Manufacturing Juggernaut, a data science project analyzing China's transition to advanced manufacturing, and its impact on U.S.-China trade relations. 05/15/2019

For background information, please check out: https://github.com/ssbfcboris1/Manufacturing_Juggernaut (https://github.com/ssbfcboris1/Manufacturing_Juggernaut)

The following are a few data-visualization graphs from my initial research (please see the above GitHub link as well for an explanation):

In [1]:
```python
import numpy as ny
import pandas as pd
import matplotlib as mpl
import matplotlib.pyplot as plt
import datetime
import random
%matplotlib inline
```

The World Bank 2000-2012 data on value-added manufacturing output by four leading industrialized countries: Germany, Japan, China, the U.S.
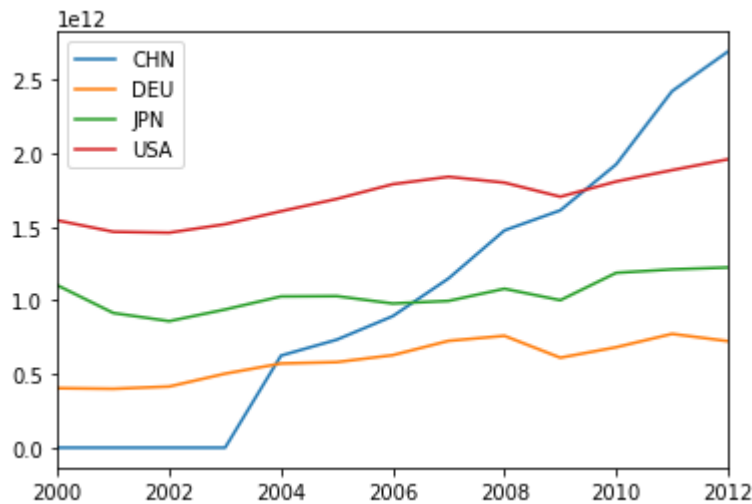
https://data.worldbank.org/indicator/NV.IND.MANF.CD?end=2012&locations=CN-DE-JP-US&name_desc=true&start=2000 (https://data.worldbank.org/indicator/NV.IND.MANF.CD?end=2012&locations=CN-DE-JP-US&name_desc=true&start=2000)

In [4]:
```python
wb_4_mfg = pd.read_csv('D:\\Boris\\Manufacturing Juggernaut\\World Bank, tota
```

In [5]:
```python
wb_4_mfg.fillna(0, inplace=True)

wb_4_mfg = wb_4_mfg.transpose()

wb_4_mfg.head()

wb_4_mfg.columns = ['CHN','DEU','JPN','USA']

wb_4_mfg.drop(index='Country Code', inplace=True)
```

In [6]:
```python
1  wb_4_mfg.plot.line()
```

Out[6]: <matplotlib.axes._subplots.AxesSubplot at 0x88f5278>

The World Bank 2000-2012 data on high-technology % of manufactured exports: Germany, Japan, China, the U.S.

https://data.worldbank.org/indicator/NV.IND.MANF.CD?end=2012&locations=CN-DE-JP-US&name_desc=true&start=2000 (https://data.worldbank.org/indicator/NV.IND.MANF.CD?end=2012&locations=CN-DE-JP-US&name_desc=true&start=2000)

In [9]:
```python
1  wb_4_hi_tech = pd.read_csv('D:\\Boris\\Manufacturing Juggernaut\\World Bank,
```

In [10]:
```python
1  wb_4_hi_tech = wb_4_hi_tech.transpose()
2
3  wb_4_hi_tech.columns = ['CHN','DEU','JPN','USA']
4
5  wb_4_hi_tech.drop(index='Country Code', inplace=True)
6
```

In [11]:
```
1  wb_4_hi_tech.plot.line()
```

Out[11]: `<matplotlib.axes._subplots.AxesSubplot at 0x8da6ef0>`
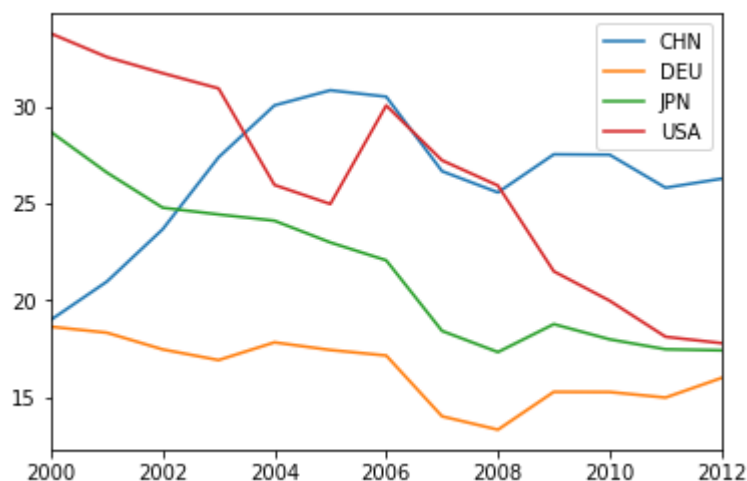
OECD 2000-2012 data on the annual export of services by the U.S., Germany, Japan, and China

Data source: OECD https://data.oecd.org/ict/ict-goods-exports.htm#indicator-chart (https://data.oecd.org/ict/ict-goods-exports.htm#indicator-chart) (search key words: trade in services)

In [12]:
```
1  oecd_svce = pd.read_csv('D:\\Boris\\Manufacturing Juggernaut\\OECD services e
```
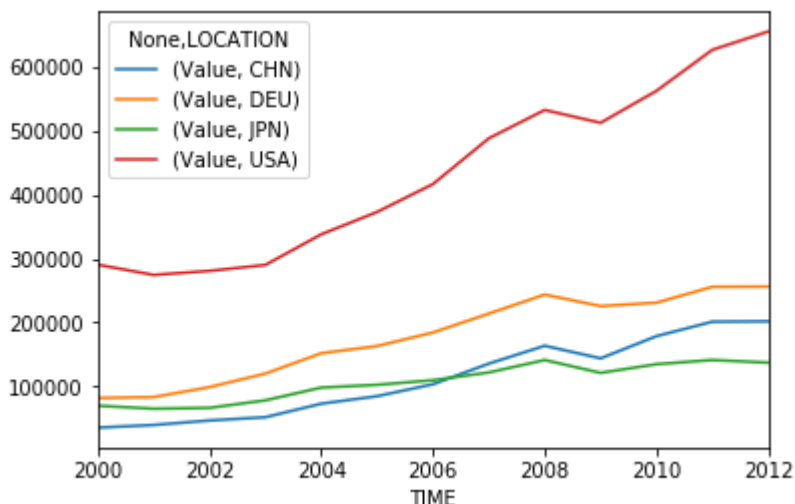
In [13]:
```
1  big4 = ['DEU','JPN','USA','CHN']
2  oecd_4_svce = oecd_svce.loc[oecd_svce['LOCATION'].isin(big4)]
3  oecd_4_svce.head()
```

Out[13]:

	LOCATION	TIME	Value
0	DEU	2000	81471.13
1	DEU	2001	82936.97
2	DEU	2002	98556.63
3	DEU	2003	119723.70
4	DEU	2004	151633.40

In [14]:
```python
oecd_4_svce.pivot_table(index='TIME', columns='LOCATION').plot.line()
```

Out[14]: `<matplotlib.axes._subplots.AxesSubplot at 0x8894b70>`

The World Bank 2000-2012 data on the combined export of goods and services as percentage of GDP: Germany, Japan, China, the U.S.
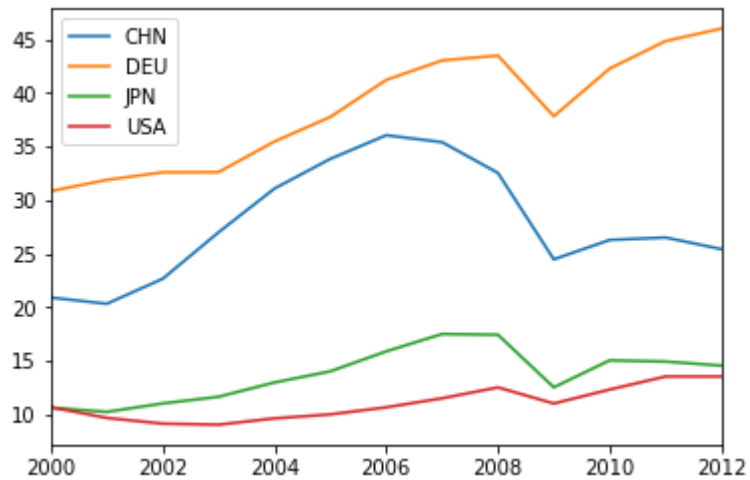
https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?end=2012&name_desc=true&start=2000 (https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?end=2012&name_desc=true&start=2000)

In [16]:
```python
wb_4_exp_gdp = pd.read_csv('D:\\Boris\\Manufacturing Juggernaut\\World Bank,
```

In [17]:
```python
wb_4_exp_gdp = wb_4_exp_gdp.transpose()
wb_4_exp_gdp

wb_4_exp_gdp.columns = ['CHN','DEU','JPN','USA']

wb_4_exp_gdp.drop(index='Country Code', inplace=True)
```

In [18]:   1   `wb_4_exp_gdp.plot.line()`

Out[18]:   `<matplotlib.axes._subplots.AxesSubplot at 0x8eb1dd8>`

In [ ]:   1