



Exploratory Data Analysis On Global Terrorism

TEAM NAME : New World

Team Members

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ABOUT Global Terrorism



- ❑ The Global Terrorism Database (GTD) is an open-source database including information on terrorist events around the world from 1970 through 2017 (with annual updates planned for the future). Unlike many other event databases, 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 200,000 cases.
- ❑ Any kind of Violent, criminal acts committed by individuals and/or groups who are inspired by, or associated with, designated foreign terrorist organisations or nations (state-sponsored) come under global terrorism **activity**.
- ❑ The most affected regions were the Middle East, Africa, and South Asia. The most dangerous and leading terrorist groups, including the Taliban, Islamic State of Iraq, responsible for most of all terrorism deaths.

What is terrorism?



- Terrorism is defined as “the unlawful use of violence and intimidation, especially against civilians, in the pursuit of political aims.”
- Terrorism, in its broadest sense, is the use of intentional violence and fear to achieve political or ideological aims. The term is used in this regard primarily to refer to intentional violence during peacetime or in the context of war against non-combatants (mostly civilians and neutral military personnel). The terms "terrorist" and "terrorism" originated during the French Revolution of the late 18th century but became widely used internationally and gained worldwide attention in the 1970s during the Troubles in Northern Ireland, the Basque conflict, and the Israeli–Palestinian conflict.
- Terrorism can have a devastating impact on societies, both in terms of human life and economic cost. It can also lead to increased fear and insecurity, making it difficult to build peace and stability.

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PROBLEM STATEMENT



- 1. Number of Terrorist Activities each Year.**
- 2. Terrorist Activities by Region in each Year.**
- 3. Number of People Killed in Terrorist Attacks across different Countries.**
- 4. Top Countries affected by Terror Attacks.**
- 5. Top 10 states most impacted by terrorism.**
- 6. Top 10 targeted locations by terror attacks.**
- 7. Top 10 cities most impacted by terrorism.**
- 8. Top 10 chosen methods of attack.**
- 9. Top targets of terrorist attacks.**
- 10. Top Most Dangerous and Leading Terrorism Gangs or Group Names.**

STEPS INVOLVED IN EDA



- 1) Exploratory Data Analysis
- 2) Null values Treatment
- 3) Data Exploration
- 4) Data Visualization
- 5) Conclusion

DATA SUMMARY



Name of the Dataset-----Global Terrorism

Number of variables/Columns -----135

Number of observations/Row-----181691

Duplicate rows -----0 (0.0%)

Total size in memory----- 155.0 MB

CLEANING DATASET



Columns	Total Number of Null Values
approxdate	172452
related	156653

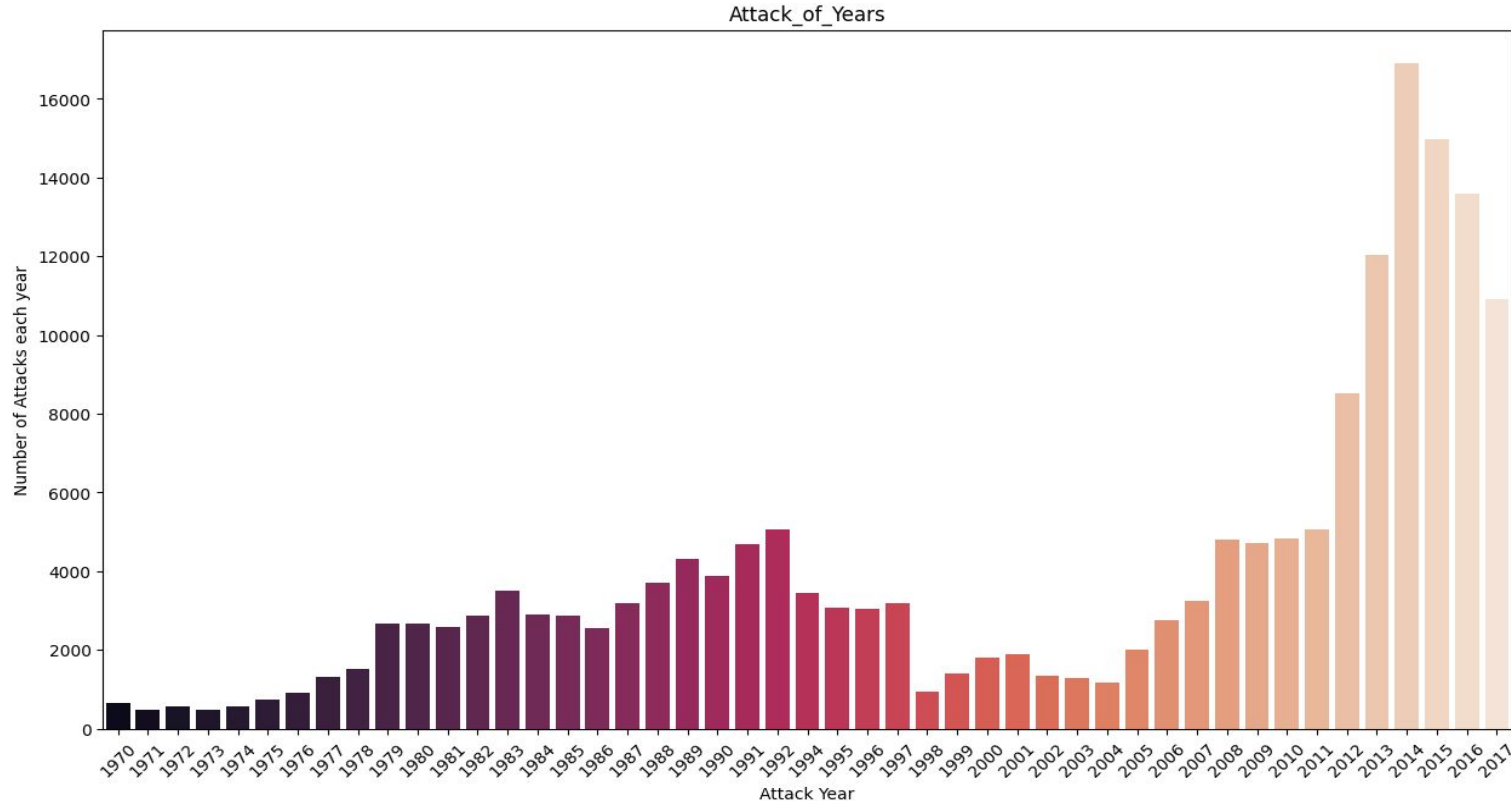
To handle missing data / Null Values , variables with Null Values data has been dropped. Hear Columns name 'approxdate' and 'related' contains 172452 and 156653 count of Null Values.

Word Cloud



This Word Cloud shows the highlighted word, which is most used in our dataset.

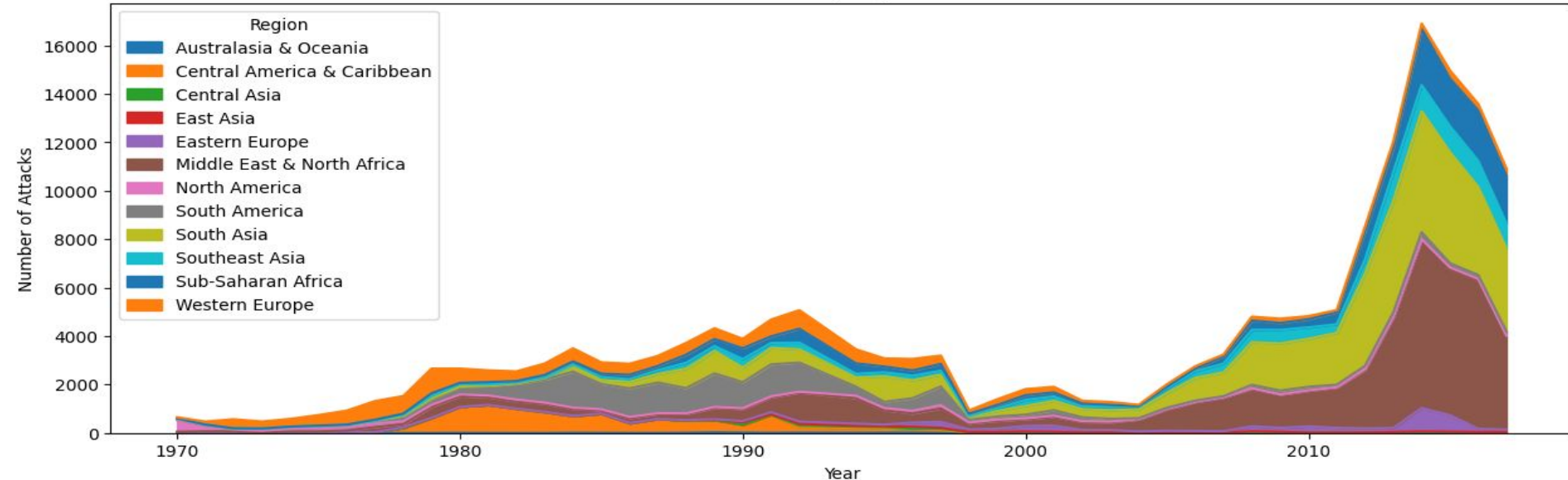
➤ Number of Terrorist Activities each Year.



The graph here illustrates the number of terrorist activities each year. Based on the graph, it is evident that 2014 experienced the highest number of terrorist activities, while 1971 recorded the lowest incidence of terrorist activities.

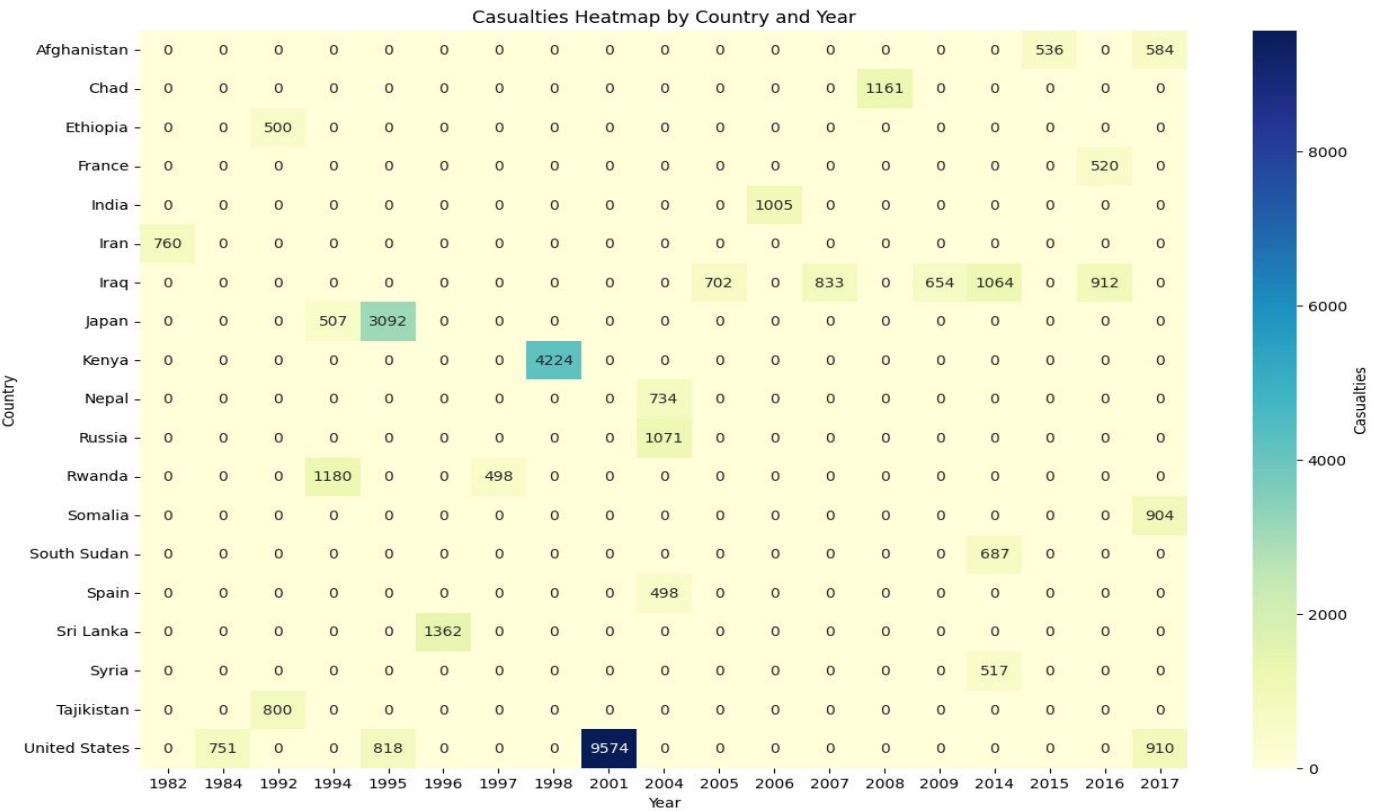
➤ Terrorist Activities by Region in each Year.

Terrorist Activities by Region in each Year

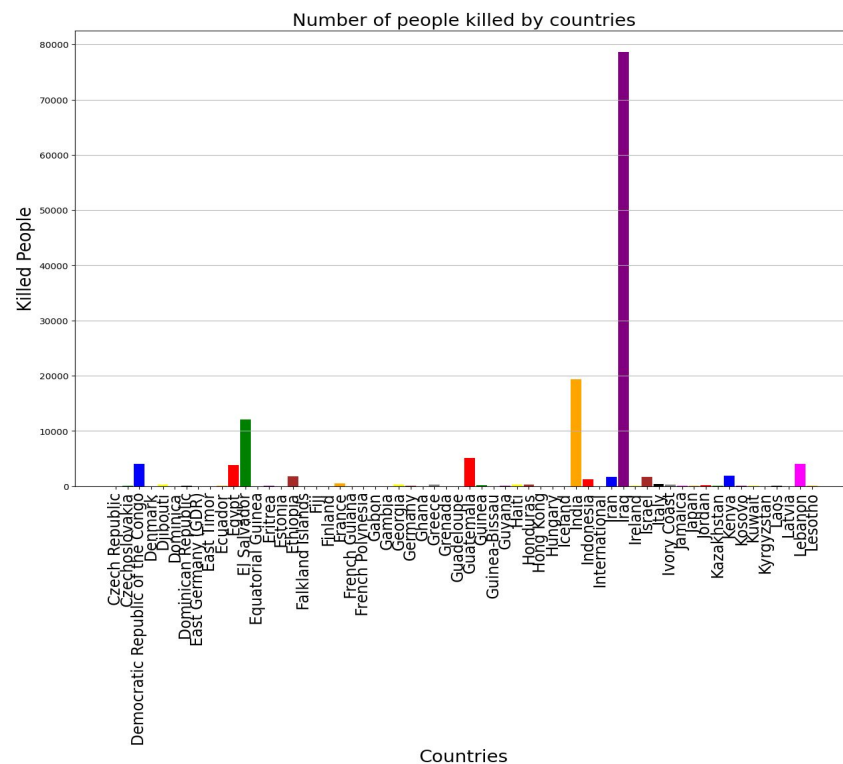


This graph provides an overview of Terrorist Activities categorised by Region for each year. Upon analysing the graph, it becomes apparent that the region of Western Europe encountered the highest number of terrorist activities, whereas the region of Australasia & Oceania experienced the lowest incidence of terrorist activities.

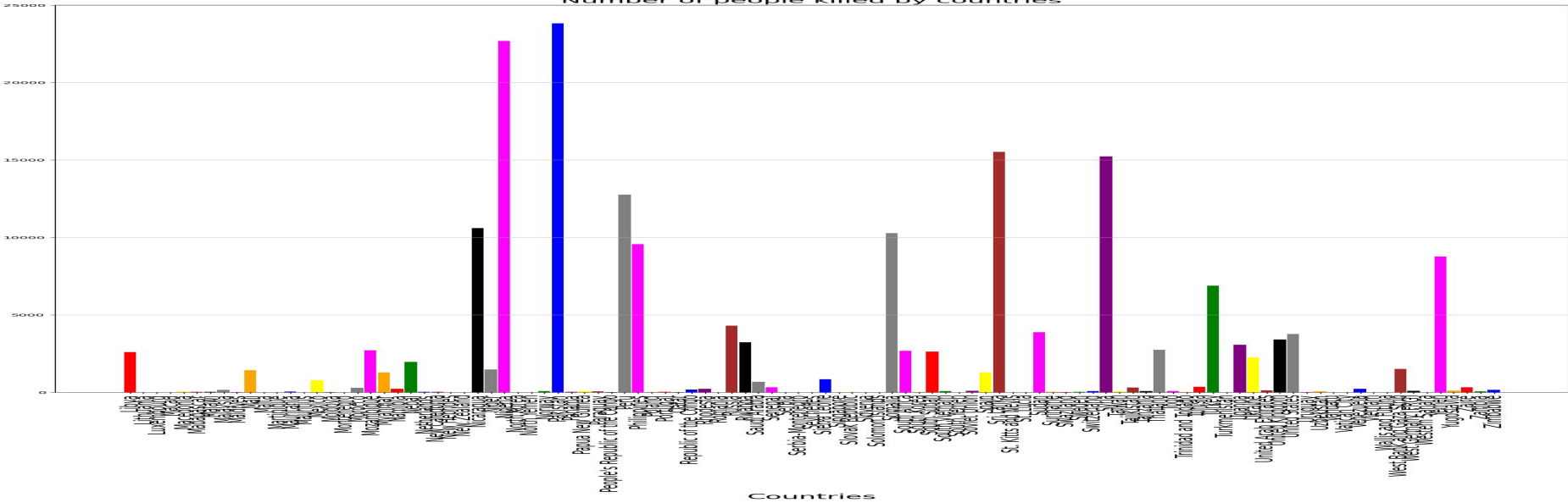
Correlation between different countries' Casualties with respect to Years, using HeatMap.



The heatmap shows the Correlation between different countries Casualties with respect to Years.

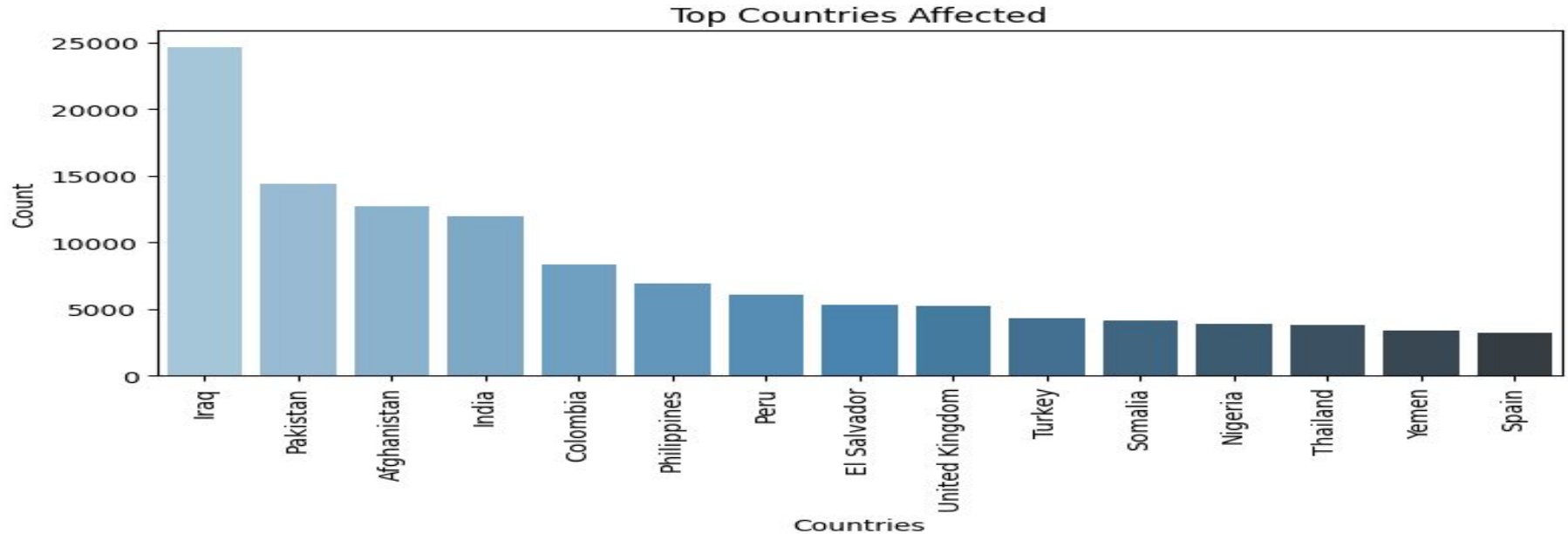


Graph-3



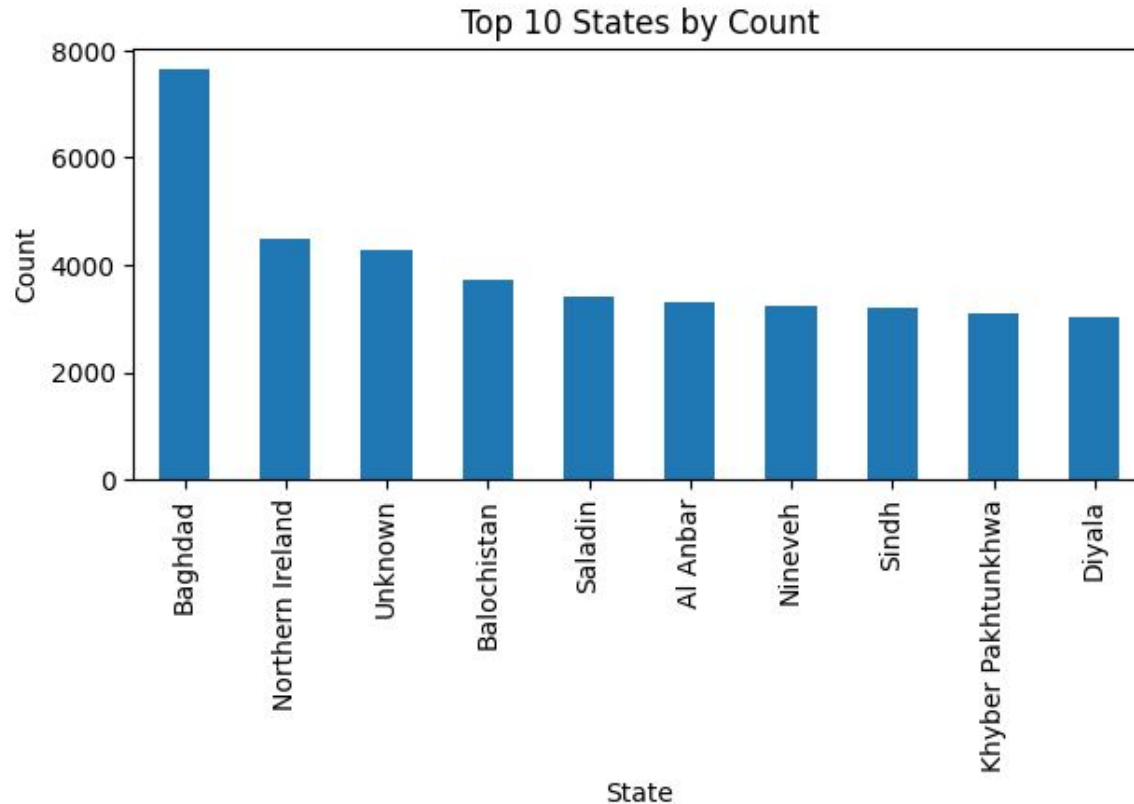
These 3 graphs above and previous slide represent the number of people killed in Terrorist attacks. The first graph shows the first 40 dataset indexing countries then the second graph shows country indexing from 41-101 from our dataset and the third graph shows country indexing from 102 to all. From these graph we can conclude that, Terrorist acts in the Middle East and northern Africa have been seen to have fatal consequences and these places are suffering of serious terrorist attacks. 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. All of these countries are Muslim countries.

➤ Top Countries affected by Terror Attacks.



The graph above highlights the impact of Terror Attacks on various countries. It is evident from the graph that Iraq has been the most severely affected, experiencing nearly 25,000 terror attacks. On the other hand, Spain has encountered the fewest terror attacks, with approximately 5,000 incidents recorded.

➤ Top 10 states most impacted by terrorism.

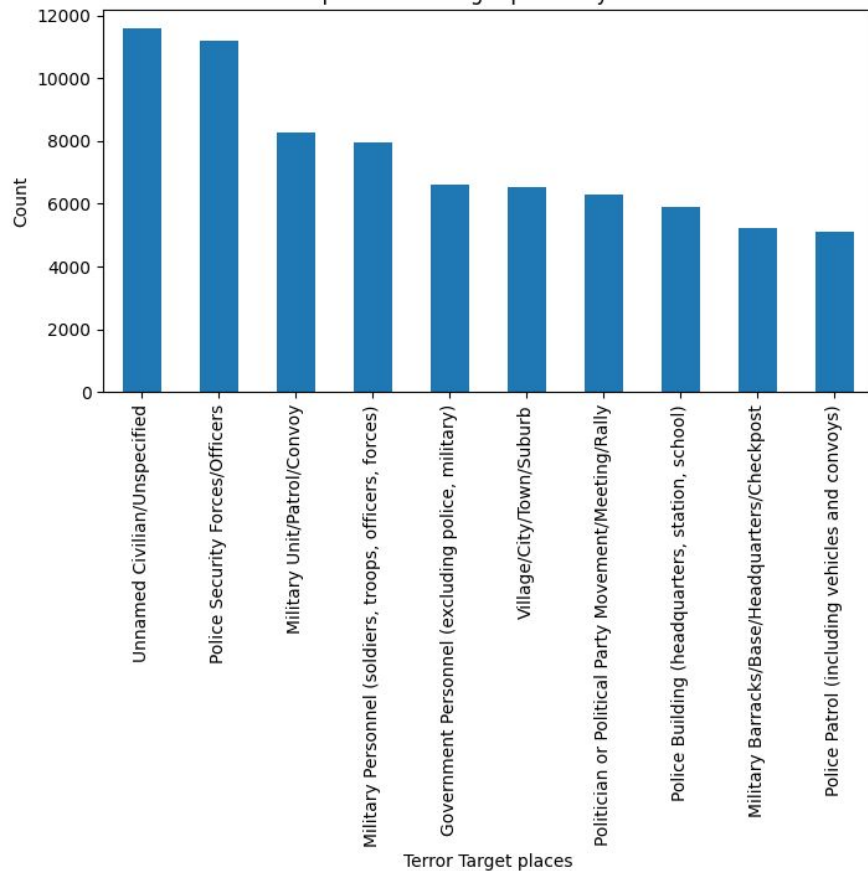


The graph presented here illustrates the influence of Terror Attacks on the top 10 states. The data clearly indicates that Baghdad has experienced the most significant impact, followed by Northern Ireland, Balochistan, Saladin, and others.

➤ Top 10 targeted locations by terror attacks.



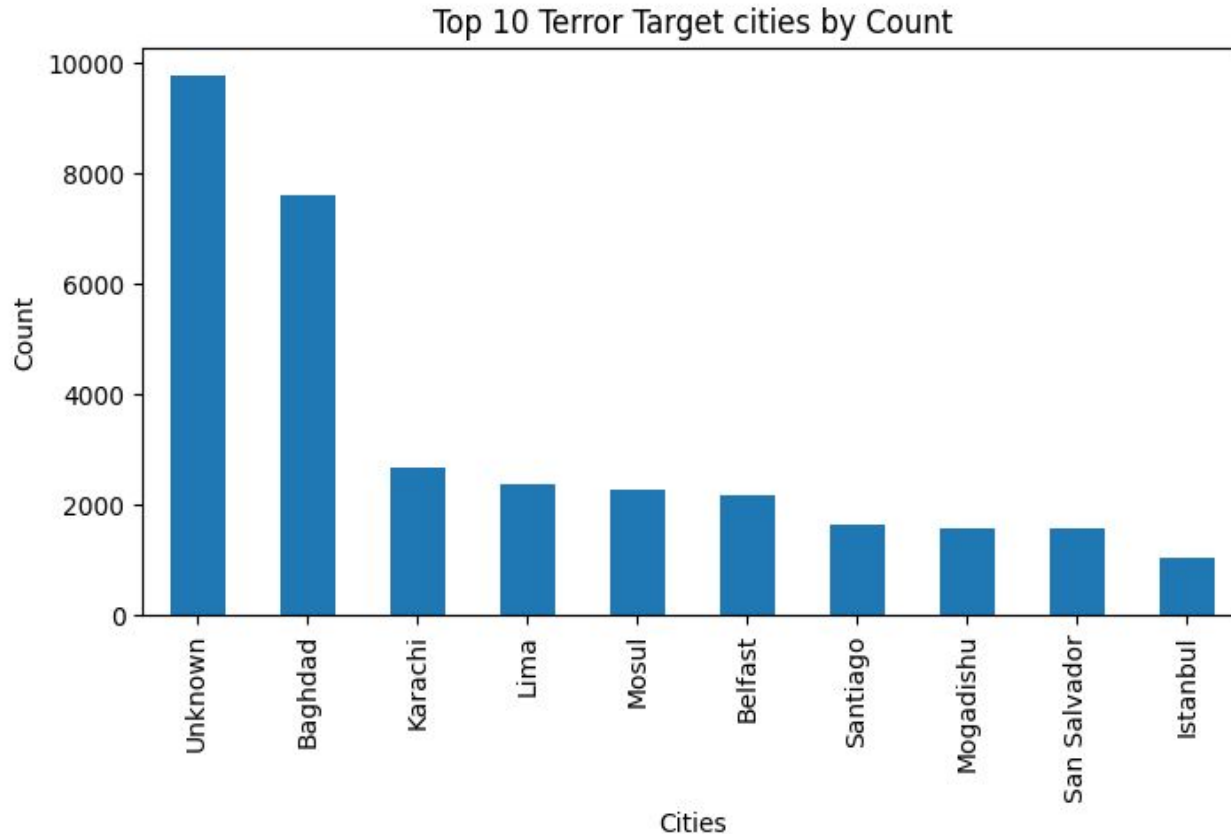
Top 10 Terror Target places by Count



The graph displayed here provides information on the top 10 target locations affected by acts of terror, along with their corresponding counts. These locations are categorized as follows:

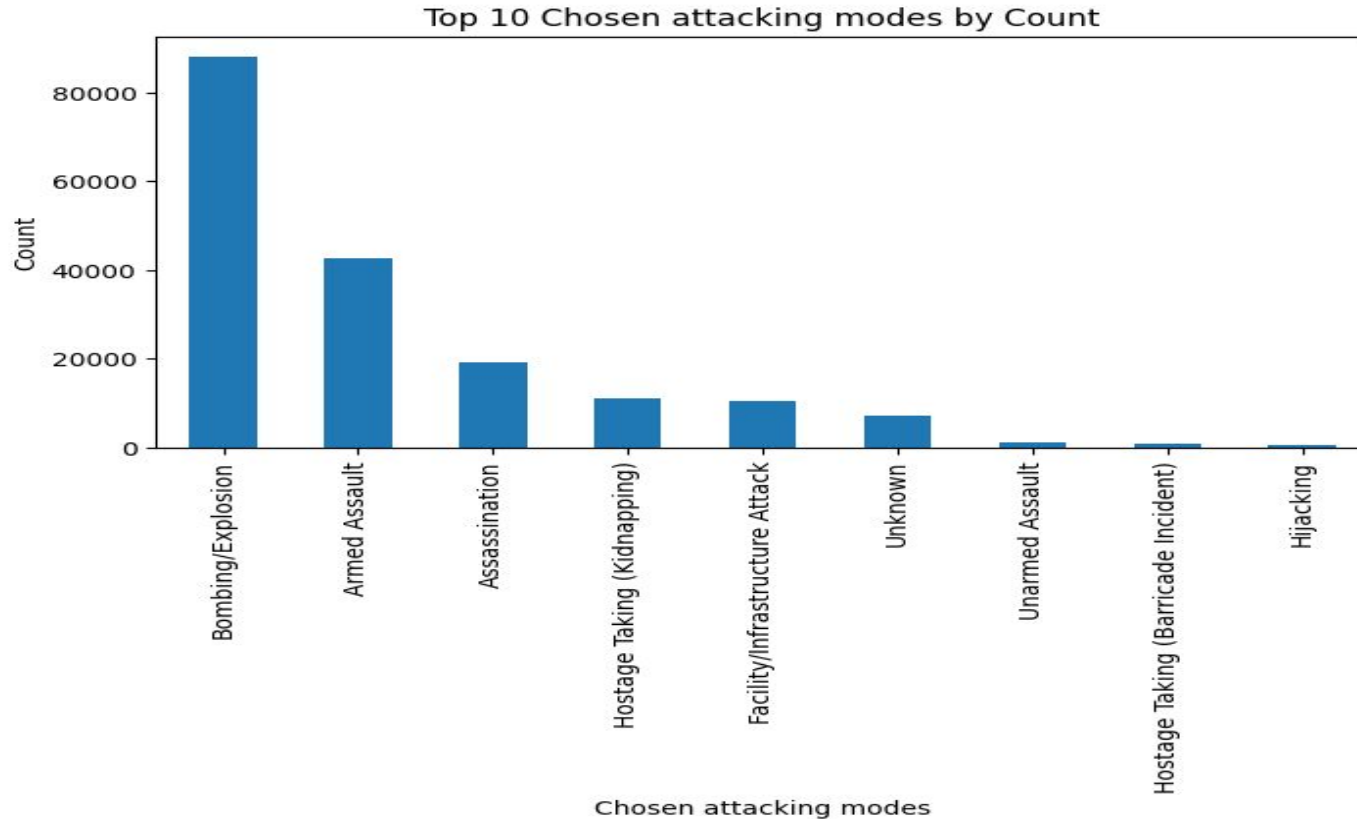
1. Unnamed Civilian/Unspecified: 11,596 incidents
2. Police Security Forces/Officers: 11,178 incidents
3. Military Unit/Patrol/Convoy: 8,277 incidents
4. Military Personnel (soldiers, troops, officers, forces): 7,963 incidents
5. Government Personnel (excluding police, and military): 6,610 incidents
6. Village/City/Town/Suburb: 6,542 incidents
7. Politician or Political Party Movement/Meeting/Rally: 6,306 incidents
8. Police Building (headquarters, station, school): 5,907 incidents
9. Military Barracks/Base/Headquarters/Checkpost: 5,211 incidents
10. Police Patrol (including vehicles and convoys): 5,105 incidents

➤ Top 10 cities most impacted by terrorism



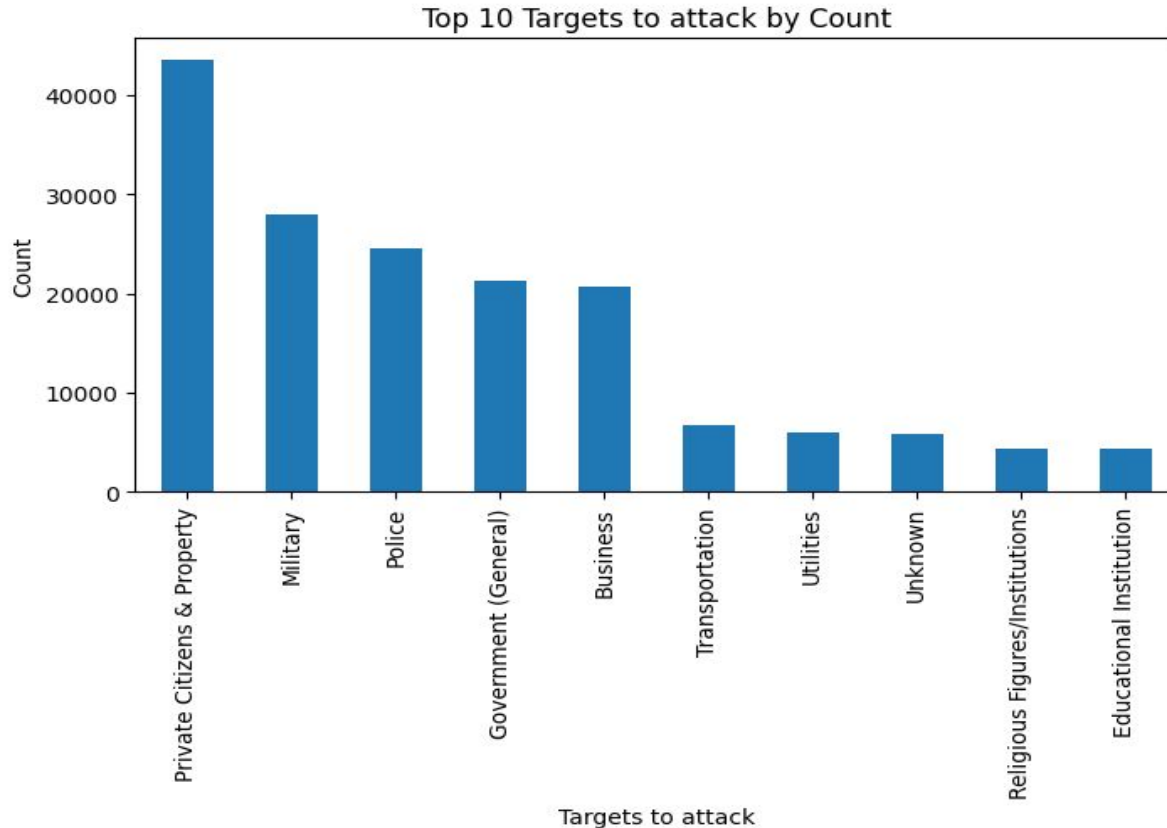
The graph above illustrates the top 10 cities that have been the most targeted by acts of terror. Among these cities, Baghdad has experienced the highest number of terror incidents, with a count of 7,589. Karachi follows with 2,652 incidents, Lima with 2,359 incidents, Mosul with 2,265 incidents, Belfast with 2,171 incidents, and so on.

➤ Top 10 chosen methods of attack.



The graph here depicts the primary methods employed in terror attacks. It is evident that the majority of these attacks involve the use of bombing or explosions. This method is followed by armed assaults, assassinations, and various other tactics.

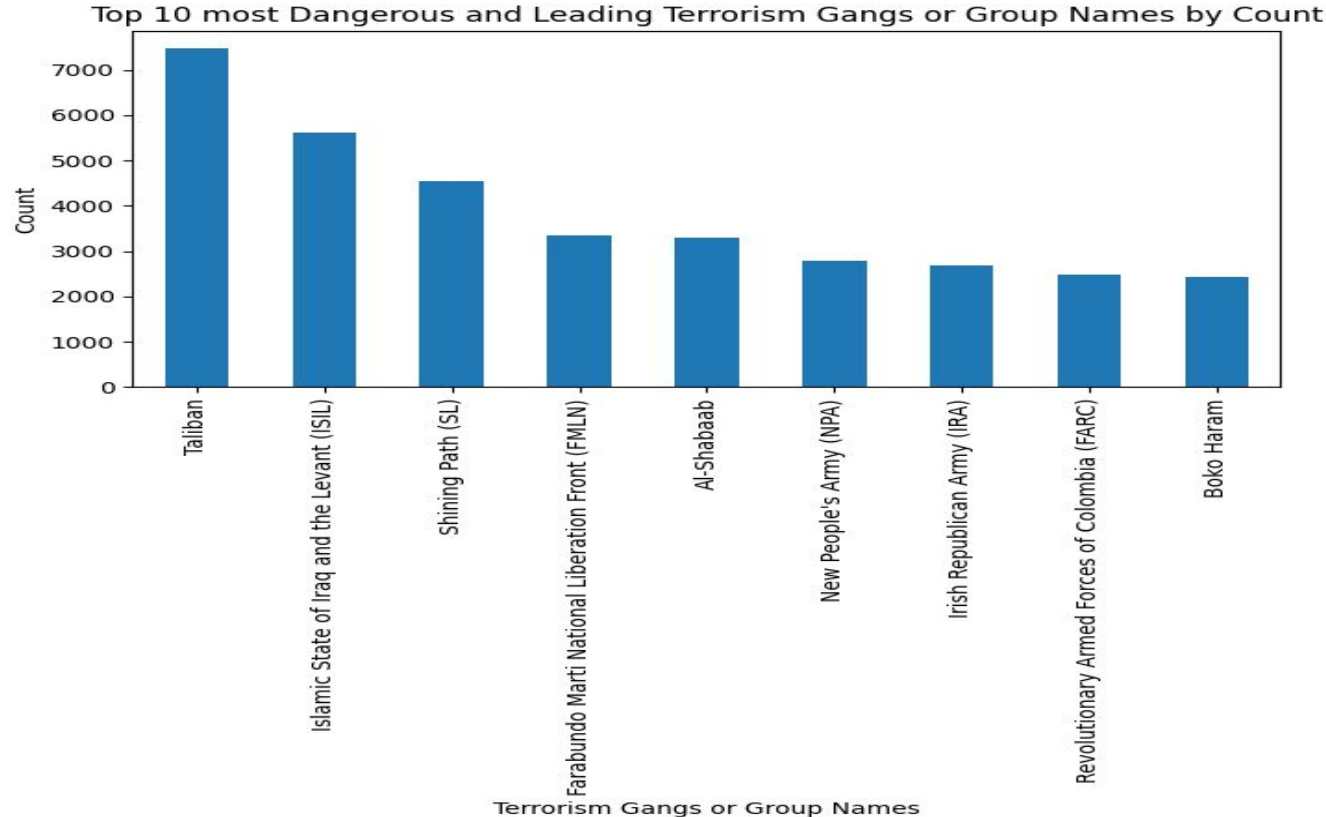
➤ Top targets of terrorist attacks.



The graph presented here provides insights into the primary targets of terror attacks. It indicates that the highest number of attacks were carried out against private citizens and their properties. Following private citizens, military targets experienced a significant number of attacks, followed by police, general government targets, businesses, and others.

➤ Top Most Dangerous and Leading Terrorism Gangs or Group Names.

AB



Graph shows that most Dangerous and Leading Terrorism Gangs are Taliban, Islamic State of Iraq and the Levant (ISIL), Shining Path (SL), Farabundo Marti National Liberation Front (FMLN), Al-Shabaab and many mores.

Conclusion



The exploratory data analysis (EDA) conducted on the Global Terrorism Database has provided significant insights into the patterns and trends of global terrorism. The analysis revealed that 2014 recorded the highest number of terrorist activities, while 1971 had the lowest incidence. Western Europe emerged as the region with the highest number of terrorist activities, whereas Australasia & Oceania experienced the lowest.

One striking finding was that in 2014, a majority of terrorist attacks (84%) were concentrated in the Afghanistan, Iraq, and Israel region. Subsequently, regions such as the Philippines, Malaysia, parts of Europe (such as Ukraine), and the African continent witnessed significant terrorist activity. The Middle East and North Africa, currently plagued by wars and terrorist attacks, emerged as the epicenter of these incidents.

The impact of terrorism in the Middle East and North Africa regions has been devastating, with Muslims being disproportionately affected. Analysis of the dataset highlighted Iraq, Afghanistan, and Pakistan as the most severely impacted countries, reflecting the concentrated toll on Muslim-majority nations.

Cities also faced the brunt of terrorist activities. Baghdad stood out as the most affected city, followed by Northern Ireland, Balochistan, Saladin, and others. These cities bore witness to significant incidents of terrorism, leaving a lasting impact on their communities.

Examining the target locations of terrorist attacks revealed the range and nature of these acts. The top 10 targets included unnamed civilians, police security forces/officers, military units/patrols/convoy, military personnel, government personnel, villages/cities/towns/suburbs, politicians or political party movements/meetings/rallies, police buildings, military barracks/bases/headquarters/checkpoints, and police patrols.

The chosen modes of attack were also identified, with bombing or explosions being the most commonly employed method, followed by armed assaults, assassinations, and various other tactics. These findings shed light on the strategies and techniques employed by terrorist groups to inflict harm and create fear.

Furthermore, the dataset provided valuable insights into the most dangerous and leading terrorist groups, including the Taliban, Islamic State of Iraq and the Levant (ISIL), Shining Path (SL), Farabundo Marti National Liberation Front (FMLN), Al-Shabaab, and others. Understanding the prominence and activities of these groups is crucial for formulating effective counterterrorism measures.

This EDA project on the Global Terrorism Database has revealed crucial information about the geographical and temporal patterns of terrorism. It has shed light on the regions and cities most affected by terrorist activities, the preferred targets of these attacks, the methods employed, and the leading terrorist groups. This comprehensive understanding of global terrorism is essential for devising strategies to mitigate its impact and promote global security.