Practice on Income Dataset

In [3]:
```
#Define functions for the following data points

filepath="DataFiles/incomedata.csv"
import pandas as pd
def readcsvdata(filepath):
    h=pd.read_csv(filepath)
    return h
readcsvdata(filepath)
```

Out[3]:

	GEOID	State	2005	2006	2007	2008	2009	2010	2011	2012	2013
0	04000US01	Alabama	37150	37952	42212	44476	39980	40933	42590	43464	41381
1	04000US02	Alaska	55891	56418	62993	63989	61604	57848	57431	63648	61137
2	04000US04	Arizona	45245	46657	629	46914	45739	46896	48621	47044	50602
3	04000US05	Arkansas	36658	37057	40795	39586	36538	38587	41302	39018	39919
4	04000US06	California	51755	55319	55734	57014	56134	54283	53367	57020	57528

In [25]:
```
#Average Income of all states from 2005 to 2013

incomedf=readcsvdata(filepath)
def rowaccess(df):

    data=df.values
    for i in (data):
        #print(i)
        li=i[2:]

        print(sum(li)/len(li))#for each state average




rowaccess(incomedf)

```

```
41126.444444444445
60106.555555555555
42038.555555555555
38828.88888888889
55350.444444444445
```

In [30]:
```
#Average Income of all states from 2005 to 2013

incomedf=readcsvdata(filepath)
def rowaccessdata(df):
    output=0
    data=df.values
    for j in (data):
        #print(i)
        l=j[2:]
        output=output+(sum(l)/len(l))
    print(output/len(data))
rowaccessdata(incomedf)
```

```
47490.177777777775
```

In [38]:
```
# State with highest average income in the last three years
incomedf=readcsvdata(filepath)
def highestaverageamongstates(df):
    li=[]
    data=df.values
    for dt in data:
        threevalues=dt[-3:]
        average=sum(threevalues)/len(threevalues)
        li.append(average)
    #print(li)
    print(max(li),"maximun ")

highestaverageamongstates(incomedf)
```

```
[42478.333333333336, 60738.666666666664, 48755.666666666664, 40079.66666666666
4, 55971.666666666664]
60738.666666666664 maximun
```

In [68]:
```
# State with highest average income in the last three years
incomedf=readcsvdata(filepath)
def highestaverageamongstates1(df):
    dic={}
    data=df.values
    for dt in data:
        threevalues=dt[-3:]
        average=sum(threevalues)//len(threevalues)
        dic[average]=dt[1]
    print(max(dic.items()))
highestaverageamongstates1(incomedf)
```

```
(60738, 'Alaska')
```

In [73]:
```
#State with lowest average income from 2007 to 2010(inclusive)

incomedf=readcsvdata(filepath)
def lowestaverageamongstates1(df):
    dic={}
    data=df.values
    for dt in data:
        threevalues=dt[4:8]
        print(threevalues)
        average=sum(threevalues)//len(threevalues)
        print(average)
        dic[average]=dt[1]
    print(min(dic.items()))
lowestaverageamongstates1(incomedf)
```

```
[42212 44476 39980 40933]
41900
[62993 63989 61604 57848]
61608
[629 46914 45739 46896]
35044
[40795 39586 36538 38587]
38876
[55734 57014 56134 54283]
55791
(35044, 'Arizona')
```

In [83]:

```
#Print the list of all states in the same line with average income less than

incomedf=readcsvdata(filepath)
def incomelessthancalifornia(df):
    d={}
    data=df.values
    for i in data:
        #print(i)
        li=i[2:]
        avg=sum(li)//len(li)
        d[avg]=i[1]
    print(d)
    sort_d=sorted(d.items())
    print(sort_d)
    for states in sort_d:
        if states[1]=="California":
            break
        else:
            print(states[1])



incomelessthancalifornia(incomedf)
```

```
{41126: 'Alabama', 60106: 'Alaska', 42038: 'Arizona', 38828: 'Arkansas', 55350:
'California'}
[(38828, 'Arkansas'), (41126, 'Alabama'), (42038, 'Arizona'), (55350, 'Californ
ia'), (60106, 'Alaska')]
Arkansas
Alabama
Arizona
```

In [92]:
```
#Print the names of states based on descending order of income in the year 2
incomedf=readcsvdata(filepath)
def descendingorder(df):
    d={}
    data=df.values
    for i in data:
        #print(i)
        li=i[6]
        #print(li)
        d[li]=i[1]
    print(d.items())
    sort_d=sorted(d.items(),reverse=True)
    print(sort_d)
    for state in sort_d:
        print(state[1])

descendingorder(incomedf)
```

```
dict_items([(39980, 'Alabama'), (61604, 'Alaska'), (45739, 'Arizona'), (36538,
'Arkansas'), (56134, 'California')])
[(61604, 'Alaska'), (56134, 'California'), (45739, 'Arizona'), (39980, 'Alabam
a'), (36538, 'Arkansas')]
Alaska
California
Arizona
Alabama
Arkansas
```

In [ ]:
```
#State with the lowest recorded income from 2005 to 2013


```