In [ ]:
```
#Ex1
```

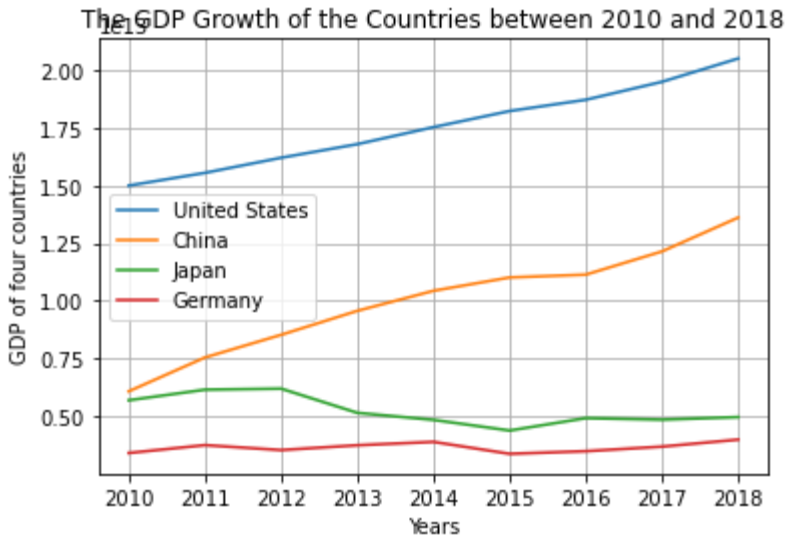
In [35]:
```
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline

WorldBankdf = pd.read_csv('WorldBank_GDP.csv')
Country = WorldBankdf.groupby('Country Name')
```

In [91]:
```
CountryChina = WorldBankdf[WorldBankdf['Country Name'] == 'China']
CountryJapan = WorldBankdf[WorldBankdf['Country Name'] == 'Japan']
CountryGermany = WorldBankdf[WorldBankdf['Country Name'] == 'Germany']
CountryUnitedState = WorldBankdf[WorldBankdf['Country Name'] == 'United St


plt.plot(CountryUnitedState['Year'], CountryUnitedState['GDP'], label = 'U
plt.plot(CountryChina['Year'], CountryChina['GDP'], label = "China")
plt.plot(CountryJapan['Year'], CountryJapan['GDP'], label = 'Japan')
plt.plot(CountryGermany['Year'], CountryGermany['GDP'], label = 'Germany')
plt.title("The GDP Growth of the Countries between 2010 and 2018")
plt.xlabel("Years")
plt.ylabel("GDP of four countries")
plt.grid()
plt.legend()
plt.show()

print("The GDP of United States, China and Germany is growing according to
```




```
The GDP of United States, China and Germany is growing according to the l
ine graph. Japan is not growing.
```

In [90]:
```
#Ex1 the GDP of United States, China and Germany is growing according to t
```

In [ ]:
```
#Ex2 Sudan has the highest average temperature according to the result.
```

In [69]:

```
Temperature = pd.read_csv('temperatures.csv')


Tem_Highest1 = Temperature.groupby('country')
Tem_Highest = Tem_Highest1['avg_temp_c'].mean()
Countrywith_HighTem = Tem_Highest.idxmax()
print(Tem_Highest)
print("The country with the higest avarage temperature throughout the year
```

```
country
Afghanistan                          15.525756
Angola                               24.387659
Australia                            16.028104
Bangladesh                           26.164378
Brazil                               23.906030
Burma                                27.514213
Canada                                6.637158
Chile                                 6.345768
China                                12.983107
Colombia                             21.649607
Congo (Democratic Republic Of The)   24.504963
Côte D'Ivoire                        26.971024
Dominican Republic                   26.852800
Egypt                                22.044807
Ethiopia                             18.425378
France                               11.514274
Germany                              10.152421
India                                26.633255
Indonesia                            27.408634
Iran                                 14.228701
Iraq                                 24.074841
Italy                                13.127646
Japan                                14.526165
Kenya                                16.817134
Mexico                               16.406630
Morocco                              18.336195
Nigeria                              27.176191
Pakistan                             25.824654
Peru                                 17.203762
Philippines                          27.153518
Russia                                5.557576
Saudi Arabia                         27.635610
Senegal                              25.425994
Singapore                            27.323165
Somalia                              27.963183
South Africa                         18.913680
South Korea                          11.693262
Spain                                12.460860
Sudan                                29.981780
Syria                                18.501244
Taiwan                               23.078829
Tanzania                             26.481774
Thailand                             27.929518
Turkey                               14.799793
Ukraine                               8.701683
```

```
United Kingdom                          10.523585
United States                           12.954515
Vietnam                                 27.909878
Zimbabwe                                20.721988
Name: avg_temp_c, dtype: float64
The country with the higest avarage temperature throughout the year is  S
udan
```

In [ ]:
```
#Ex3 The countries where the average temperature is in the range of 20 and
```

In [84]:
```
t20and30 = Tem_Highest[(Tem_Highest >= 20) & (Tem_Highest <= 30)]

print("There are", t20and30.count(), "countries")
print(t20and30)
```

```
There are 25 countries
country
Angola                                  24.387659
Bangladesh                              26.164378
Brazil                                  23.906030
Burma                                   27.514213
Colombia                                21.649607
Congo (Democratic Republic Of The)      24.504963
Côte D'Ivoire                           26.971024
Dominican Republic                      26.852800
Egypt                                   22.044807
India                                   26.633255
Indonesia                               27.408634
Iraq                                    24.074841
Nigeria                                 27.176191
Pakistan                                25.824654
Philippines                             27.153518
Saudi Arabia                            27.635610
Senegal                                 25.425994
Singapore                               27.323165
Somalia                                 27.963183
Sudan                                   29.981780
Taiwan                                  23.078829
Tanzania                                26.481774
Thailand                                27.929518
Vietnam                                 27.909878
Zimbabwe                                20.721988
Name: avg_temp_c, dtype: float64
```

In [ ]:
```
#Ex4 the average temperature of Thailand during 2005-01-01 and 2010-01-01
```

In [92]:
```
tbetween = Temperature[(Temperature['date'] >= '2005-01-01') & (Temperatur

tThai = tbetween[tbetween['country'] == "Thailand"]
ThaiTemp = tThai['avg_temp_c'].mean()

print("The avg. temp of Thailand during 2005-2010 is",ThaiTemp)
tThai
```

```
The avg. temp of Thailand during 2005-2010 is 27.760147540983613
```

Out[92]:

	Unnamed: 0	date	city	country	avg_temp_c
1380	1380	2005-01-01	Bangkok	Thailand	25.323
1381	1381	2005-02-01	Bangkok	Thailand	28.225
1382	1382	2005-03-01	Bangkok	Thailand	28.825
1383	1383	2005-04-01	Bangkok	Thailand	30.210
1384	1384	2005-05-01	Bangkok	Thailand	30.023
...	...	...	...	...	...
1436	1436	2009-09-01	Bangkok	Thailand	28.308
1437	1437	2009-10-01	Bangkok	Thailand	27.564
1438	1438	2009-11-01	Bangkok	Thailand	26.533
1439	1439	2009-12-01	Bangkok	Thailand	25.973
1440	1440	2010-01-01	Bangkok	Thailand	26.615

61 rows × 5 columns

In [ ]: