PART 3

```
import numpy as np
import pandas as pd
```

Read all the *detail.csv.
Renamed "2015Q2-house-disburse-detail.csv" to "2015Q2-house-disburse-detail-old.csv" Then renamed "2015Q2-house-disburse-detail-updated.csv" to "2015Q2-house-disburse-detail.csv". Then redirected all the filenames to "filename.txt" using the command: ls *detail.csv > filename.txt

In [3]:
```
# Create a list of filename called file_list
# Strip '\n' at the end of the filename
#Ref: https://stackoverflow.com/questions/42488579/
#remove-n-from-each-string-stored-in-a-python-list

file_list = []
with open('filename.txt', 'r', encoding='utf-8') as myfile:
    for line in myfile:
        st_line = line.rstrip()
        file_list.append(st_line)
file_list=file_list[2:30]  #Slicing from 2010 to 2016
print(file_list)
```

```
['2010Q1-house-disburse-detail.csv', '2010Q2-house-disburse-detail.csv
', '2010Q3-house-disburse-detail.csv', '2010Q4-house-disburse-detail.c
sv', '2011Q1-house-disburse-detail.csv', '2011Q2-house-disburse-detail
.csv', '2011Q3-house-disburse-detail.csv', '2011Q4-house-disburse-deta
il.csv', '2012Q1-house-disburse-detail.csv', '2012Q2-house-disburse-de
tail.csv', '2012Q3-house-disburse-detail.csv', '2012Q4-house-disburse-
detail.csv', '2013Q1-house-disburse-detail.csv', '2013Q2-house-disburs
e-detail.csv', '2013Q3-house-disburse-detail.csv', '2013Q4-house-disbu
rse-detail.csv', '2014Q1-house-disburse-detail.csv', '2014Q2-house-dis
burse-detail.csv', '2014Q3-house-disburse-detail.csv', '2014Q4-house-d
isburse-detail.csv', '2015Q1-house-disburse-detail.csv', '2015Q2-house
-disburse-detail.csv', '2015Q3-house-disburse-detail.csv', '2015Q4-hou
se-disburse-detail.csv', '2016Q1-house-disburse-detail.csv', '2016Q2-h
ouse-disburse-detail.csv', '2016Q3-house-disburse-detail.csv', '2016Q4
-house-disburse-detail.csv']
```

In [6]:
```
amount_list = []
for file in file_list:
    df = pd.read_csv(file, low_memory = False)
    df['AMOUNT'] = pd.to_numeric(df['AMOUNT'], errors='coerce')
    df = df[df['AMOUNT'] > 0]   #Payments with strictly positive amounts
    total_amount = df['AMOUNT'].sum()
    amount_list.append(total_amount)
```

In [7]:
```
print(amount_list)
```

```
[23274189.379999742, 20473905.489999417, 11928469.330000367, 16126607.
750000488, 20667333.30000059, 18099930.380000446, 17329735.740000386,
17159937.41000038, 20509959.85000069, 16507160.980000306, 15347008.680
00013, 14808434.920000004, 19067215.48000038, 15774856.980000492, 1601
7849.590000592, 14529240.030000445, 18151408.070000086, 15672857.92000
0175, 14999926.81000014, 14739370.070000054, 18027704.599999435, 15734
175.649999926, 15137542.720000027, 15422167.35999958, 18128189.4899995
25, 15976360.179999676, 15172697.669999834, 317499758.1699913]
```

In [8]:
```
print(len(amount_list))
```

```
28
```

In [11]:
```
total = sum(amount_list)
avg_annual_expenditure = total/7
print("Total = ", total)
print("Average Annual Expenditure = ", avg_annual_expenditure)
```

```
Total =  772283993.9999946
Average Annual Expenditure =  110326284.85714209
```

In [ ]: