Mini Project: World Indicator - Refuge Data Analysis & Visualization

In [1]:
```
#Import Libraries
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]:
```
# Read the Dataset into a Dataframe
WDI = pd.read_csv('WDIData.csv')
```

In [3]:
```
#Explorin the data
WDI.shape
```

Out[3]: (421080, 64)

In [4]:
```
#Explorin the data
WDI.head()
```

Out[4]:

	Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	...
0	Arab World	ARB	2005 PPP conversion factor, GDP (LCU per inter...	PA.NUS.PPP.05	NaN	NaN	NaN	NaN	NaN	NaN	...
1	Arab World	ARB	2005 PPP conversion factor, private consumptio...	PA.NUS.PRVT.PP.05	NaN	NaN	NaN	NaN	NaN	NaN	...
2	Arab World	ARB	Access to clean fuels and technologies for coo...	EG.CFT.ACCS.ZS	NaN	NaN	NaN	NaN	NaN	NaN	...
3	Arab World	ARB	Access to electricity (% of population)	EG.ELC.ACCS.ZS	NaN	NaN	NaN	NaN	NaN	NaN	...
4	Arab World	ARB	Access to electricity, rural (% of rural popul...	EG.ELC.ACCS.RU.ZS	NaN	NaN	NaN	NaN	NaN	NaN	...

5 rows × 64 columns

In [5]:
```
#Explorin the data
WDI.columns
```

Out[5]:
```
Index(['Country Name', 'Country Code', 'Indicator Name', 'Indicator Code',
       '1960', '1961', '1962', '1963', '1964', '1965', '1966', '1967', '196
8',
       '1969', '1970', '1971', '1972', '1973', '1974', '1975', '1976', '197
7',
       '1978', '1979', '1980', '1981', '1982', '1983', '1984', '1985', '198
6',
       '1987', '1988', '1989', '1990', '1991', '1992', '1993', '1994', '199
5',
       '1996', '1997', '1998', '1999', '2000', '2001', '2002', '2003', '200
4',
       '2005', '2006', '2007', '2008', '2009', '2010', '2011', '2012', '201
3',
       '2014', '2015', '2016', '2017', '2018', 'Unnamed: 63'],
      dtype='object')
```

Data Cleaning / Transformation for analysis

1. column headers are values , not variable names

We will perform Data cleaning steps to rectify the issue

In [6]:
```
melted_data = WDI.melt(id_vars=['Country Name', 'Country Code', 'Indicator Nam
e', 'Indicator Code']
                       ,var_name='Year'
                       ,value_name='Value')
```

In [7]:
```
melted_data = melted_data[melted_data.Year!='Unnamed: 63']
```

In [8]:
```
melted_data.head()
```

Out[8]:

	Country Name	Country Code	Indicator Name	Indicator Code	Year	Value
0	Arab World	ARB	2005 PPP conversion factor, GDP (LCU per inter...	PA.NUS.PPP.05	1960	NaN
1	Arab World	ARB	2005 PPP conversion factor, private consumptio...	PA.NUS.PRVT.PP.05	1960	NaN
2	Arab World	ARB	Access to clean fuels and technologies for coo...	EG.CFT.ACCS.ZS	1960	NaN
3	Arab World	ARB	Access to electricity (% of population)	EG.ELC.ACCS.ZS	1960	NaN
4	Arab World	ARB	Access to electricity, rural (% of rural popul...	EG.ELC.ACCS.RU.ZS	1960	NaN

In [9]:
```
melted_data.columns
```

Out[9]:
```
Index(['Country Name', 'Country Code', 'Indicator Name', 'Indicator Code',
       'Year', 'Value'],
      dtype='object')
```

Now Lets filter the Data set with indicators picked for analysis

In [10]:
```
melted_data[melted_data['Indicator Name'].str.contains('Refugee')]['Indicator
 Name'].unique()
```

Out[10]:
```
array(['Refugee population by country or territory of asylum',
       'Refugee population by country or territory of origin'],
      dtype=object)
```

In [11]:
```
ind1_Filter = (melted_data['Indicator Name'].str.contains('Refugee population
 by country or territory of origin'))
ind2_Filter = (melted_data['Indicator Name'].str.contains('Refugee population
 by country or territory of asylum'))
```

In [12]:
```
Asylum_Refugee_Data = melted_data[ind2_Filter]
Origin_Refugee_Data = melted_data[ind1_Filter]
```

Now Lets filter the Data set with Only Valid countries

In [13]:
```
country_Filter_1 = (Asylum_Refugee_Data['Country Name'].str.contains( 'Afghani
stan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Albania') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Algeria') |
Asylum_Refugee_Data['Country Name'].str.contains( 'American Samoa') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Andorra') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Angola') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Antigua and Barbuda') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Argentina') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Armenia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Aruba') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Australia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Austria') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Azerbaijan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bahamas The') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bahrain') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bangladesh') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Barbados') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Belarus') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Belgium') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Belize') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Benin') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bermuda') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bhutan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bolivia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bosnia and Herzegovina') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Botswana') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Brazil') |
Asylum_Refugee_Data['Country Name'].str.contains( 'British Virgin Islands') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Brunei Darussalam') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Bulgaria') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Burkina Faso') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Burundi') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Cabo Verde') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Cambodia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Cameroon') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Canada') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Cayman Islands') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Central African Republic')
|
Asylum_Refugee_Data['Country Name'].str.contains( 'Chad') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Channel Islands') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Chile') |
Asylum_Refugee_Data['Country Name'].str.contains( 'China') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Colombia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Comoros') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Congo Dem. Rep.') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Congo Rep.') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Costa Rica') |
Asylum_Refugee_Data['Country Name'].str.contains( "Cote d'Ivoire") |
Asylum_Refugee_Data['Country Name'].str.contains( 'Croatia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Cuba') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Curacao') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Cyprus') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Czech Republic') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Denmark') |
```

```
Asylum_Refugee_Data['Country Name'].str.contains( 'Djibouti') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Dominica') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Dominican Republic') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Ecuador') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Egypt Arab Rep.') |
Asylum_Refugee_Data['Country Name'].str.contains( 'El Salvador') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Equatorial Guinea') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Eritrea') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Estonia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Eswatini') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Ethiopia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Faroe Islands') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Fiji') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Finland') |
Asylum_Refugee_Data['Country Name'].str.contains( 'France') |
Asylum_Refugee_Data['Country Name'].str.contains( 'French Polynesia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Gabon') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Gambia The') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Georgia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Germany') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Ghana') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Gibraltar') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Greece') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Greenland') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Grenada') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Guam') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Guatemala') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Guinea') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Guinea-Bissau') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Guyana') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Haiti') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Honduras') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Hong Kong SAR China') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Hungary') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Iceland') |
Asylum_Refugee_Data['Country Name'].str.contains( 'India') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Indonesia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Iran Islamic Rep.') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Iraq') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Ireland') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Isle of Man') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Israel') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Italy') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Jamaica') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Japan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Jordan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Kazakhstan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Kenya') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Kiribati') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Korea Dem. People's Rep.')
|
Asylum_Refugee_Data['Country Name'].str.contains( 'Korea Rep.') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Kosovo') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Kuwait') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Kyrgyz Republic') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Lao PDR') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Latvia') |
```

```
Asylum_Refugee_Data['Country Name'].str.contains( 'Lebanon') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Lesotho') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Liberia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Libya') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Liechtenstein') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Lithuania') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Luxembourg') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Macao SAR China') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Madagascar') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Malawi') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Malaysia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Maldives') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Mali') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Malta') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Marshall Islands') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Mauritania') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Mauritius') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Mexico') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Micronesia Fed. Sts.') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Moldova') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Monaco') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Mongolia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Montenegro') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Morocco') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Mozambique') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Myanmar') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Namibia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Nauru') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Nepal') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Netherlands') |
Asylum_Refugee_Data['Country Name'].str.contains( 'New Caledonia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'New Zealand') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Nicaragua') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Niger') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Nigeria') |
Asylum_Refugee_Data['Country Name'].str.contains( 'North Macedonia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Northern Mariana Islands')
|
Asylum_Refugee_Data['Country Name'].str.contains( 'Norway') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Oman') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Pakistan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Palau') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Panama') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Papua New Guinea') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Paraguay') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Peru') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Philippines') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Poland') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Portugal') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Puerto Rico') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Qatar') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Romania') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Russian Federation') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Rwanda') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Samoa') |
Asylum_Refugee_Data['Country Name'].str.contains( 'San Marino') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Sao Tome and Principe') |
```

```
Asylum_Refugee_Data['Country Name'].str.contains( 'Saudi Arabia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Senegal') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Serbia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Seychelles') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Sierra Leone') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Singapore') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Sint Maarten (Dutch part)')
|
Asylum_Refugee_Data['Country Name'].str.contains( 'Slovak Republic') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Slovenia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Solomon Islands') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Somalia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'South Africa') |
Asylum_Refugee_Data['Country Name'].str.contains( 'South Sudan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Spain') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Sri Lanka') |
Asylum_Refugee_Data['Country Name'].str.contains( 'St. Kitts and Nevis') |
Asylum_Refugee_Data['Country Name'].str.contains( 'St. Lucia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'St. Martin (French part)')
|
Asylum_Refugee_Data['Country Name'].str.contains( 'St. Vincent and the Grenadi
nes') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Sudan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Suriname') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Sweden') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Switzerland') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Syrian Arab Republic') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Tajikistan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Tanzania') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Thailand') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Timor-Leste') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Togo') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Tonga') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Trinidad and Tobago') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Tunisia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Turkey') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Turkmenistan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Turks and Caicos Islands')
|
Asylum_Refugee_Data['Country Name'].str.contains( 'Tuvalu') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Uganda') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Ukraine') |
Asylum_Refugee_Data['Country Name'].str.contains( 'United Arab Emirates') |
Asylum_Refugee_Data['Country Name'].str.contains( 'United Kingdom') |
Asylum_Refugee_Data['Country Name'].str.contains( 'United States') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Uruguay') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Uzbekistan') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Vanuatu') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Venezuela RB') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Vietnam') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Virgin Islands (U.S.)') |
Asylum_Refugee_Data['Country Name'].str.contains( 'West Bank and Gaza') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Yemen Rep.') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Zambia') |
Asylum_Refugee_Data['Country Name'].str.contains( 'Zimbabwe')

                    )
```

```
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:21
6: UserWarning: This pattern has match groups. To actually get the groups, us
e str.extract.
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:21
6: UserWarning: This pattern has match groups. To actually get the groups, us
e str.extract.
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:21
6: UserWarning: This pattern has match groups. To actually get the groups, us
e str.extract.
```

In [14]:
```
country_Filter_2 = (
Origin_Refugee_Data['Country Name'].str.contains( 'Afghanistan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Albania') |
Origin_Refugee_Data['Country Name'].str.contains( 'Algeria') |
Origin_Refugee_Data['Country Name'].str.contains( 'American Samoa') |
Origin_Refugee_Data['Country Name'].str.contains( 'Andorra') |
Origin_Refugee_Data['Country Name'].str.contains( 'Angola') |
Origin_Refugee_Data['Country Name'].str.contains( 'Antigua and Barbuda') |
Origin_Refugee_Data['Country Name'].str.contains( 'Argentina') |
Origin_Refugee_Data['Country Name'].str.contains( 'Armenia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Aruba') |
Origin_Refugee_Data['Country Name'].str.contains( 'Australia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Austria') |
Origin_Refugee_Data['Country Name'].str.contains( 'Azerbaijan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bahamas The') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bahrain') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bangladesh') |
Origin_Refugee_Data['Country Name'].str.contains( 'Barbados') |
Origin_Refugee_Data['Country Name'].str.contains( 'Belarus') |
Origin_Refugee_Data['Country Name'].str.contains( 'Belgium') |
Origin_Refugee_Data['Country Name'].str.contains( 'Belize') |
Origin_Refugee_Data['Country Name'].str.contains( 'Benin') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bermuda') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bhutan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bolivia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bosnia and Herzegovina') |
Origin_Refugee_Data['Country Name'].str.contains( 'Botswana') |
Origin_Refugee_Data['Country Name'].str.contains( 'Brazil') |
Origin_Refugee_Data['Country Name'].str.contains( 'British Virgin Islands') |
Origin_Refugee_Data['Country Name'].str.contains( 'Brunei Darussalam') |
Origin_Refugee_Data['Country Name'].str.contains( 'Bulgaria') |
Origin_Refugee_Data['Country Name'].str.contains( 'Burkina Faso') |
Origin_Refugee_Data['Country Name'].str.contains( 'Burundi') |
Origin_Refugee_Data['Country Name'].str.contains( 'Cabo Verde') |
Origin_Refugee_Data['Country Name'].str.contains( 'Cambodia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Cameroon') |
Origin_Refugee_Data['Country Name'].str.contains( 'Canada') |
Origin_Refugee_Data['Country Name'].str.contains( 'Cayman Islands') |
Origin_Refugee_Data['Country Name'].str.contains( 'Central African Republic')
|
Origin_Refugee_Data['Country Name'].str.contains( 'Chad') |
Origin_Refugee_Data['Country Name'].str.contains( 'Channel Islands') |
Origin_Refugee_Data['Country Name'].str.contains( 'Chile') |
Origin_Refugee_Data['Country Name'].str.contains( 'China') |
Origin_Refugee_Data['Country Name'].str.contains( 'Colombia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Comoros') |
Origin_Refugee_Data['Country Name'].str.contains( 'Congo Dem. Rep.') |
Origin_Refugee_Data['Country Name'].str.contains( 'Congo Rep.') |
Origin_Refugee_Data['Country Name'].str.contains( 'Costa Rica') |
Origin_Refugee_Data['Country Name'].str.contains( "Cote d'Ivoire") |
Origin_Refugee_Data['Country Name'].str.contains( 'Croatia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Cuba') |
Origin_Refugee_Data['Country Name'].str.contains( 'Curacao') |
Origin_Refugee_Data['Country Name'].str.contains( 'Cyprus') |
Origin_Refugee_Data['Country Name'].str.contains( 'Czech Republic') |
Origin_Refugee_Data['Country Name'].str.contains( 'Denmark') |
```

```
Origin_Refugee_Data['Country Name'].str.contains( 'Djibouti') |
Origin_Refugee_Data['Country Name'].str.contains( 'Dominica') |
Origin_Refugee_Data['Country Name'].str.contains( 'Dominican Republic') |
Origin_Refugee_Data['Country Name'].str.contains( 'Ecuador') |
Origin_Refugee_Data['Country Name'].str.contains( 'Egypt Arab Rep.') |
Origin_Refugee_Data['Country Name'].str.contains( 'El Salvador') |
Origin_Refugee_Data['Country Name'].str.contains( 'Equatorial Guinea') |
Origin_Refugee_Data['Country Name'].str.contains( 'Eritrea') |
Origin_Refugee_Data['Country Name'].str.contains( 'Estonia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Eswatini') |
Origin_Refugee_Data['Country Name'].str.contains( 'Ethiopia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Faroe Islands') |
Origin_Refugee_Data['Country Name'].str.contains( 'Fiji') |
Origin_Refugee_Data['Country Name'].str.contains( 'Finland') |
Origin_Refugee_Data['Country Name'].str.contains( 'France') |
Origin_Refugee_Data['Country Name'].str.contains( 'French Polynesia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Gabon') |
Origin_Refugee_Data['Country Name'].str.contains( 'Gambia The') |
Origin_Refugee_Data['Country Name'].str.contains( 'Georgia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Germany') |
Origin_Refugee_Data['Country Name'].str.contains( 'Ghana') |
Origin_Refugee_Data['Country Name'].str.contains( 'Gibraltar') |
Origin_Refugee_Data['Country Name'].str.contains( 'Greece') |
Origin_Refugee_Data['Country Name'].str.contains( 'Greenland') |
Origin_Refugee_Data['Country Name'].str.contains( 'Grenada') |
Origin_Refugee_Data['Country Name'].str.contains( 'Guam') |
Origin_Refugee_Data['Country Name'].str.contains( 'Guatemala') |
Origin_Refugee_Data['Country Name'].str.contains( 'Guinea') |
Origin_Refugee_Data['Country Name'].str.contains( 'Guinea-Bissau') |
Origin_Refugee_Data['Country Name'].str.contains( 'Guyana') |
Origin_Refugee_Data['Country Name'].str.contains( 'Haiti') |
Origin_Refugee_Data['Country Name'].str.contains( 'Honduras') |
Origin_Refugee_Data['Country Name'].str.contains( 'Hong Kong SAR China') |
Origin_Refugee_Data['Country Name'].str.contains( 'Hungary') |
Origin_Refugee_Data['Country Name'].str.contains( 'Iceland') |
Origin_Refugee_Data['Country Name'].str.contains( 'India') |
Origin_Refugee_Data['Country Name'].str.contains( 'Indonesia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Iran Islamic Rep.') |
Origin_Refugee_Data['Country Name'].str.contains( 'Iraq') |
Origin_Refugee_Data['Country Name'].str.contains( 'Ireland') |
Origin_Refugee_Data['Country Name'].str.contains( 'Isle of Man') |
Origin_Refugee_Data['Country Name'].str.contains( 'Israel') |
Origin_Refugee_Data['Country Name'].str.contains( 'Italy') |
Origin_Refugee_Data['Country Name'].str.contains( 'Jamaica') |
Origin_Refugee_Data['Country Name'].str.contains( 'Japan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Jordan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Kazakhstan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Kenya') |
Origin_Refugee_Data['Country Name'].str.contains( 'Kiribati') |
Origin_Refugee_Data['Country Name'].str.contains( 'Korea Dem. People’s Rep.')
|
Origin_Refugee_Data['Country Name'].str.contains( 'Korea Rep.') |
Origin_Refugee_Data['Country Name'].str.contains( 'Kosovo') |
Origin_Refugee_Data['Country Name'].str.contains( 'Kuwait') |
Origin_Refugee_Data['Country Name'].str.contains( 'Kyrgyz Republic') |
Origin_Refugee_Data['Country Name'].str.contains( 'Lao PDR') |
Origin_Refugee_Data['Country Name'].str.contains( 'Latvia') |
```

```
Origin_Refugee_Data['Country Name'].str.contains( 'Lebanon') |
Origin_Refugee_Data['Country Name'].str.contains( 'Lesotho') |
Origin_Refugee_Data['Country Name'].str.contains( 'Liberia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Libya') |
Origin_Refugee_Data['Country Name'].str.contains( 'Liechtenstein') |
Origin_Refugee_Data['Country Name'].str.contains( 'Lithuania') |
Origin_Refugee_Data['Country Name'].str.contains( 'Luxembourg') |
Origin_Refugee_Data['Country Name'].str.contains( 'Macao SAR China') |
Origin_Refugee_Data['Country Name'].str.contains( 'Madagascar') |
Origin_Refugee_Data['Country Name'].str.contains( 'Malawi') |
Origin_Refugee_Data['Country Name'].str.contains( 'Malaysia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Maldives') |
Origin_Refugee_Data['Country Name'].str.contains( 'Mali') |
Origin_Refugee_Data['Country Name'].str.contains( 'Malta') |
Origin_Refugee_Data['Country Name'].str.contains( 'Marshall Islands') |
Origin_Refugee_Data['Country Name'].str.contains( 'Mauritania') |
Origin_Refugee_Data['Country Name'].str.contains( 'Mauritius') |
Origin_Refugee_Data['Country Name'].str.contains( 'Mexico') |
Origin_Refugee_Data['Country Name'].str.contains( 'Micronesia Fed. Sts.') |
Origin_Refugee_Data['Country Name'].str.contains( 'Moldova') |
Origin_Refugee_Data['Country Name'].str.contains( 'Monaco') |
Origin_Refugee_Data['Country Name'].str.contains( 'Mongolia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Montenegro') |
Origin_Refugee_Data['Country Name'].str.contains( 'Morocco') |
Origin_Refugee_Data['Country Name'].str.contains( 'Mozambique') |
Origin_Refugee_Data['Country Name'].str.contains( 'Myanmar') |
Origin_Refugee_Data['Country Name'].str.contains( 'Namibia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Nauru') |
Origin_Refugee_Data['Country Name'].str.contains( 'Nepal') |
Origin_Refugee_Data['Country Name'].str.contains( 'Netherlands') |
Origin_Refugee_Data['Country Name'].str.contains( 'New Caledonia') |
Origin_Refugee_Data['Country Name'].str.contains( 'New Zealand') |
Origin_Refugee_Data['Country Name'].str.contains( 'Nicaragua') |
Origin_Refugee_Data['Country Name'].str.contains( 'Niger') |
Origin_Refugee_Data['Country Name'].str.contains( 'Nigeria') |
Origin_Refugee_Data['Country Name'].str.contains( 'North Macedonia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Northern Mariana Islands')
|
Origin_Refugee_Data['Country Name'].str.contains( 'Norway') |
Origin_Refugee_Data['Country Name'].str.contains( 'Oman') |
Origin_Refugee_Data['Country Name'].str.contains( 'Pakistan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Palau') |
Origin_Refugee_Data['Country Name'].str.contains( 'Panama') |
Origin_Refugee_Data['Country Name'].str.contains( 'Papua New Guinea') |
Origin_Refugee_Data['Country Name'].str.contains( 'Paraguay') |
Origin_Refugee_Data['Country Name'].str.contains( 'Peru') |
Origin_Refugee_Data['Country Name'].str.contains( 'Philippines') |
Origin_Refugee_Data['Country Name'].str.contains( 'Poland') |
Origin_Refugee_Data['Country Name'].str.contains( 'Portugal') |
Origin_Refugee_Data['Country Name'].str.contains( 'Puerto Rico') |
Origin_Refugee_Data['Country Name'].str.contains( 'Qatar') |
Origin_Refugee_Data['Country Name'].str.contains( 'Romania') |
Origin_Refugee_Data['Country Name'].str.contains( 'Russian Federation') |
Origin_Refugee_Data['Country Name'].str.contains( 'Rwanda') |
Origin_Refugee_Data['Country Name'].str.contains( 'Samoa') |
Origin_Refugee_Data['Country Name'].str.contains( 'San Marino') |
Origin_Refugee_Data['Country Name'].str.contains( 'Sao Tome and Principe') |
```

```
Origin_Refugee_Data['Country Name'].str.contains( 'Saudi Arabia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Senegal') |
Origin_Refugee_Data['Country Name'].str.contains( 'Serbia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Seychelles') |
Origin_Refugee_Data['Country Name'].str.contains( 'Sierra Leone') |
Origin_Refugee_Data['Country Name'].str.contains( 'Singapore') |
Origin_Refugee_Data['Country Name'].str.contains( 'Sint Maarten (Dutch part)')
|
Origin_Refugee_Data['Country Name'].str.contains( 'Slovak Republic') |
Origin_Refugee_Data['Country Name'].str.contains( 'Slovenia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Solomon Islands') |
Origin_Refugee_Data['Country Name'].str.contains( 'Somalia') |
Origin_Refugee_Data['Country Name'].str.contains( 'South Africa') |
Origin_Refugee_Data['Country Name'].str.contains( 'South Sudan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Spain') |
Origin_Refugee_Data['Country Name'].str.contains( 'Sri Lanka') |
Origin_Refugee_Data['Country Name'].str.contains( 'St. Kitts and Nevis') |
Origin_Refugee_Data['Country Name'].str.contains( 'St. Lucia') |
Origin_Refugee_Data['Country Name'].str.contains( 'St. Martin (French part)')
|
Origin_Refugee_Data['Country Name'].str.contains( 'St. Vincent and the Grenadi
nes') |
Origin_Refugee_Data['Country Name'].str.contains( 'Sudan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Suriname') |
Origin_Refugee_Data['Country Name'].str.contains( 'Sweden') |
Origin_Refugee_Data['Country Name'].str.contains( 'Switzerland') |
Origin_Refugee_Data['Country Name'].str.contains( 'Syrian Arab Republic') |
Origin_Refugee_Data['Country Name'].str.contains( 'Tajikistan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Tanzania') |
Origin_Refugee_Data['Country Name'].str.contains( 'Thailand') |
Origin_Refugee_Data['Country Name'].str.contains( 'Timor-Leste') |
Origin_Refugee_Data['Country Name'].str.contains( 'Togo') |
Origin_Refugee_Data['Country Name'].str.contains( 'Tonga') |
Origin_Refugee_Data['Country Name'].str.contains( 'Trinidad and Tobago') |
Origin_Refugee_Data['Country Name'].str.contains( 'Tunisia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Turkey') |
Origin_Refugee_Data['Country Name'].str.contains( 'Turkmenistan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Turks and Caicos Islands')
|
Origin_Refugee_Data['Country Name'].str.contains( 'Tuvalu') |
Origin_Refugee_Data['Country Name'].str.contains( 'Uganda') |
Origin_Refugee_Data['Country Name'].str.contains( 'Ukraine') |
Origin_Refugee_Data['Country Name'].str.contains( 'United Arab Emirates') |
Origin_Refugee_Data['Country Name'].str.contains( 'United Kingdom') |
Origin_Refugee_Data['Country Name'].str.contains( 'United States') |
Origin_Refugee_Data['Country Name'].str.contains( 'Uruguay') |
Origin_Refugee_Data['Country Name'].str.contains( 'Uzbekistan') |
Origin_Refugee_Data['Country Name'].str.contains( 'Vanuatu') |
Origin_Refugee_Data['Country Name'].str.contains( 'Venezuela RB') |
Origin_Refugee_Data['Country Name'].str.contains( 'Vietnam') |
Origin_Refugee_Data['Country Name'].str.contains( 'Virgin Islands (U.S.)') |
Origin_Refugee_Data['Country Name'].str.contains( 'West Bank and Gaza') |
Origin_Refugee_Data['Country Name'].str.contains( 'Yemen Rep.') |
Origin_Refugee_Data['Country Name'].str.contains( 'Zambia') |
Origin_Refugee_Data['Country Name'].str.contains( 'Zimbabwe')
```

```
)
```

```
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:21
7: UserWarning: This pattern has match groups. To actually get the groups, us
e str.extract.
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:21
7: UserWarning: This pattern has match groups. To actually get the groups, us
e str.extract.
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:21
7: UserWarning: This pattern has match groups. To actually get the groups, us
e str.extract.
```

In [15]:
```
Asylum_Refugee_Data_country_Filter =  Asylum_Refugee_Data[country_Filter_1]
Origin_Refugee_Data_country_Filter =  Origin_Refugee_Data[country_Filter_2]
```

In [16]:
```
Asylum_Refugee_Data_country_Filter.head()
```

Out[16]:

	Country Name	Country Code	Indicator Name	Indicator Code	Year	Value
76284	Afghanistan	AFG	Refugee population by country or territory of ...	SM.POP.REFG	1960	NaN
77879	Albania	ALB	Refugee population by country or territory of ...	SM.POP.REFG	1960	NaN
79474	Algeria	DZA	Refugee population by country or territory of ...	SM.POP.REFG	1960	NaN
81069	American Samoa	ASM	Refugee population by country or territory of ...	SM.POP.REFG	1960	NaN
82664	Andorra	AND	Refugee population by country or territory of ...	SM.POP.REFG	1960	NaN

In [17]:
```
Origin_Refugee_Data_country_Filter.head()
```

Out[17]:

	Country Name	Country Code	Indicator Name	Indicator Code	Year	Value
76285	Afghanistan	AFG	Refugee population by country or territory of ...	SM.POP.REFG.OR	1960	NaN
77880	Albania	ALB	Refugee population by country or territory of ...	SM.POP.REFG.OR	1960	NaN
79475	Algeria	DZA	Refugee population by country or territory of ...	SM.POP.REFG.OR	1960	NaN
81070	American Samoa	ASM	Refugee population by country or territory of ...	SM.POP.REFG.OR	1960	NaN
82665	Andorra	AND	Refugee population by country or territory of ...	SM.POP.REFG.OR	1960	NaN

Now Lets Filter the Data as > 1989

In [18]:
```
Origin_Refugee_Data_final = Origin_Refugee_Data_country_Filter[Origin_Refugee_
Data_country_Filter.Year > '1989']
```

In [19]:
```
Asylum_Refugee_Data_final = Asylum_Refugee_Data_country_Filter[Asylum_Refugee_
Data_country_Filter.Year > '1989']
```

In [20]:
```
Origin_Refugee_Data_final.isnull().sum()
```

Out[20]:
```
Country Name         0
Country Code         0
Indicator Name       0
Indicator Code       0
Year                 0
Value             1190
dtype: int64
```

In [21]:
```
Origin_Refugee_Data_final = Origin_Refugee_Data_final.dropna()
```

In [22]:
```
Asylum_Refugee_Data_final = Asylum_Refugee_Data_final.dropna()
```

In [23]:
```
Origin_Refugee_Data_final.isnull().sum()
```

Out[23]:
```
Country Name      0
Country Code      0
Indicator Name    0
Indicator Code    0
Year              0
Value             0
dtype: int64
```

In [24]:
```
Asylum_Refugee_Data_final.isnull().sum()
```

Out[24]:
```
Country Name      0
Country Code      0
Indicator Name    0
Indicator Code    0
Year              0
Value             0
dtype: int64
```

(1) Visualization - count of refugee by Million by country - Top 10

In [25]:
```
del Origin_Refugee_Data_final['Country Code']
del Origin_Refugee_Data_final['Indicator Name']
del Origin_Refugee_Data_final['Indicator Code']
```

In [26]:
```
del Asylum_Refugee_Data_final['Country Code']
del Asylum_Refugee_Data_final['Indicator Name']
del Asylum_Refugee_Data_final['Indicator Code']
```

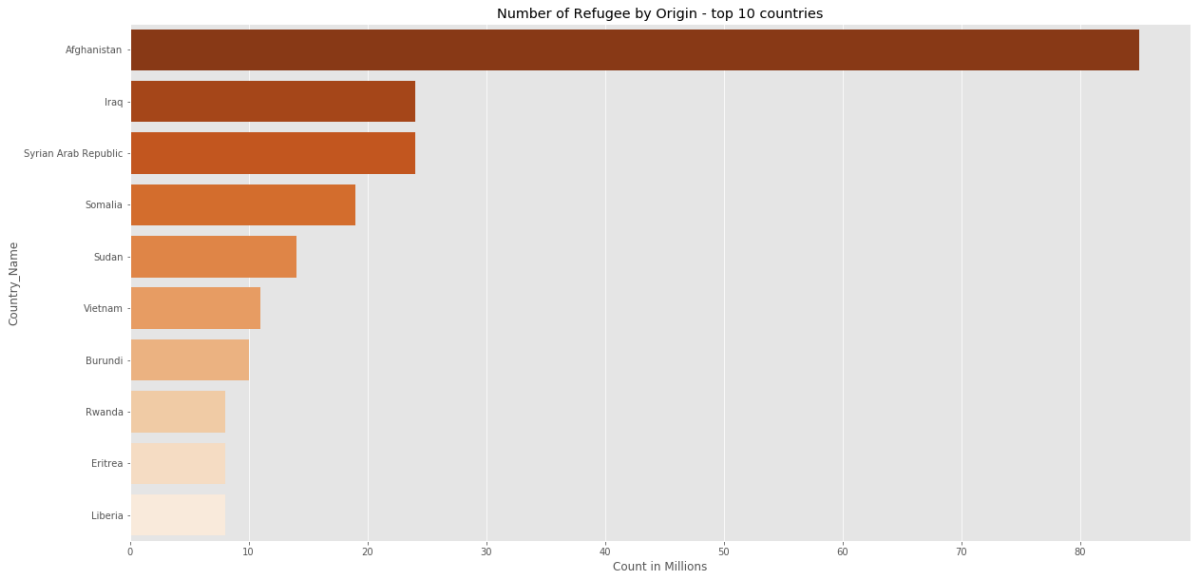
In [27]:
```
Origin_Refugee_Data_by_country = Origin_Refugee_Data_final.groupby(['Country Name'],as_index=False).sum().sort_values('Value',ascending=False)
```

In [28]:
```
Origin_Refugee_Data_by_country['Val_in_M'] = Origin_Refugee_Data_by_country['Value'] // 1000000
```

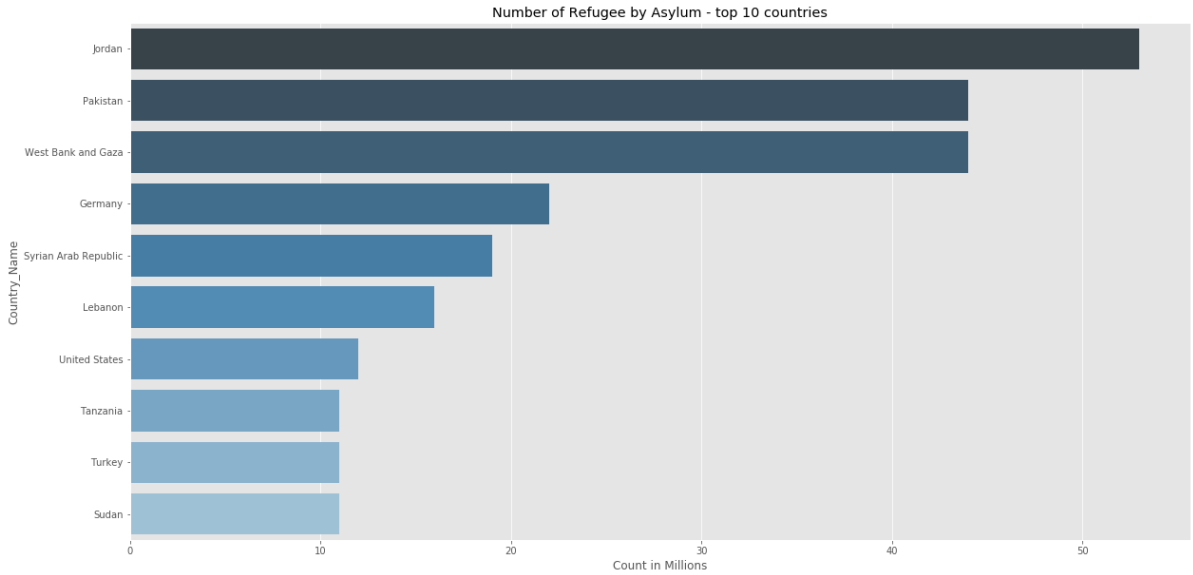
In [29]:
```
Asylum_Refugee_Data_by_country = Asylum_Refugee_Data_final.groupby(['Country Name'],as_index=False).sum().sort_values('Value',ascending=False)
```

In [30]:
```
Asylum_Refugee_Data_by_country['Val_in_M'] = Asylum_Refugee_Data_by_country['Value'] // 1000000
```

In [31]:
```
plt.style.use('ggplot')
plt.figure(figsize=(20,10))
plt.title("Number of Refugee by Origin - top 10 countries")
ax = sns.barplot(x="Val_in_M",y="Country Name",data=Origin_Refugee_Data_by_country.head(10),palette="Oranges_r")
ax.set(xlabel='Count in Millions',ylabel='Country_Name')
plt.show()
```



In [32]:
```
plt.style.use('ggplot')
plt.figure(figsize=(20,10))
plt.title("Number of Refugee by Asylum - top 10 countries")
ax = sns.barplot(x="Val_in_M",y="Country Name",data=Asylum_Refugee_Data_by_cou
ntry.head(10),palette="Blues_d")
ax.set(xlabel='Count in Millions',ylabel='Country_Name')
plt.show()
```



(2) Visualization - Trend of Refugee count in Millions

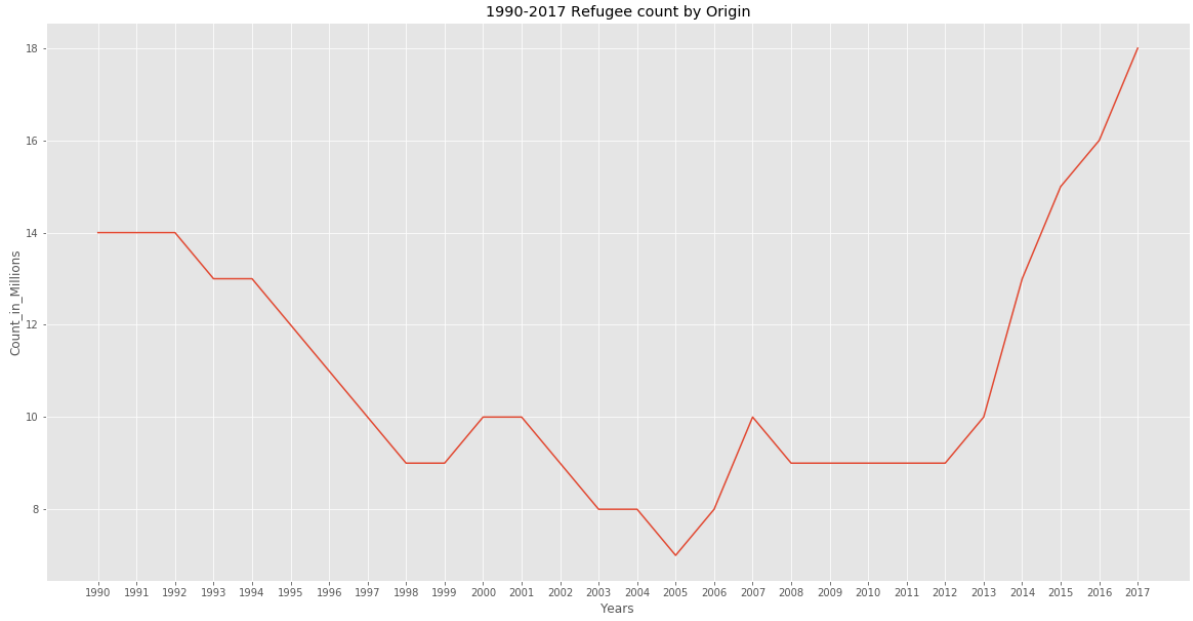
In [33]:
```
Origin_Refugee_Data_by_Year = Origin_Refugee_Data_final.groupby(['Year'],as_in
dex=False).sum().sort_values('Year',ascending=True)
```

In [34]:
```
Origin_Refugee_Data_by_Year['Val_in_M'] = Origin_Refugee_Data_by_Year['Value']
// 1000000
```

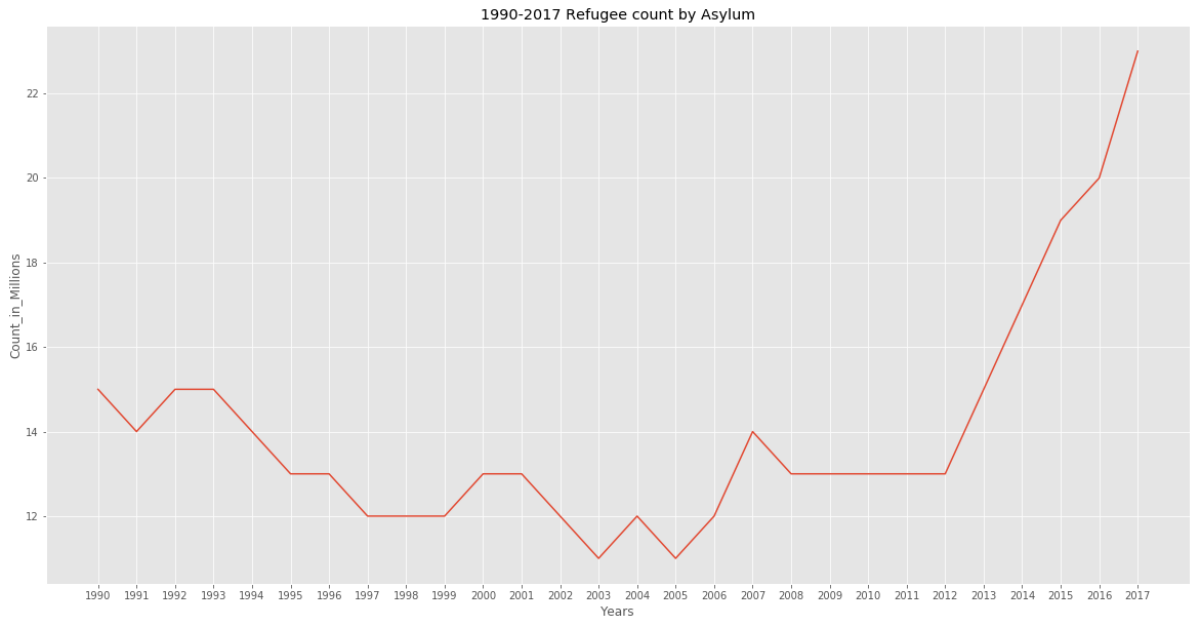
In [35]:
```
Asylum_Refugee_Data_by_Year = Asylum_Refugee_Data_final.groupby(['Year'],as_in
dex=False).sum().sort_values('Year',ascending=True)
```

In [36]:
```
Asylum_Refugee_Data_by_Year['Val_in_M'] = Asylum_Refugee_Data_by_Year['Value']
// 1000000
```

In [37]:
```
plt.style.use('ggplot')
plt.figure(figsize=(20,10))
plt.title("1990-2017 Refugee count by Origin")
ax = sns.lineplot(x='Year',y='Val_in_M',data=Origin_Refugee_Data_by_Year,palet
te="Blues_d")
ax.set(xlabel='Years',ylabel='Count_in_Millions')
plt.show()
```



In [38]:
```
plt.style.use('ggplot')
plt.figure(figsize=(20,10))
plt.title("1990-2017 Refugee count by Asylum")
ax = sns.lineplot(x='Year',y='Val_in_M',data=Asylum_Refugee_Data_by_Year,palet
te="Blues_d")
ax.set(xlabel='Years',ylabel='Count_in_Millions')
plt.show()
```



In [40]:
```
Origin_Refugee_Data_final.head()
```

Out[40]:

	Country Name	Year	Value
12708685	Afghanistan	1990	6339095.0
12710280	Albania	1990	1822.0
12711875	Algeria	1990	19.0
12716660	Angola	1990	407760.0
12719850	Argentina	1990	334.0

(3) Visualization - Trend of Refugee count in Top 5 countries

In [41]:
```
Top_5_counties_by_Origin = Origin_Refugee_Data_by_country.head(5)['Country Name'].tolist()
```

In [42]:
```
Top_5_counties_by_Asylum = Asylum_Refugee_Data_by_country.head(5)['Country Name'].tolist()
```

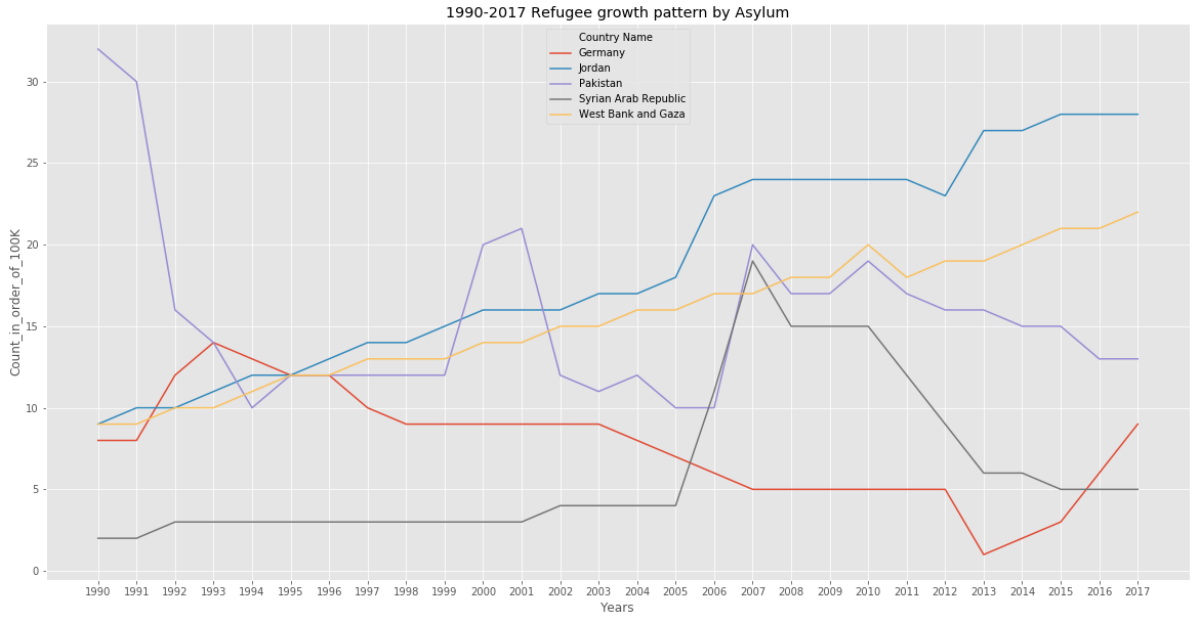
In [43]:
```
Yearly_data_top5_by_origin= Origin_Refugee_Data_final[Origin_Refugee_Data_final['Country Name'].isin(Top_5_counties_by_Origin)]
```

In [44]:
```
Yearly_data_top5_by_asyslum= Asylum_Refugee_Data_final[Asylum_Refugee_Data_final['Country Name'].isin(Top_5_counties_by_Asylum)]
```

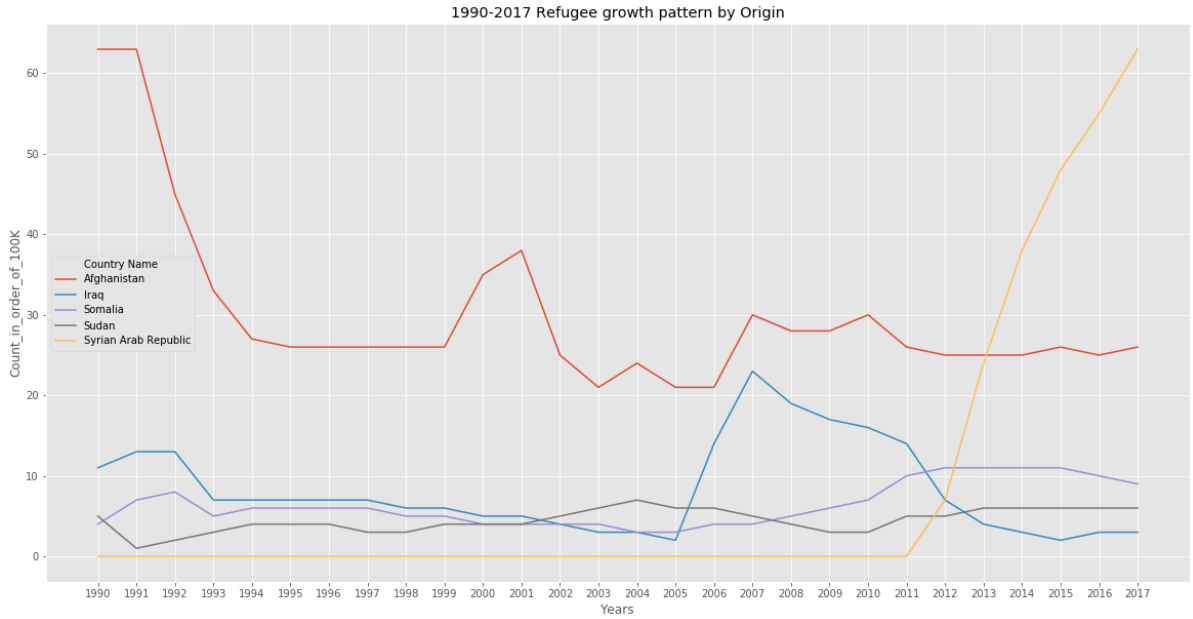
In [58]:
```
Yearly_data_top5_by_asyslum['Val_in_M'] = Yearly_data_top5_by_asyslum['Value'] // 100000
Yearly_data_top5_by_origin['Val_in_M'] = Yearly_data_top5_by_origin['Value'] // 100000
```

```
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:1:
SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/stable/indexing.html#indexing-view-versus-copy
  """Entry point for launching an IPython kernel.
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:2:
SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/stable/indexing.html#indexing-view-versus-copy
```

In [66]:
```
plt.style.use('ggplot')
plt.figure(figsize=(20,10))
plt.title("1990-2017 Refugee growth pattern by Asylum")
ax = sns.lineplot(x='Year',y='Val_in_M',hue='Country Name',data=Yearly_data_top5_by_asyslum)
ax.set(xlabel='Years',ylabel='Count_in_order_of_100K')
plt.show()
```



In [65]:
```
plt.style.use('ggplot')
plt.figure(figsize=(20,10))
plt.title("1990-2017 Refugee growth pattern by Origin")
ax = sns.lineplot(x='Year',y='Val_in_M',hue='Country Name',data=Yearly_data_top5_by_origin)
ax.set(xlabel='Years',ylabel='Count_in_order_of_100K')
plt.show()
```



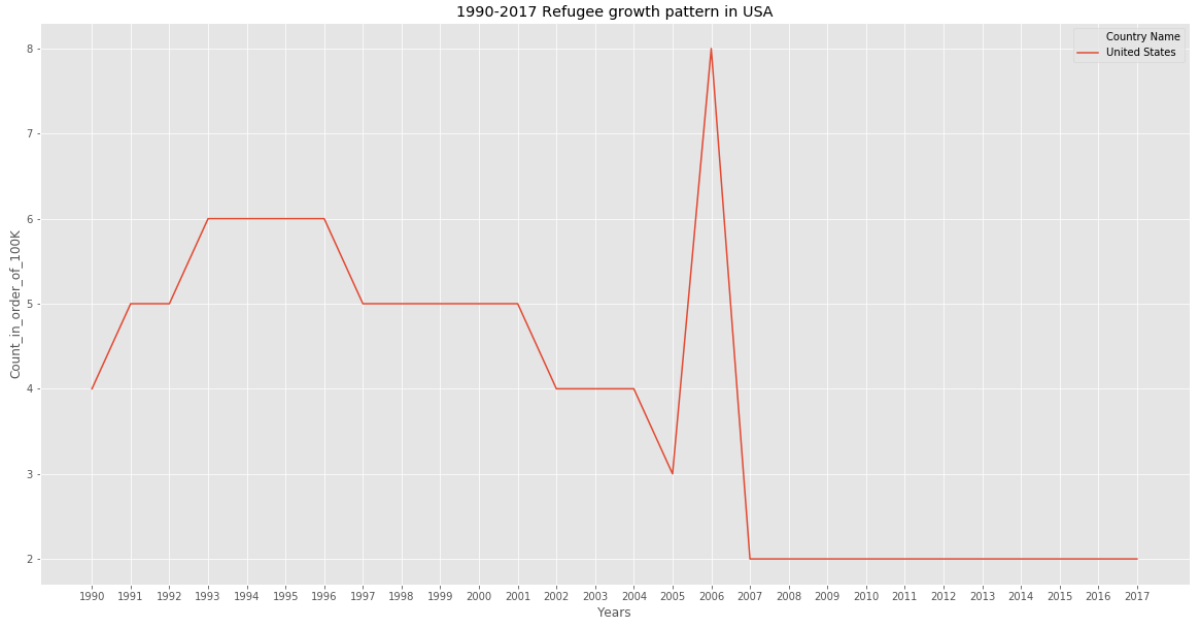
(4) Visualization - USA

In [47]:
```
Yearly_data_USA= Asylum_Refugee_Data_final[Asylum_Refugee_Data_final['Country
 Name'].isin(['United States'])]
```

In [62]:
```
Yearly_data_USA['Val_in_M'] = Yearly_data_USA['Value'] //100000
```

```
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:1:
SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/st
able/indexing.html#indexing-view-versus-copy
  """Entry point for launching an IPython kernel.
```

In [64]:
```
plt.style.use('ggplot')
plt.figure(figsize=(20,10))
plt.title("1990-2017 Refugee growth pattern in USA")
ax = sns.lineplot(x='Year',y='Val_in_M',hue='Country Name',data=Yearly_data_US
A)
ax.set(xlabel='Years',ylabel='Count_in_order_of_100K')
plt.show()
```



How Much % Refugees coming to USA vs Genrmany ?

In [49]:
```
Total_Refugee_count = Asylum_Refugee_Data_by_country['Value'].sum()
```

In [50]:
```
Total_Refugee_count
```

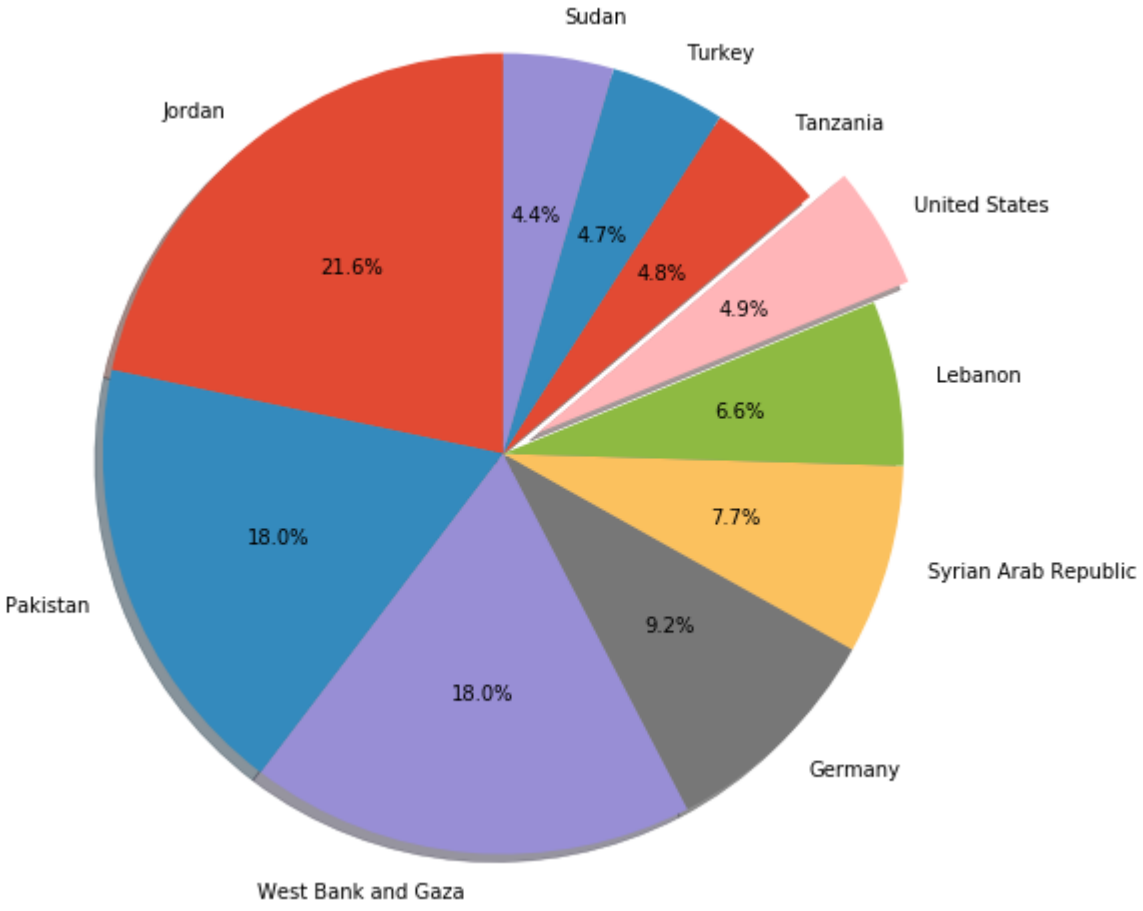
Out[50]: 404293880.0

In [51]:
```
#Lets Cals the % for top 10 countries
Top_10_Asylum = Asylum_Refugee_Data_by_country.head(10)
```

In [52]:
```
Top_10_Asylum['pctg'] = (Top_10_Asylum['Value'] / Total_Refugee_count)*100
```

```
C:\Users\SoumyaBukaiHome\Anaconda3\lib\site-packages\ipykernel_launcher.py:1:
SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/st
able/indexing.html#indexing-view-versus-copy
  """Entry point for launching an IPython kernel.
```

In [53]:
```
explode = (0, 0, 0, 0,0,0,0.1,0,0,0)
fig1, ax1 = plt.subplots()
fig1.set_size_inches(8,8)
ax1.pie(Top_10_Asylum['pctg'], explode=explode,labels=Top_10_Asylum['Country N
ame'], autopct='%1.1f%%',
        shadow=True, startangle=90)
ax1.axis('equal')  # Equal aspect ratio ensures that pie is drawn as a circle.

plt.show()
```



In [ ]: