

```
In [12]: #Yifu Ding
#extract data and in the form of react accepts
import pandas as pd
df = pd.read_csv("cleanDataWithPartiesInflation.csv")
df
```

Out[12]:

	cmte_id	state	employer	year	amount	party	adjusted
0	C00096941	KY	INSURANCE SALES AND ADM	1979	1000	DEM	3459.963252
1	C00078295	NY	WILKIE, FARR & GALLAGHER	1979	500	DEM	1729.981626
2	C00078295	NY	WENDER, MURASE & WHITE	1979	1000	DEM	3459.963252
3	C00078295	NY	SMILIN & SAFIER, INC	1979	300	DEM	1037.988976
4	C00078295	NY	MUDGE ROSE ET AL	1979	500	DEM	1729.981626
...
30489448	C00694455	DC	THE CALPRO GROUP	2019	200	DEM	200.000000
30489449	C00694455	WA	SELF-EMPLOYED	2019	100	DEM	100.000000
30489450	C00694455	CA	SELF-EMPLOYED	2019	2800	DEM	2799.999997
30489451	C00694455	CA	IT'S A WRAPPER! FILMS	2019	2800	DEM	2799.999997
30489452	C00702340	TX	SELF	2019	25	IND	25.000000

30489453 rows × 7 columns

```
In [63]: #df = df.drop(['cmte_id', 'amount'], axis='columns')
df
```

Out[63]:

	state	employer	year	party	adjusted
0	KY	INSURANCE SALES AND ADM	1979	DEM	3459.963252
1	NY	WILKIE, FARR & GALLAGHER	1979	DEM	1729.981626
2	NY	WENDER, MURASE & WHITE	1979	DEM	3459.963252
3	NY	SMILIN & SAFIER, INC	1979	DEM	1037.988976
4	NY	MUDGE ROSE ET AL	1979	DEM	1729.981626
...
30489448	DC	THE CALPRO GROUP	2019	DEM	200.000000
30489449	WA	SELF-EMPLOYED	2019	DEM	100.000000
30489450	CA	SELF-EMPLOYED	2019	DEM	2799.999997
30489451	CA	IT'S A WRAPPER! FILMS	2019	DEM	2799.999997
30489452	TX	SELF	2019	IND	25.000000

30489453 rows × 5 columns

In [185]: *#different data will be printed, by changing year number*

```
df1982 = df.loc[df['year'] == 2020]
df1981 = df.loc[df['year'] == 2019]
```

In [186]:

```
statelist = ['NY', 'AZ', 'CA', 'NV', 'AK', 'HI', 'OR', 'WA', 'ID', 'MT', 'UT',
             'WY', 'CO', 'NM', 'TX', 'OK', 'KS',
             'NE', 'SD', 'ND', 'WI', 'IA', 'MN', 'IL', 'MO', 'AR', 'LA', 'MS', 'AL', 'TN',
             'KY', 'IN', 'OH', 'MI', 'FL', 'GA',
             'SC', 'NC', 'VA', 'WV', 'MD', 'DE', 'PA', 'NJ', 'CT', 'RI', 'MA', 'VT', 'NH',
             'MI']
demsumlist=[]
repsumlist=[]
indsumlist=[]
```

In [187]:

```
for i in statelist:
    asd=df1982.loc[df1982['party']=='DEM'].loc[df1982['state']==i]
    sss=asd['adjusted']
    sum1=sum(sss)
    asd=df1981.loc[df1981['party']=='DEM'].loc[df1981['state']==i]
    ssss=asd['adjusted']
    sum2=sum(ssss)
    value=sum1+sum2
    demsumlist.append(value)
    asd=df1982.loc[df1982['party']=='REP'].loc[df1982['state']==i]
    sss=asd['adjusted']
    sum1=sum(sss)
    asd=df1981.loc[df1981['party']=='REP'].loc[df1981['state']==i]
    ssss=asd['adjusted']
    sum2=sum(ssss)
    value=sum1+sum2
    repsumlist.append(value)
```

In [188]: repsumlist

Out[188]: [14268600.982957494,
5596591.993313802,
26370024.968514044,
3911621.9953266378,
788722.9990577282,
398281.99952418375,
1322325.9984202224,
3580416.995722262,
571770.9993169293,
1417079.9983069638,
1659024.9980178853,
894410.998931447,
4726698.99435294,
1296767.9984507067,
26737005.968074106,
3207086.9961683406,
3577599.995725783,
1240625.9985178274,
1007738.9987960624,
378552.9995477525,
2895665.9965404305,
2837083.996610434,
2831109.9966175496,
8025753.990412006,
4466993.9946632655,
3066799.996335987,
3716616.9955596062,
1362705.9983719084,
6581215.992137737,
8179916.990227692,
2002816.997607146,
2165109.997413205,
6151687.992650677,
8156006.990256151,
16932179.979780365,
9310304.98887818,
2971670.996449578,
7723132.990773617,
8129679.990288099,
666654.9992035617,
3174876.996206824,
322420.99961480766,
5417791.993527459,
3978333.9952469193,
2372891.9971650173,
252971.9996977738,
2743353.9967224067,
192128.99977046336,
743741.9991114605,
8156006.990256151]

```
In [189]: for (i,j,k) in zip(statelist, repsumlist, demsumlist):
          print("{ state: '"+i+"', rep: "+str(j)+" , dem: "+str(k)+" },")

{ state: 'NY', rep: 14268600.982957494, dem: 62236350.92570242 },
{ state: 'AZ', rep: 5596591.993313802, dem: 5394828.993555134 },
{ state: 'CA', rep: 26370024.968514044, dem: 136253481.83750123 },
{ state: 'NV', rep: 3911621.9953266378, dem: 2945523.9964809283 },
{ state: 'AK', rep: 788722.9990577282, dem: 411686.9995081855 },
{ state: 'HI', rep: 398281.99952418375, dem: 1622548.9980615214 },
{ state: 'OR', rep: 1322325.9984202224, dem: 4476948.994651628 },
{ state: 'WA', rep: 3580416.995722262, dem: 14437620.982757885 },
{ state: 'ID', rep: 571770.9993169293, dem: 781929.9990658255 },
{ state: 'MT', rep: 1417079.9983069638, dem: 1320709.9984221205 },
{ state: 'UT', rep: 1659024.9980178853, dem: 1688988.9979820738 },
{ state: 'WY', rep: 894410.998931447, dem: 501864.9994004278 },
{ state: 'CO', rep: 4726698.99435294, dem: 13142837.9843047 },
{ state: 'NM', rep: 1296767.9984507067, dem: 3275142.996087198 },
{ state: 'TX', rep: 26737005.968074106, dem: 25301737.96977613 },
{ state: 'OK', rep: 3207086.9961683406, dem: 1616077.9980691953 },
{ state: 'KS', rep: 3577599.995725783, dem: 1419466.9983041382 },
{ state: 'NE', rep: 1240625.9985178274, dem: 693447.9991715464 },
{ state: 'SD', rep: 1007738.9987960624, dem: 213565.99974485833 },
{ state: 'ND', rep: 378552.9995477525, dem: 159916.99980894796 },
{ state: 'WI', rep: 2895665.9965404305, dem: 2082987.9975112872 },
{ state: 'IA', rep: 2837083.996610434, dem: 3262692.9961021105 },
{ state: 'MN', rep: 2831109.9966175496, dem: 6124313.992682616 },
{ state: 'IL', rep: 8025753.990412006, dem: 17796167.97874887 },
{ state: 'MO', rep: 4466993.9946632655, dem: 2674771.99680439 },
{ state: 'AR', rep: 3066799.996335987, dem: 726237.9991323648 },
{ state: 'LA', rep: 3716616.9955596062, dem: 1449941.99826769 },
{ state: 'MS', rep: 1362705.9983719084, dem: 347368.9995850075 },
{ state: 'AL', rep: 6581215.992137737, dem: 1089739.998698097 },
{ state: 'TN', rep: 8179916.990227692, dem: 3344398.9960044315 },
{ state: 'KY', rep: 2002816.997607146, dem: 1964590.9976528557 },
{ state: 'IN', rep: 2165109.997413205, dem: 3611227.9956858084 },
{ state: 'OH', rep: 6151687.992650677, dem: 3967583.99526001 },
{ state: 'MI', rep: 8156006.990256151, dem: 8741125.989556856 },
{ state: 'FL', rep: 16932179.979780365, dem: 19268968.976989873 },
{ state: 'GA', rep: 9310304.98887818, dem: 6310334.992460917 },
{ state: 'SC', rep: 2971670.996449578, dem: 3052789.996352833 },
{ state: 'NC', rep: 7723132.990773617, dem: 6295620.992479014 },
{ state: 'VA', rep: 8129679.990288099, dem: 12027508.985634176 },
{ state: 'WV', rep: 666654.9992035617, dem: 257537.9996923297 },
{ state: 'MD', rep: 3174876.996206824, dem: 12400538.985187968 },
{ state: 'DE', rep: 322420.99961480766, dem: 1506851.9981997374 },
{ state: 'PA', rep: 5417791.993527459, dem: 9526319.98861896 },
{ state: 'NJ', rep: 3978333.9952469193, dem: 12842652.98466074 },
{ state: 'CT', rep: 2372891.9971650173, dem: 6947612.991699551 },
{ state: 'RI', rep: 252971.9996977738, dem: 1278619.9984724144 },
{ state: 'MA', rep: 2743353.9967224067, dem: 23554542.971868128 },
{ state: 'VT', rep: 192128.99977046336, dem: 953005.9988614351 },
{ state: 'NH', rep: 743741.9991114605, dem: 2116572.997471203 },
{ state: 'MI', rep: 8156006.990256151, dem: 8741125.989556856 },
```

```
In [20]: #demsumlist  
#repsumlist  
#indsumlist
```

```
Out[20]: [33131817.137396988,  
13258029.768068751,  
55780263.06830224,  
7100350.851138627,  
1230147.6595325323,  
2120439.026668747,  
3051662.1108123777,  
10378258.994691726,  
1928170.9672682476,  
2641858.244302033,  
11256209.052684164,  
1912202.9494109147,  
12144029.75185114,  
4797088.957002031,  
63423953.06953414,  
8934342.230344048,  
5008935.337475446,  
4419587.515657102,  
2318410.7308038916,  
2398260.6633892036,  
15029716.34773538,  
4350203.196967485,  
7481349.944614179,  
22492478.863340683,  
15940798.949081652,  
3596194.4874442737,  
9268845.955658704,  
3810728.088457049,  
7242060.44742333,  
11294656.977324573,  
6841426.160482369,  
10035111.759436956,  
17059601.40135363,  
14386246.788679136,  
45552934.653362095,  
13105203.806475637,  
5918878.303574653,  
13948599.51130464,  
24353300.88734463,  
3410803.612721015,  
8954736.451507436,  
1039738.8898825675,  
40269581.27311736,  
14111161.588991055,  
28630722.73388091,  
1505165.0498293308,  
14147927.403257404,  
376939.27962037374,  
2396761.200890404,  
14386246.788679136]
```

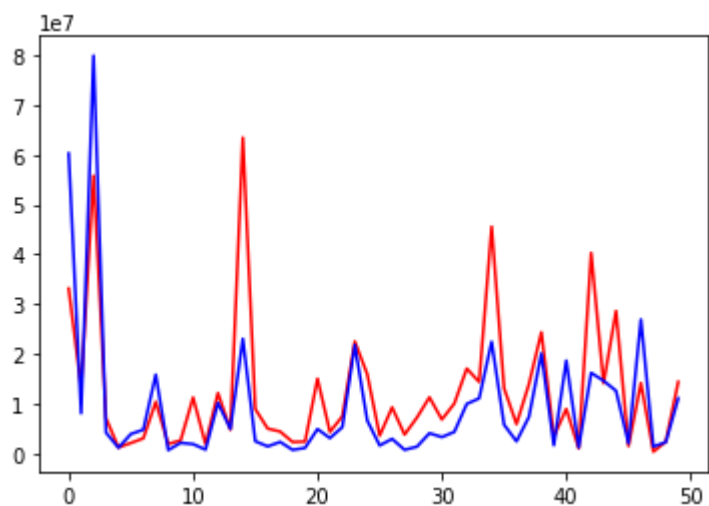
```
In [21]: #demsumList
```

```
Out[21]: [60235175.99551925,  
8083498.429514478,  
79878259.41151637,  
4213351.815430883,  
1171018.9643667468,  
3927790.0648490186,  
4787318.9362128405,  
15842154.878217213,  
695426.8642841001,  
2154981.349133666,  
1902275.4358430277,  
794869.3360404053,  
10170423.211580003,  
4959096.528862907,  
23038501.952871315,  
2469591.767817594,  
1439010.4268062734,  
2335774.309673922,  
741320.6975258377,  
1136361.803417215,  
4914357.6426661275,  
3104818.1110795937,  
5305670.32575784,  
21792234.25120209,  
6630319.121109704,  
1626084.5056037377,  
2947961.8655274184,  
749975.1444645348,  
1385964.8902241976,  
4079031.2553546047,  
3311356.7661652323,  
4349455.106267741,  
9962026.360443829,  
11080997.242494885,  
22445666.322221003,  
5790946.0443409905,  
2451649.621725152,  
7369893.179969777,  
20100601.032294706,  
1657731.8045571335,  
18658449.499511287,  
1231593.5307385407,  
16197549.364428038,  
14612840.617972739,  
12591671.258484052,  
2054337.9949385046,  
26912076.222293455,  
1396745.4896776099,  
2288682.8750928864,  
11080997.242494885]
```

```
In [24]: import numpy as np  
import matplotlib.pyplot as plt
```

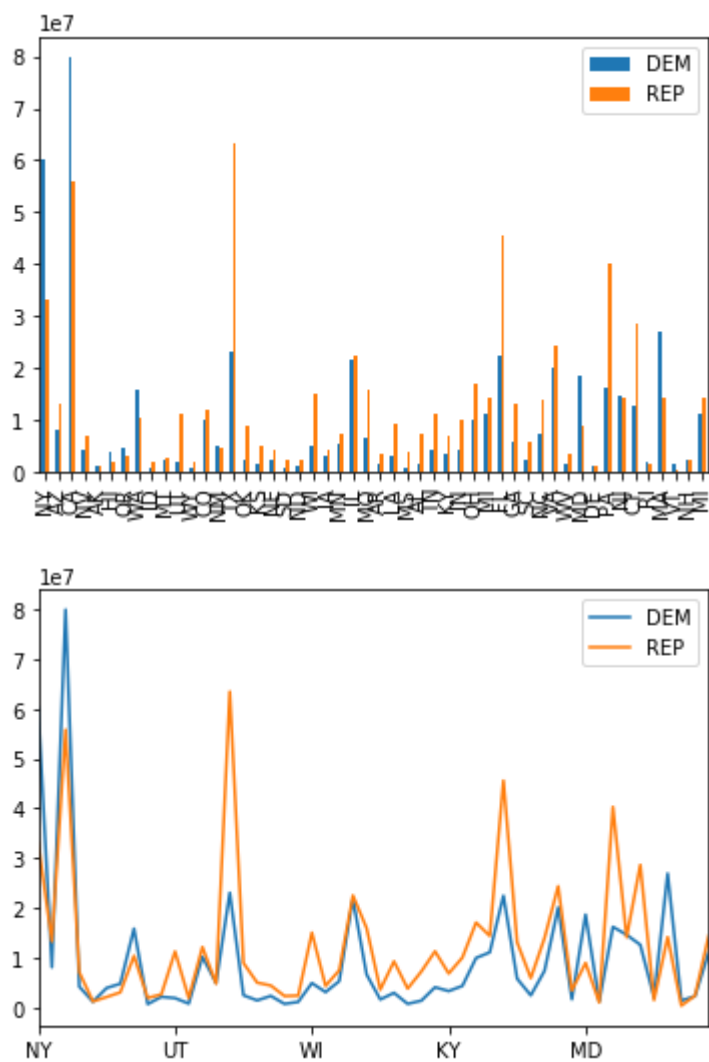
```
In [53]: fig = plt.figure()
ax = fig.add_subplot(1, 1, 1)
ax.plot(repsumlist, label='rep', color='red')
ax.plot(demsumlist, label='dem', color='blue')
```

Out[53]: [



```
In [52]: newdf=pd.DataFrame(index=statelist)
newdf['DEM']=demsumlist
newdf['REP']=repsumlist
newdf.plot.bar()
newdf.plot()
```

Out[52]: <matplotlib.axes._subplots.AxesSubplot at 0x15584023e88>




```
In [57]: for (i,j,k) in zip(statelist, repsumlist, demsumlist):
          print("{ state: '"+i+"', rep: "+str(j)+" , dem: "+str(k)+" },")

{ state: 'NY', rep: 33131817.137396988, dem: 60235175.99551925 },
{ state: 'AZ', rep: 13258029.768068751, dem: 8083498.429514478 },
{ state: 'CA', rep: 55780263.06830224, dem: 79878259.41151637 },
{ state: 'NV', rep: 7100350.851138627, dem: 4213351.815430883 },
{ state: 'AK', rep: 1230147.6595325323, dem: 1171018.9643667468 },
{ state: 'HI', rep: 2120439.026668747, dem: 3927790.0648490186 },
{ state: 'OR', rep: 3051662.1108123777, dem: 4787318.9362128405 },
{ state: 'WA', rep: 10378258.994691726, dem: 15842154.878217213 },
{ state: 'ID', rep: 1928170.9672682476, dem: 695426.8642841001 },
{ state: 'MT', rep: 2641858.244302033, dem: 2154981.349133666 },
{ state: 'UT', rep: 11256209.052684164, dem: 1902275.4358430277 },
{ state: 'WY', rep: 1912202.9494109147, dem: 794869.3360404053 },
{ state: 'CO', rep: 12144029.75185114, dem: 10170423.211580003 },
{ state: 'NM', rep: 4797088.957002031, dem: 4959096.528862907 },
{ state: 'TX', rep: 63423953.06953414, dem: 23038501.952871315 },
{ state: 'OK', rep: 8934342.230344048, dem: 2469591.767817594 },
{ state: 'KS', rep: 5008935.337475446, dem: 1439010.4268062734 },
{ state: 'NE', rep: 4419587.515657102, dem: 2335774.309673922 },
{ state: 'SD', rep: 2318410.7308038916, dem: 741320.6975258377 },
{ state: 'ND', rep: 2398260.6633892036, dem: 1136361.803417215 },
{ state: 'WI', rep: 15029716.34773538, dem: 4914357.6426661275 },
{ state: 'IA', rep: 4350203.196967485, dem: 3104818.1110795937 },
{ state: 'MN', rep: 7481349.944614179, dem: 5305670.32575784 },
{ state: 'IL', rep: 22492478.863340683, dem: 21792234.25120209 },
{ state: 'MO', rep: 15940798.949081652, dem: 6630319.121109704 },
{ state: 'AR', rep: 3596194.4874442737, dem: 1626084.5056037377 },
{ state: 'LA', rep: 9268845.955658704, dem: 2947961.8655274184 },
{ state: 'MS', rep: 3810728.088457049, dem: 749975.1444645348 },
{ state: 'AL', rep: 7242060.44742333, dem: 1385964.8902241976 },
{ state: 'TN', rep: 11294656.977324573, dem: 4079031.2553546047 },
{ state: 'KY', rep: 6841426.160482369, dem: 3311356.7661652323 },
{ state: 'IN', rep: 10035111.759436956, dem: 4349455.106267741 },
{ state: 'OH', rep: 17059601.40135363, dem: 9962026.360443829 },
{ state: 'MI', rep: 14386246.788679136, dem: 11080997.242494885 },
{ state: 'FL', rep: 45552934.653362095, dem: 22445666.322221003 },
{ state: 'GA', rep: 13105203.806475637, dem: 5790946.0443409905 },
{ state: 'SC', rep: 5918878.303574653, dem: 2451649.621725152 },
{ state: 'NC', rep: 13948599.51130464, dem: 7369893.179969777 },
{ state: 'VA', rep: 24353300.88734463, dem: 20100601.032294706 },
{ state: 'WV', rep: 3410803.612721015, dem: 1657731.8045571335 },
{ state: 'MD', rep: 8954736.451507436, dem: 18658449.499511287 },
{ state: 'DE', rep: 1039738.8898825675, dem: 1231593.5307385407 },
{ state: 'PA', rep: 40269581.27311736, dem: 16197549.364428038 },
{ state: 'NJ', rep: 14111161.588991055, dem: 14612840.617972739 },
{ state: 'CT', rep: 28630722.73388091, dem: 12591671.258484052 },
{ state: 'RI', rep: 1505165.0498293308, dem: 2054337.9949385046 },
{ state: 'MA', rep: 14147927.403257404, dem: 26912076.222293455 },
{ state: 'VT', rep: 376939.27962037374, dem: 1396745.4896776099 },
{ state: 'NH', rep: 2396761.200890404, dem: 2288682.8750928864 },
{ state: 'MI', rep: 14386246.788679136, dem: 11080997.242494885 },
```

In []: