In [1]:
```python
print("Name : Lakshya Singh Chauhan")
print("Will plot graphs to show which countries has the higher expenditure
```

```
Name : Lakshya Singh Chauhan
Will plot graphs to show which countries has the higher expenditure on hea
lth and higher life expectancy, Developed or Developing countries
```

Task 1 - Show which countries has the higher expenditure on health, Developed or Developing countries

In [2]:
```python
#image
#predefine code for image
from IPython.display import Image
Image(filename='map.png')
#predefine code end
```

Out[2]:
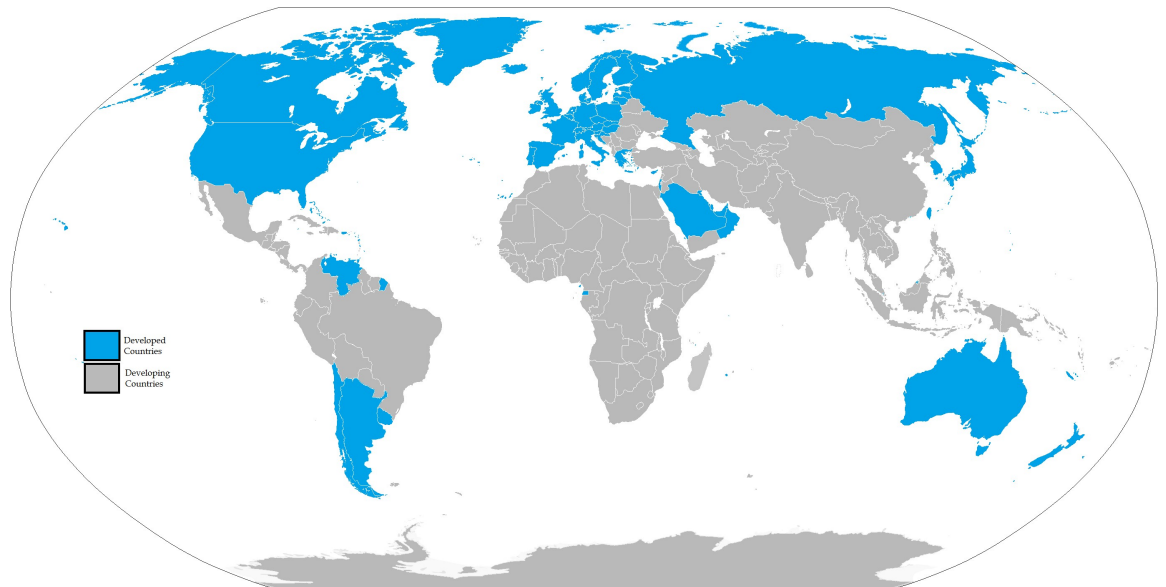
Developed Countries refers to the sovereign (independent) nation/state whose economy has highly progressed and possesses great technological infrastructure, as compared to other nations. The countries with low industrialization and low human development index are termed as developing countries.

In [3]:
```python
#import libraries and csv
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
import seaborn as sns

df = pd.read_csv("Life_Expectancy_Data.csv")
df
```

Out[3]:

	Unnamed: 0	Country	Year	Status	Life expectancy	Adult Mortality	infant deaths	Alcohol	perce exper
0	0	Afghanistan	2015	Developing	65.0	263.0	62	0.01	71.2
1	1	Afghanistan	2014	Developing	59.9	271.0	64	0.01	73.5
2	2	Afghanistan	2013	Developing	59.9	268.0	66	0.01	73.2
3	3	Afghanistan	2012	Developing	59.5	272.0	69	0.01	78.1
4	4	Afghanistan	2011	Developing	59.2	275.0	71	0.01	7.0
...	...	...	...	...	...	...	...	...	
2933	2933	Zimbabwe	2004	Developing	44.3	723.0	27	4.36	0.0
2934	2934	Zimbabwe	2003	Developing	44.5	715.0	26	4.06	0.0
2935	2935	Zimbabwe	2002	Developing	44.8	73.0	25	4.43	0.0
2936	2936	Zimbabwe	2001	Developing	45.3	686.0	25	1.72	0.0
2937	2937	Zimbabwe	2000	Developing	46.0	665.0	24	1.68	0.0

2938 rows × 23 columns

```
In [4]: #Create a new dataframe only for country Australia which is a developed cou
        aus = (df["Country"] == "Australia") & (df["Status"] == "Developed")
        australia_df = df.loc[aus]
        australia_df
```

Out[4]:

	Unnamed: 0	Country	Year	Status	Life expectancy	Adult Mortality	infant deaths	Alcohol	percenta expendit
112	112	Australia	2015	Developed	82.8	59.0	1	NaN	0.000
113	113	Australia	2014	Developed	82.7	6.0	1	9.71	10769.363
114	114	Australia	2013	Developed	82.5	61.0	1	9.87	11734.853
115	115	Australia	2012	Developed	82.3	61.0	1	10.03	11714.998
116	116	Australia	2011	Developed	82.0	63.0	1	10.30	10986.265
117	117	Australia	2010	Developed	81.9	64.0	1	10.52	8875.786
118	118	Australia	2009	Developed	81.7	66.0	1	10.62	7172.275
119	119	Australia	2008	Developed	81.3	66.0	1	10.76	8547.292
120	120	Australia	2007	Developed	81.3	66.0	1	10.56	872.598
121	121	Australia	2006	Developed	81.2	66.0	1	10.31	6187.062
122	122	Australia	2005	Developed	81.0	67.0	1	10.30	579.133
123	123	Australia	2004	Developed	86.0	69.0	1	9.84	588.568
124	124	Australia	2003	Developed	83.0	71.0	1	9.97	3829.550
125	125	Australia	2002	Developed	79.9	73.0	1	9.84	46.387
126	126	Australia	2001	Developed	79.9	75.0	1	9.53	3064.301
127	127	Australia	2000	Developed	79.5	78.0	1	10.17	347.187

16 rows × 23 columns

In [5]:
```python
#Create a new dataframe only for country Italy which is a developed country
It = (df["Country"] == "Italy") & (df["Status"] == "Developed")
Italy_df = df.loc[It]
Italy_df
```

Out[5]:

	Unnamed: 0	Country	Year	Status	Life expectancy	Adult Mortality	infant deaths	Alcohol	percenta expendit
1282	1282	Italy	2015	Developed	82.7	56.0	1	NaN	0.000(
1283	1283	Italy	2014	Developed	82.5	57.0	2	7.56	4831.644'
1284	1284	Italy	2013	Developed	82.3	58.0	2	7.35	483.191(
1285	1285	Italy	2012	Developed	82.0	6.0	2	7.49	4793.904!
1286	1286	Italy	2011	Developed	82.0	6.0	2	6.98	5439.691'
1287	1287	Italy	2010	Developed	81.8	6.0	2	6.95	5219.668!
1288	1288	Italy	2009	Developed	81.6	61.0	2	7.25	5243.316(
1289	1289	Italy	2008	Developed	81.5	61.0	2	7.96	66.3784
1290	1290	Italy	2007	Developed	81.3	63.0	2	8.37	5228.821!
1291	1291	Italy	2006	Developed	81.2	65.0	2	8.44	473.191!
1292	1292	Italy	2005	Developed	88.0	66.0	2	8.65	4506.255!
1293	1293	Italy	2004	Developed	89.0	66.0	2	8.98	4270.914!
1294	1294	Italy	2003	Developed	79.9	72.0	2	9.30	3519.258!
1295	1295	Italy	2002	Developed	80.0	72.0	2	9.25	2883.334!
1296	1296	Italy	2001	Developed	79.8	75.0	2	9.69	3.122:
1297	1297	Italy	2000	Developed	79.4	77.0	3	9.78	31.505!

16 rows × 23 columns

In [6]:
```python
#Create a new dataframe only for country Brazil which is a developing count
br = (df["Country"] == "Brazil") & (df["Status"] == "Developing")
brazil_df = df.loc[br]
brazil_df
```

Out[6]:

	Unnamed: 0	Country	Year	Status	Life expectancy	Adult Mortality	infant deaths	Alcohol	percenta expenditu
352	352	Brazil	2015	Developing	75.0	142.0	42	NaN	0.0000
353	353	Brazil	2014	Developing	74.8	144.0	44	7.32	83.1646
354	354	Brazil	2013	Developing	74.7	146.0	46	7.24	916.2708
355	355	Brazil	2012	Developing	74.5	148.0	49	7.55	843.1946
356	356	Brazil	2011	Developing	74.1	152.0	51	7.58	1084.9997
357	357	Brazil	2010	Developing	73.8	154.0	54	7.52	1111.1913
358	358	Brazil	2009	Developing	73.6	157.0	57	7.33	564.5233
359	359	Brazil	2008	Developing	73.4	158.0	61	7.21	526.3780
360	360	Brazil	2007	Developing	73.3	159.0	65	7.19	394.9321
361	361	Brazil	2006	Developing	73.0	161.0	70	7.10	30.3037
362	362	Brazil	2005	Developing	72.7	163.0	75	6.97	23.7637
363	363	Brazil	2004	Developing	72.0	17.0	81	6.85	186.6090
364	364	Brazil	2003	Developing	71.8	172.0	88	6.95	15.8578
365	365	Brazil	2002	Developing	71.4	176.0	95	7.00	140.9824
366	366	Brazil	2001	Developing	71.0	179.0	103	7.13	149.4802
367	367	Brazil	2000	Developing	75.0	183.0	111	7.26	179.4777

16 rows × 23 columns

In [7]:
```python
#Create a new dataframe only for country Colombia which is a developing cou
co = (df["Country"] == "Colombia") & (df["Status"] == "Developing")
colombia_df = df.loc[co]
colombia_df
```

Out[7]:

	Unnamed: 0	Country	Year	Status	Life expectancy	Adult Mortality	infant deaths	Alcohol	percenta expendit
576	576	Colombia	2015	Developing	74.8	143.0	10	NaN	0.000(
577	577	Colombia	2014	Developing	74.6	144.0	11	4.38	1435.487
578	578	Colombia	2013	Developing	74.4	145.0	11	4.41	15.162:
579	579	Colombia	2012	Developing	74.3	143.0	11	4.44	1487.896:
580	580	Colombia	2011	Developing	74.2	144.0	12	4.37	184.307:
581	581	Colombia	2010	Developing	73.6	15.0	12	4.28	113.243(
582	582	Colombia	2009	Developing	73.6	15.0	13	4.34	941.646₄
583	583	Colombia	2008	Developing	73.5	146.0	14	4.45	978.070₄
584	584	Colombia	2007	Developing	73.5	144.0	14	4.66	780.594(
585	585	Colombia	2006	Developing	73.1	147.0	15	4.53	62.437
586	586	Colombia	2005	Developing	73.1	144.0	15	4.38	531.980₄
587	587	Colombia	2004	Developing	72.8	148.0	16	4.26	42.179:
588	588	Colombia	2003	Developing	72.4	15.0	16	4.25	417.803(
589	589	Colombia	2002	Developing	71.8	163.0	17	4.45	393.877:
590	590	Colombia	2001	Developing	71.5	165.0	17	4.43	404.420:
591	591	Colombia	2000	Developing	71.4	167.0	18	4.66	477.134

16 rows × 23 columns

In [8]:
```python
#Plot a line graph showing the Total expenditure on health of developed and
# group the data by development status and year, and sum the total expenditu
grouped = df.groupby(["Status", "Year"])["Life expectancy"].sum()

# convert the resulting Series to a DataFrame and unstack it to create sepa
unstacked = grouped.to_frame().unstack(level=0)

# create a line graph of the total expenditure on health over time for each
ax = unstacked.plot(kind="line", figsize=(10, 6), lw=2)
ax.set_xlabel("Year")
ax.set_ylabel("Total Expenditure on Health")
ax.set_title("Total Expenditure on Health of Developed and Developing Count
plt.show()
```
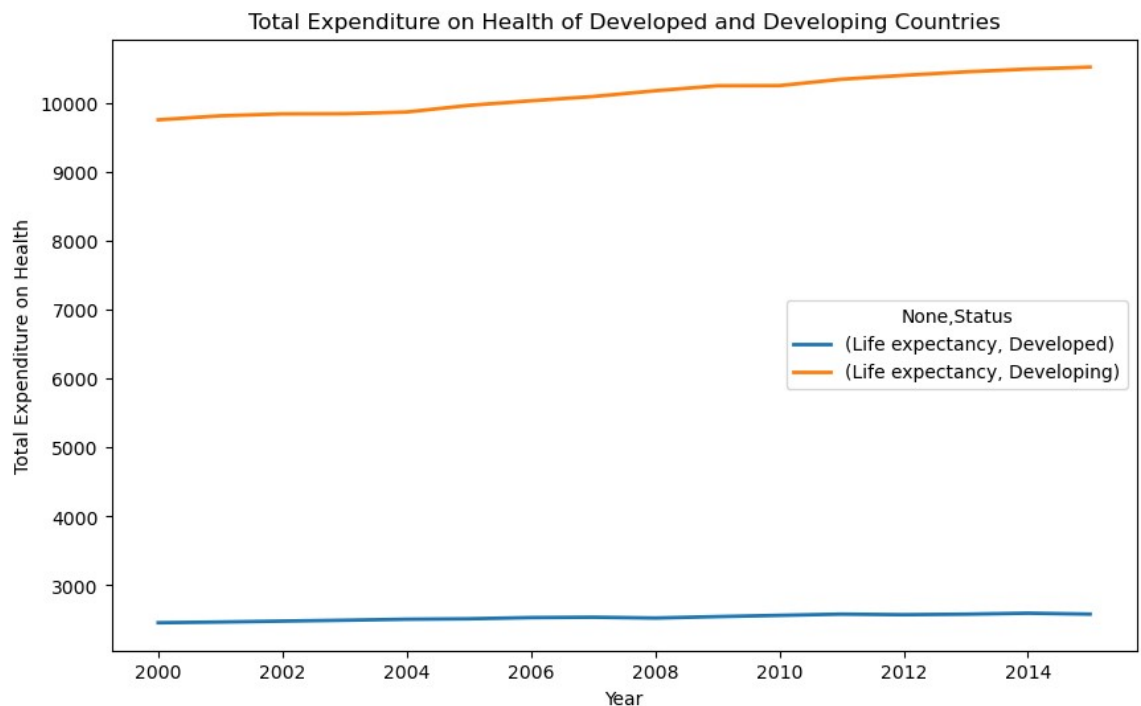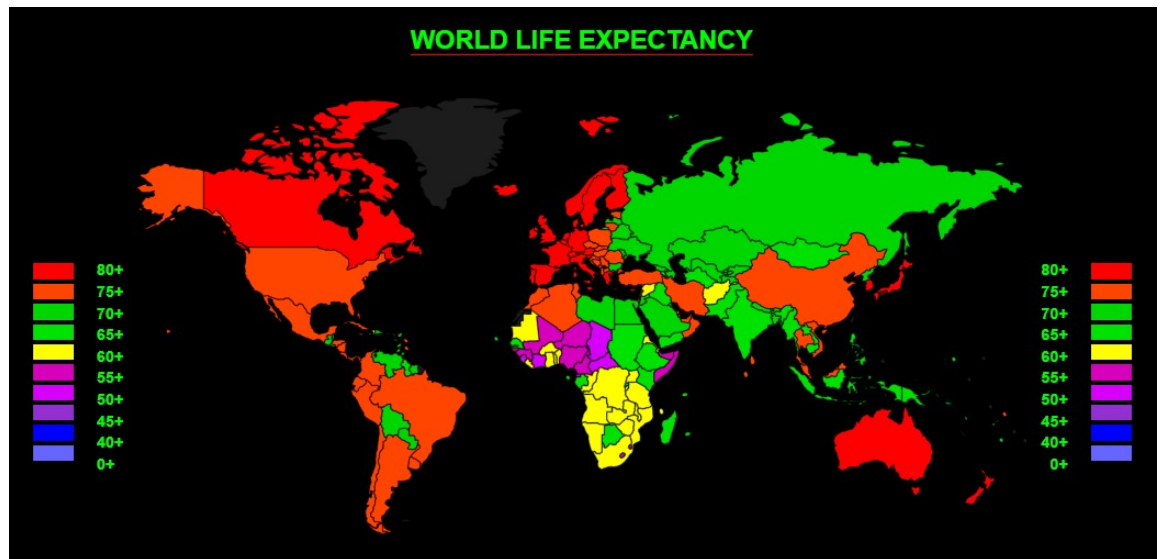

Conclusion -

Task 2 Show which countries has the higher Life expectancy, Developed OR Developing countries

In [9]:
```python
#image
#predefine code for image
from IPython.display import Image
Image(filename='map2.png')
#predefine code end
```

Out[9]:

The term "life expectancy" refers to the number of years a person can expect to live. By definition, life expectancy is based on an estimate of the average age that members of a particular population group will be when they die

In [ ]:

Conclusion -

In [ ]: