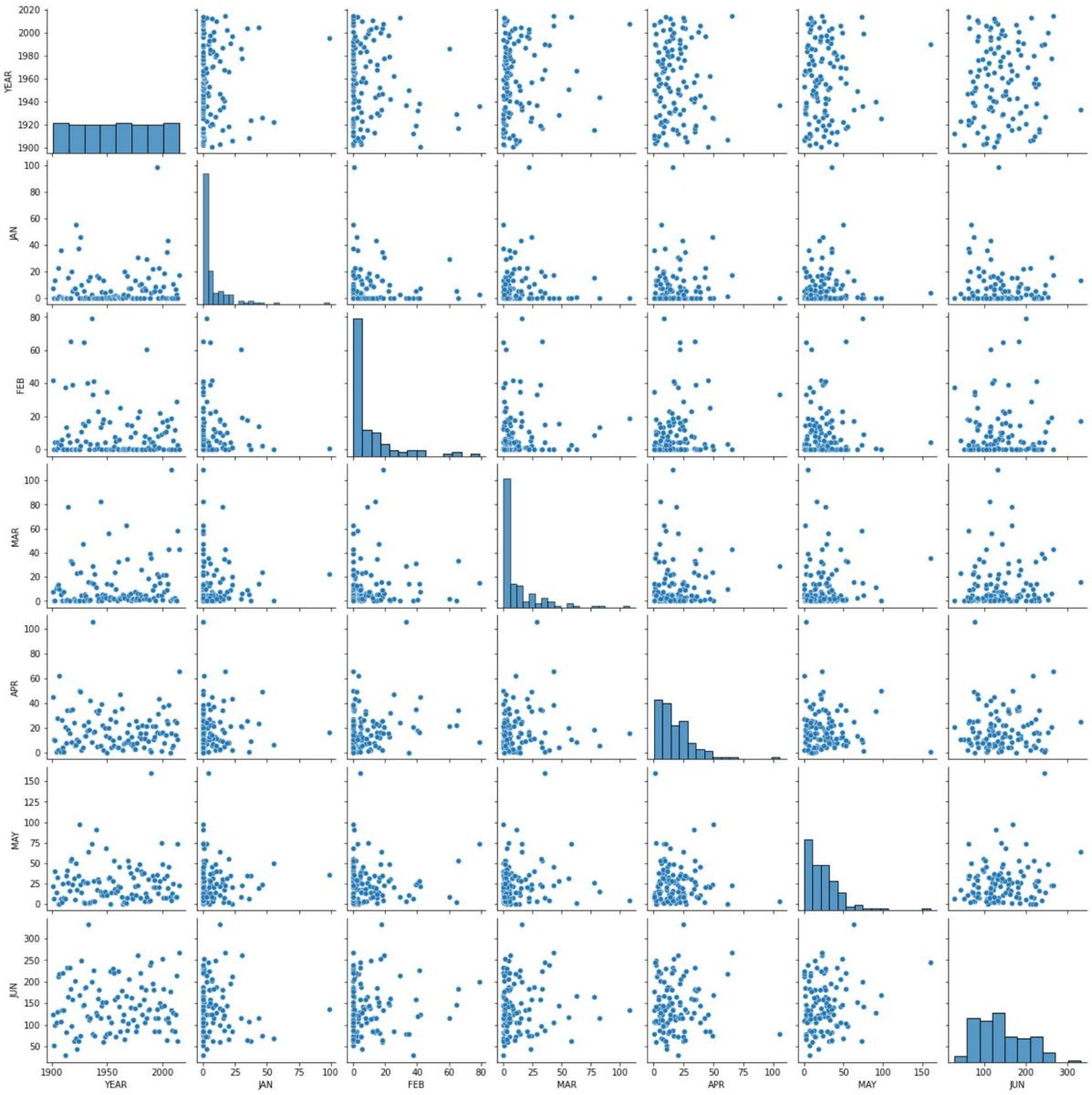
In [278]:
```
c.plot.line()
```

Out[278]: <AxesSubplot:>



In [279]:
```
sns.pairplot(c)
```

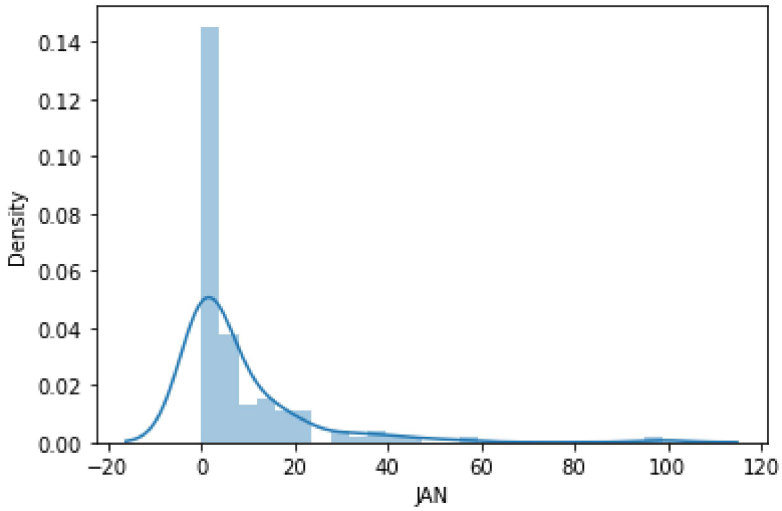
Out[279]:
```
<seaborn.axisgrid.PairGrid at 0x24b27e73a30>
```



In [280]:
```
sns.distplot(c['JAN'])
```

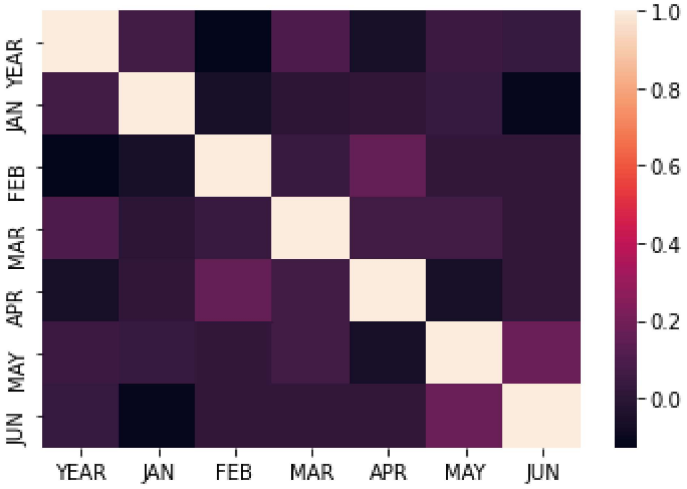
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function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

Out[280]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



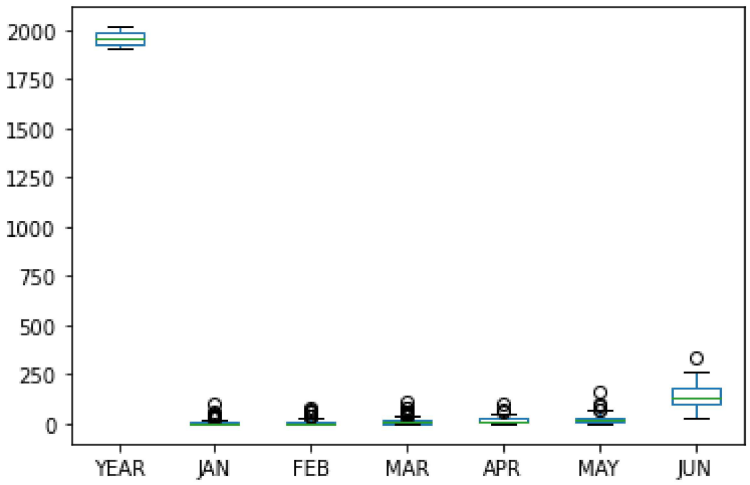
In [281]:
```
sns.heatmap(c.corr())
```

Out[281]: <AxesSubplot:>



In [282]:
```
c.plot.box()
```

Out[282]: <AxesSubplot:>



In [283]:
```
c.plot.pie(y='MAR')
```

Out[283]:
```
<AxesSubplot:ylabel='MAR'>
```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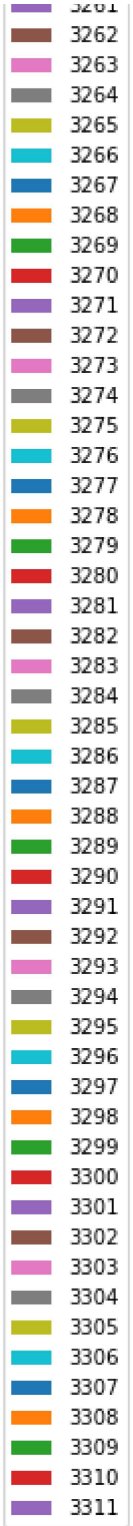


30. RAYALSEEMA

In [284]:
```
b=a.head(3427)
b=b.tail(115)
b
```

Out[284]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
3312	3312	RAYALSEEMA	1901	7.0	50.2	0.0	12.1	38.9	53.0	73.4	60.3	109.0	81.6
3313	3313	RAYALSEEMA	1902	10.0	0.2	1.7	11.0	36.8	73.6	41.3	148.3	181.7	188.5
3314	3314	RAYALSEEMA	1903	30.0	0.1	0.0	3.6	80.5	67.5	127.5	140.6	219.7	95.3
3315	3315	RAYALSEEMA	1904	14.8	0.0	1.7	7.1	58.8	39.8	75.1	19.4	84.7	111.5
3316	3316	RAYALSEEMA	1905	6.5	6.8	17.0	18.3	44.2	66.1	50.9	219.3	36.5	180.2
...	...	...	...	...	...	...	...	...	...	...	...	...	...
3422	3422	RAYALSEEMA	2011	0.8	12.1	0.0	34.6	33.0	44.5	128.9	163.6	71.2	107.5
3423	3423	RAYALSEEMA	2012	2.7	0.0	2.5	32.7	38.8	47.0	139.7	120.0	69.5	113.7
3424	3424	RAYALSEEMA	2013	1.3	30.6	11.5	26.8	38.9	73.8	95.7	110.3	163.2	169.3
3425	3425	RAYALSEEMA	2014	0.2	0.7	12.5	5.1	46.7	66.3	68.7	115.1	81.4	104.6
3426	3426	RAYALSEEMA	2015	1.9	0.0	13.4	73.4	39.7	73.0	43.1	123.6	136.3	106.7

115 rows × 20 columns

In [285]:
```
c=b[['YEAR','JAN','FEB','MAR','APR','MAY','JUN']]
c
```

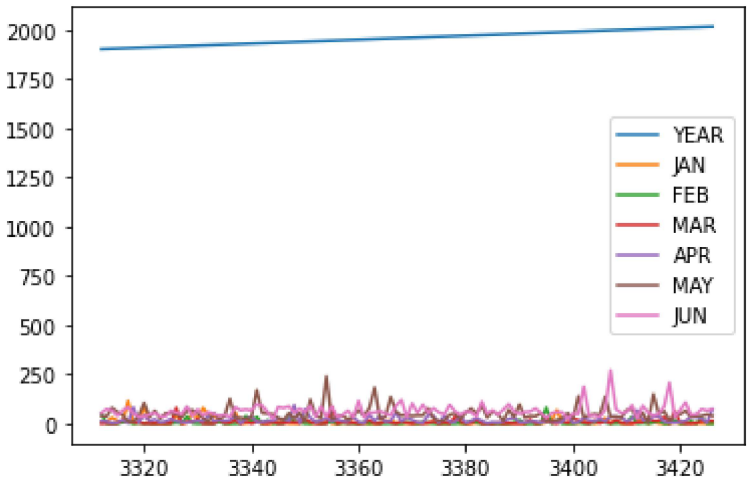
Out[285]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN
3312	1901	7.0	50.2	0.0	12.1	38.9	53.0
3313	1902	10.0	0.2	1.7	11.0	36.8	73.6
3314	1903	30.0	0.1	0.0	3.6	80.5	67.5
3315	1904	14.8	0.0	1.7	7.1	58.8	39.8
3316	1905	6.5	6.8	17.0	18.3	44.2	66.1
...	...	...	...	...	...	...	...
3422	2011	0.8	12.1	0.0	34.6	33.0	44.5
3423	2012	2.7	0.0	2.5	32.7	38.8	47.0
3424	2013	1.3	30.6	11.5	26.8	38.9	73.8
3425	2014	0.2	0.7	12.5	5.1	46.7	66.3
3426	2015	1.9	0.0	13.4	73.4	39.7	73.0

115 rows × 7 columns

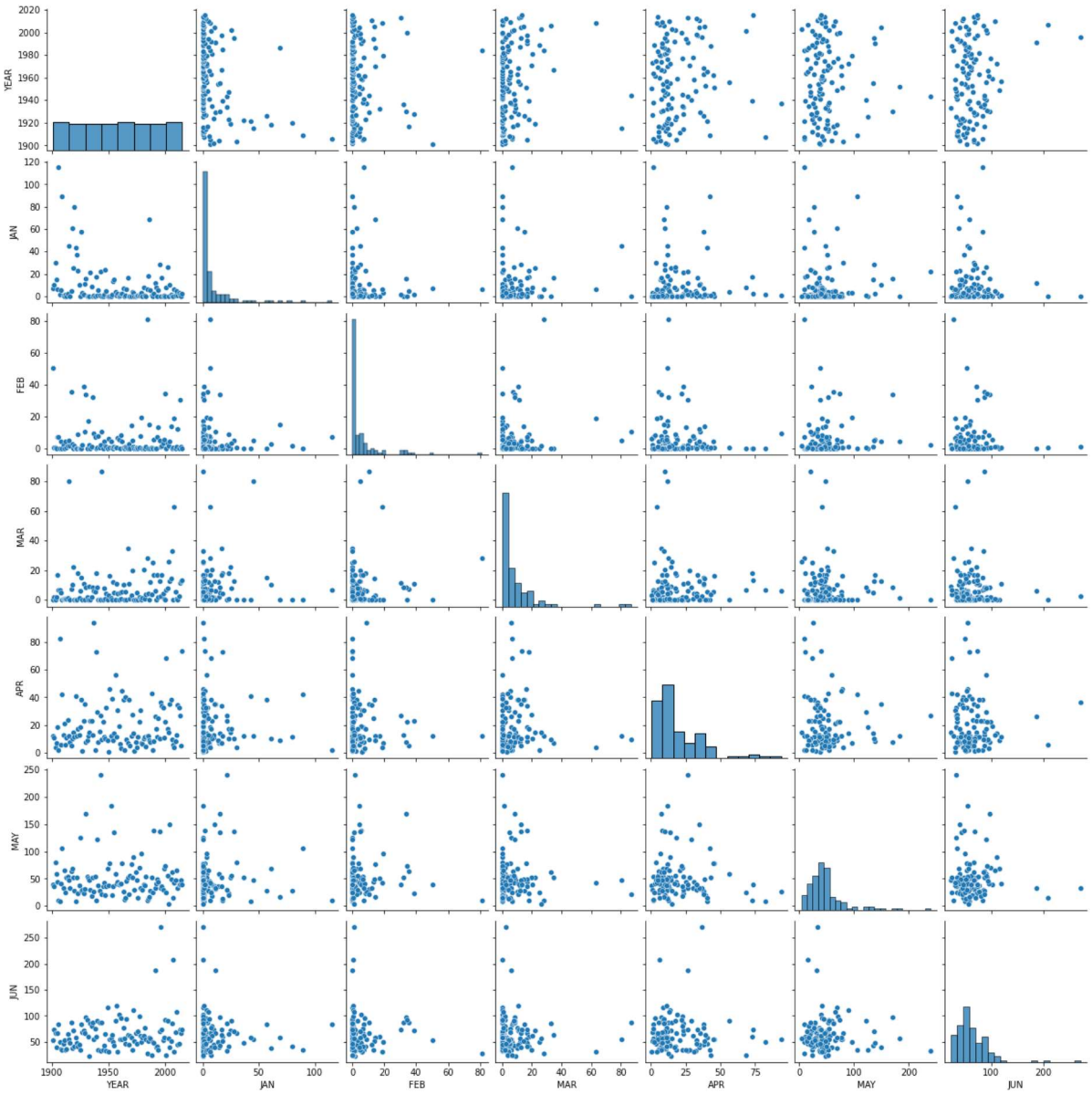
In [286]:
```
c.plot.line()
```

Out[286]: <AxesSubplot:>



In [287]:
```
sns.pairplot(c)
```

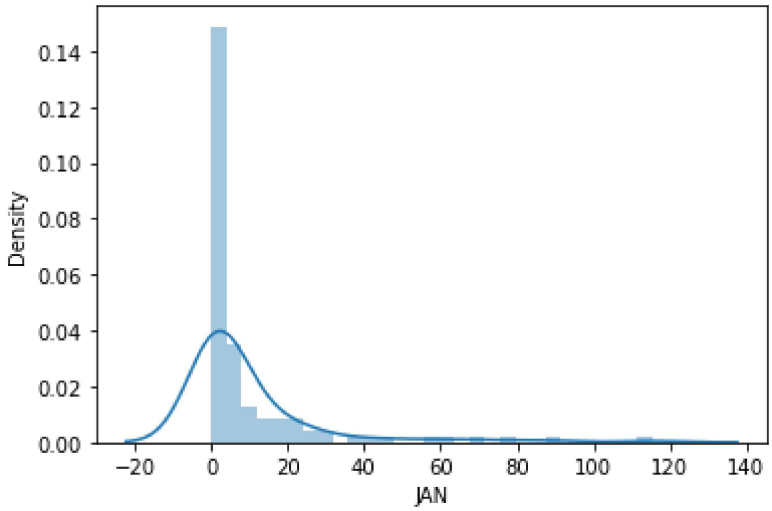
Out[287]:
```
<seaborn.axisgrid.PairGrid at 0x24b2b3cbb20>
```



In [288]:
```
sns.distplot(c['JAN'])
```

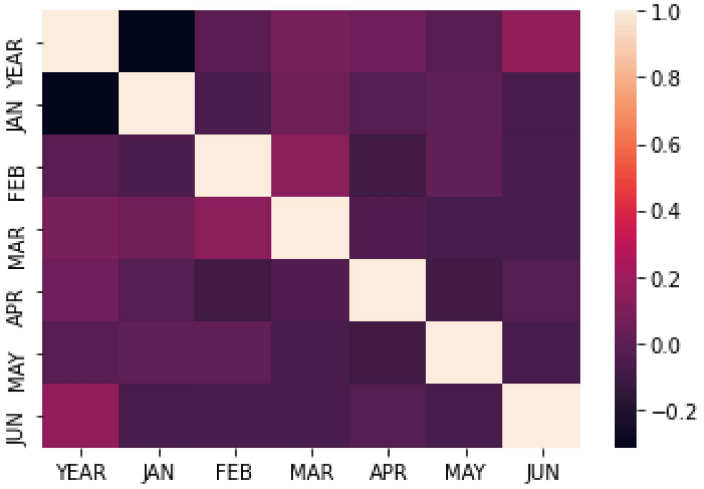
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function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

Out[288]: <AxesSubplot:xlabel='JAN', ylabel='Density'>



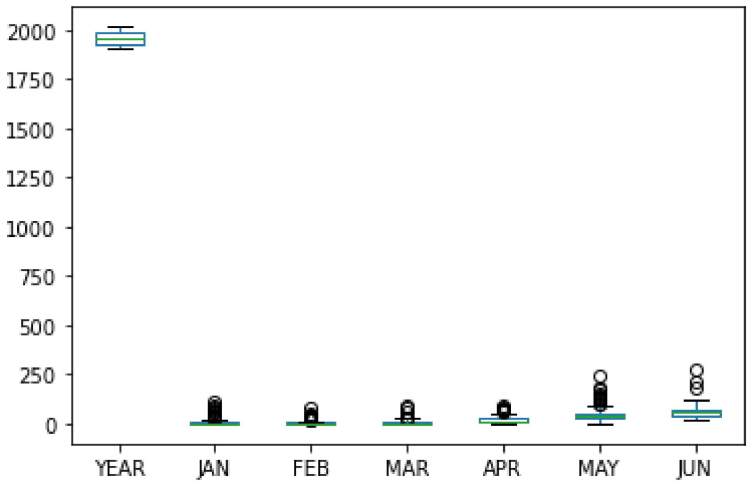
In [289]:
```
sns.heatmap(c.corr())
```

Out[289]: <AxesSubplot:>



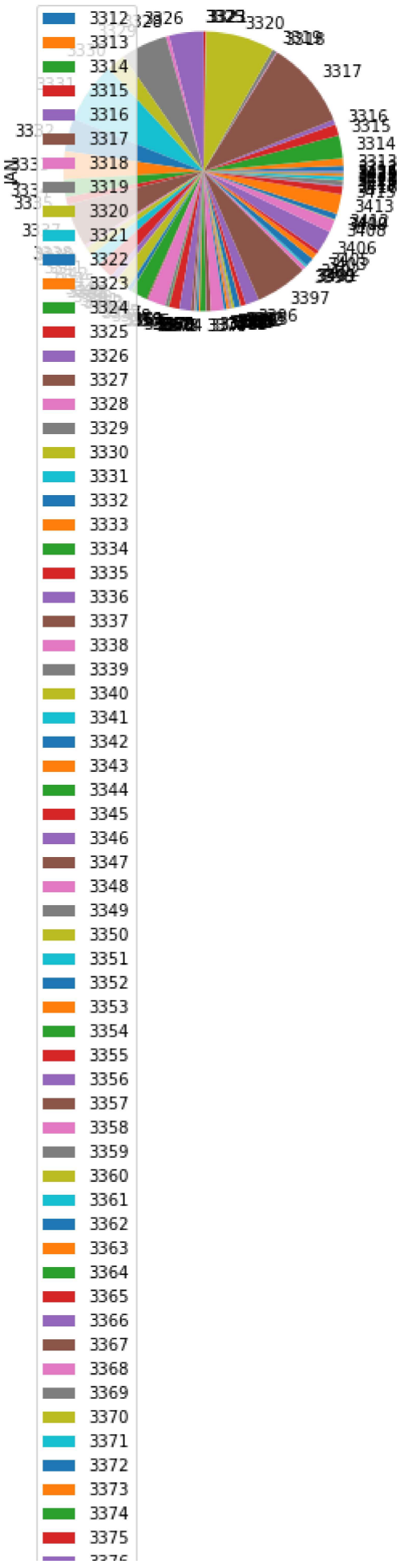
In [290]:
```
c.plot.box()
```

Out[290]: <AxesSubplot:>



In [291]:
```
c.plot.pie(y='JAN')
```

Out[291]:
```
<AxesSubplot:ylabel='JAN'>
```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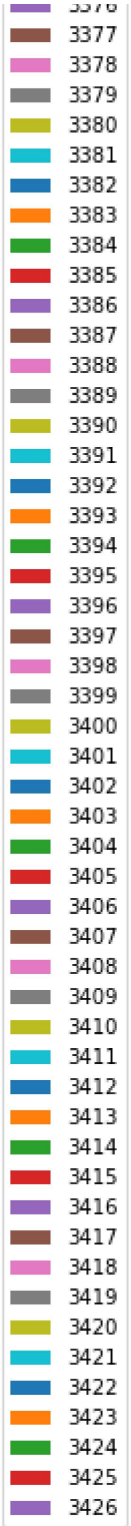
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