GRIP @ The Sparks Foundation

Internship on

Data Science and Business Analytics

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Task_4: Exploratory Data Analysis - Global Terrorism

Preface: Terrorist Activities Around The World

- According to a survey, about 218 million people are affected by calamities, natural and man-made, per annum and about 68000 people loose their lives every year. The frequency of natural disasters like earthquakes, volcanoes, etc have remained broadly constant, but the number of terrorist activities have grown over the period.

- The aim of this notebook is to explore the terrorist events around the world. Interactive Plots and Animations are used in this notebook, for making the exploration easy and more informative. Folium is used for mapping, which is a wrapper over the Leaflet.js API. Some things that we will explore are the trends in terrorism over the year, the terrorism prone areas, etc. Since it is a geographic dataset, you will see a lot of geomaps.

Dataset Link (Kaggle): https://www.kaggle.com/datasets/START-UMD/gtd

Objectives:

- Perform ‘Exploratory Data Analysis’ on dataset ‘Global Terrorism’
- As a Security/Defense Analyst, try to find out the hot zone of terrorism.
- What all security issues and insights you can derive by EDA?

In [1]:

```
from IPython.display import Image
Image('global_Terrorism.jpeg', height=200, width=700)
```

Out[1]:

1. Import Required Libraries:

In [3]:

```
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)
import numpy as np # linear algebra
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.offline as py
import plotly.graph_objs as go


import math
import warnings
warnings.filterwarnings('ignore')
```

In [4]:

```
# Load Dataset:
terror = pd.read_csv('globalterrorism.csv',encoding='ISO-8859-1')
```

In [5]:

```
# Print first five rows of the dataframe:
terror.head()
```

Out[5]:

	eventid	iyear	imonth	iday	approxdate	extended	resolution	country	country_txt
0	197000000001	1970	7	2	NaN	0	NaN	58	Dominican Republic
1	197000000002	1970	0	0	NaN	0	NaN	130	Mexico
2	197001000001	1970	1	0	NaN	0	NaN	160	Philippines
3	197001000002	1970	1	0	NaN	0	NaN	78	Greece
4	197001000003	1970	1	0	NaN	0	NaN	101	Japan

5 rows × 135 columns

2. Exploratory Data Analysis (EDA):

In [6]:

```
# Checking shape of dataframe:
terror.shape
```

Out[6]:

```
(181691, 135)
```

In [7]:

```
# Checking name of columns in dataframe:
terror.columns
```

Out[7]:

```
Index(['eventid', 'iyear', 'imonth', 'iday', 'approxdate', 'extended',
       'resolution', 'country', 'country_txt', 'region',
       ...
       'addnotes', 'scite1', 'scite2', 'scite3', 'dbsource', 'INT_LOG',
       'INT_IDEO', 'INT_MISC', 'INT_ANY', 'related'],
      dtype='object', length=135)
```

In [8]:

```
# Renaming column names for our simplicity:
terror.rename(columns={'iyear':'Year','imonth':'Month','iday':'Day','coun
                       'region_txt':'Region','attacktype1_txt':'AttackTyp
                       'nwound':'Wounded','summary':'Summary','gname':'Gr
                       'weaptype1_txt':'Weapon_type','motive':'Motive'},i
```

In [9]:

```
# Selecting relevant columns only for further processing:
terror=terror[['Year','Month','Day','Country','state','Region','city','la
               'Wounded','Target','Summary','Group','Target_type','Weapon
```

In [10]:

```
# Checking dataframe again:
terror.head()
```

Out[10]:

	Year	Month	Day	Country	state	Region	city	latitude	longitude	
0	1970	7	2	Dominican Republic	NaN	Central America & Caribbean	Santo Domingo	18.456792	-69.951164	
1	1970	0	0	Mexico	Federal	North America	Mexico city	19.371887	-99.086624	H
2	1970	1	0	Philippines	Tarlac	Southeast Asia	Unknown	15.478598	120.599741	
3	1970	1	0	Greece	Attica	Western Europe	Athens	37.997490	23.762728	Bom
4	1970	1	0	Japan	Fukouka	East Asia	Fukouka	33.580412	130.396361	Facilit

In [11]:
```
# Checking shape of dataset again :
terror.shape
```

Out[11]:
```
(181691, 18)
```

In [12]:
```
# Checking column names again:
terror.columns
```

Out[12]:
```
Index(['Year', 'Month', 'Day', 'Country', 'state', 'Region', 'city',
       'latitude', 'longitude', 'AttackType', 'Killed', 'Wounded', 'Targe
t',
       'Summary', 'Group', 'Target_type', 'Weapon_type', 'Motive'],
      dtype='object')
```

In [13]:
```
# Checking the null values in dataset:
terror.isnull().sum()
```

Out[13]:
```
Year                0
Month               0
Day                 0
Country             0
state             421
Region              0
city              434
latitude         4556
longitude        4557
AttackType          0
Killed          10313
Wounded         16311
Target            636
Summary         66129
Group               0
Target_type         0
Weapon_type         0
Motive         131130
dtype: int64
```

In [14]:
```
# Checking Datatype of each column:
terror.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 181691 entries, 0 to 181690
Data columns (total 18 columns):
 #   Column       Non-Null Count   Dtype  
---  ------       --------------   -----  
 0   Year         181691 non-null  int64  
 1   Month        181691 non-null  int64  
 2   Day          181691 non-null  int64  
 3   Country      181691 non-null  object 
 4   state        181270 non-null  object 
 5   Region       181691 non-null  object 
 6   city         181257 non-null  object 
 7   latitude     177135 non-null  float64
 8   longitude    177134 non-null  float64
 9   AttackType   181691 non-null  object 
 10  Killed       171378 non-null  float64
 11  Wounded      165380 non-null  float64
 12  Target       181055 non-null  object 
 13  Summary      115562 non-null  object 
 14  Group        181691 non-null  object 
 15  Target_type  181691 non-null  object 
 16  Weapon_type  181691 non-null  object 
 17  Motive       50561 non-null   object 
dtypes: float64(4), int64(3), object(11)
memory usage: 25.0+ MB
```

Most affected places in the world:

In [15]:

```
print("Country with the most attacks:",terror['Country'].value_counts().i
print("City with the most attacks:",terror['city'].value_counts().index[1
print("Region with the most attacks:",terror['Region'].value_counts().idx
print("Year with the most attacks:",terror['Year'].value_counts().idxmax(
print("Month with the most attacks:",terror['Month'].value_counts().idxma
print("Group with the most attacks:",terror['Group'].value_counts().index
print("Most Attack Types:",terror['AttackType'].value_counts().idxmax())
```

```
Country with the most attacks: Iraq
City with the most attacks: Baghdad
Region with the most attacks: Middle East & North Africa
Year with the most attacks: 2014
Month with the most attacks: 5
Group with the most attacks: Taliban
Most Attack Types: Bombing/Explosion
```

Word Cloud Visualisation:

In [16]:

```
from wordcloud import WordCloud
from scipy import signal
cities = terror.state.dropna(False)
plt.subplots(figsize=(10,10))
wordcloud = WordCloud(background_color = 'white',
                      width = 512,
                      height = 384).generate(' '.join(cities))
plt.axis('off')
plt.imshow(wordcloud)
plt.show()
```

Santiago Metropolitan
Jammu
Kashmir Jammu
Kandahar
Balochistan
Baghdad Diyala
Maguindanao
Federally Administered
Sindh Sindh
Unknown Unknown
Saladin Saladin
del Sur
Northern Ireland
Jharkhand
North Cotabato
Helmand Baghdad Saladin
Unknown
Basque Country
Frontier Province
Corsica Corsica
Kashmir
Al Anbar
Tribal Areas
San Salvador
Balochistan Balochistan
Baghdad Baghdad
Lima Lima
Gaza Strip
Anbar Al
North Sinai
Metropolitan Santiago
Pakhtunkhwa Khyber
Administered Tribal
Salvador San
Chhattisgarh
Ireland Northern
West Bank
West Frontier
Manipur
Buenos Aires
New York
Banaadir
Assam
Khyber Pakhtunkhwa
Punjab
Antioquia Antioquia
North West
Kabul
Nineveh Nineveh

Year Wise Terror Attacks:

In [17]:
```python
terror['Year'].value_counts(dropna = False).sort_index()
```

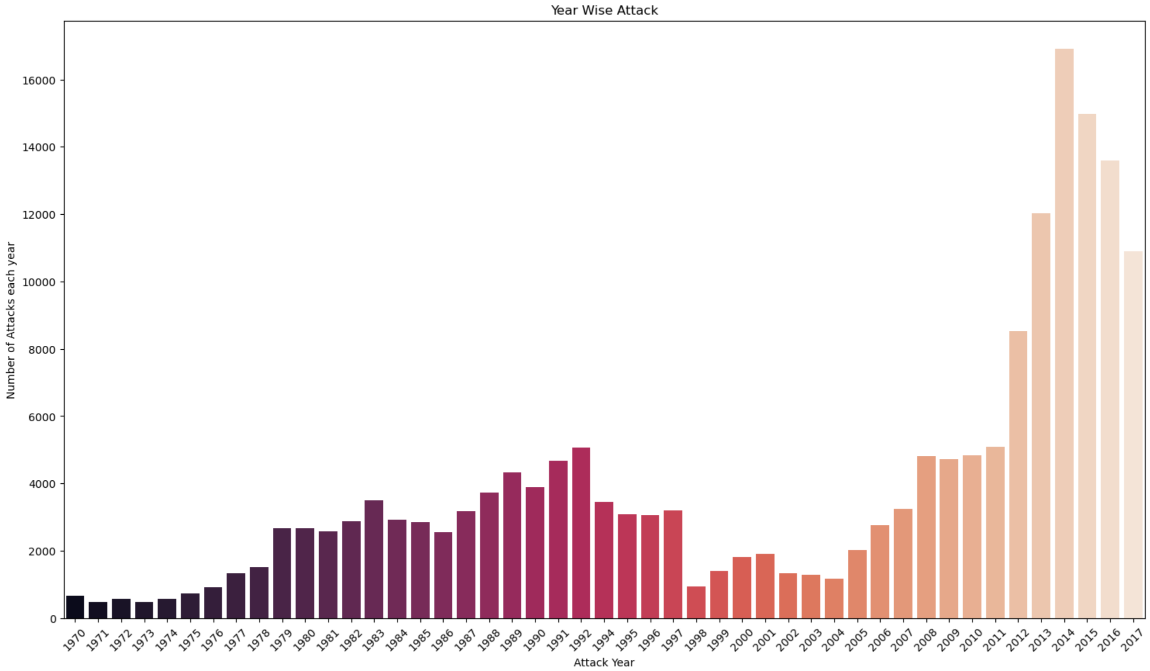
```
Out[17]: 1970      651
         1971      471
         1972      568
         1973      473
         1974      581
         1975      740
         1976      923
         1977     1319
         1978     1526
         1979     2662
         1980     2662
         1981     2586
         1982     2544
         1983     2870
         1984     3495
         1985     2915
         1986     2860
         1987     3183
         1988     3721
         1989     4324
         1990     3887
         1991     4683
         1992     5071
         1994     3456
         1995     3081
         1996     3058
         1997     3197
         1998      934
         1999     1395
         2000     1814
         2001     1906
         2002     1333
         2003     1278
         2004     1166
         2005     2017
         2006     2758
         2007     3242
         2008     4805
         2009     4721
         2010     4826
         2011     5076
         2012     8522
         2013    12036
         2014    16903
         2015    14965
         2016    13587
         2017    10900
         Name: Year, dtype: int64
```

3. Data Visualization:

Number of Terrorist Activities Each Year:

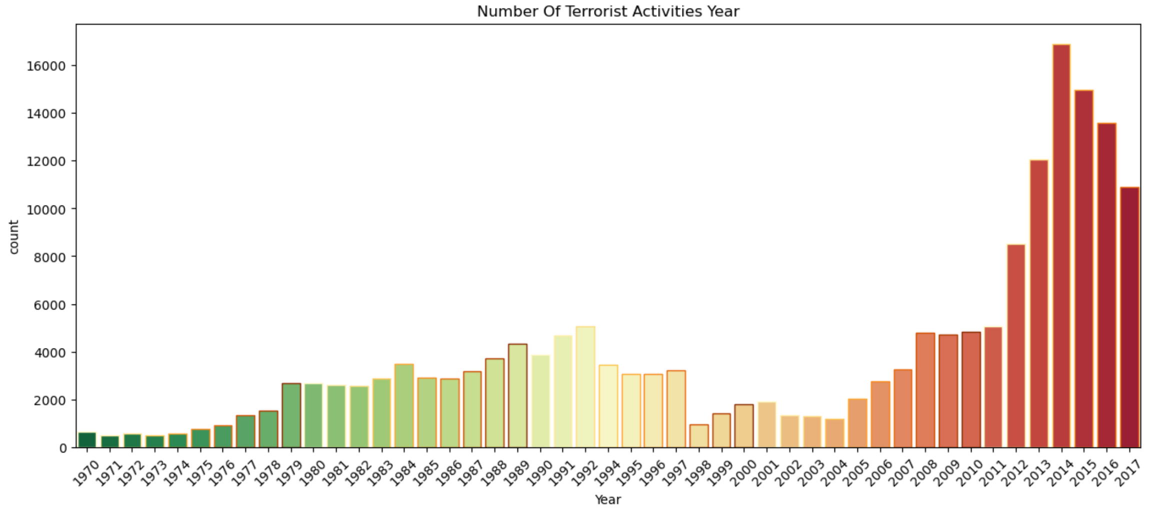
In [18]:

```
x_year = terror['Year'].unique()
y_count_years = terror['Year'].value_counts(dropna = False).sort_index()
plt.figure(figsize = (18,10))
sns.barplot(x = x_year,
           y = y_count_years,
           palette = 'rocket')
plt.xticks(rotation = 45)
plt.xlabel('Attack Year')
plt.ylabel('Number of Attacks each year')
plt.title('Year Wise Attack')
plt.show()
```



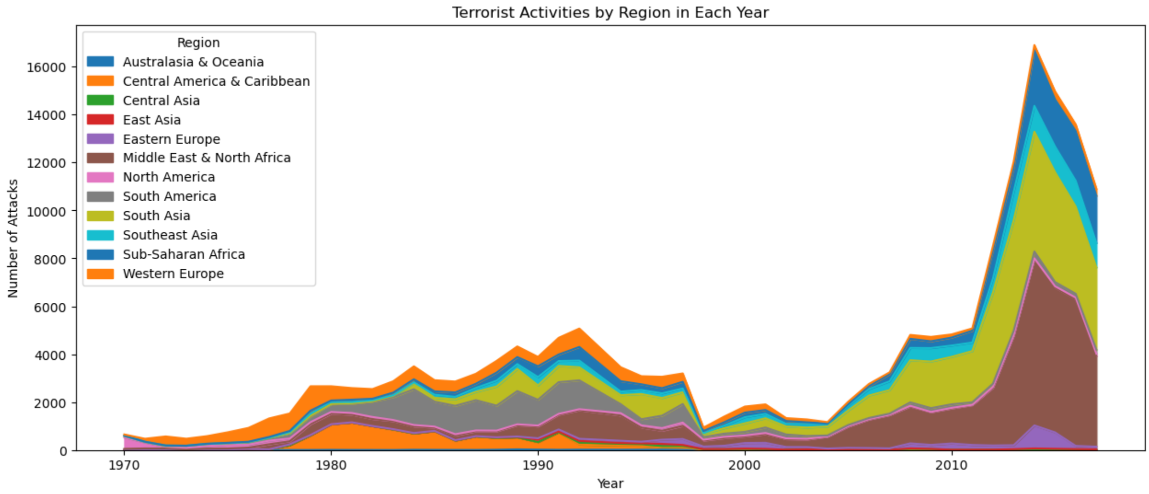
In [19]:

```
plt.subplots(figsize=(15,6))
sns.countplot(x='Year', data=terror, palette='RdYlGn_r', edgecolor=sns.co
plt.xticks(rotation=45)
plt.title('Number Of Terrorist Activities Year')
plt.show()
```



Terrorist Activities by Region in Each Year Through Area Plot:

In [20]:
```
pd.crosstab(terror.Year, terror.Region).plot(kind='area',figsize=(15,6))
plt.title('Terrorist Activities by Region in Each Year')
plt.ylabel('Number of Attacks')
plt.show()
```



In [21]:
```
terror['Wounded'] = terror['Wounded'].fillna(0).astype(int)
terror['Killed'] = terror['Killed'].fillna(0).astype(int)
terror['casualities'] = terror['Killed'] + terror['Wounded']
```

Top 40 Worst Terror Attacks as to Keep the Heatmap Simple and Easy to Visualize:

In [22]:
```
terror1 = terror.sort_values(by='casualities',ascending=False)[:40]
```

In [23]:
```
heat=terror1.pivot_table(index='Country',columns='Year',values='casualiti
heat.fillna(0,inplace=True)
```

In [24]:
```
heat.head()
```

Out[24]:

Year	1982	1984	1992	1994	1995	1996	1997	1998	2001	2004	2005	2006	20
Country													
Afghanistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(
Chad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(
Ethiopia	0.0	0.0	500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(
France	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1005.0	(

Top 40 Worst Terror Attacks in History from 1982 to 2016:

In [25]:

```
# Importing Some Necessary Libraries:
import plotly.offline as py
py.init_notebook_mode(connected=True)
import plotly.graph_objs as go

colorscale = [[0, '#edf8fb'], [.3, '#00BFFF'],  [.6, '#8856a7'],  [1, '#8
heatmap = go.Heatmap(z=heat.values, x=heat.columns, y=heat.index, colorsc
data = [heatmap]
layout = go.Layout(
title='Top 40 Worst Terror Attacks in History from 1982 to 2016',
    xaxis = dict(ticks='', nticks=20),
    yaxis = dict(ticks='')
)
fig = go.Figure(data=data, layout=layout)
py.iplot(fig, filename='heatmap',show_link=False)
```

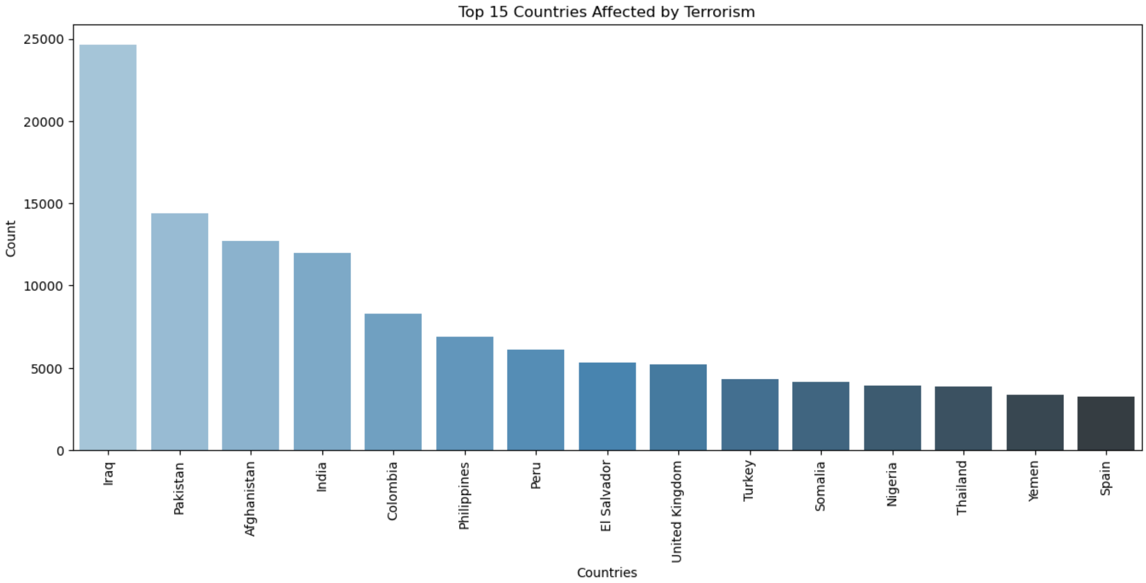
In [26]:

```
# Get the top 15 countries and their counts
top_countries = terror['Country'].value_counts()[:15]
top_countries
```

Out[26]:
```
Iraq              24636
Pakistan          14368
Afghanistan       12731
India             11960
Colombia           8306
Philippines        6908
Peru               6096
El Salvador        5320
United Kingdom     5235
Turkey             4292
Somalia            4142
Nigeria            3907
Thailand           3849
Yemen              3347
Spain              3249
Name: Country, dtype: int64
```

Top 15 Countries Affected by Terror Attacks:

In [27]:
```
# Create a DataFrame from the top_countries series
top_countries_df = pd.DataFrame({'Country': top_countries.index, 'Count':

# Create the barplot
plt.subplots(figsize=(15, 6))
sns.barplot(x='Country', y='Count', data=top_countries_df, palette='Blues
plt.title('Top 15 Countries Affected by Terrorism')
plt.xlabel('Countries')
plt.ylabel('Count')
plt.xticks(rotation=90)
plt.show()
```



Terrorist Attacks of a Particular year and their Locations:

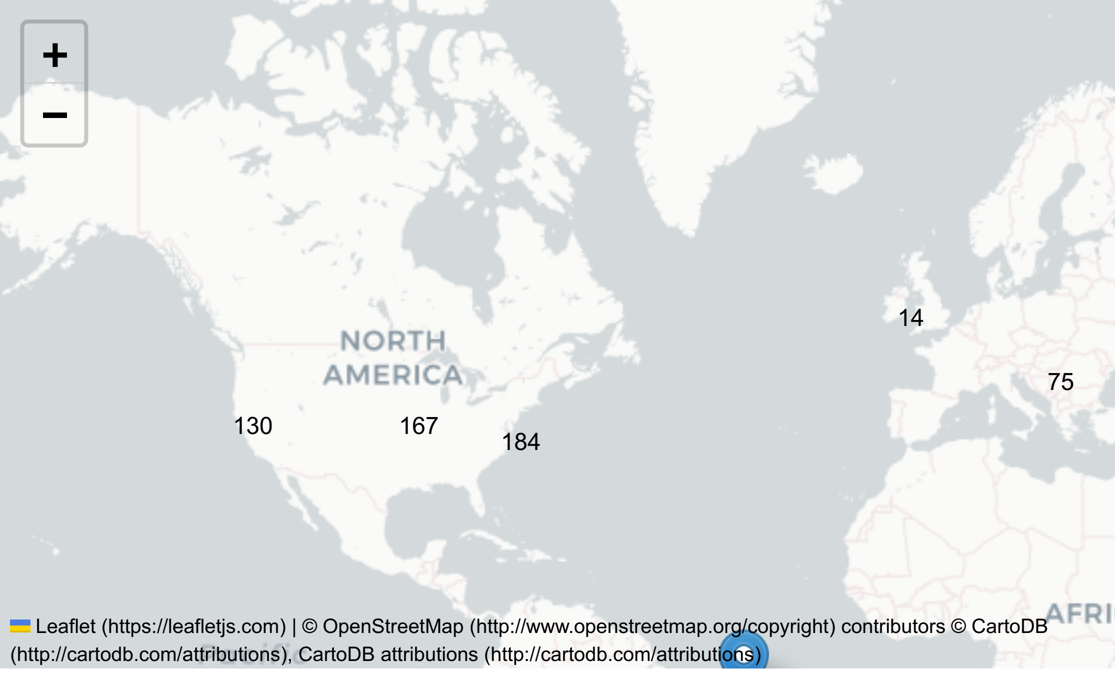
- Terrorist acts in the world over a certain year.

In [28]:
```
filterYear = terror['Year'] == 1970
```

In [29]:
```
filterData = terror[filterYear] # Filter data
reqFilterData = filterData.loc[:,'city':'longitude']
reqFilterData = reqFilterData.dropna() # Drop NaN values in latitude and
reqFilterDataList = reqFilterData.values.tolist()
```

In [30]:
```
# Import Map visualization library:
import folium
from folium.plugins import MarkerCluster

# Create a map centered at coordinates (0, 30) with specified tiles and z
map = folium.Map(location=[0, 30], tiles='CartoDB Positron', zoom_start=2

# Create a MarkerCluster to group markers
marker_cluster = MarkerCluster().add_to(map)

for data_point in reqFilterDataList:
    name = data_point[0]
    latitude = data_point[1]
    longitude = data_point[2]

    # Create a marker for each data point
    folium.Marker(
        location=[latitude, longitude],
        popup=name  # Display the name as a popup when the marker is clic
    ).add_to(marker_cluster)

# Display the map
map
```

Out[30]:


+
−
NORTH
AMERICA
130
167
184
14
75
AFRI
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Observation:

- 84% of the terrorist attacks in 1970 were carried out on the American continent.
- In 1970, the Middle East and North Africa, currently the center of wars and terrorist attacks, faced only one terrorist attack.**

Terrorist Organizations that have Carried Out the Most Attacks:

- Note: Indexing from 1 as to negate the value of 'Unknown'

In [31]:

```
terror.Group.value_counts()[1:15]
```

Out[31]:

```
Taliban                                             7478
Islamic State of Iraq and the Levant (ISIL)         5613
Shining Path (SL)                                   4555
Farabundo Marti National Liberation Front (FMLN)    3351
Al-Shabaab                                          3288
New People's Army (NPA)                             2772
Irish Republican Army (IRA)                         2671
Revolutionary Armed Forces of Colombia (FARC)       2487
Boko Haram                                          2418
Kurdistan Workers' Party (PKK)                      2310
Basque Fatherland and Freedom (ETA)                 2024
Communist Party of India - Maoist (CPI-Maoist)      1878
Maoists                                             1630
Liberation Tigers of Tamil Eelam (LTTE)             1606
Name: Group, dtype: int64
```

In [32]:

```
test = terror[terror.Group.isin(['Shining Path (SL)','Taliban','Islamic S
```

In [33]:

```
test.Country.unique()
```

Out[33]:

```
array(['Peru', 'Bolivia', 'Colombia', 'Argentina', 'Brazil', 'Mexico',
       'Afghanistan', 'Pakistan', 'Syria', 'Iraq', 'Turkey', 'Tunisia',
       'Lebanon', 'Turkmenistan', 'Israel', 'Belgium', 'Egypt', 'Libya',
       'Saudi Arabia', 'West Bank and Gaza Strip', 'France', 'Bahrain',
       'Jordan', 'Somalia', 'Germany', 'Yemen', 'Philippines', 'Malaysia
',
       'Indonesia', 'Russia', 'Georgia', 'United Kingdom', 'Iran',
       'Australia'], dtype=object)
```

In [34]:

```
terror_df_group = terror.dropna(subset=['latitude','longitude'])
```

In [35]:

```
terror_df_group = terror_df_group.drop_duplicates(subset=['Country','Grou
```

In [36]:

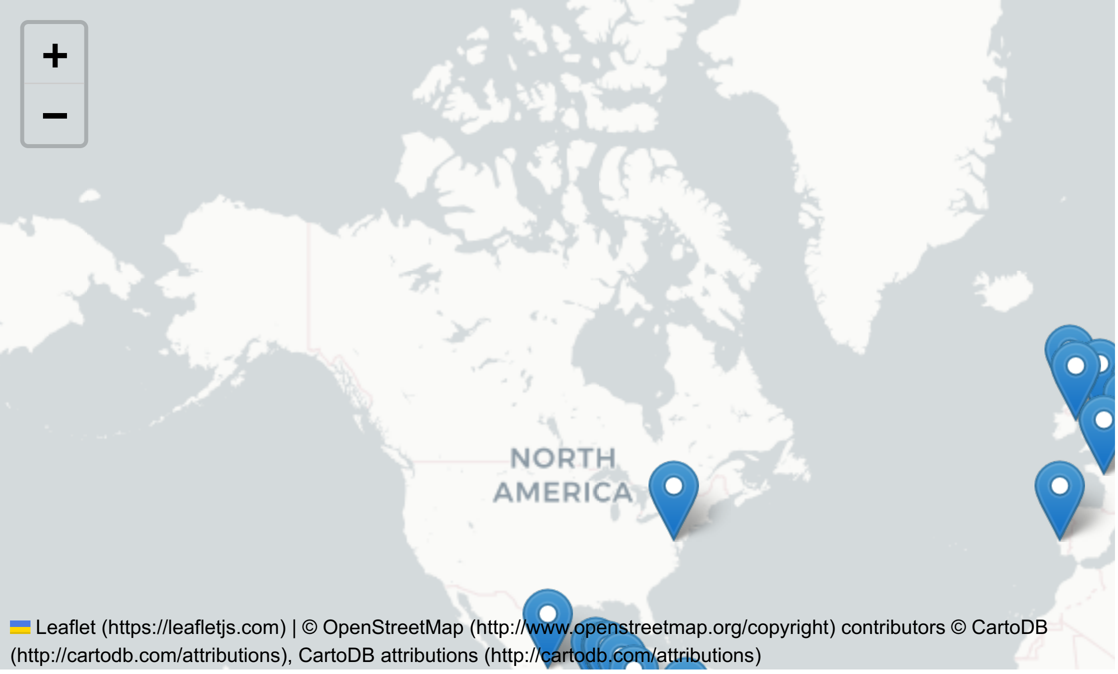
```
terrorist_groups = terror.Group.value_counts()[1:8].index.tolist()
terror_df_group = terror_df_group.loc[terror_df_group.Group.isin(terroris
print(terror_df_group.Group.unique())
```

```
["New People's Army (NPA)" 'Irish Republican Army (IRA)'
 'Shining Path (SL)' 'Farabundo Marti National Liberation Front (FMLN)'
 'Taliban' 'Al-Shabaab' 'Islamic State of Iraq and the Levant (ISIL)']
```

In [37]:

```
map = folium.Map(location=[20, 0], tiles="CartoDB positron", zoom_start=2
markerCluster = folium.plugins.MarkerCluster().add_to(map)
for i in range(0,len(terror_df_group)):
    folium.Marker([terror_df_group.iloc[i]['latitude'],terror_df_group.il
                  popup='Group:{}<br>Country:{}'.format(terror_df_group.i
                  terror_df_group.iloc[i]['Country'])).add_to(map)
map
```

Out[37]:


+
−
NORTH AMERICA
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Observation:

- The Above map looks untidy even though it can be zoomed in to view the Country in question.
- Hence in the next chart, Folium's Marker Cluster is used to cluster these icons. This makes it visually pleasing and highly interactive.

In [38]:

```
m1 = folium.Map(location=[20, 0], tiles="CartoDB positron", zoom_start=2)
marker_cluster = MarkerCluster(
    name='clustered icons',
    overlay=True,
    control=False,
    icon_create_function=None
)
for i in range(0,len(terror_df_group)):
    marker=folium.Marker([terror_df_group.iloc[i]['latitude'],terror_df_g
    popup='Group:{}<br>Country:{}'.format(terror_df_group.iloc[i]['Group'
                                          terror_df_group.iloc[i]['Countr
    folium.Popup(popup).add_to(marker)
    marker_cluster.add_child(marker)
marker_cluster.add_to(m1)
folium.TileLayer('openstreetmap').add_to(m1)
folium.TileLayer('cartodbdark_matter').add_to(m1)
folium.TileLayer('stamentoner').add_to(m1)
folium.LayerControl().add_to(m1)

m1
```

Out[38]:

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In [39]:

```
terror.head()
```

Out[39]:

	Year	Month	Day	Country	state	Region	city	latitude	longitude	
0	1970	7	2	Dominican Republic	NaN	Central America & Caribbean	Santo Domingo	18.456792	-69.951164	
1	1970	0	0	Mexico	Federal	North America	Mexico city	19.371887	-99.086624	H
2	1970	1	0	Philippines	Tarlac	Southeast Asia	Unknown	15.478598	120.599741	
3	1970	1	0	Greece	Attica	Western Europe	Athens	37.997490	23.762728	Bom
4	1970	1	0	Japan	Fukouka	East Asia	Fukouka	33.580412	130.396361	Facilit

Total Number of People Killed in Terror Attack:

In [40]:

```
killData = terror.loc[:,'Killed']
print('Number of people killed by terror attack:', int(sum(killData.dropn
```

```
Number of people killed by terror attack: 411868
```

Types of Attacks that Caused Deaths:

In [41]:

```
attackData = terror.loc[:,'AttackType']
typeKillData = pd.concat([attackData, killData], axis=1)
```

In [42]:

```
typeKillData.head()
```

Out[42]:

	AttackType	Killed
0	Assassination	1
1	Hostage Taking (Kidnapping)	0
2	Assassination	1
3	Bombing/Explosion	0
4	Facility/Infrastructure Attack	0

In [43]:

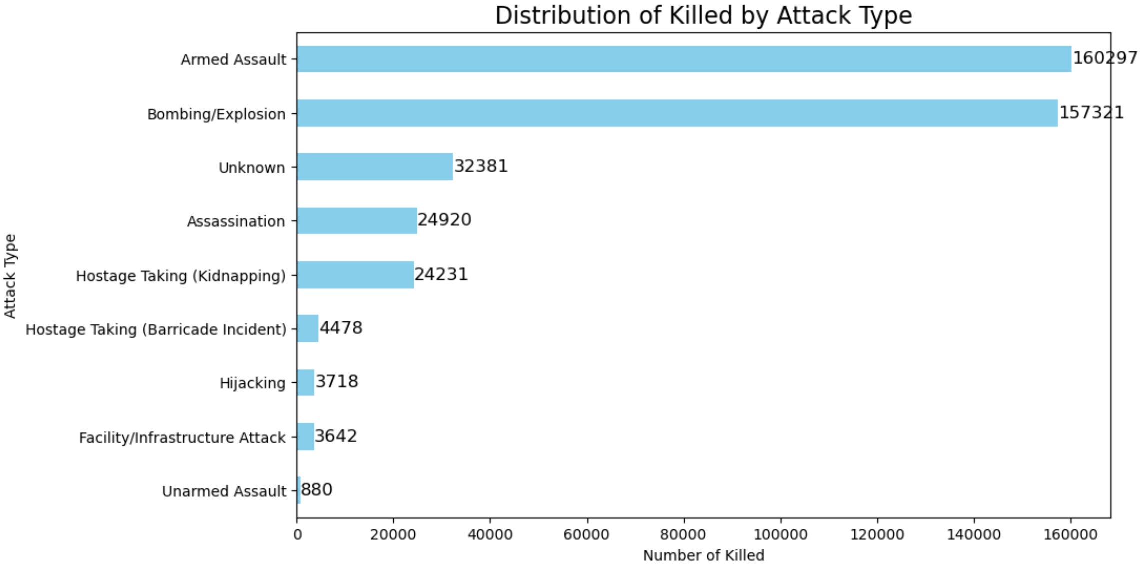
```
typeKillFormatData = typeKillData.pivot_table(columns='AttackType', value
typeKillFormatData
```

Out[43]:

AttackType	Armed Assault	Assassination	Bombing/Explosion	Facility/Infrastructure Attack	Hijacking	H (Ba In
Killed	160297	24920	157321	3642	3718	

In [44]:

```
import matplotlib.pyplot as plt

# Assuming you have a DataFrame named killData with columns AttackType an

# Group the data by AttackType and sum the number of Killed for each Atta
attack_type_counts = typeKillData.groupby('AttackType')['Killed'].sum()

# Create a horizontal bar graph
plt.figure(figsize=(10, 6))
ax = attack_type_counts.sort_values(ascending=False).plot(kind='barh', co
plt.title('Distribution of Killed by Attack Type', fontsize=16)
plt.xlabel('Number of Killed')
plt.ylabel('Attack Type')
plt.gca().invert_yaxis()  # Invert the y-axis to display the highest coun

# Add labels with the number of killed on each bar
for i, v in enumerate(attack_type_counts.sort_values(ascending=False)):
    ax.text(v + 3, i, str(v), color='black', va='center', fontsize=12)

# Display the chart
plt.show()
```



Observation:

- Armed assault and bombing/explosion are seen to be the cause of 77% of the deaths in these attacks. This rate is why these attacks are used so many times in terrorist actions.
- This is how dangerous weapons and explosives are to the world.

In [45]:

```
terror.head(2)
```

Out[45]:

	Year	Month	Day	Country	state	Region	city	latitude	longitude	Attacl
0	1970	7	2	Dominican Republic	NaN	Central America & Caribbean	Santo Domingo	18.456792	-69.951164	Assassi
1	1970	0	0	Mexico	Federal	North America	Mexico city	19.371887	-99.086624	Hc T (Kidnap

Number of People Killed in Terrorist Attacks by Countries:

In [46]:

```
countryData = terror.loc[:,'Country']
countryKillData = pd.concat([countryData, killData], axis=1)
```

In [47]:

```
countryKillFormatData = countryKillData.pivot_table(columns='Country', va
countryKillFormatData
```

Out[47]:

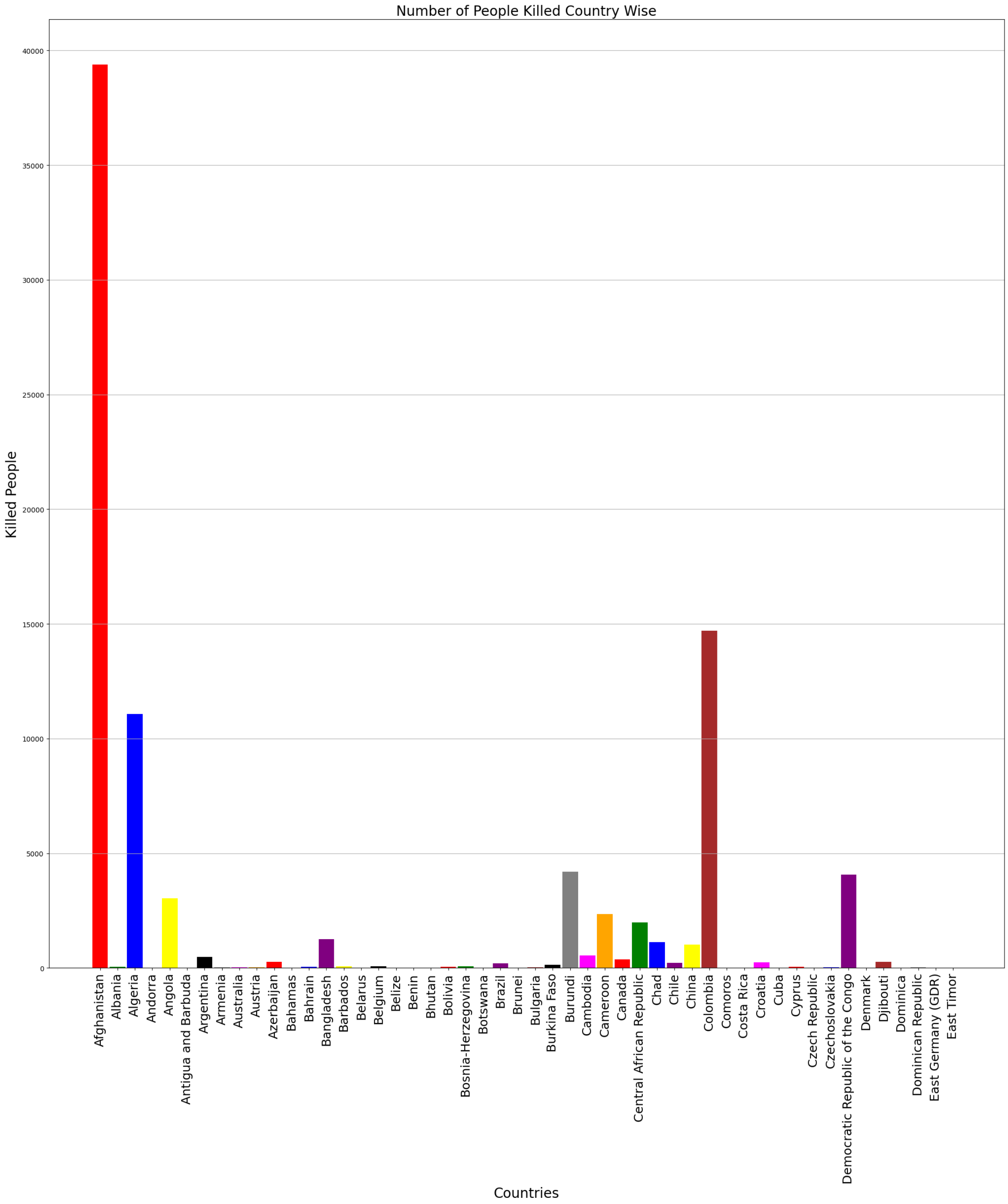
Country	**Afghanistan**	**Albania**	**Algeria**	**Andorra**	**Angola**	**Antigua and Barbuda**	**Argentina**	**Armenia**	**Aust**
Killed	39384	42	11066	0	3043	0	490	37	

1 rows × 205 columns

In [48]:

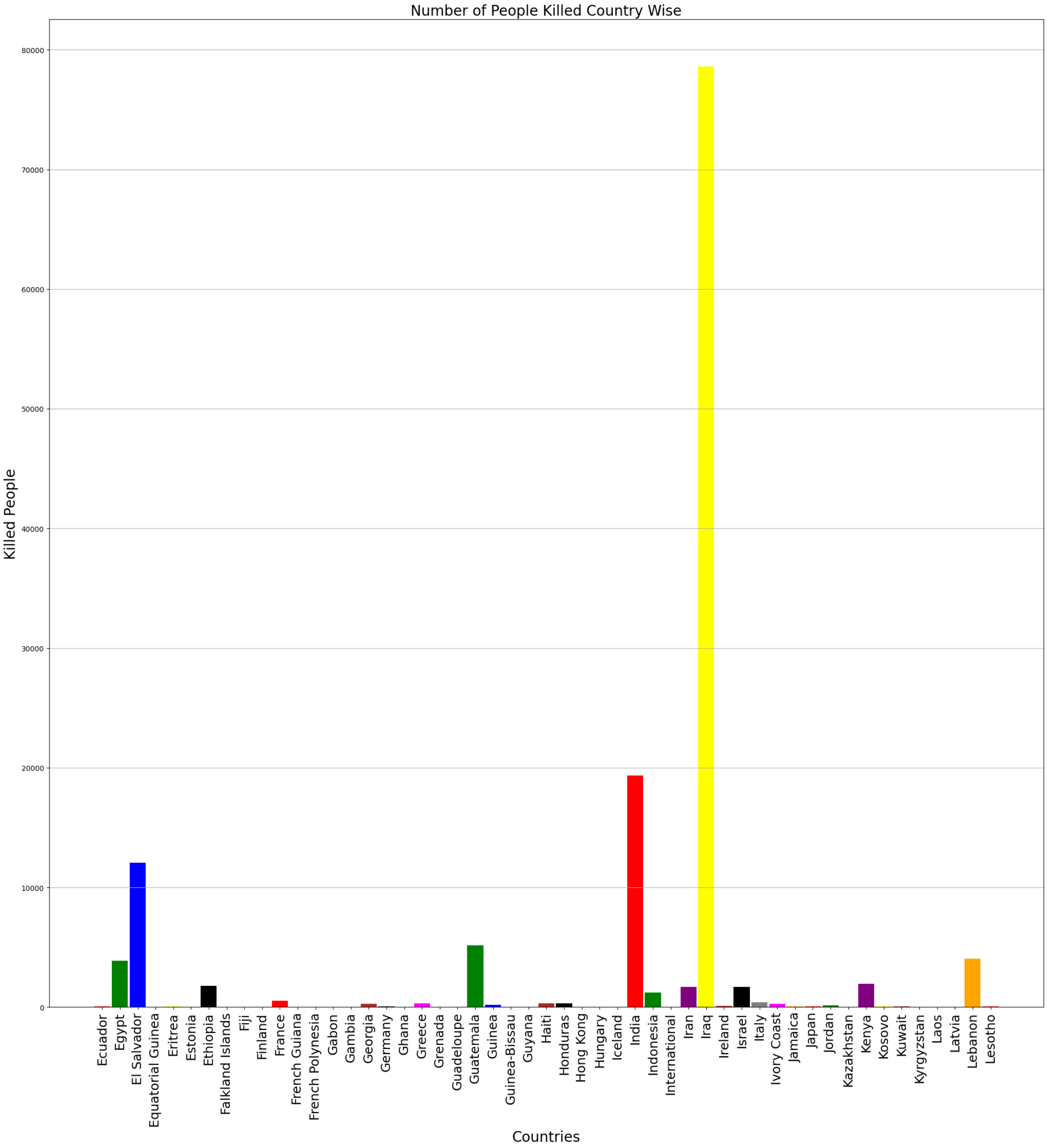
```
fig_size = plt.rcParams["figure.figsize"]
fig_size[0]=25
fig_size[1]=25
plt.rcParams["figure.figsize"] = fig_size
```

In [49]:
```
labels = countryKillFormatData.columns.tolist()
labels = labels[:50] # 50 bar provides nice view
index = np.arange(len(labels))
transpoze = countryKillFormatData.T
values = transpoze.values.tolist()
values = values[:50]
values = [int(i[0]) for i in values] # Convert float to int
colors = ['red', 'green', 'blue', 'purple', 'yellow', 'brown', 'black', '

fig, ax = plt.subplots(1, 1)
ax.yaxis.grid(True)
fig_size = plt.rcParams["figure.figsize"]
fig_size[0]=25
fig_size[1]=25

plt.rcParams["figure.figsize"] = fig_size
plt.bar(index, values, color = colors, width = 0.9)
plt.ylabel('Killed People', fontsize=20)
plt.xlabel('Countries', fontsize = 20)
plt.xticks(index, labels, fontsize=18, rotation=90)
plt.title('Number of People Killed Country Wise', fontsize = 20)
plt.show()
```


Number of People Killed Country Wise
Killed People
Countries
0
5000
10000
15000
20000
25000
30000
35000
40000
Afghanistan
Albania
Algeria
Andorra
Angola
Antigua and Barbuda
Argentina
Armenia
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bhutan
Bolivia
Bosnia-Herzegovina
Botswana
Brazil
Brunei
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Canada
Central African Republic
Chad
Chile
China
Colombia
Comoros
Costa Rica
Croatia
Cuba
Cyprus
Czech Republic
Czechoslovakia
Democratic Republic of the Congo
Denmark
Djibouti
Dominica
Dominican Republic
East Germany (GDR)
East Timor

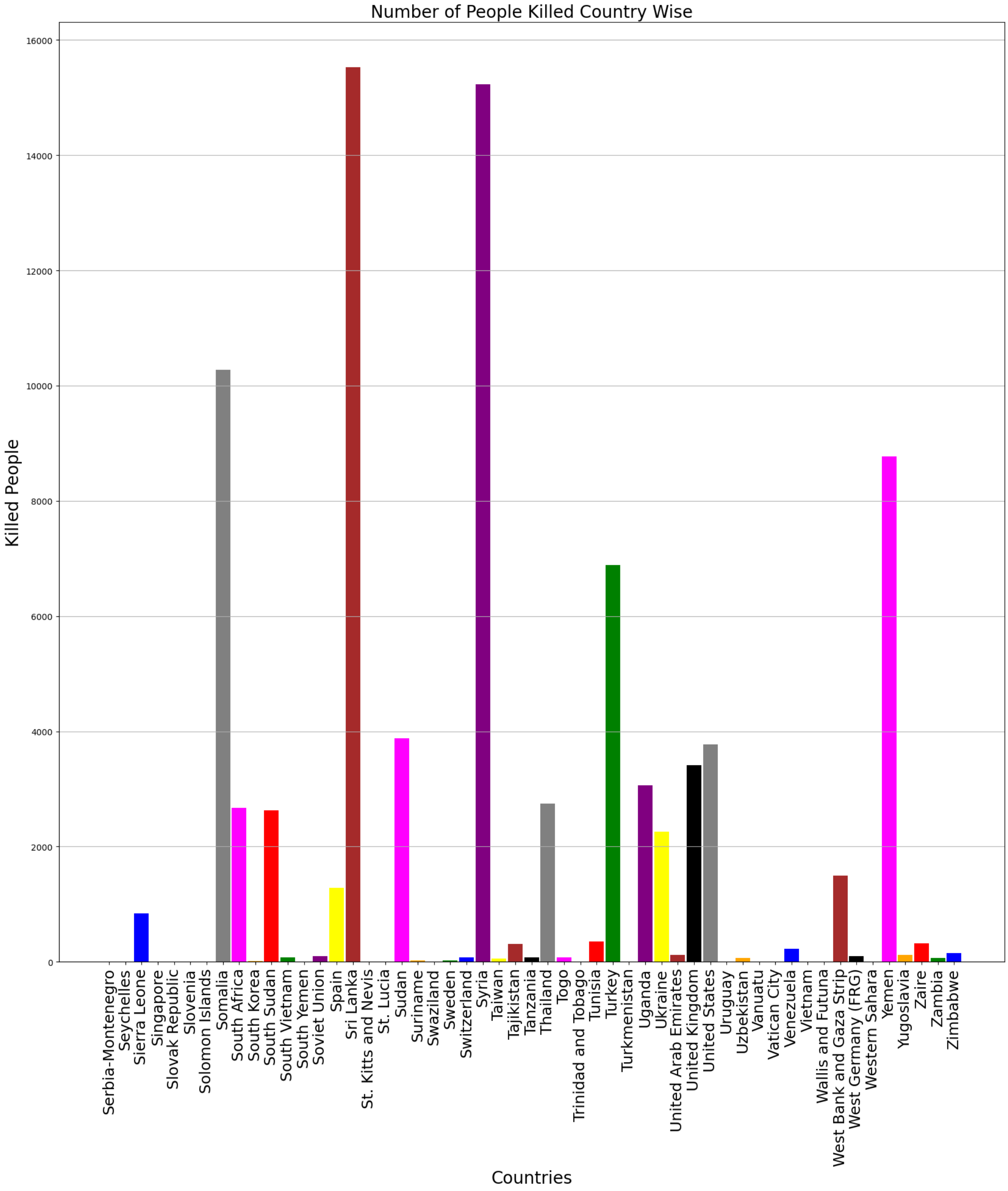
In [50]:

```
labels = countryKillFormatData.columns.tolist()
labels = labels[50:101]
index = np.arange(len(labels))
transpoze = countryKillFormatData.T
values = transpoze.values.tolist()
values = values[50:101]
values = [int(i[0]) for i in values]
colors = ['red', 'green', 'blue', 'purple', 'yellow', 'brown', 'black', '

fig, ax = plt.subplots(1, 1)
ax.yaxis.grid(True)
fig_size = plt.rcParams["figure.figsize"]
fig_size[0]=20
fig_size[1]=20

plt.rcParams["figure.figsize"] = fig_size
plt.bar(index, values, color = colors, width = 0.9)
plt.ylabel('Killed People', fontsize=20)
plt.xlabel('Countries', fontsize = 20)
plt.xticks(index, labels, fontsize=18, rotation=90)
plt.title('Number of People Killed Country Wise', fontsize = 20)
plt.show()
```



In [51]:

```
labels = countryKillFormatData.columns.tolist()
labels = labels[152:206]
index = np.arange(len(labels))
transpoze = countryKillFormatData.T
values = transpoze.values.tolist()
values = values[152:206]
values = [int(i[0]) for i in values]
colors = ['red', 'green', 'blue', 'purple', 'yellow', 'brown', 'black', '

fig, ax = plt.subplots(1, 1)
ax.yaxis.grid(True)
fig_size = plt.rcParams["figure.figsize"]
fig_size[0]=25
fig_size[1]=25

plt.rcParams["figure.figsize"] = fig_size
plt.bar(index, values, color = colors, width = 0.9)
plt.ylabel('Killed People', fontsize=20)
plt.xlabel('Countries', fontsize = 20)
plt.xticks(index, labels, fontsize=18, rotation=90)
plt.title('Number of People Killed Country Wise', fontsize = 20)
plt.show()
```



Observations:

- Terrorist acts in the Middle East and northern Africa have been seen to have fatal consequences. The Middle East and North Africa are seen to be the places of serious terrorist attacks.
- In addition, even though there is a perception that Muslims are supporters of terrorism, Muslims are the people who are most damaged by terrorist attacks. If you look at the graphics, it appears that Iraq, Afghanistan and Pakistan are the most damaged countries.

Thank You

In [ ]: