

Global Terrorism Database

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Data Visualization and Communication INFO-5709

Data Visualization and Communication- Final Project

05/06/2023

Introduction

The Global Terrorism Database (GTD) is a publicly available database that provides comprehensive information about terrorist attacks that have occurred worldwide since 1970. The database is maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland and is funded by the U.S. Department of Homeland Security. The database contains detailed information on over 200,000 terrorist attacks, making it one of the most extensive datasets of its kind. It includes information on the date, location, and type of attack, as well as the number of casualties, the group responsible for the attack, and the tactics used. The GTD can also be used to identify the groups that pose the greatest threat to national security, and to develop effective strategies for preventing and responding to terrorist attacks.

One of the advantages of the GTD is that it provides a standardized definition of terrorism, which helps to ensure consistency in the data. The database defines terrorism as "the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation." This definition is broad enough to encompass a wide range of terrorist activities, but it is also specific enough to differentiate terrorism from other forms of violence.

The GTD is regularly updated to ensure that it remains current and relevant. The database includes information on terrorist attacks up to the end of the previous calendar year, and new data is added on a regular basis. This makes the GTD a valuable tool for tracking changes in the nature and scope of the terrorist threat over time.

Dataset

The dataset is collected from Global Terrorism Database website. The GTD dataset contains information on terrorist attacks from 1970 to 2018. The dataset has 181,691 rows and 135 columns. Each row represents a single terrorist attack, and each column contains information about the attack.

Dataset is collected from GTD (Global Terrorism Database):

<https://www.start.umd.edu/gtd/>

Attributes

Total of 42 attributes are used to describe the Global Terrorist attacks. Below is the list.

Index: Id for the Terrorist attack. It can be used to count the total terrorist attacks occurred.

Year: The year in which the terrorist attack occurred.

Month: The month in which the terrorist attack occurred.

Day: The day of the month on which the terrorist attack occurred.

Country_Id: The ID of the country in which the terrorist attack occurred.

Country: The name of the country in which the terrorist attack occurred.

Region_Id: The ID of the region in which the terrorist attack occurred.

Region: The name of the region in which the terrorist attack occurred.

Provisional_State: Whether the state in which the terrorist attack occurred was provisional or not.

City: The name of the city in which the terrorist attack occurred.

latitude: The latitude coordinate of the location where the terrorist attack occurred.

longitude: The longitude coordinate of the location where the terrorist attack occurred.

success: Whether the terrorist attack was successful or not.

Suicide: Whether the terrorist attack was a suicide attack or not.

Attacktype_Id: The ID of the type of attack that was carried out.

Attack_Type: The name of the type of attack that was carried out.

Targettype_Id: The ID of the type of target that was attacked.

Targettype: The name of the type of target that was attacked.

Target_Subtype_Id: The ID of the subtype of the target that was attacked.

Target_Subtype: The name of the subtype of the target that was attacked.

Corp: The name of the corporation or entity that was targeted, if applicable.

Target: The name of the specific target that was attacked, if applicable.

Natlty_Id: The ID of the nationality of the target, if applicable.

Natlty: The name of the nationality of the target, if applicable.

Group_Name: The name of the terrorist group that carried out the attack.

Claimed: Whether the terrorist group claimed responsibility for the attack or not.

Weapon_Id: The ID of the weapon or type of weapon that was used in the attack.

Weapontype: The name of the weapon or type of weapon that was used in the attack.

Weapsubtype_Id: The ID of the subtype of weapon that was used in the attack.

Weapon_Subtype: The name of the subtype of weapon that was used in the attack.

Weapon_details: Additional details about the weapon(s) used in the attack.

No_killed: The number of people who were killed in the attack.

No_wounded: The number of people who were wounded in the attack.

Is_Host_Kid: Whether the target(s) of the attack were children being held hostage or not.

No_Host_kid: The number of children who were being held hostage, if applicable.

Ransom_Demanded: Whether a ransom was demanded in exchange for the release of hostages or not.

Ransom_Amt: The amount of ransom that was demanded, if applicable.

Ransom_Paid: Whether the ransom was paid or not.

Host_Kid_Outcome_Id: The ID of the outcome of the hostage situation, if applicable.

N_Released: The number of hostages who were released, if applicable.

DB_Source: The source of the data.

Casualties: The total number of casualties (i.e., killed and wounded) in the attack.

Tools

- Python
- Tableau

Data Cleaning

- Columns which are not required for analysis are dropped from the dataset.
- Renaming the attributes with appropriate names.
- Filtering the dataset to use the data from Year=2000 to Year=2021.
- Adding required extra attributes from the original dataset like Casualties attribute which is sum of No_killed and No_wounded.
- Missing values for attributes such as Target_Subtype, Corp, Natlty, Weponsubtype, Weapon_Subtype, Weapon_details, Target are replaced with 'Unknown'.
- Missing values for attributes such as Natlty_Id, Target_Subtype_Id, No_killed, No_wounded, Casualties, Is_Host_Kid, No_Host_Kid,

Ransom_Demanded, Ransom_Amt, N_Released, Host_Kid_Outcome_Id, Ransom_Paid, Weapon_Id and weapsubtype_Id are replaced with '0'.

- Dropping the rows with the null values and duplicates.
- Converting the format of the GTD from Excel to CSV.

Exploratory Data Analysis

```
[3] import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

- Importing necessary Libraries.

```
[6] path = '/content/drive/MyDrive/Csv_files/globalterrorismdb_0522dist.xlsx'
gtd = pd.read_excel(path)
```

- Reading the xlsx file into a pandas dataframe using pd.read_excel.

```
[7] gtd.shape

(209706, 135)
```

gtd.describe()

	eventid	iyyear	imonth	iday	extended	country	region	latitude	longitude	specificity	...	ransomamt	ransomamtus	ransompa
count	2.097060e+05	209706.000000	209706.000000	209706.000000	209706.000000	209706.000000	209706.000000	205014.000000	205014.000000	209705.000000	...	1.533000e+03	7.340000e+02	9.510000e+
mean	2.004867e+11	2004.800993	6.455285	15.527930	0.051525	130.291351	7.279854	23.358696	30.416738	1.468387	...	2.791526e+06	3.211036e+05	6.204108e+
std	1.351933e+09	13.519321	3.387098	8.801104	0.221066	111.714562	2.905697	18.137061	58.113029	0.984958	...	2.826923e+07	5.005780e+06	9.195574e+
min	1.970000e+11	1970.000000	0.000000	0.000000	0.000000	4.000000	1.000000	-53.154613	-176.176447	1.000000	...	-9.900000e+01	-9.900000e+01	-9.900000e+
25%	1.992080e+11	1992.000000	4.000000	8.000000	0.000000	69.000000	6.000000	11.510046	8.748117	1.000000	...	0.000000e+00	0.000000e+00	-9.900000e+
50%	2.012010e+11	2012.000000	6.000000	15.000000	0.000000	98.000000	8.000000	31.300213	43.746215	1.000000	...	1.000000e+04	0.000000e+00	0.000000e+
75%	2.015123e+11	2015.000000	9.000000	23.000000	0.000000	160.000000	10.000000	34.557022	68.835918	1.000000	...	3.420000e+05	0.000000e+00	6.640600e+
max	2.020123e+11	2020.000000	12.000000	31.000000	1.000000	1004.000000	12.000000	74.633553	179.366667	5.000000	...	1.000000e+09	1.320000e+08	2.750000e+

8 rows x 77 columns

gtd.dtypes

eventid	int64
iyyear	int64
imonth	int64
iday	int64
approxdate	object
...	
INT_LOG	int64
INT_IDEO	int64
INT_MISC	int64
INT_ANY	int64
related	object
Length: 135, dtype: object	

- Exploring the Dataset with the above python commands

```
[13] cols_drop = ['eventid', 'approxdate', 'extended', 'resolution', 'specificity', 'vicinity', 'location', 'summary', 'crit1', 'crit2', 'crit3', 'doubtterr', 'alternative',
'multiple', 'attacktype2', 'attacktype2_txt', 'attacktype3', 'attacktype3_txt', 'targettype2', 'targettype2_txt', 'targetsubtype2', 'targetsubtype2_txt',
'targettype3', 'targettype3_txt', 'targetsubtype3', 'targetsubtype3_txt', 'corp3', 'target3', 'natlty3', 'natlty3_txt', 'gsbname', 'gname2', 'gsbname2',
'claim2', 'claimmode2', 'claimmode2_txt', 'claim3', 'claimmode3', 'claimmode3_txt', 'compclaim', 'weaptype2', 'weaptype2_txt', 'weapsubtype2', 'w',
'weaptype4', 'weaptype4_txt', 'weapsubtype4', 'weapsubtype4_txt', 'nkillus', 'nkillter', 'nwoundus', 'nwoundte', 'property', 'propextent', 'prop',
'hostkidoutcome_txt', 'adnotes', 'scitel', 'scite2', 'scite3', 'INT_LOG', 'INT_IDEO', 'INT_MISC', 'INT_ANY', 'related']
gtd=gtd.drop(cols_drop,axis=1)
```

```
[14] gtd=gtd.rename(columns={'iyyear':'Year','imonth':'Month','iday':'Day','country':'Country_Id','country_txt':'Country','region':'Region_Id',
'region_txt':'Region', 'provstate':'Provisional_State', 'city':'City', 'suicide':'Suicide', 'attacktype1':'Attacktype_Id',
'attacktype1_txt':'Attack_Type', 'targettype1':'Targettype_Id','targettype1_txt':'Targettype', 'targetsubtype1':'Target_Subtype_Id',
'targetsubtype1_txt':'Target_Subtype', 'corpl':'Corp', 'target1':'Target', 'natlty1':'Natlty_Id', 'natlty1_txt':'Natlty',
'gname':'Group_Name', 'claimed':'Claimed', 'weaptype1':'Weapon_Id', 'weaptype1_txt':'Weapontype', 'weapsubtype1':'Weapsubtype_Id',
'weapsubtype1_txt':'Weapon_Subtype', 'weapdetail':'Weapon_details', 'nkill':'No_killed', 'nwound':'No_wounded',
'ishostkid':'Is_Host_Kid', 'nhostkid':'No_Host_kid', 'ransom':'Ransom_Demanded', 'ransomamt':'Ransom_Amt', 'ransompaid':'Ransom_Paid',
'hostkidoutcome':'Host_Kid_Outcome_Id', 'nreleased':'N_Released', 'dbsource':'DB_Source'})
```

- Dropping unnecessary attributes/columns and renaming the remaining attributes with appropriate names.

```
[17] gtd = gtd[(gtd['Year'] >= 2000) & (gtd['Year'] <= 2022)]
```

```
[18] gtd['Casualties'] = gtd['No_killed']+gtd['No_wounded']
```

- Adding the extra columns to the dataset and filtering the dataset.

```
[26] gtd['Target_Subtype'].fillna('Unknown', inplace=True)
     gtd['Corp'].fillna('Unknown', inplace=True)
     gtd['Natlty'].fillna('Unknown', inplace=True)
     gtd['Weapontype'].fillna('Unknown', inplace=True)
     gtd['Weapon_Id'].fillna('0', inplace=True)
     gtd['Weapon_Subtype'].fillna('Unknown', inplace=True)
     gtd['Weaponsubtype_Id'].fillna('0', inplace=True)
     gtd['Weapon_details'].fillna('Unknown', inplace=True)
```

- Replacing the missing values for above attributes with 'Unknown'.

```
▶ gtd['Natlty_Id'].fillna('0', inplace=True)
   gtd['Target_Subtype_Id'].fillna('0', inplace=True)
   gtd['No_killed'].fillna('0',inplace=True)
   gtd['No_wounded'].fillna('0',inplace=True)
   gtd['Casualties'].fillna('0',inplace=True)
   gtd['Is_Host_Kid'].fillna('0',inplace=True)
   gtd['No_Host_kid'].fillna('0',inplace=True)
   gtd['Ransom_Demanded'].fillna('0',inplace=True)
   gtd['Ransom_Amt'].fillna('0',inplace=True)
   gtd['N_Released'].fillna('0',inplace=True)
   gtd['Host_Kid_Outcome_Id'].fillna('0',inplace=True)
   gtd['Target'].fillna('Unknown',inplace=True)
   gtd['Ransom_Paid'].fillna('0',inplace=True)
```

- Replacing the missing values for above attributes with '0'

```
[32] data=gtd.dropna()
```

- Dropping rows with null values.

```
) data.isna().sum()
```

```
Year 0
Month 0
Day 0
Country_Id 0
Country 0
Region_Id 0
Region 0
Provisional_State 0
City 0
latitude 0
longitude 0
success 0
Suicide 0
Attacktype_Id 0
Attack_Type 0
Targettype_Id 0
Targettype 0
Target_Subtype_Id 0
Target_Subtype 0
Corp 0
Target 0
Natlty_Id 0
Natlty 0
Group_Name 0
Claimed 0
Weapon_Id 0
Weapontype 0
Weaponsubtype_Id 0
Weapon_Subtype 0
Weapon_details 0
No_killed 0
No_wounded 0
Is_Host_Kid 0
No_Host_kid 0
Ransom_Demanded 0
Ransom_Amt 0
Ransom_Paid 0
Host_Kid_Outcome_Id 0
N_Released 0
DB_Source 0
Casualties 0
dtype: int64
```

- Command used to check the number of null values in each attribute.

```
gtd.describe()
```

longitude	success	Suicide	Attacktype_Id	...	No_killed	No_wounded	Is_Host_Kid	No_Host_kid	Ransom_Demanded	Ransom_Amt	Ransom_Paid	Host_Kid_Outcome_Id	N_Released
300.000000	139872.000000	139872.000000	139872.000000	...	133489.000000	128265.000000	139869.000000	12221.000000	13049.000000	8.170000e+02	7.460000e+02	12210.000000	11982.000000
50.549019	0.867636	0.052098	3.478123	...	2.540561	3.507036	0.048138	3.087554	-1.024523	2.071454e+06	5.145227e+05	4.914087	-36.051
36.954465	0.338887	0.222225	2.035302	...	11.902462	45.111598	0.662068	80.365179	2.957705	1.317848e+07	1.015484e+07	1.997026	65.631
158.081142	0.000000	0.000000	1.000000	...	0.000000	0.000000	-9.000000	-99.000000	-9.000000	-9.900000e+01	-9.900000e+01	1.000000	-100.000
37.742159	1.000000	0.000000	2.000000	...	0.000000	0.000000	0.000000	1.000000	0.000000	-9.900000e+01	-9.900000e+01	4.000000	-99.000
44.730936	1.000000	0.000000	3.000000	...	1.000000	0.000000	0.000000	2.000000	0.000000	7.409010e+03	-9.900000e+01	5.000000	0.000
70.371988	1.000000	0.000000	3.000000	...	2.000000	3.000000	0.000000	5.000000	0.000000	1.629500e+05	0.000000e+00	7.000000	1.000
179.366667	1.000000	1.000000	9.000000	...	1700.000000	10878.000000	1.000000	5350.000000	1.000000	2.000000e+08	2.750000e+08	7.000000	2958.000

```
[20] gtd.shape
```

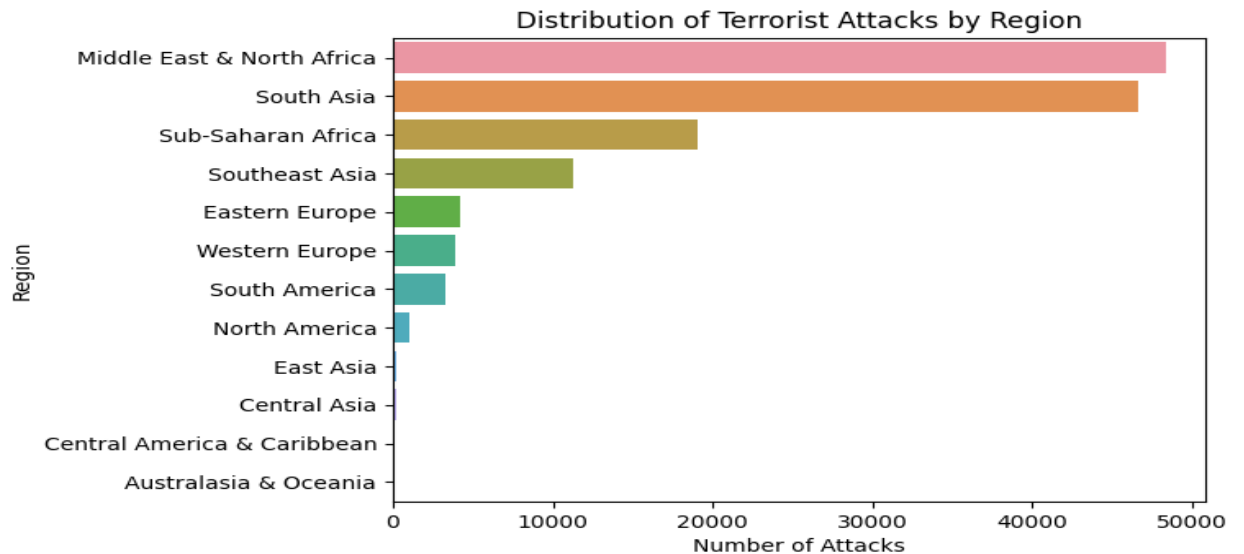
```
(139872, 41)
```

- Checking the new shape and Generating summary statistics for the numerical variables in the dataframe.

Above is used to explore the missing values in the dataset. Below are the visualizations used for analyzing, identifying the relations between the attributes.

1. Which Regions are most common to terrorist attacks?

```
[ ] sns.countplot(y=data['Region'], order=data['Region'].value_counts().index)
plt.title('Distribution of Terrorist Attacks by Region')
plt.xlabel('Number of Attacks')
plt.ylabel('Region')
plt.show()
```

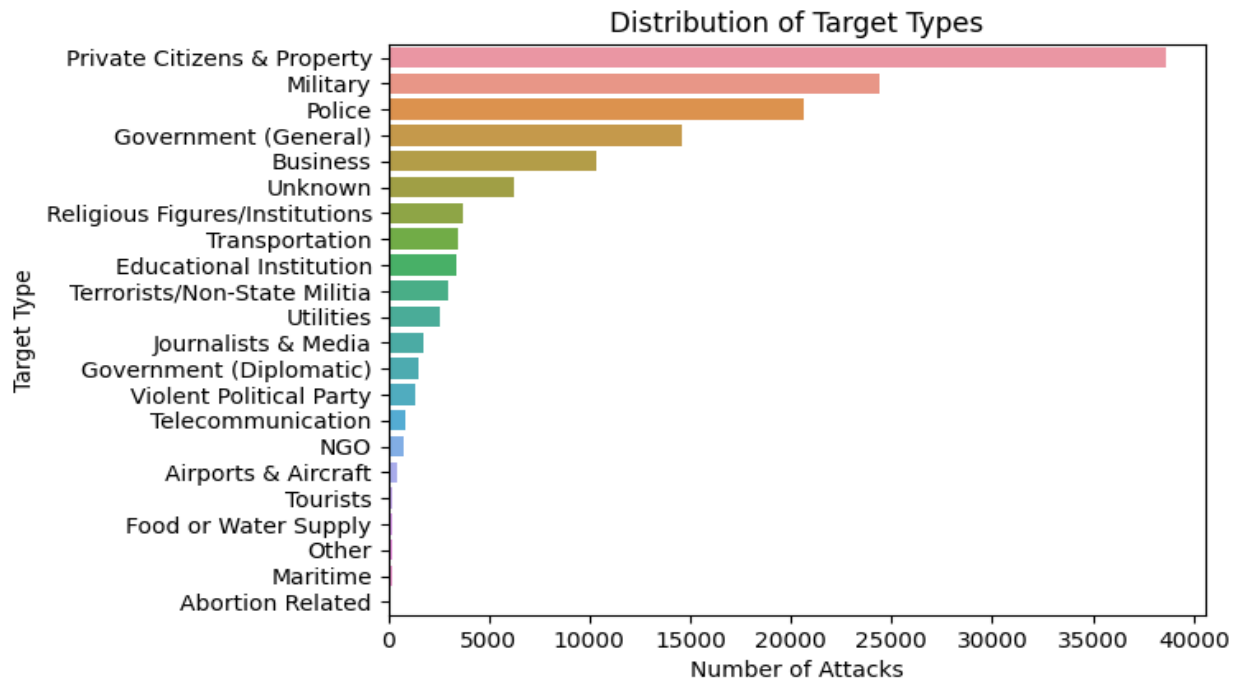


Result

The output states that Middle East & North Africa region has the higher terrorist attacks and South Asia follows next.

2. What kind of people are targeted most in terrorist attacks?

```
[ ] sns.countplot(y=data['Targettype'], order=data['Targettype'].value_counts().index)
plt.title('Distribution of Target Types')
plt.xlabel('Number of Attacks')
plt.ylabel('Target Type')
plt.show()
```

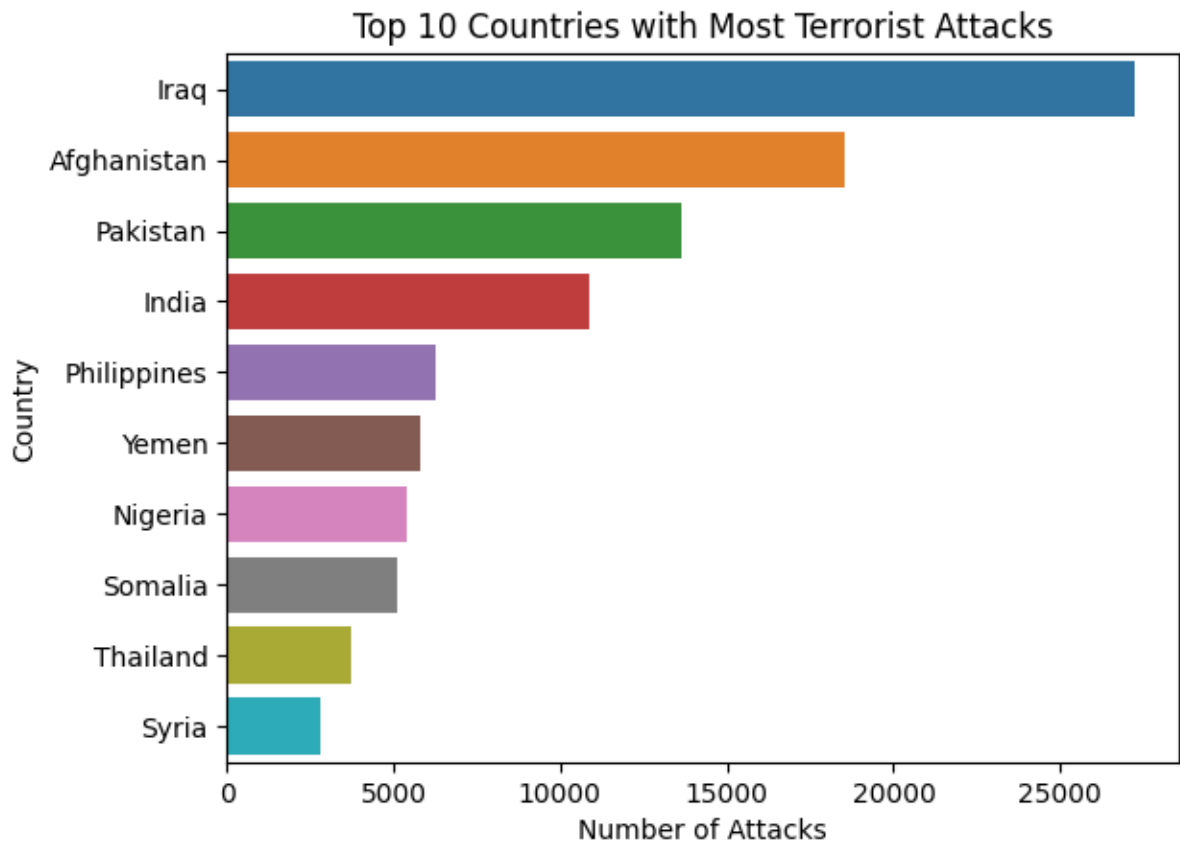



Result

Above plot presents “Private Citizens & Property” type of people are targeted most in the terrorist attacks, then Military follows next and Abortion Related attacks are least.

3. What are the top 10 countries which are having more terrorist attacks?

```
[ ] sns.countplot(y=data['Country'], order=data['Country'].value_counts().index[:10])
plt.title('Top 10 Countries with Most Terrorist Attacks')
plt.xlabel('Number of Attacks')
plt.ylabel('Country')
plt.show()
```

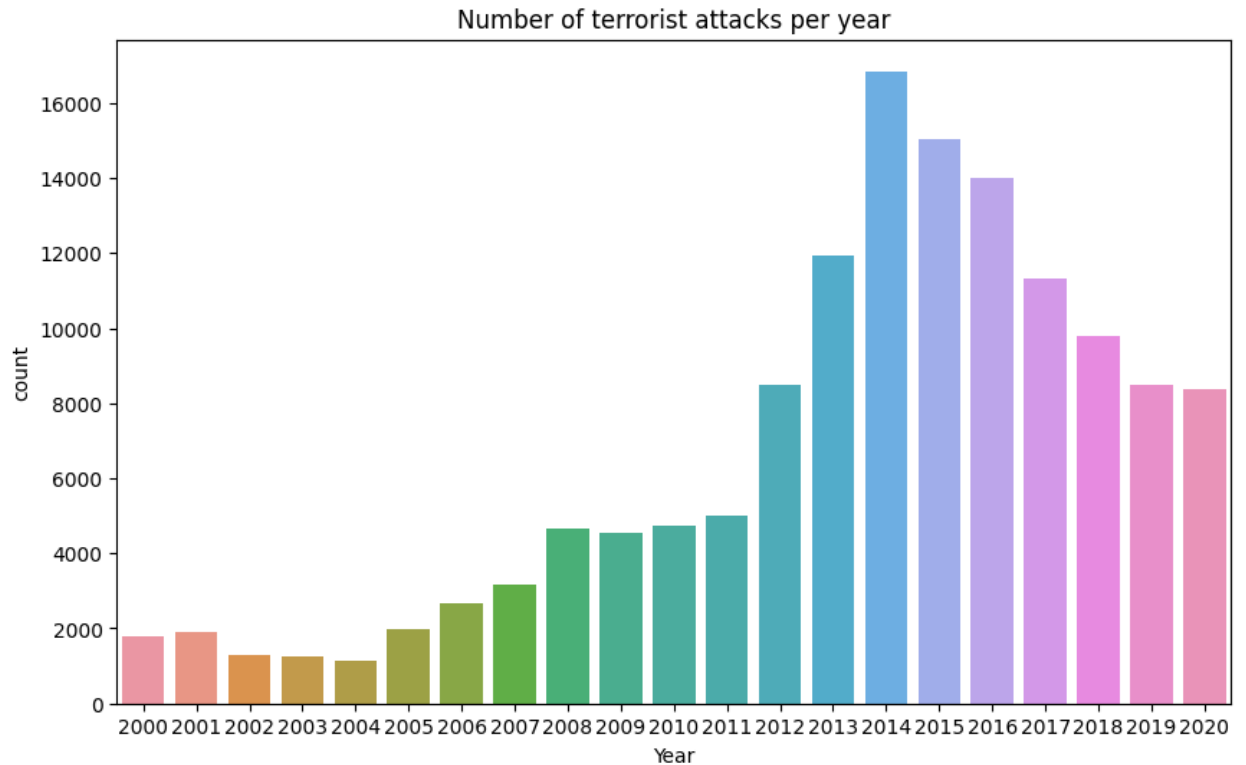


Result

Above plot depicts the top 10 countries which are having more terrorist attacks and Iraq is the 1st country with more terrorist attacks.

4. Which Year has the highest terrorist attacks and how is the trend from 2000 to 2020?

```
[ ] plt.figure(figsize=(10, 6))
    sns.countplot(x="Year", data=data)
    plt.title("Number of terrorist attacks per year")
    plt.show()
```

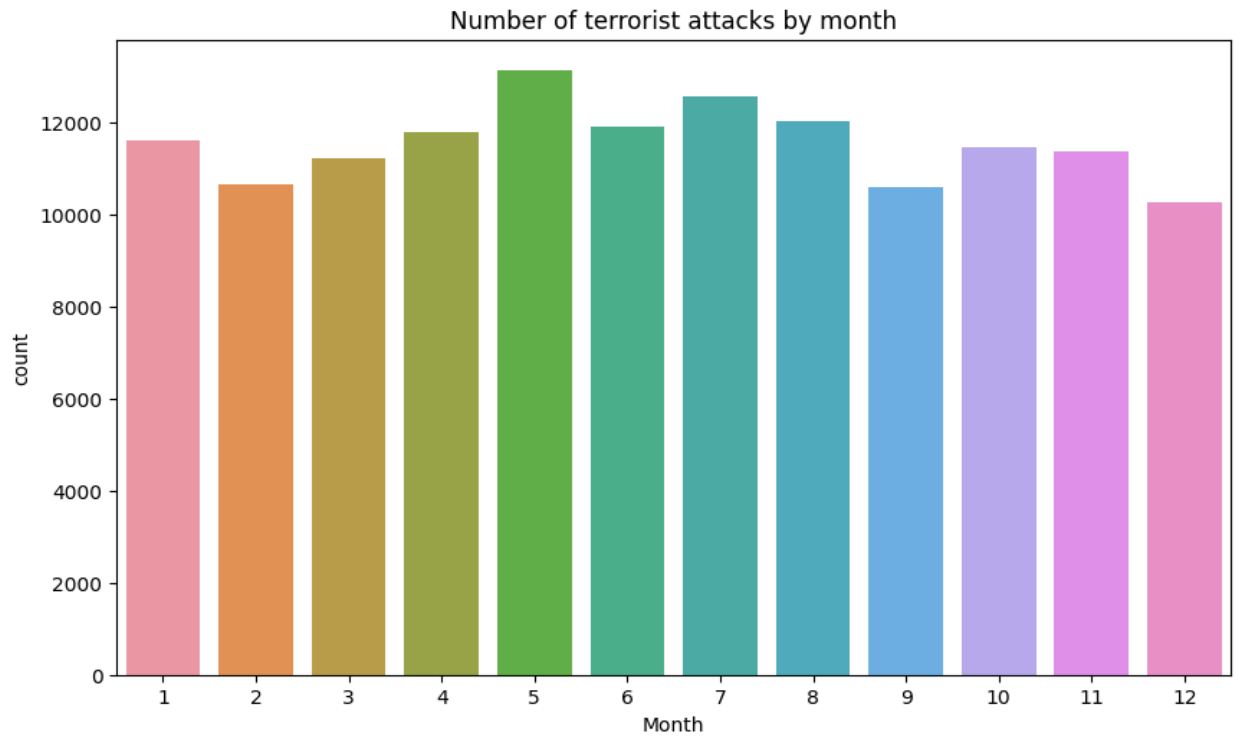


Result

Above plot depicts that Year-2014 the highest number of terrorist attacks. Overall, the trend is gradually increasing from 2000 to 2014 and decreases from 2014 to 2020.

5. Which month has the highest number of terrorist attacks?

```
[ ] plt.figure(figsize=(10, 6))
    sns.countplot(x="Month", data=data)
    plt.title("Number of terrorist attacks by month")
    plt.show()
```

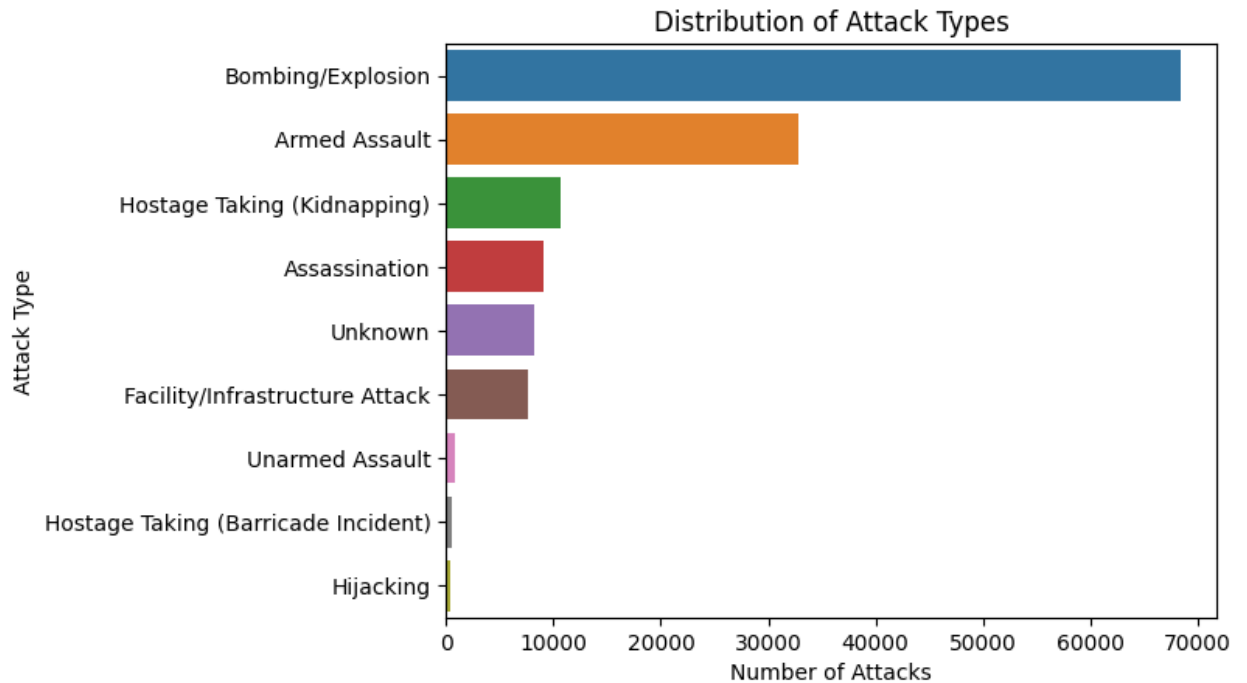


Result

Above plot states that Month-5('May') has higher number of terrorist attacks and Month-12('December') has least number of terrorist attacks.

6. What kind of attacktypes are used most by preparators?

```
[ ] sns.countplot(y=data['Attack_Type'], order=data['Attack_Type'].value_counts().index)
plt.title('Distribution of Attack Types')
plt.xlabel('Number of Attacks')
plt.ylabel('Attack Type')
plt.show()
```

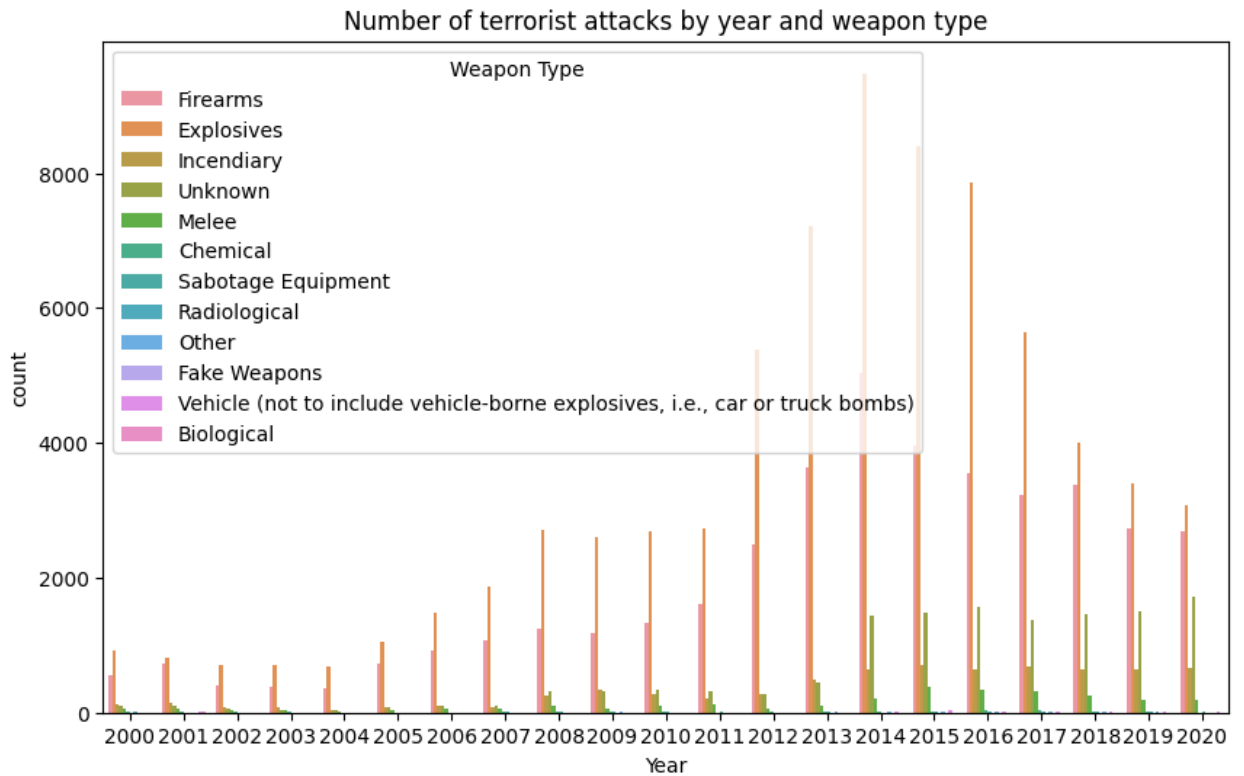


Result

From the above plot Bombing/Explosion kind of Attack Type is used most by preparators.

7. Which year has highest terrorist attacks based on weapon type?

```
plt.figure(figsize=(10, 6))
sns.countplot(x="Year", hue="Weapon type", data=data)
plt.title("Number of terrorist attacks by year and weapon type")
plt.legend(title="Weapon Type")
plt.show()
```

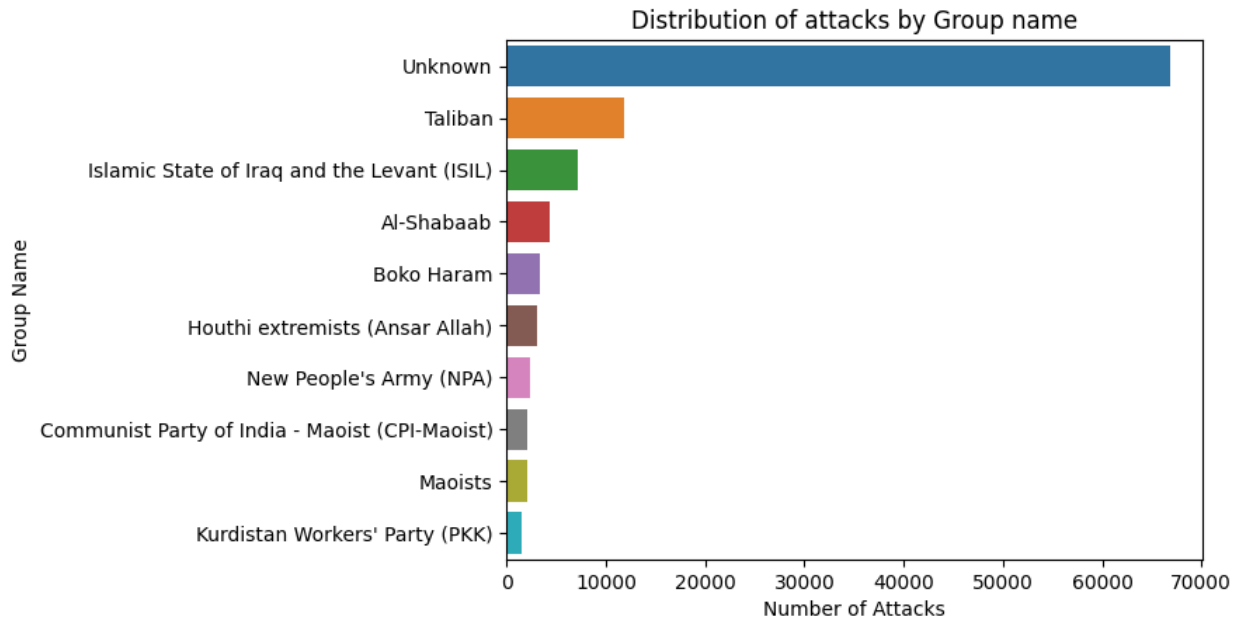


Result

From the plot, 2015 has higher number of terrorist attacks. In which firearms weapon is used most.

8. What are the top 10 Groups that made more terrorist attacks?

```
sns.countplot(y=data['Group_Name'], order=data['Group_Name'].value_counts().index[:10])
plt.title('Distribution of attacks by Group name')
plt.xlabel('Number of Attacks')
plt.ylabel('Group Name')
plt.show()
```



Result

From the plot, Ignoring the Unknown's, Taliban group done more attacks and Islamic state of Iraq and the Levant (ISIL) follows next.

Hypothesis

1. Identifying the Terrorist attacks in countries and analyzing the highest and lowest terrorist attacks.
2. What are the most common types of weapons used in terrorist attacks?
3. The frequency of terrorist attacks has increased or decreased over time.
4. What are the most common types of terrorist groups responsible for attacks? Are certain terrorist groups responsible for a higher number of casualties than others?
5. What are the most common target types by terrorist attacks? Which target subtypes are most frequently attacked by terrorists?
6. What is the average number of casualties in a terrorist attack based on each type?
7. Are there any countries where suicide attacks are more common than other types of attacks?
8. What is the distribution of ransom amounts demanded and paid in hostage situations?

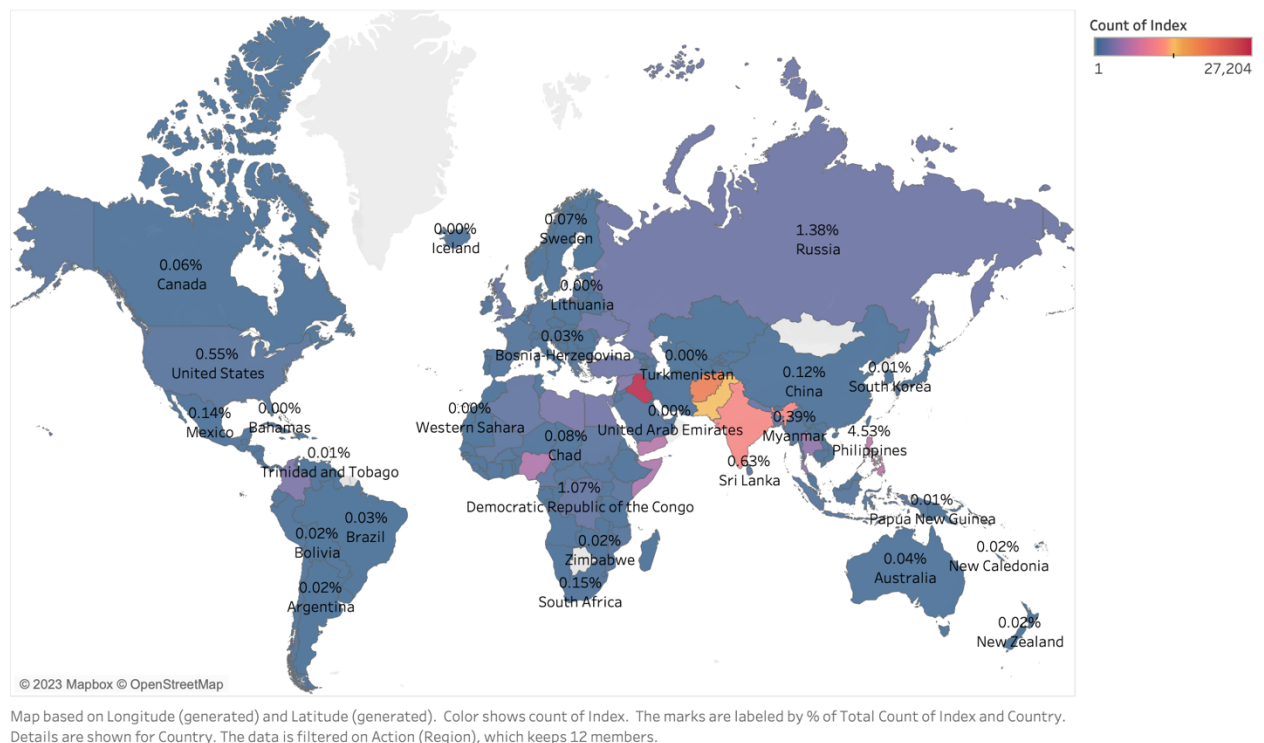
Graph-breakthrough Result

1. I have chosen Geographical Map, Tree map to analyze the question.

Geographical Map

Geographical Map is used to answer spatial question and analyze data geographically. The dataset contains latitude and longitude values to put data on to the map and produce the map visualization.

% of Terrorist attacks in each Country.



The map visualization is achieved by adding the 'Terrorist attack count' attribute on to the text marks and changing the 'Quick table calculation' to the 'percent of Total'. Furthermore, 'Terrorist attack count' is added to the color marks and selected 'Sunrise-sunset diverging' for color on the map. Adding 'count of Terrorist attack ' and 'Country' to the label section.

Result

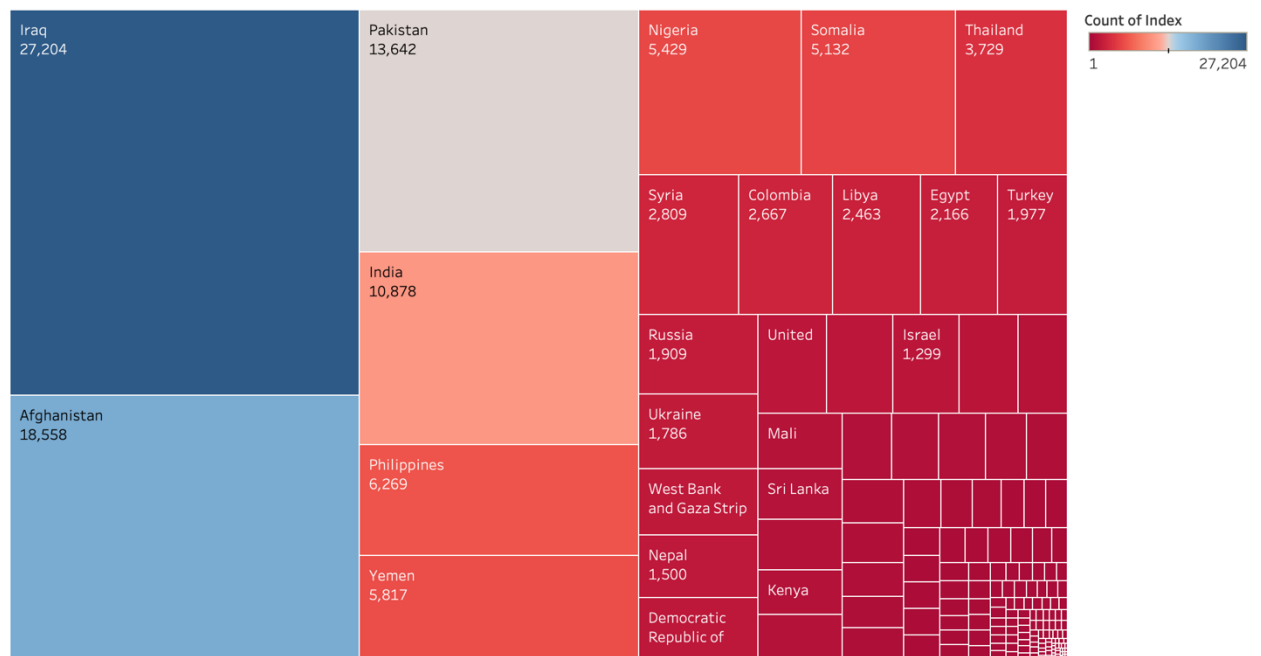
The above map visualization depicts the % of total terrorist attacks count all over the world from 2000 to 2020. The % of terrorist attacks in countries

starts with 0% in Togo, Benin, Western sahara, Portugal, Iceland and Lithuania and Iraq has maximum % of terrorist attacks accounts to 19.64% followed by Afghanistan, Pakistan.

Tree Map

The tree map displays data in nested rectangles. The dimensions define the structure of the tree map and measures define the size or color of the individual rectangle.

Top Countries with more Terrorist attacks



Country and count of Index. Color shows count of Index. Size shows count of Index. The marks are labeled by Country and count of Index.

The above visualization is achieved by using attributes such as 'count of Terrorist attacks' and Country. Also labeling the visualization by adding 'Country' and 'count of Terrorist attacks' attributes to label. 'count of Terrorist attack' is added to the color mark and selected 'Red-blue Diverging' for color of tree map.

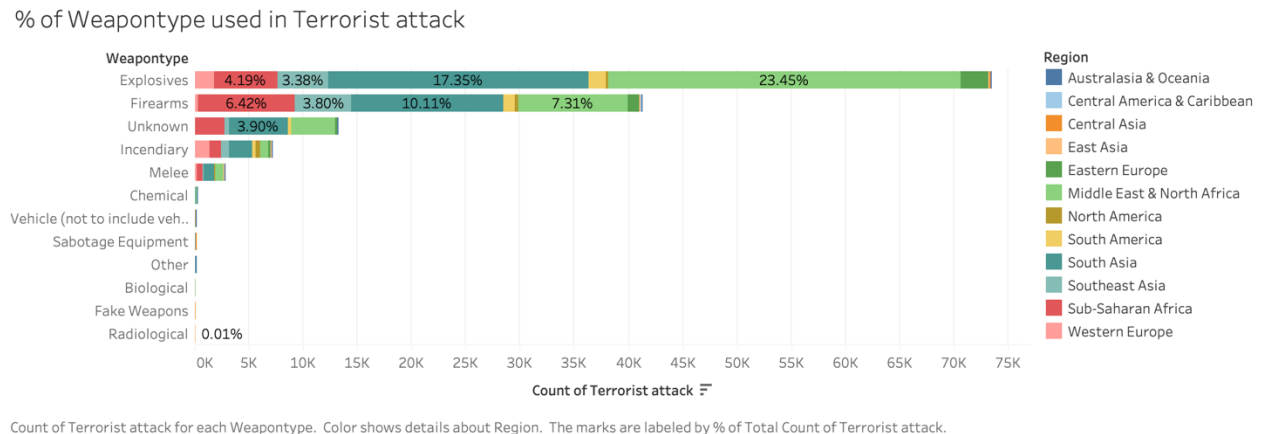
Result

The visualization demonstrates that Iraq has more number of terrorist attacks with 27,204 Terrorist attacks followed by Afghanistan with 18,558 Terrorist attacks and Dominica, Solvania with only 1 terrorist attack from 2000 to 2020.

2. I have chosen Horizontal bar graph to analyze this question.

Horizontal bar Graph

Horizontal Bar graph is used to compare the various categories in all the dimensions.



The above graph is achieved by using attributes such as “Weapontype”, “count of Terrorist attack”. Adding percent of total in quick table calculation. Adding region to the color mark for terrorist attacks based on region. ‘count of terrorist attack’ is added to the label section.

Result

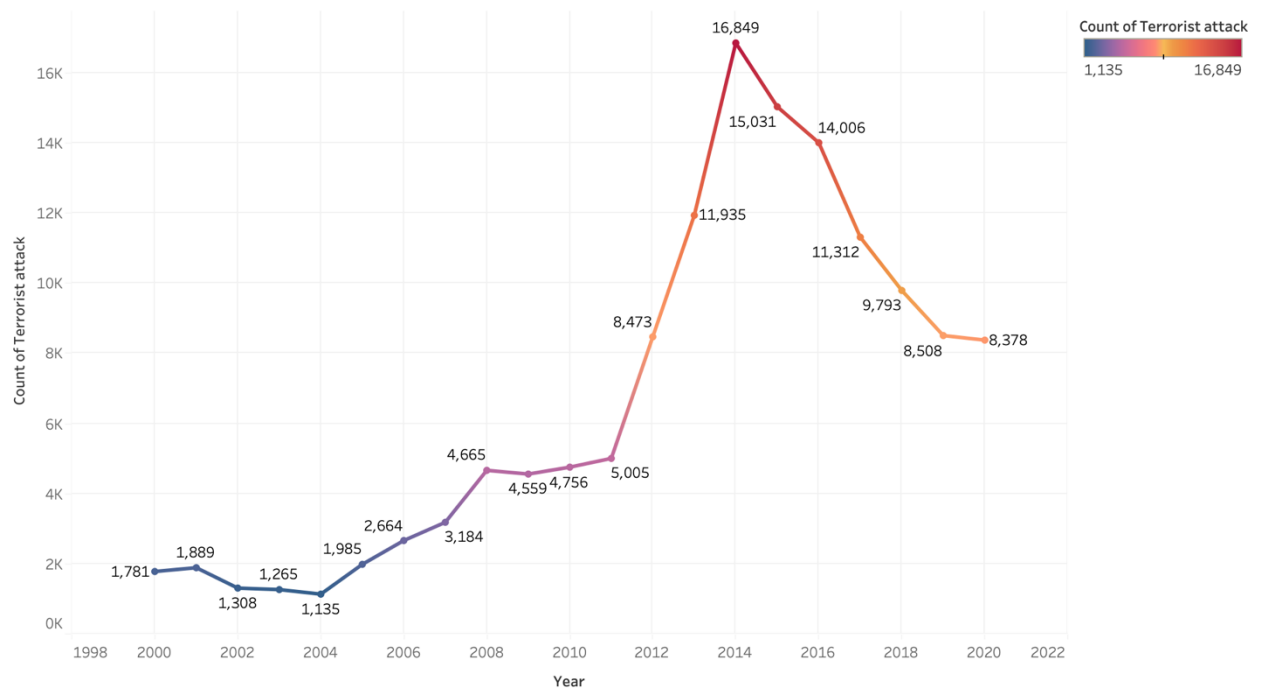
The visualization depicts the % of weapontype used in terrorist attacks and weapontype Explosives ranked 1st with 53.04%. In that Middle East & North Africa Region used Explosives in their attacks around 23.45%. Radiological Weapontype is used least in their attacks.

3. I have chosen Line chart to analyze the trend of terrorist attacks.

Line Chart

Line chart is used to observe the changes/differences in the data over time where it connects the series of points continuously.

Number of Terrorist attacks in each Year



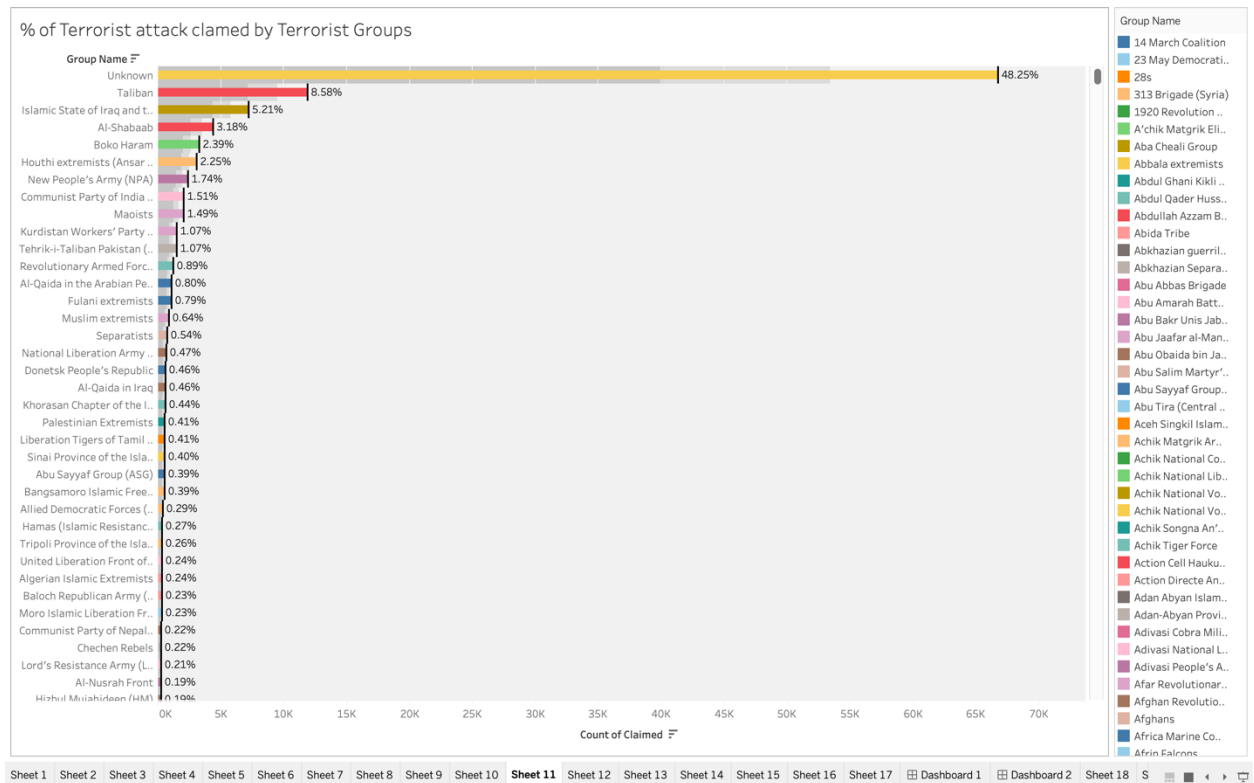
The trend of count of Terrorist attack for Year. Color shows count of Terrorist attack.

Above visualization is achieved using attributes “Year” and “count of Terrorist attack”. Line charts express the trend of Terrorist attacks and labelled with “count of Terrorist attack” to show the total number of terrorist attacks in a year. ‘count of terrorist attack’ is added to the color mark.

Result

The above visualization shows that the trend of terrorist attacks gradually increases from 2000 to 2014 and then starts to downfall from 2014 to 2022, Where 2014 has maximum number of terrorist attacks with 16,849 attacks.

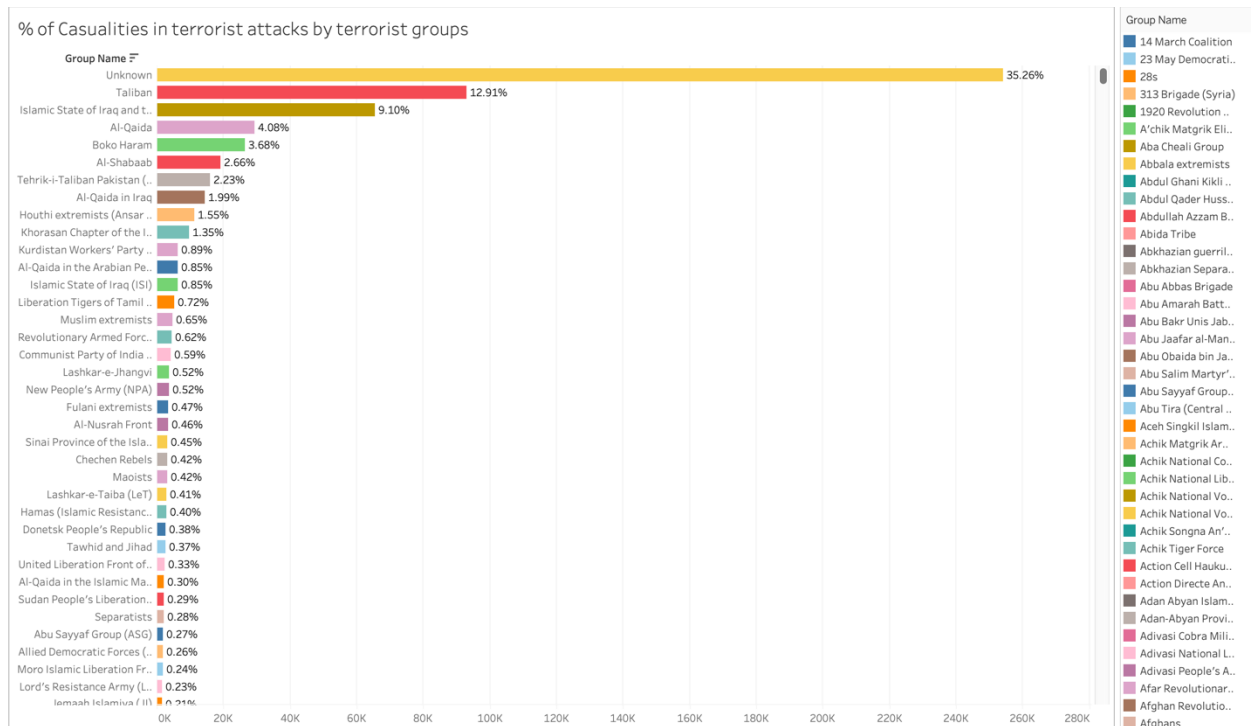
4. I have chosen bullet graphs and bar graph to analyze the question.



For bullet graph, visualization is achieved by using attributes “Group_Name” and “Count of Claimed” and using Group_name attribute for color mark. Adding ‘count of Terrorist attack’ is added to label mark and in quick table calculations tab selecting percent of total for count of terrorist attacks and sorting the group names according to their count of terrorist attack.

Result

Ignoring the Unknown the next Group name which has made more Terrorist attacks is “Taliban”, which has made 8.58% of terrorist attacks and Islamic state of Iraq and the Levant follows next with 5.21% of Terrorist attacks.



The above horizontal bar graph is achieved by using attributes “Group Name” and “sum of casualties”. This visualization is used to find top Groups which made more terrorist attacks. Adding ‘Group name’ to the color mark and ‘sum of Casualties’ to the label mark. Arranging the group names in descending order according to the sum of casualties.

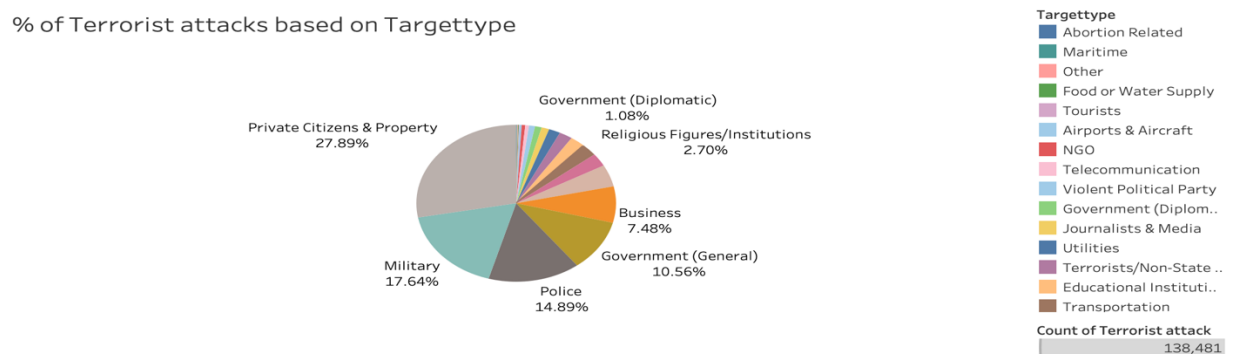
Result

From the above visualization ignoring the unknown, Taliban group has 12.91% casualties are suffered in terrorist attacks and Islamic state of Iraq and the levant follows next with 9.10% of casualties.

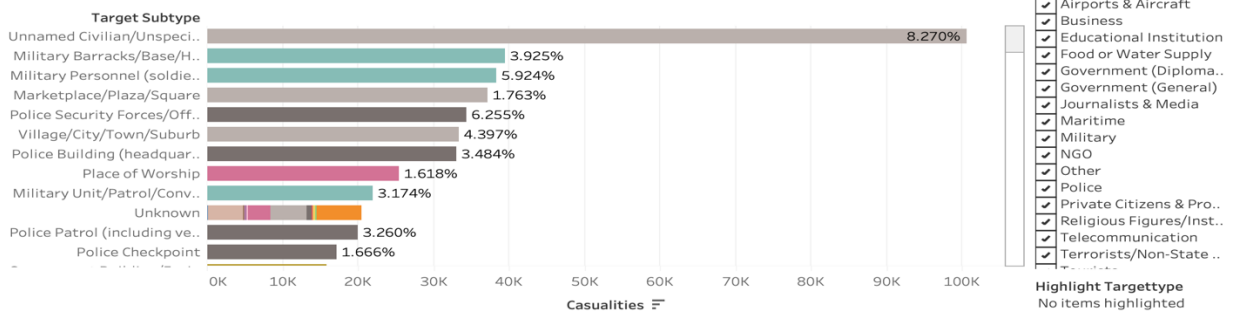
5. I have chosen dashboard which consists of a pie chart and bar graph to analyze the question.

% of Terrorist attacks on Targettype and Target Subtype

% of Terrorist attacks based on Targettype

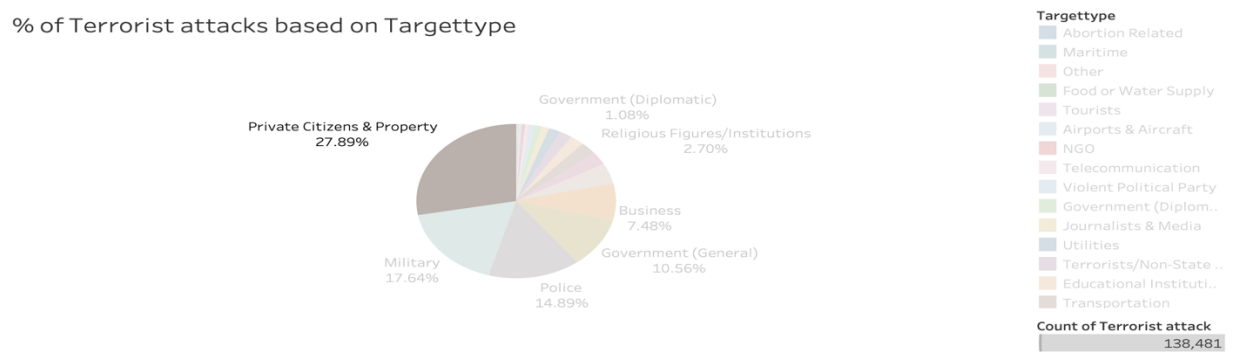


% of Casualtiesfor each Target Subtype

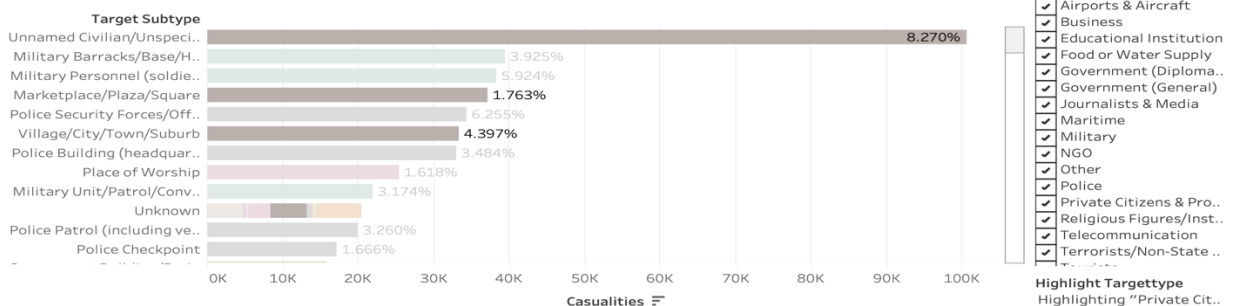


% of Terrorist attacks on Targettype and Target Subtype

% of Terrorist attacks based on Targettype



% of Casualtiesfor each Target Subtype



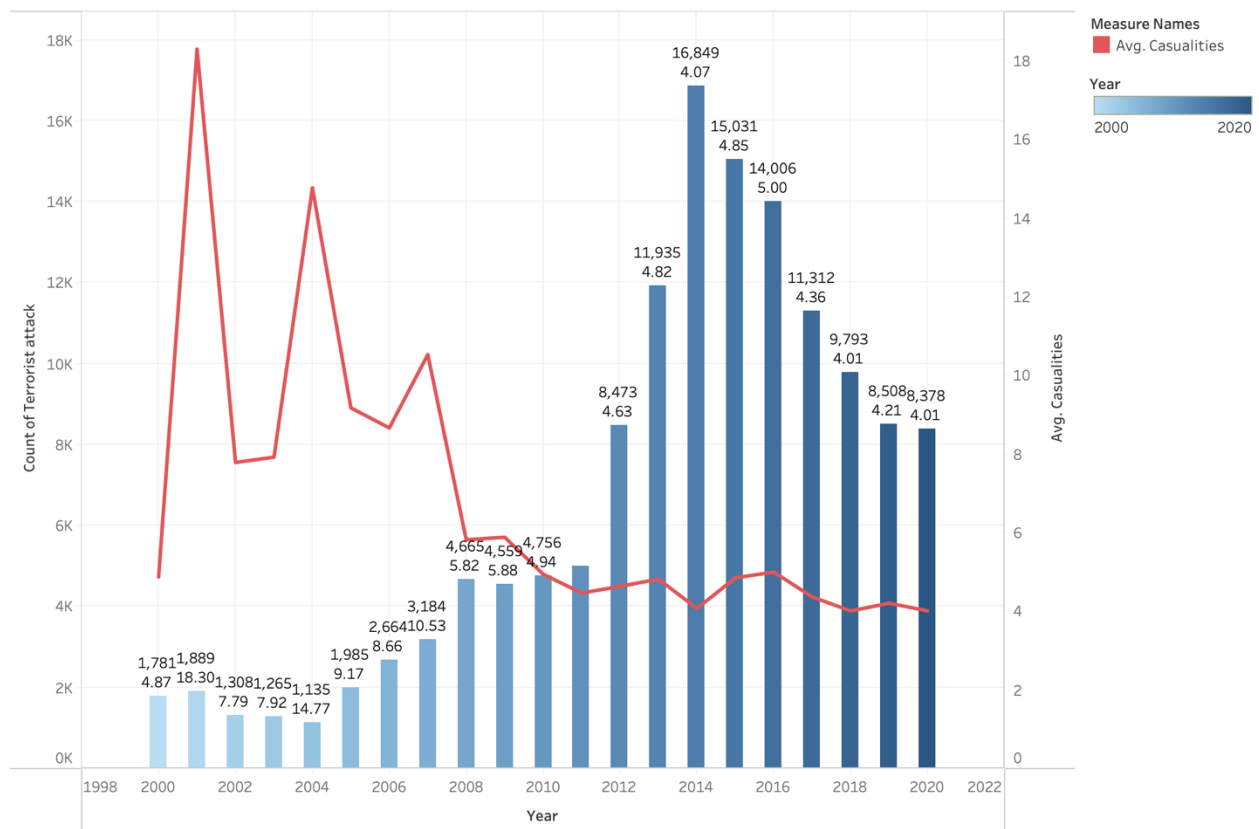
The visualization is obtained using attributes “Target type” and “count of Terrorist attack”. Used percent of total in quick table calculation field and “Targettype” for color mark. A pie chart and a horizontal bar is used for “Target Type” and “Target Subtype” and then the both worksheets are added to the dashboard. Above Dashboard shows the % of casualties suffered in terrorist attacks on specific “Target Subtype”.

Result

From the above dashboard, Private Citizens & Property are the main Target type accounts to 27.89% of terrorist attacks and Unnamed civilians/ unspecified Target Subtype are most in PrivatenCitizen & Propert which accounts to 8.27% of Terrorist attacks.

6. I have chosen dual combination graph to analyze this question.

Average number of Casualties in Terrorist attacks in each Year



The trends of count of Terrorist attack and Avg. Casualties for Year. For pane Count of Terrorist attack: Color shows details about Year. The marks are labeled by count of Terrorist attack and Avg. Casualties. For pane Average of Casualties: Color shows details about Avg. Casualties.

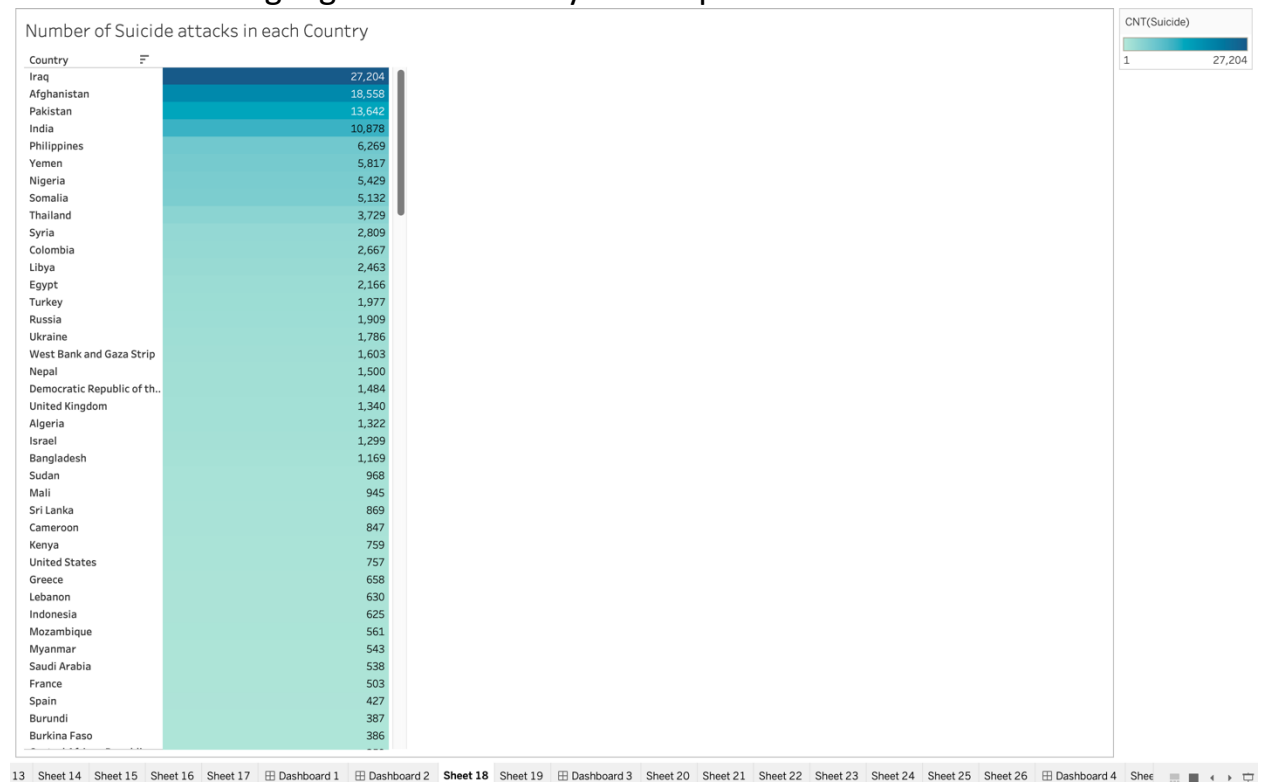
The visualization achieved by using the attributes “Year”, “count of Terrorist attack” and “Average of Casualties” and used dual combination graph to

view the average number of casualties in a Year. “Year” is added to the color mark for “count of terrorist attack” mark. Added “count of terrorist attack” and “average of Casualties” to the label mark.

Result

The above dual combination chart shows the average number of casualties in each Year and number of terrorist attacks. Year 2001 has more average number of casualties where it has 1889 terrorist attacks. Year 2014 has more number of terrorist attacks but the average number of Casualties are 4.07% only.

7. I have chosen Highlight table to analyze this question.

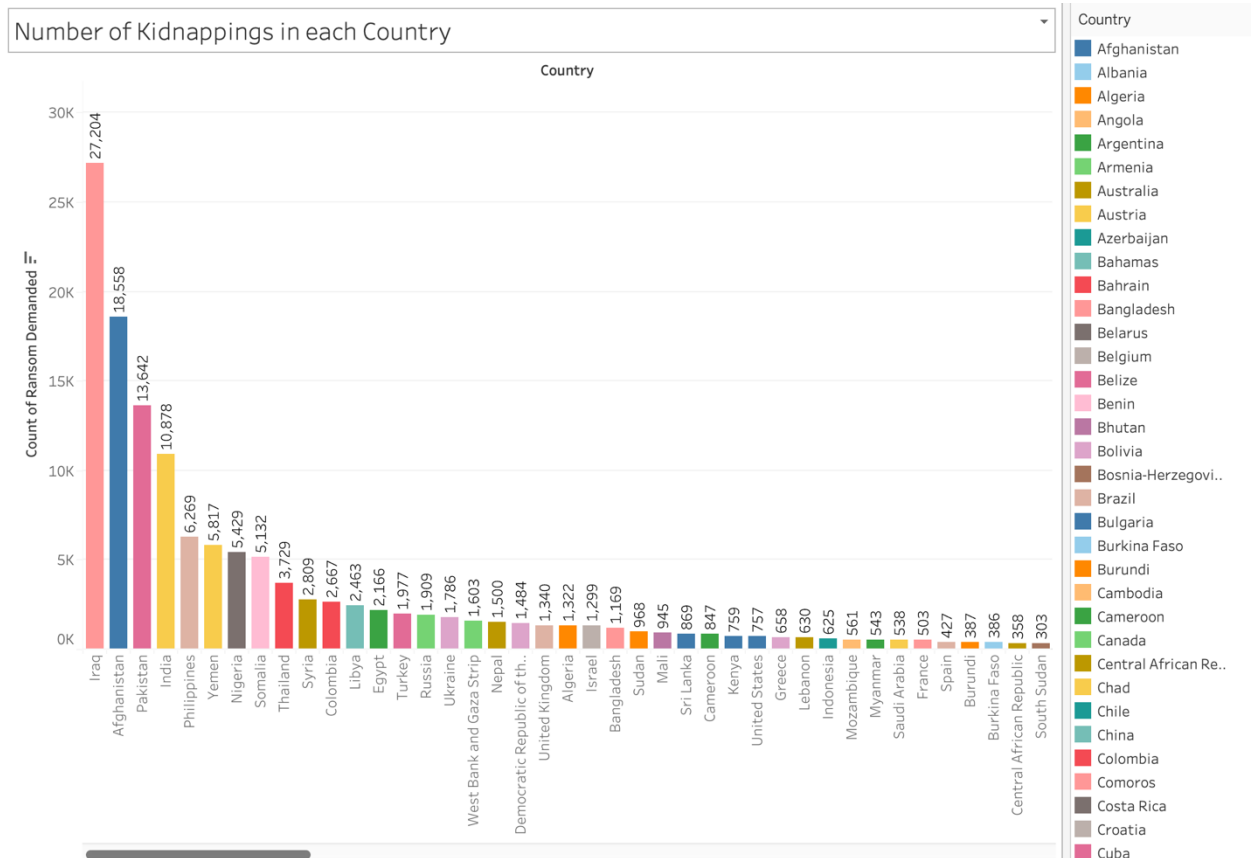


The above Highlight table was achieved using attributes “Country” and “count of Suicide”. Selecting Highlight table in show me after selecting attributes. Added “count of Suicide” to the color marks and “count of suicide” to label mark. Arranging the order of country in descending order based on the “count of Suicide”.

Result

The table shows the count of suicide attacks in each country in descending order where Iraq has more number of suicide attacks accounts to 27,204 suicide attacks. We can find the top 10 countries which has more suicide attacks.

8. I have choosen bar graphs and dashboard to analyze this question.



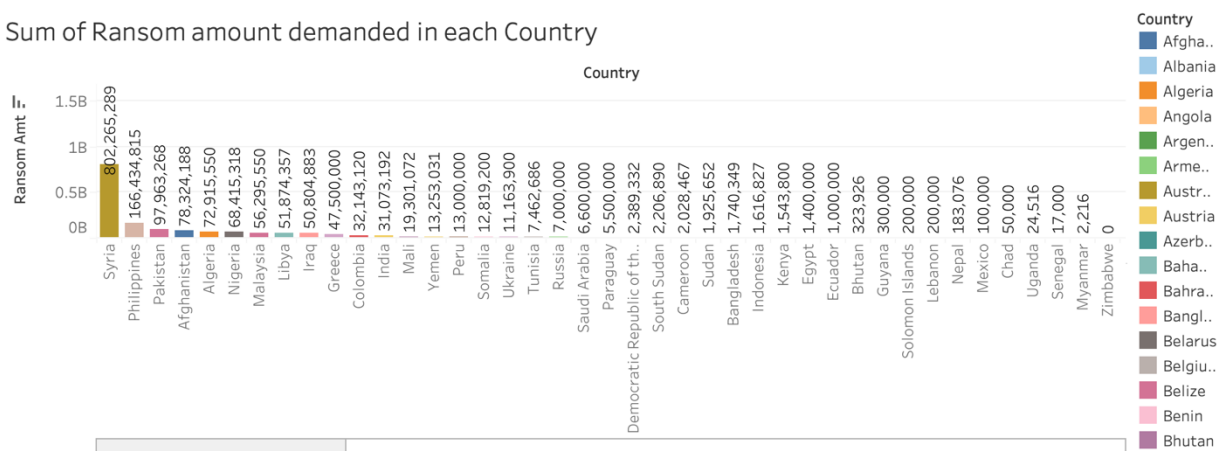
The visualization is obtained by using attributes “Country” and “count of Ransom demanded”. Adding “Country” to the color mark and “count of Ransom demanded” to the label mark to show the total Kidnapping attacks in each country. Arranging the Countries in descending order of the number of kidnappings in that country.

Result

The above visualization shows the total number of Hostage situations happened in each country. Iraq has more number of hostage situations and Afghanistan follows next.

Sum of Ransom demanded and paid

Sum of Ransom amount demanded in each Country



Sum of Ransom paid in each Country



The above dashboard is obtained by using attributes “Country” and “sum of Ransom demanded” in one worksheet and “country” and “sum of Ransom paid” in 2nd worksheet. Adding “Country” to the color mark. Adding sum of ransom demanded/ paid in label mark in respective worksheets. Now adding those 2 sheets to dashboard.

Result

From the dashboard, we can conclude that the terrorists in Syria has demanded 802,265,289 ransom amount but Iraq has more number of hostage situations and paid 275,551,725 Ransom amount in hostage situation.

Discussions

- Most of the terrorist attacks are claimed by Taliban, Islamic state of Iraq and the Levant, Al-shabaab, Boko Haram, Houthi extremists. Also these groups are having more Casualties.
- Terrorist attacks due to Bombing/Explosion type of attack type has almost 50% of the Terrorist attacks and 61.75% of Casualties suffered.
- Most of the terrorists mostly uses Explosives, Firearms, Indendiary, Melee and Chemicals in their attacks. And in Explosives Weapon subtype Projectile(rockets,rpg,mortar), Vehicles, Grenade and Landmine type of Subtypes used most and Casualties are more.
- Terrorist attacks increases from 2000 to 2014 and decreases from 2014 to 2020. Year 2014 has 16,849 terrorist attacks and 68,588 Casualties suffered in terrorist attacks.
- Most of the Terrorist attacks are on Private Citizens & Property which account to 28% of Terrorist attacks.
- Countries like Iraq, Afghanistan, Pakistan, India and Philippines are the top 5 countries where most incidents were committed than other countries.
- Iraq is the only country which has paid more Ransom than the demanded amount to the terrorist groups.

Conclusion

This Project analyzed the various types of Attack types used by the Terrorists. It also includes the various types of Weapon types used most by the Terrorists to attack specif type of Target types and Target Subtypes. This project helps to find the Top countries where terrorist attacks are more and it helps to find number of Casualties, Wounded and Killed in the Terrorist attacks. This project talks about the most common type of Weapons used for attacking common type of Targets by the Terrorist Groups.

References

Data from Global Terrorism Database. Retrieved April 16, 2023, from <https://www.start.umd.edu/gtd/>

Wikipedia Foundation(2023, April 14). Global Terrorism Database. Retrived April 14, 2023, from https://en.wikipedia.org/wiki/Global_Terrorism_Database