# CAPSTONE PROJECT - 01

## Global Terrorism Analysis

***Project Type - EDA***
***Contribution – Individual***
***Presented By – Niranjan Dhage***

# Table of contents

1. Introduction.
2. Problem Statement.
3. Dataset Preparation.
4. Data Summary.
5. Analysis and visualization of data.
 5.1 Heatmap of Correlation matrix for visual understanding
 5.2 Analysis based on pattern of number of attacks per year.
 5.3 Analysis based on yearly growth of terrorist attack.
  *5.3.1 based on region.*
 5.4 Active terrorist organization who attacks the most(top 10).
 5.5 Country wise analysis.
  *5.5.1 Country Iraq.*
  *5.5.2 Country India.*
 5.6 Analysis of most used weapon by Terrorist Organization.
6. Challenge Faced.
7. Conclusion.

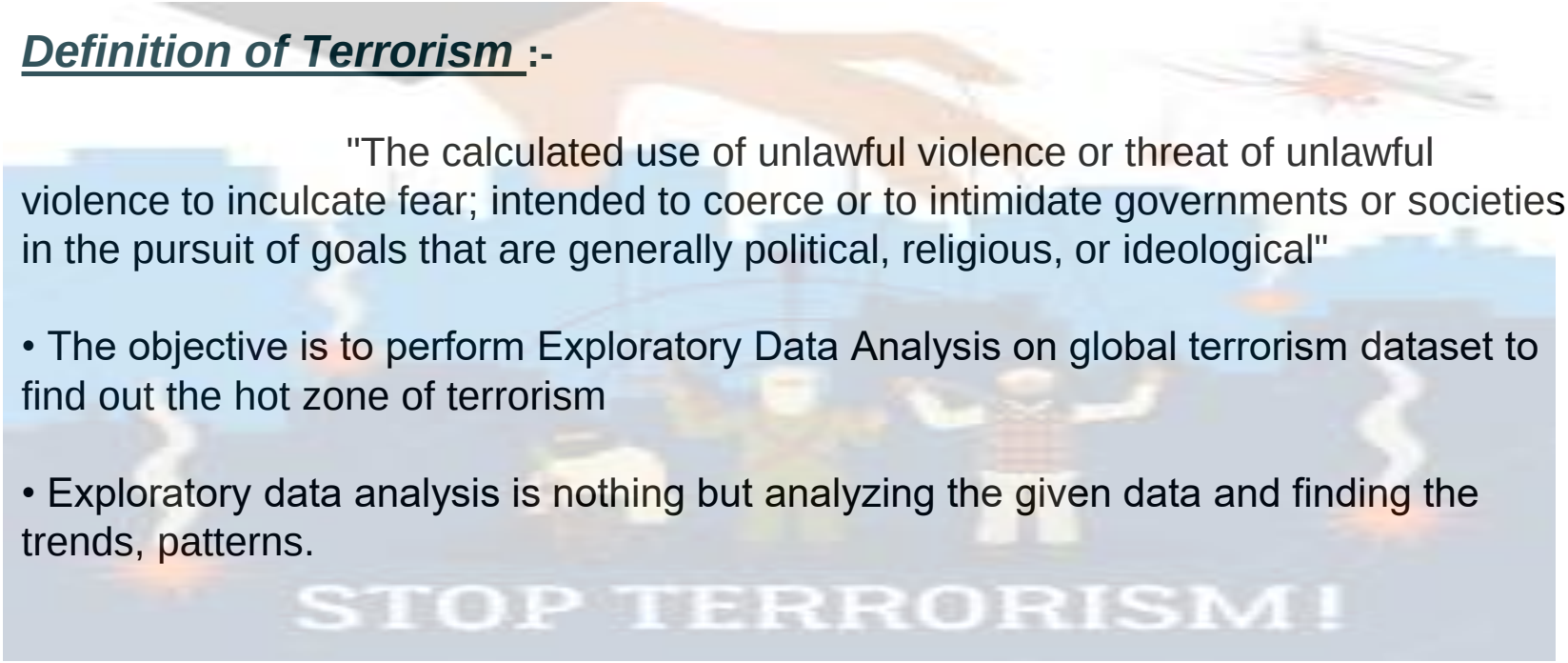
# Introduction

***Definition of Terrorism*** **:-**

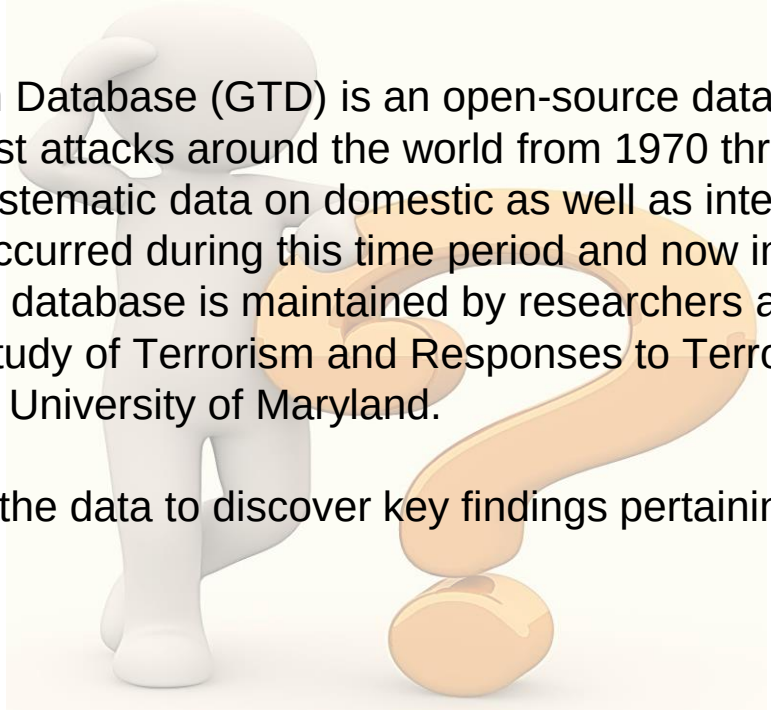
"The calculated use of unlawful violence or threat of unlawful violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological"

• The objective is to perform Exploratory Data Analysis on global terrorism dataset to find out the hot zone of terrorism

• Exploratory data analysis is nothing but analyzing the given data and finding the trends, patterns.



# Problem statement



The Global Terrorism Database (GTD) is an open-source database including information on terrorist attacks around the world from 1970 through 2017.
The GTD includes systematic data on domestic as well as international terrorist incidents that have occurred during this time period and now includes more than 180,000 attacks. The database is maintained by researchers at the National Consortium for the Study of Terrorism and Responses to Terrorism (START), headquartered at the University of Maryland.

Explore and analyze the data to discover key findings pertaining to terrorist activities

# Dataset Preparation

- *Loading the dataset*: Load the Global Terrorism Dataset by mounting the drive.
- *Import Libraries*: NumPy, Pandas, Seaborn and Matplotlib
- *Data cleaning*: Finding null values, Replacing the null value with zero, Finding duplicate values, Creating the copy of main dataset etc.
- *Exploratory Data Analysis*: Analyzing the data sets to summarize their main characteristics using statistical graphics and data visualizations method.

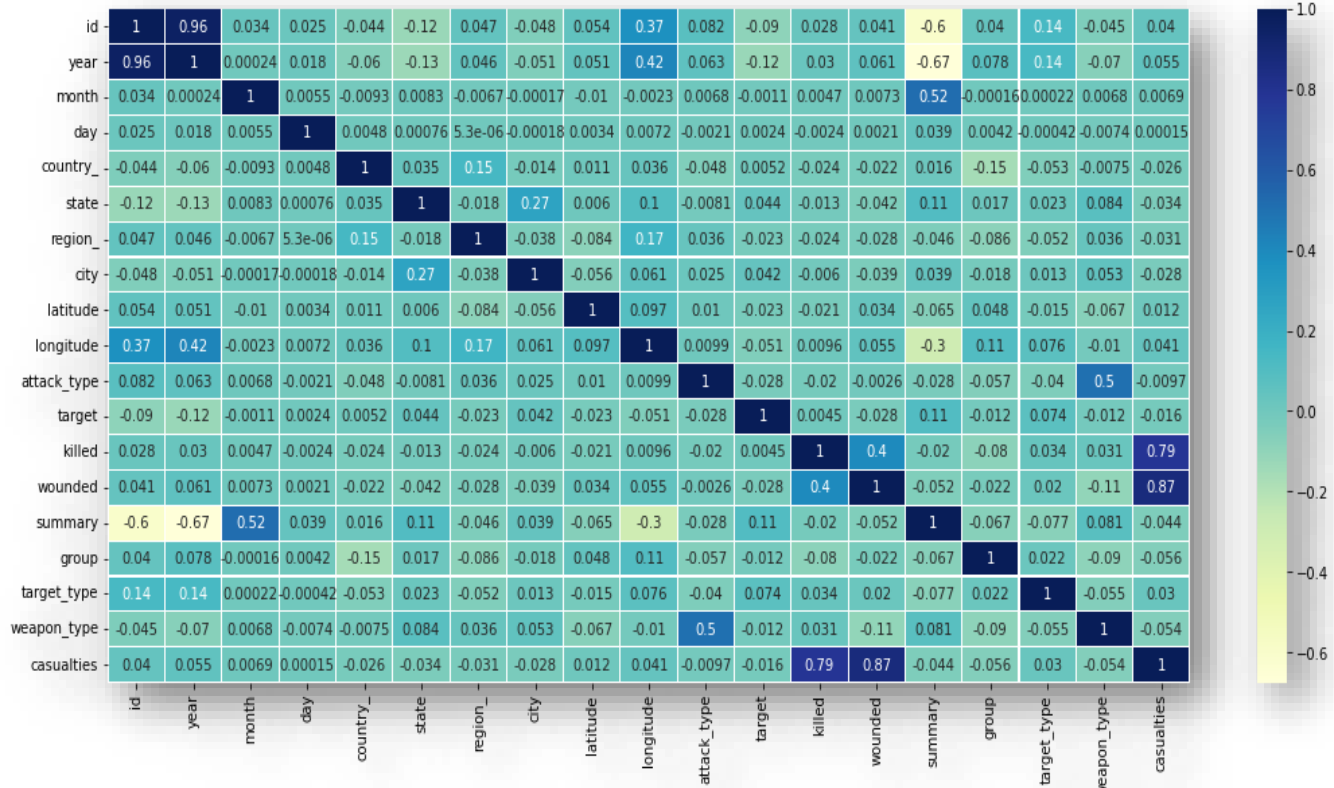
# Data summary

| | |
|---|---|
| Year | Year of Terrorist Attack |
| Month | Month of Terrorist Attack |
| Day | On which Day Terrorist Attack is happened |
| Latitude | Y Co-ordinates of Terrorist Attack point |
| Longitude | X Co-ordinate of Terrorist Attack point |
| Region | Region of Terrorist Attack |
| Country | Country of Terrorist Attack |
| State | State of Terrorist Attack |
| city | City in which terrorist attack happen |

| | |
|---|---|
| Attack_Type | Type of Terrorist Attack |
| Killed | Number of people killed in the Terrorist Attack |
| Gang_Name | Name of Terrorist Organization |
| Wounded | Number of people Injured in the Terrorist Attack |
| Main_Target | Main target of the Terrorist Attack |
| Sub_Target | Sub target of Terrorist Attack |
| Weapon_type | Weapon used in the Terrorist Attack |
| Motive | Motive of Terrorist Attack |
| Nationality | Nationality of Terrorist Organization |
| Casualties | It is the Sum of Number of people killed and Number of people Injured in the Terrorist Attack |

# Analysis and visualization of data

## 1.Heatmap of Correlation matrix for visual understanding

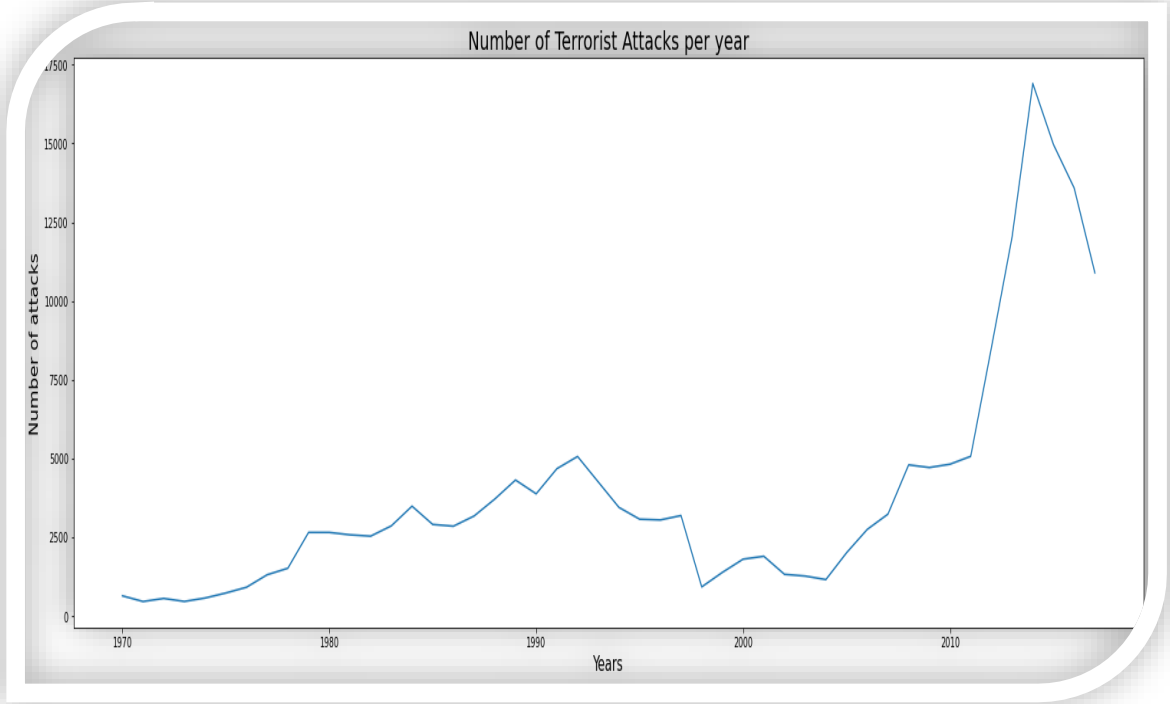



***Observation***:-

1.Heatmap shows that the wounded and killed are correlated.

2.Attack type and weapon used in the attack also hold close ties with each other as attack type is defined based on the weapons used in that incident.

# 2.Yearly growth of terrorist attacks



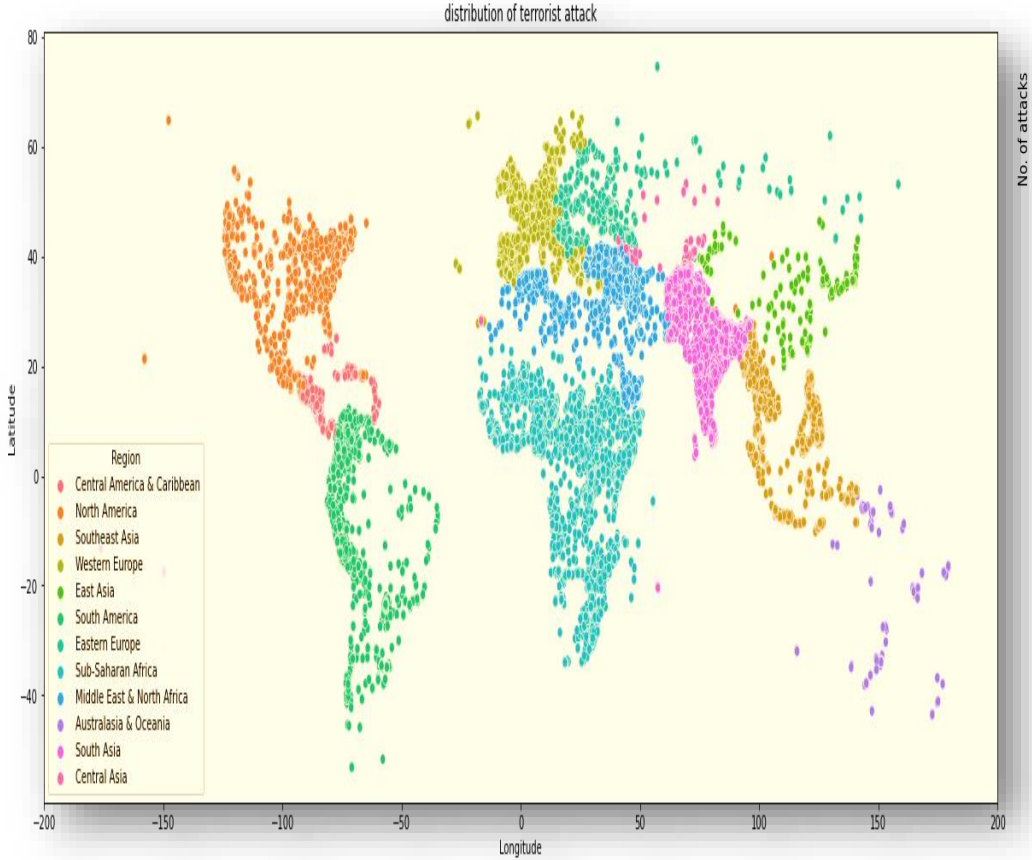

***Observation*** :-

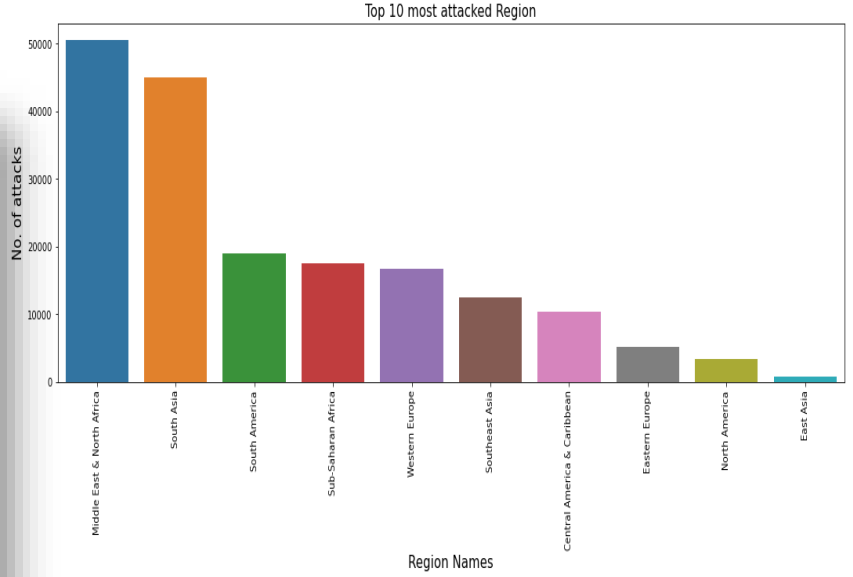
1.From the above graph we can say that After 2004 there is a large growth recorded in terrorist attack.

2.Maximum Number of the attacks were recorded in year 2014

3.Minimum number of attacks were recorded in the year 1971

# 3. Most affected area of Terrorism Region wise



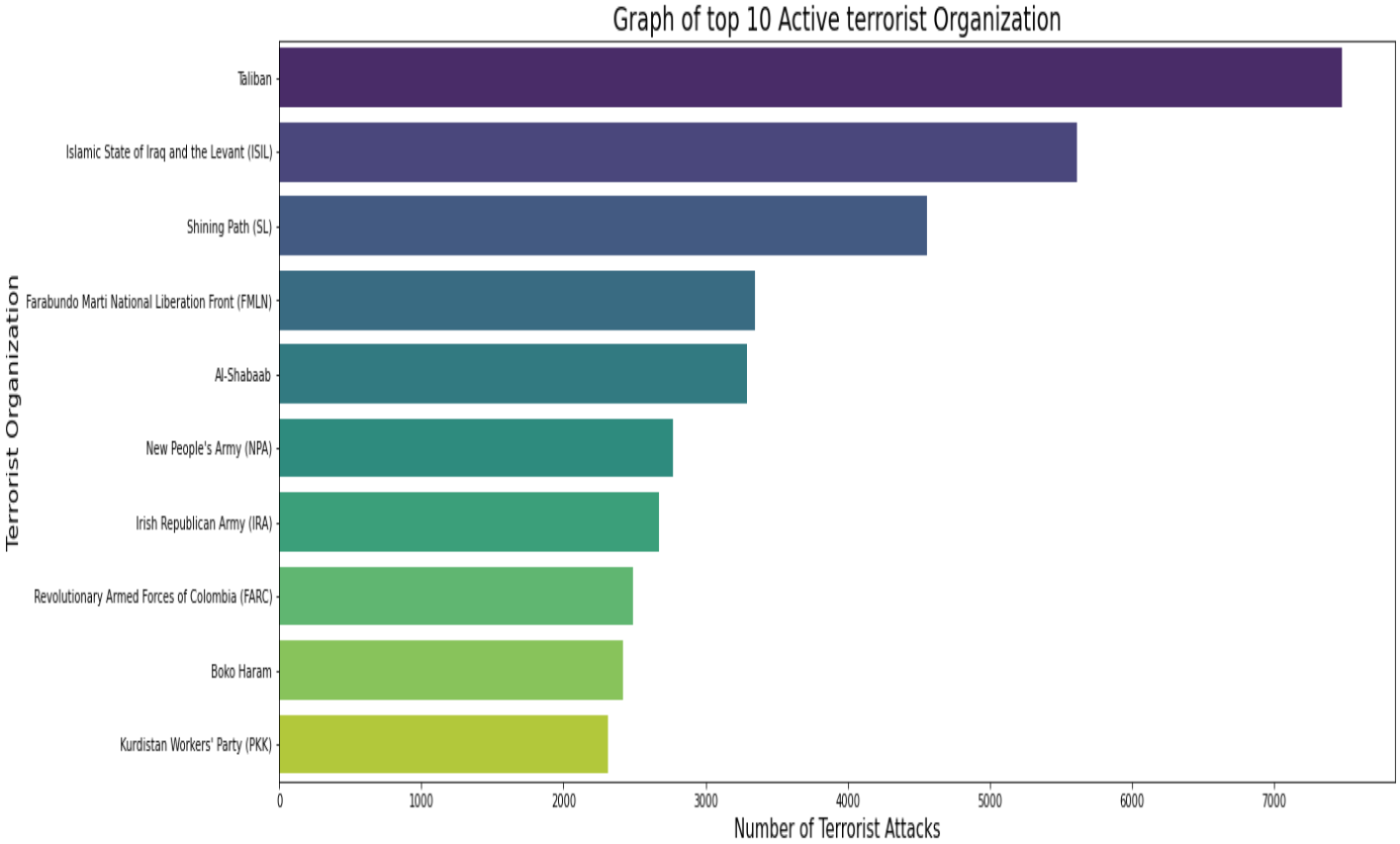




***Observation***:-

1.From the scatter and bar plot we can say that Middle East and North America is the most affected region of Terrorist Attack.

2.Australasia & Oceania is the most safest region because there is less number of Terrorism compare to other region.

# 4.Active Terrorist organization who attack the most(top 10)



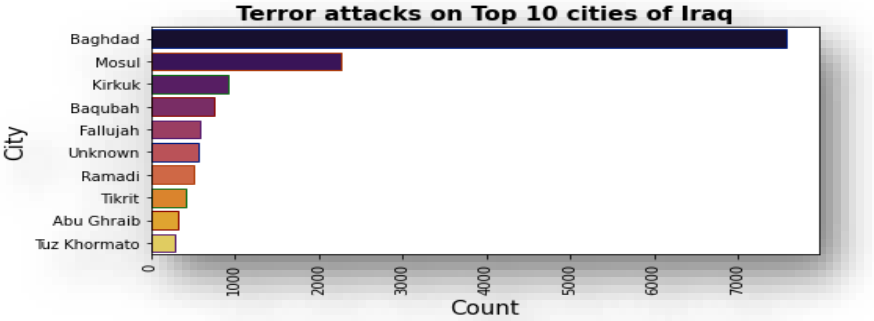

***Observation:-***

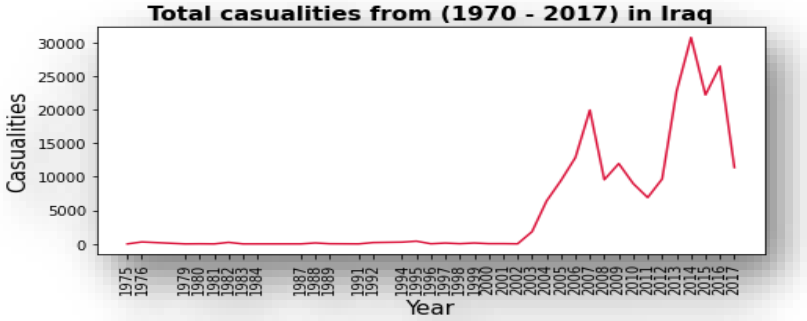
1. Taliban and Islamic Stat e of Iraq and the Levant (I SIL) are the Most active te rrorist Organization who at tack the most around the w orld.

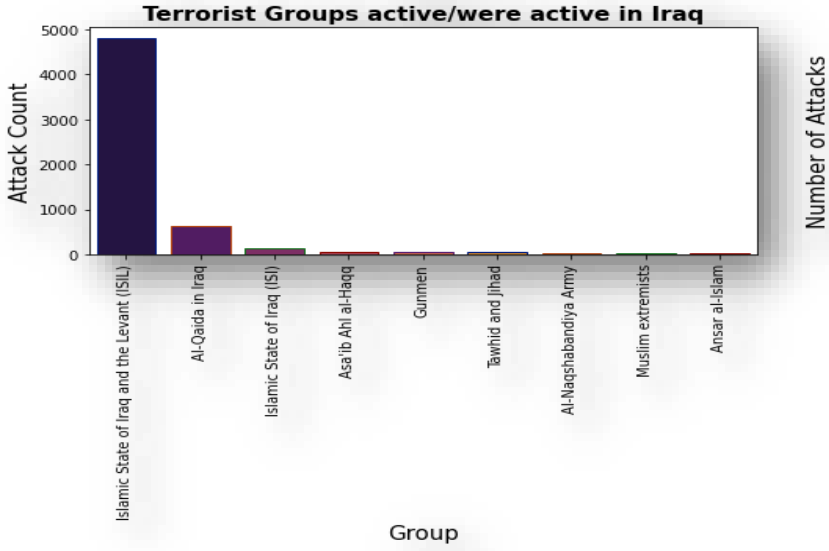
2. Taliban recorded most number of attacks.

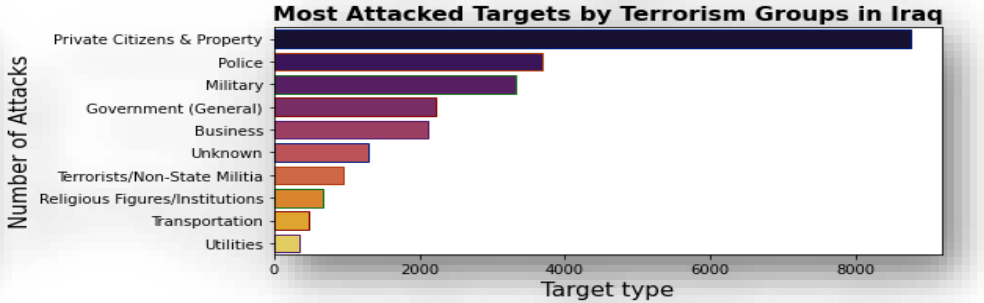
# 5.Country wise analysis

## 5.1 Country Iraq



here we are doing the country wise analysis of terrorist attacks and by using the bar plot we can easily find out the most affected city and most safe city of the country. also most active terrorist organization in the respective country and what are the main targets of terrorist attack by getting exact figures. We can also find out the trends in the casualties from the year 1970 to 2017.

***Observation*** :-

1.Here we did the analysis of most affected country of terrorism Iraq.

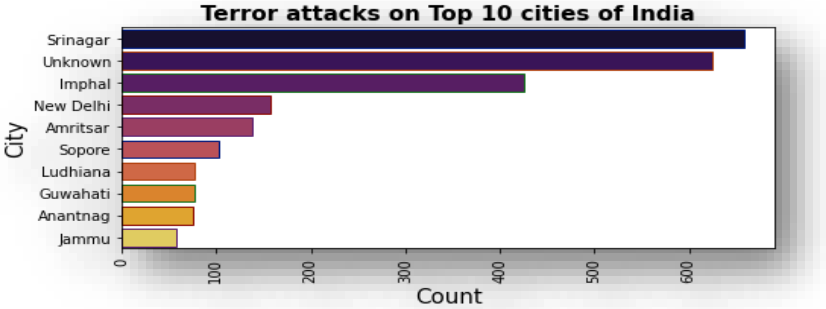
2.Most number of attacks happen in the Baghdad city of Iraq

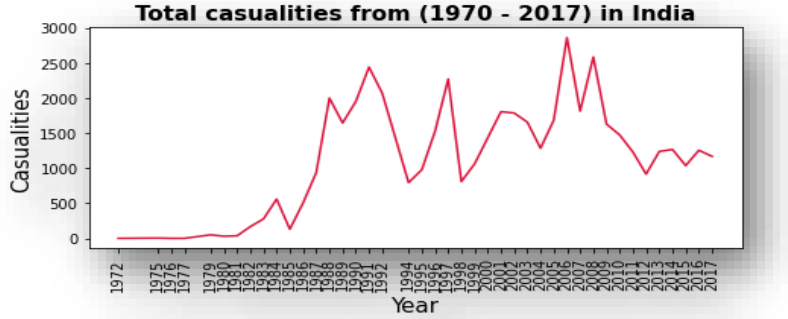
3.Islamic state of Iraq and the levant (ISIL) is the most active terrorist organization in the country which record highest attacks

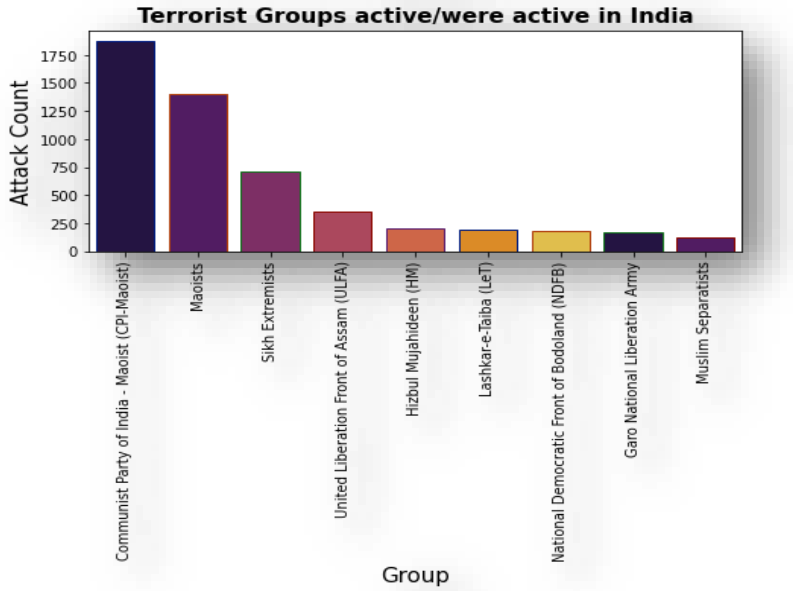
4.The number of casualties increases per year till 2014 later it is decreases.

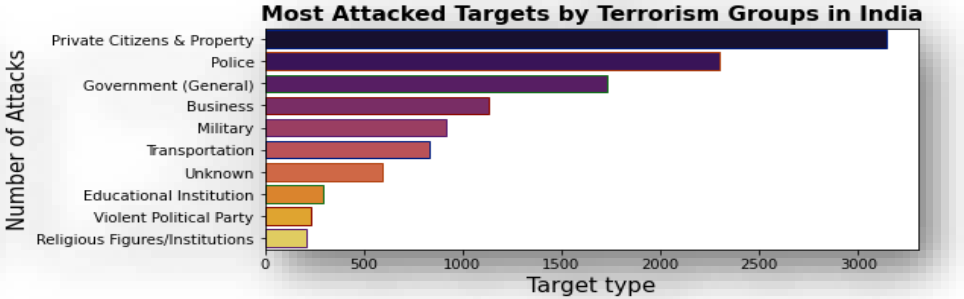
5.Main target of terrorist is private Citizens and Property followed by Police, Military, and Government

# 5.2 Country India



***Observation*** :-

1.Here we did the analysis of most affected country of terrorism India.

2.Most number of attacks happen in the Shrinagar city of India

3.Communist party of India - Maoist(cpi-Maoist) is the most active terrorist organization in the country which record highest attacks

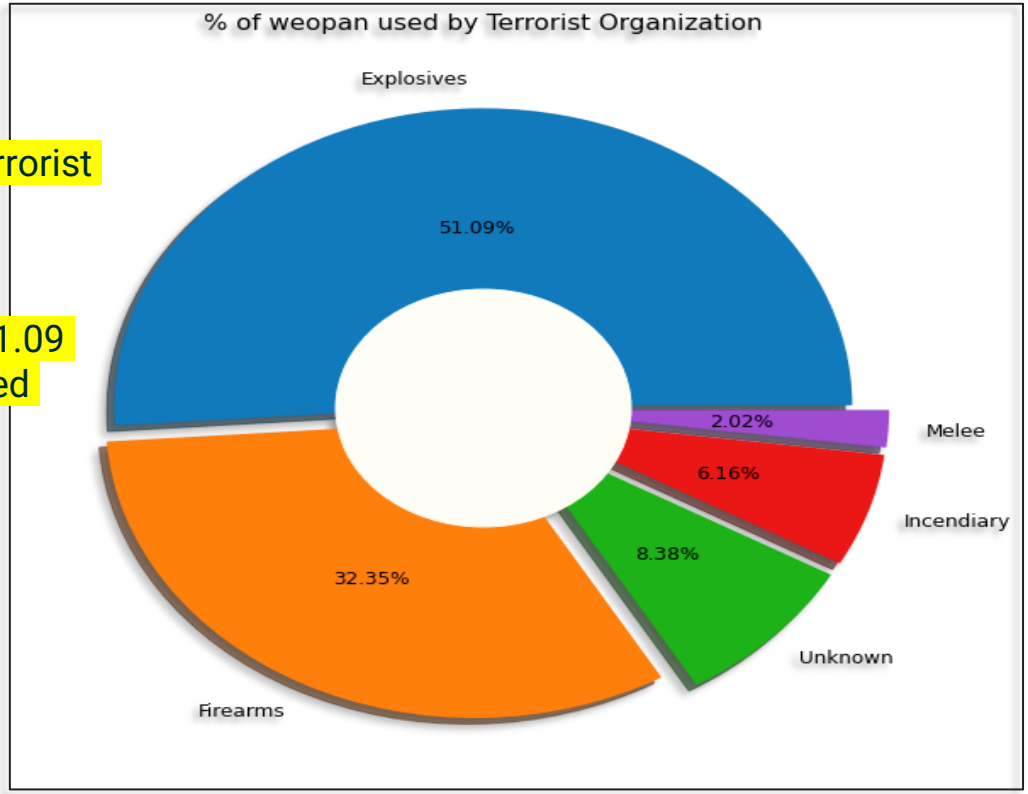
4.The number of casualties varies per year from 1985 to 2014.

5.Main target of terrorist is private Citizens and Property followed by Police, Government and Business.

# 6. Most use weapon by Terrorist Organization

1.To get the Percentage of Weapon used by Terrorist Organization we use Pie Chart

2.It seen that explosives were used in around 51.09 % of the attacks, followed by Firearms accounted for 32.35% of the attacks



# Challenges Faced -:

- ❏ Reading the dataset and comprehending the problem statement.
- ❏ Examining the business KPIs for app development and devising a solution to the problem.
- ❏ Handling the error and NaN values in the dataset.
- ❏ Designing multiple visualizations to summarize the information in the dataset and successfully communicate the results and trends to the reader.

# Conclusion's

- It was clear that numbers of terrorist attacks were increases from 2002-2004. Most of the attacks were done on year 2014 and Iraq is the most affected country from terrorism because most of the peoples killed in Iraq. In Iraq maximum of 1570 peoples killed in single attack. As expected Baghdad is most affected city(and yes this is also called province).

- Among all the regions "Middle East & North Africa" has the most number of killed people Approx 1.4 Lakhs followed by "South-Asia" & "Sub-Saharan Africa

- "Taliban" is the most powerful, dangerous and the most active gang among all the gangs, followed by "Islamic state of Iraq and the levant(ISIL)" and "shining path(SL)".

- The most targeted attacks are on "Private Citizens & Property" which is approximately 40% and 10-20% is the target on "Military", "Police", "Government", "Business".

- "It seen that explosives were used in around 51.09% of the attacks, followed by Firearms accounted for 32.35% of the attacks".

Thank You