

▼ PROJECT NAME- Global Terrorism

Contribution - Individual

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Project Summary -

I Choose this project to Examine a variety of theoretical and empirical materials needed for analysing pressing questions, relating to war, security and peace. To gain a solid understanding of contemporary security challenges, from environmental degradation to gender based insecurity, and the ability to analyse these issues surrounding security and terrorism.

What is Terrorism

The term "Terrorism" is derived from Latin word "Terror", which refers to "great fear". The word "Terrorism" was first used during French Revolution in the year 1795. The term was used to refer to intentional or planned use of brutality and violence to create an environment of fright, panic, distress and fear in general public with the sole purpose of establishing a certain political or social narrative. In today's world terrorism is used by different parties in different perspectives under different circumstances. Though UN Security Council recognises Terrorism as a threat to peace and security, but fails to define terrorism in any of its resolutions and urges member countries to define Terrorism in their respective national law. Accordingly different countries define Terrorism & Terrorist differently in their Laws.

How Do Countries Define Terrorism?

US Government/FBI defines and classifies terrorism as below:

International Terrorism:

Violent, criminal acts committed by individuals and/or groups who are inspired by, or associated with, designated foreign terrorist organizations or nations (state-sponsored). We have used Matplotlib and Seaborn libraries to represent our insights meaningfully and draw conclusions. Through this project we aim to analyse the following: What are the hot zones of terrorism? What causes the strained relationship between countries like Pakistan and Afghanistan? How dreadful were the Boko Harams in Nigeria? How safe is Mumbai after 26/11/2008? Study the patterns of Naxalism in the Indian states. What are all security issues and insights you can derive by EDA? This global Terrorism dataset has the record of attacks in between 1970 to 2017. Let's describe a few of the columns which we have considered for our analysis

▼ Domestic terrorism

Domestic Terrorism

Violent, criminal acts committed by individuals and/or groups to further ideological goals stemming from domestic influences, such as those of a political, religious, social, racial, or environmental nature. The criteria for terrorism Violent actions are usually categorised according to the perpetrator, the victim, the method, and the purpose.³ Different definitions emphasise different characteristics, depending on the priorities of the agency involved. Over the past decade, terrorists killed an average of 26,000 people worldwide each year. The global death toll from terrorism over the past decade ranged from 8,200 in 2011 to a high of 44,600 in 2014. In 2017, terrorism was responsible for 0.05% of global deaths. Terrorism tends to be very geographically focused: 95% of deaths in 2019 occurred in the Middle East, Africa, and South Asia. In most countries, terrorism accounts for less than 0.01% of deaths, but in countries with high conflict, this can be as much as several percent. Airline hijackings were once common but are very rare today. Public concern about terrorism is high – in many countries more than half say they are concerned about being a victim. Media coverage of terrorism is often disproportionate to its frequency and share of deaths.

In my research on terrorism we rely on the Global Terrorism Database (GTD) as a key source of data on incidents and fatalities from terrorism across the world. It's the most comprehensive database of incidents to date. It does, however, have limitations which we think should be clear before making inferences from trends or signals represented by the data.

In summary, this is our assessment of what the GTD should and should not be used for:

Recent data – particularly over the past decade – is likely to be sufficiently complete to infer the distribution of incidents and fatalities across the world, and how they have changed in recent years; The complete series, dating back to 1970, for North America and Western Europe we expect to be sufficiently complete to infer trends and changes in terrorism over time; GTD data – as its authors acknowledge – undercounts events in the earlier period of the database – the 1970s and 1980s in particular. We would caution against trying to infer trends in terrorism globally since the 1970s; We would also caution against trying to infer trends in terrorism across most regions – with the exception of North America and Western Europe – in the earlier decades of this dataset. In the area of terrorism research, there are now multiple databases available which attempt to record and detail terrorist incidents across the world. Some of the most well-known databases include International Terrorism: Attributes of Terrorist Events (ITERATE); RAND Database of Worldwide Terrorism Incidents (RDWTI) and the Global Terrorism Database (GTD). We take a more detailed look at the differences in estimates from these three databases

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Problem Statement

To the promotion and protection of human rights As a security/defence analyst, try to find out the hot zone of terrorism and finding weapons types used by terrorist.

Also finding most active terrorist groups. What all security issues and insights you can derive by EDA?

General Guidelines :-

Well-structured, formatted, and commented code is required.

Exception Handling, Production Grade Code & Deployment Ready Code will be a plus. Those students will be awarded some additional credits.

The additional credits will have advantages over other students during Star Student selection.

[Note: - Deployment Ready Code is defined as, the whole .ipynb notebook should be executable in one go without a single error logged.]

Each and every logic should have proper comments.

You may add as many number of charts you want. Make Sure for each and every chart the following format should be answered.

Chart visualization code

Why did you pick the specific chart? What is/are the insight(s) found from the chart? Will the gained insights help creating a positive business impact? Are there any insights that lead to negative growth? Justify with specific reason.

You have to create at least 20 logical & meaningful charts having important insights. [Hints :- Do the Vizualization in a structured way while following "UBM" Rule.

U - Univariate Analysis,

B - Bivariate Analysis (Numerical - Categorical, Numerical - Numerical, Categorical - Categorical)

M - Multivariate Analysis]

▼ GitHub Link

https://github.com/MADHUMOYSHAW/GLOBAL-TERRORISM-DATA-SET/blob/main/GLOBAL_TERRORISM_CAPSTONE_PROJECT.ipynb

▼ Define Your Business Objective

Thousands of researchers, analysts, policy-makers, and students use the Global Terrorism Database(GTD) every day. We aim to better understand the strengths and limitations of the present security agents through an intensive study of this database. The objective is to analyse the causes and consequences of terrorism through a detailed analysis of the GTD.finding hot zones and most active terrorist groups so we can keep eye on them also finding weapon type to band and restrict them. And prevent/stop terrorism to make this world peacefull and harmony.

▼ Lets Begin*

▼ 1)Know Your Data

▼ Import Libraries

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
%matplotlib inline
```

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▼ Data Set Loading

```
from google.colab import drive
drive.mount('/content/drive')
```

Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).

```
path = "/content/drive/MyDrive/Colab Notebooks/module 1 chapter alma better 3/Global Terrorism Data.csv"
```

```
#LOADING THE DATASET#
data = pd.read_csv(path , encoding="latin1")
```

```
<ipython-input-18-bbb5ac9ec22e>:2: DtypeWarning: Columns (4,6,31,33,61,62,63,76,79,90,92,94,96,114,115,121) have mixed types. Speci
data = pd.read_csv(path , encoding="latin1")
```



▼ Data Set First View

```
data.head(5)
```

	eventid	iyear	imonth	iday	approxdate	extended	resolution	country	country_txt	region	...	addnote
0	1970000000001	1970	7	2	NaN	0	NaN	58	Dominican Republic	2	...	Nal
1	1970000000002	1970	0	0	NaN	0	NaN	130	Mexico	1	...	Nal
2	1970010000001	1970	1	0	NaN	0	NaN	160	Philippines	5	...	Nal

▼ DataSet Rows and Columns Count

```
data.shape

(181691, 135)

number_of_rows = len(data.index)
print(number_of_rows)
number_of_columns = len(data.columns)
print(number_of_columns)

181691
135
```

▼ What did you know about your dataset?

We understood the values in the columns provided. We analysed the dataset and understood that it covers details of all terrorist attacks from 1970 to 2017 globally. The data set provided us values of locations, date, terrorist group responsible, weapons used, targets , casualties etc. We also found some column headings vague and decided to not include them in our analysis.

▼ 2)Understanding Your Variables

```
data.columns

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)

data.describe()

      eventid      iyear      imonth      iday      extended      country      region      :
count  1.816910e+05  181691.000000  181691.000000  181691.000000  181691.000000  181691.000000  181691.000000  17713
mean    2.002705e+11   2002.638997      6.467277    15.505644      0.045346    131.968501      7.160938      2
std     1.325957e+09    13.259430      3.388303      8.814045      0.208063    112.414535      2.933408      1
min     1.970000e+11   1970.000000      0.000000      0.000000      0.000000      4.000000      1.000000     -5
25%     1.991021e+11   1991.000000      4.000000      8.000000      0.000000      78.000000      5.000000      1
50%     2.009022e+11   2009.000000      6.000000     15.000000      0.000000      98.000000      6.000000      3
75%     2.014081e+11   2014.000000      9.000000     23.000000      0.000000     160.000000     10.000000      3
max     2.017123e+11   2017.000000     12.000000     31.000000      1.000000    1004.000000     12.000000      7

8 rows x 77 columns

# Dataset Describe
data.describe(include='all')
```

	eventid	iyear	imonth	iday	approxdate	extended	resolution	cour
count	1.816910e+05	181691.000000	181691.000000	181691.000000	9239	181691.000000	2220	181691.000
unique	NaN	NaN	NaN	NaN	2244	NaN	1859	
top	NaN	NaN	NaN	NaN	September 18-24, 2016	NaN	8/4/1998	
freq	NaN	NaN	NaN	NaN	101	NaN	18	
mean	2.002705e+11	2002.638997	6.467277	15.505644	NaN	0.045346	NaN	131.966
std	1.325957e+09	13.259430	3.388303	8.814045	NaN	0.208063	NaN	112.414
min	1.970000e+11	1970.000000	0.000000	0.000000	NaN	0.000000	NaN	4.000
25%	1.991021e+11	1991.000000	4.000000	8.000000	NaN	0.000000	NaN	78.000
50%	2.009022e+11	2009.000000	6.000000	15.000000	NaN	0.000000	NaN	98.000
75%	2.014081e+11	2014.000000	9.000000	22.000000	NaN	0.000000	NaN	160.000

Variables Descriptions

- 1. eventid - It contains particular event ID of Terrorist Attack
- 2. iyear - It contains year of event.
- 3. imonth - It contains month of event.
- 4. iday - It contains day of event.
- 5. approxdate - It contains approximate date in DD/MM/YYYY manner.
- 6. extended - It contains extended value.
- 7. resolution - It contains resolution value.
- 8. country - It contains country name where the acttack happend.
- 9. country_txt - It contains country name where attack happened.
- 10. region - it contains region location.
- 11. succes - It contains succes of attack.
- 12. addnotes - It contains attack details.
- 13. scite1 - It contains site details.
- 14. scite2 - It contains sub site details.
- 15. scite3 - It contains sub site details.
- 16. dbsource - It contains mission name.
- 17. weapontype - It contains weapon type used by terrorists.
- 18. targettype - It contains target name targeted by terrorists.
- 19. gname - It contains terrorist organization name.
- 20. city - It contains city names attacked by terrorist.

DataSet Information

```
data.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 181691 entries, 0 to 181690
Columns: 135 entries, eventid to related
dtypes: float64(55), int64(22), object(58)
memory usage: 187.1+ MB

data.columns.values

array(['eventid', 'iyear', 'imonth', 'iday', 'approxdate', 'extended',
      'resolution', 'country', 'country_txt', 'region', 'region_txt',
      'provstate', 'city', 'latitude', 'longitude', 'specificity',
      'vicinity', 'location', 'summary', 'crit1', 'crit2', 'crit3',
      'doubtterr', 'alternative', 'alternative_txt', 'multiple',
      'success', 'suicide', 'attacktype1', 'attacktype1_txt',
      'attacktype2', 'attacktype2_txt', 'attacktype3', 'attacktype3_txt',
      'targettype1', 'targettype1_txt', 'targetsubtype1', 'targetsubtype1_txt',
      'corp1', 'target1', 'natlty1', 'natlty1_txt', 'targettype2',
```

```
'targtype2_txt', 'targsubtype2', 'targsubtype2_txt', 'corp2',
'target2', 'natlty2', 'natlty2_txt', 'targtype3', 'targtype3_txt',
'targsubtype3', 'targsubtype3_txt', 'corp3', 'target3', 'natlty3',
'natlty3_txt', 'gname', 'gsubname', 'gname2', 'gsubname2',
'gname3', 'gsubname3', 'motive', 'guncertain1', 'guncertain2',
'guncertain3', 'individual', 'nperps', 'nperpcap', 'claimed',
'claimmode', 'claimmode_txt', 'claim2', 'claimmode2',
'claimmode2_txt', 'claim3', 'claimmode3', 'claimmode3_txt',
'compclaim', 'weaptype1', 'weaptype1_txt', 'weapsubtype1',
'weapsubtype1_txt', 'weaptype2', 'weaptype2_txt', 'weapsubtype2',
'weapsubtype2_txt', 'weaptype3', 'weaptype3_txt', 'weapsubtype3',
'weapsubtype3_txt', 'weaptype4', 'weaptype4_txt', 'weapsubtype4',
'weapsubtype4_txt', ' weapdetail', 'nkill', 'nkillus', 'nkillter',
'nwound', 'nwoundus', 'nwoundte', 'property', 'propextent',
'propextent_txt', 'propvalue', 'propcomment', 'ishostkid',
'nhostkid', 'nhostkidus', 'nhours', 'ndays', 'divert',
'kidhijcountry', 'ransom', 'ransomamt', 'ransomamtus',
'ransompaid', 'ransompaidus', 'ransomnote', 'hostkidoutcome',
'hostkidoutcome_txt', 'nreleased', 'addnotes', 'scite1', 'scite2',
'scite3', 'dbsource', 'INT_LOG', 'INT_IDEO', 'INT_MISC', 'INT_ANY',
'related'], dtype=object)
```

3)Data Wrangling*

```
data.rename(columns={'iyear':'Year','imonth':'Month','iday':'Day','country_txt':'Country','provstate':'state','region_txt':'Region','atta

# Write your code to make your dataset analysis ready.
```

Note: Since it contains 135 columns.

They have a huge proportion in dataset and Learning them doesn't make any sense. So, we will rename the columns name for better understanding and then we will only extract necessary columns.

```
data.columns

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)
```

We Fetch Necessary Columns And Rename The Columns

```
data=data[['Year','Month','Day','Country','state','Region','city','latitude','longitude','AttackType','Killed','Wounded','Target','Summar

data.head(1)
```

	Year	Month	Day	Country	state	Region	city	latitude	longitude	AttackType	Killed	Wounded	Tar
0	1970	7	2	Dominican Republic	NaN	Central America & Caribbean	Santo Domingo	18.456792	-69.951164	Assassination	1.0	0.0	J Guzm

Missing Values/Null Values

```
# missing values and null values counts
data.isnull().sum()

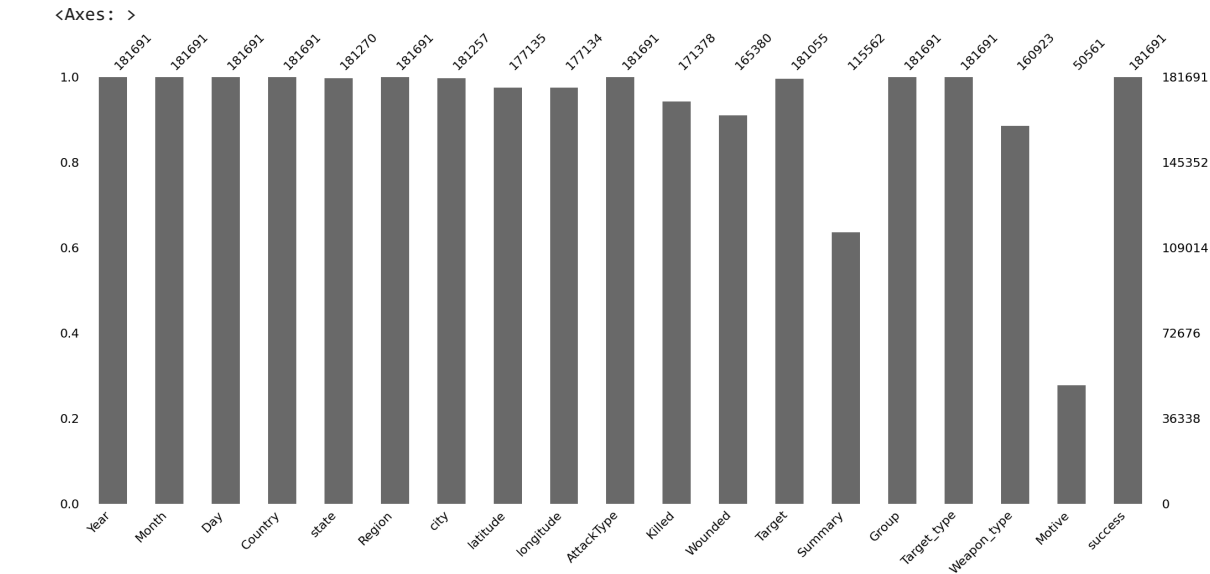
Year      0
Month     0
Day       0
Country   0
state    421
Region    0
city     434
latitude  4556
longitude 4557
AttackType 0
Killed    10313
```

```
Wounded      16311
Target        636
Summary       66129
Group         0
Target_type   0
Weapon_type   20768
Motive        131130
success       0
dtype: int64

## Missing Values/Null Values Count#
data.isnull().sum().sum()

255255
```

```
# Visualizing the missing values
import missingno as msno
msno.bar(data)
```



```
#
```

▼ Check Uniques Values For each Variable

```
# Check Unique Values for each variable.
for i in data.columns.tolist():
    print("No. of unique values in ",i,"is",data[i].nunique(),".")

No. of unique values in Year is 47 .
No. of unique values in Month is 13 .
No. of unique values in Day is 32 .
No. of unique values in Country is 205 .
No. of unique values in state is 2855 .
No. of unique values in Region is 12 .
No. of unique values in city is 36674 .
No. of unique values in latitude is 48322 .
No. of unique values in longitude is 48039 .
No. of unique values in AttackType is 9 .
No. of unique values in Killed is 205 .
No. of unique values in Wounded is 238 .
No. of unique values in Target is 86006 .
No. of unique values in Summary is 112492 .
No. of unique values in Group is 3537 .
No. of unique values in Target_type is 22 .
No. of unique values in Weapon_type is 30 .
No. of unique values in Motive is 14490 .
```

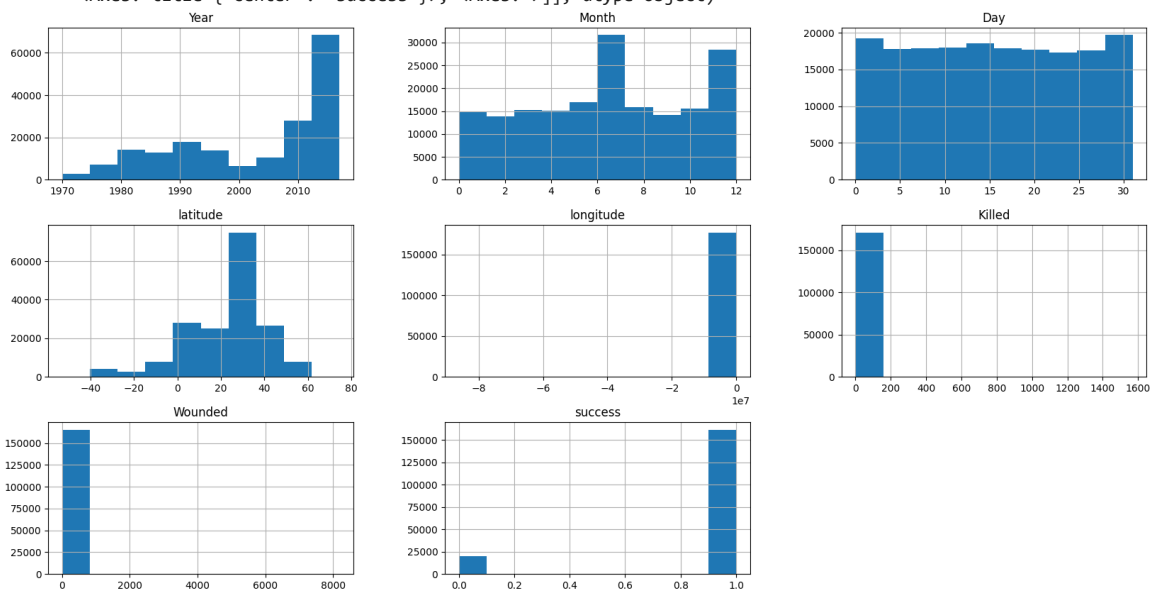
Double-click (or enter) to edit

Exploration Data Analysis

4)Data Vizualization, Storytelling & Experimenting with charts : Understand the relationships between variables

```
# THIS REPRESENTS THE DISTRIBUTION OF DATA ON EACH SERIES ON DATA FRAME.
data.hist(figsize=(20,10))
```

```
array([[<Axes: title={'center': 'Year'}>,
        <Axes: title={'center': 'Month'}>,
        <Axes: title={'center': 'Day'}>],
       [<Axes: title={'center': 'latitude'}>,
        <Axes: title={'center': 'longitude'}>,
        <Axes: title={'center': 'Killed'}>],
       [<Axes: title={'center': 'Wounded'}>,
        <Axes: title={'center': 'success'}>], dtype=object)
```



Double-click (or enter) to edit

```
#CORRELATION ANALYSIS.
plt.figure(figsize=(20,10))
# THIS SHOWS HOW MUCH PARAMETER TO OTHER PARAMETER IN THE DATASET.
sns.heatmap(data.corr(),annot=True,cmap='BuPu')
```



```
<ipython-input-25-2a249fb3a9e9>:4: FutureWarning: The default value of numeric_only in DataFrame.corr is deprecating
sns.heatmap(data.corr(),annot=True,cmap='BuPu')
<Axes: >
```

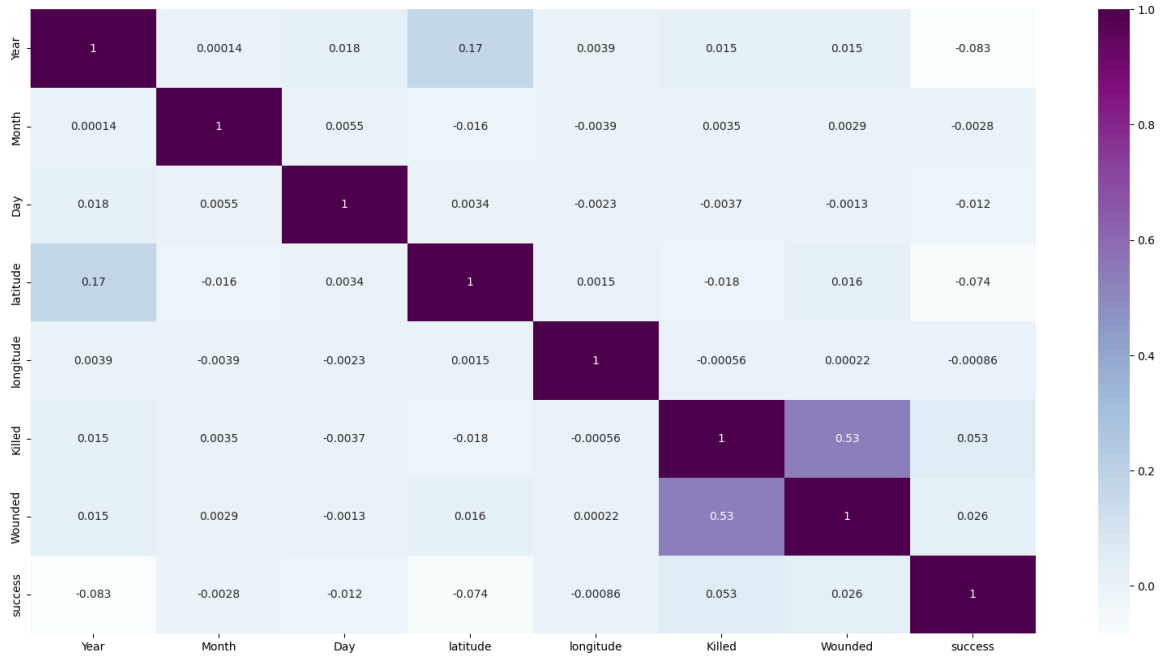
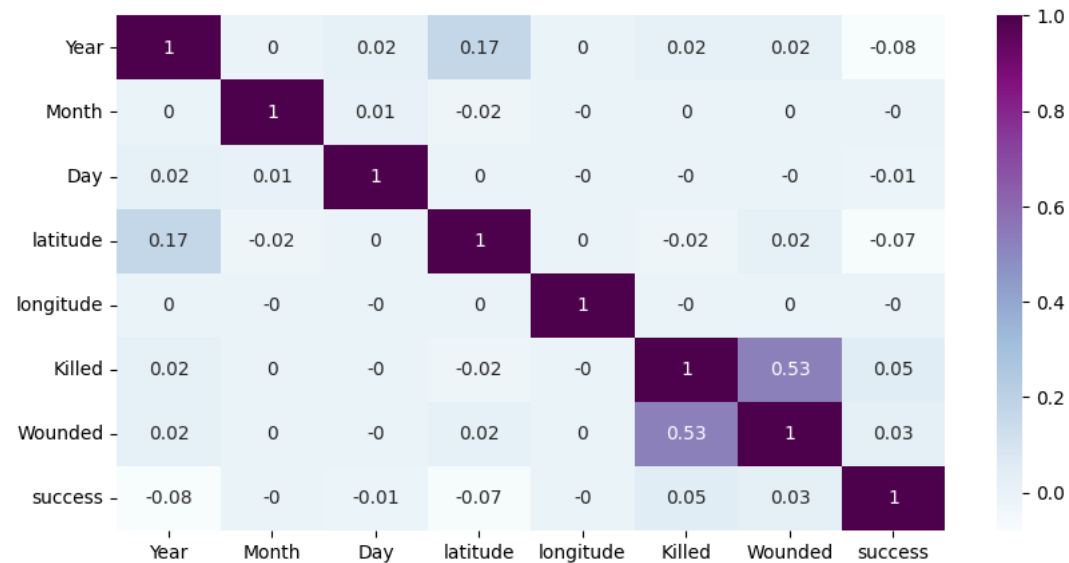


CHART-1

Visualize and Analyse the data correlation between various attributes and dimensions from the Global Terrorism Database.

```
#CORRELATION ANALYSIS.
plt.figure(figsize=(10,5))
# THIS SHOWS HOW MUCH PARAMETER TO OTHER PARAMETER IN THE DATASET.
sns.heatmap(np.round(data.corr(),2),annot=True,cmap='BuPu')

<ipython-input-27-14e59335c139>:4: FutureWarning: The default value of numeric_only in DataFrame.corr is deprecating
sns.heatmap(np.round(data.corr(),2),annot=True,cmap='BuPu')
<Axes: >
```



1. Why did you pick the specific chart?

Correlation heatmaps can be used to find potential relationships between variables and to understand the strength of these relationships. In addition, correlation plots can be used to identify outliers and to detect linear and nonlinear relationships.

2. What is/are the insight(s) found from the chart?

We inferred that deaths and wounded have a correlation of 0.53. Also the success rate of an attack is not correlated with either month and longitude of the attack at all. Terrorism have no impathy with people they attack and kill people. find out is their any attack day pattern in which terrorist attack happens most.

```
pd.crosstab(data.Year, "Region")
```

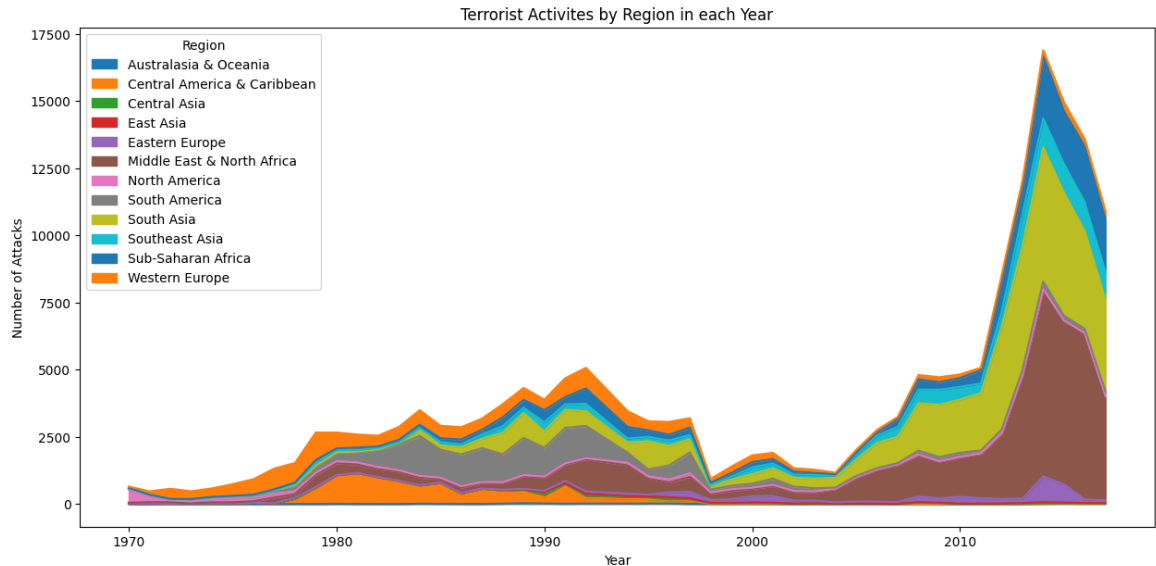
col_0	Region
Year	
1970	651
1971	471
1972	568
1973	473

▼ TERRORIST ACTIVITES BY REGION IN EACH YEAR THROUGH AREA PLOT

Find out most terrorism affected region so we can declare it red zone so people avoid the visit to those region and we can also inform the regional govt. to improve their defence system.

▼ CHART 2

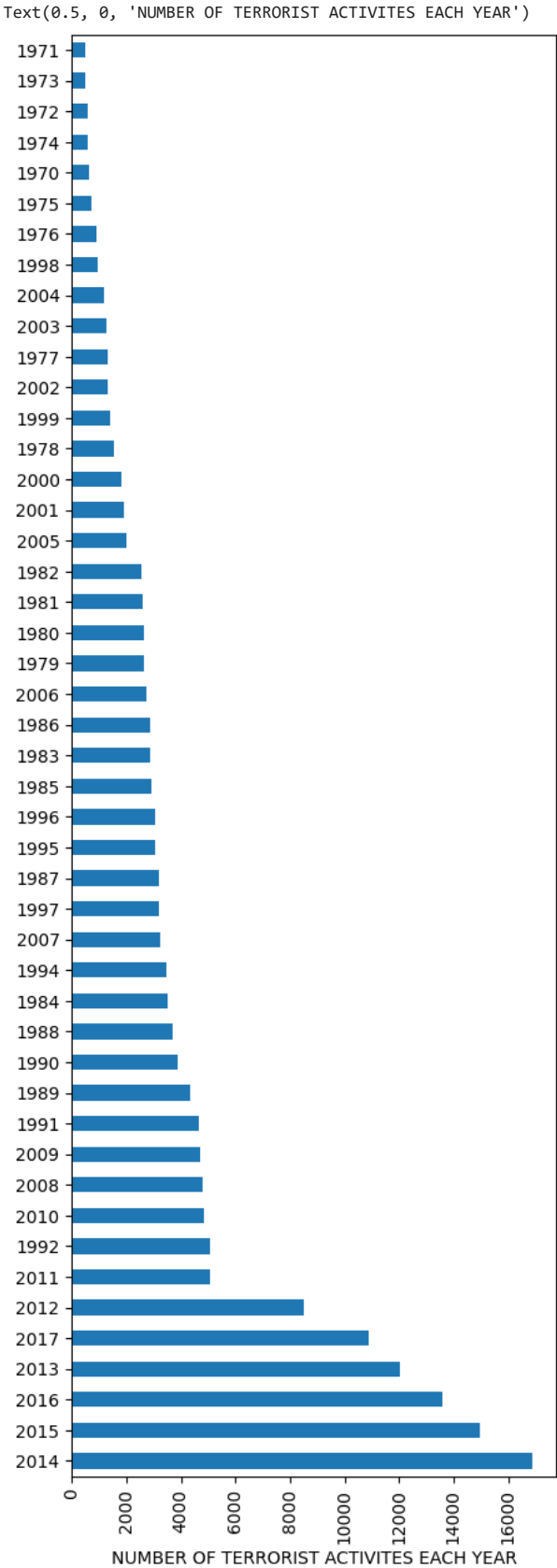
```
1982 2544
#TERRORIST ACTIVITES BY REGION IN EACH YEAR THROUGH AREA PLOT
pd.crosstab(data.Year,data.Region).plot(kind='area',figsize=(15,7))
plt.title('Terrorist Activites by Region in each Year')
plt.ylabel('Number of Attacks')
plt.show()
```



```
C
2000 7141
####SINCE 2014 AND 2015 HAS LARGE NUMBER OF TERRORISTS ACTIVITES.
2014 5076
x=data["Year"].value_counts()

plt.rcParams["figure.figsize"]=(5,15)
2014 16903
x.plot(kind ='barh')

plt.xticks(rotation=90)
plt.xlabel('NUMBER OF TERRORIST ACTIVITES EACH YEAR')
```



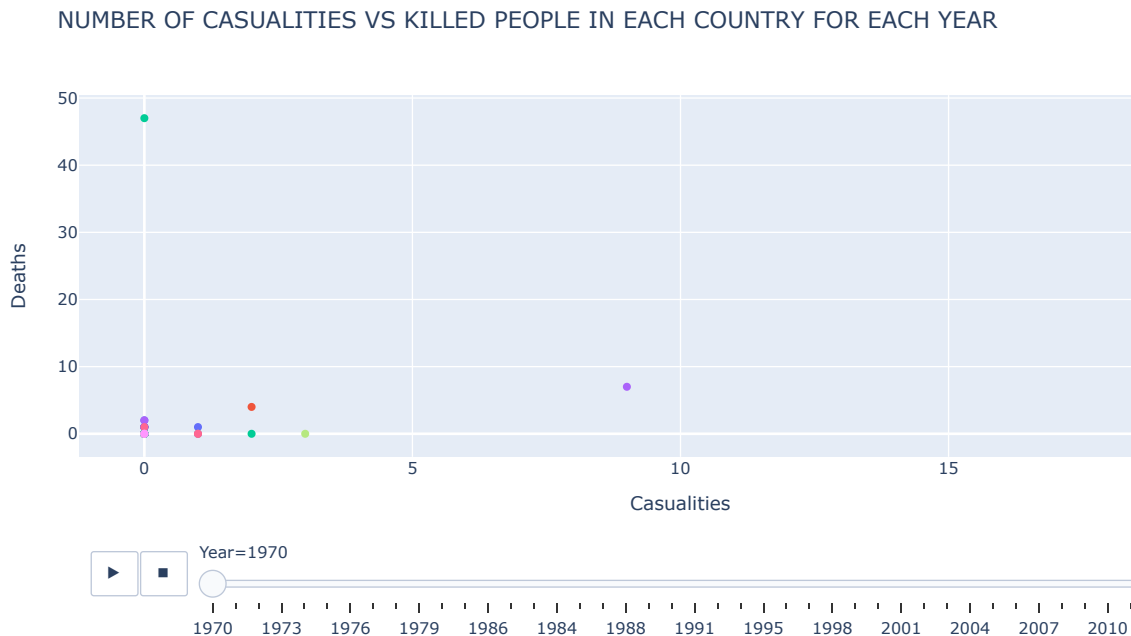
NUMBER OF ATTACK WERE THERE IN 1970 AND 2017 AND ALSO FIND THE PERCENTAGE THE ATTACKS HAVE INCREASED.

```
print(Year)
rate=((Year[2017]-Year[1970])/Year[2017])*100
print(rate)
print(Year[1970], 'attacks happened in 1970 & ', Year[2017], 'attacks happened in 2017')
print('so the number of attacks from 1970 has increased by ', np.round(rate, 0), '%till 2017')
```

```
{2014: 16903, 2015: 14965, 2016: 13587, 2013: 12036, 2017: 10900, 2012: 8522, 2011: 5076, 1992: 5071, 2010: 4826, 2008: 4805, 2009: 94.02752293577981
651 attacks happened in 1970 & 10900 attacks happened in 2017
so the number of attacks from 1970 has increased by 94.0 %till 2017
```

THE NUMBER OF CASUALTIES CORRESPONDING TO THE KILLED PEOPLE IN EACH COUNTRY FOR EACH YEAR

```
#THE NUMBER OF CASUALTIES CORRESPONDING TO THE KILLED PEOPLE IN EACH COUNTRY FOR EACH YEAR.....
px.scatter(data, data.Wounded, data.Killed, hover_name='Country', animation_frame='Year', animation_group='Country', color='AttackType',
           range_color=[0, 1], labels={'Killed': 'Deaths', 'Wounded': 'Casualties'},
           title='NUMBER OF CASUALTIES VS KILLED PEOPLE IN EACH COUNTRY FOR EACH YEAR')
```



#SINCE FROM THE ABOVE CHART IT IS CLEAR THAT BOMBING/EXPLOSION METHOD WAS MOSTLY USED..

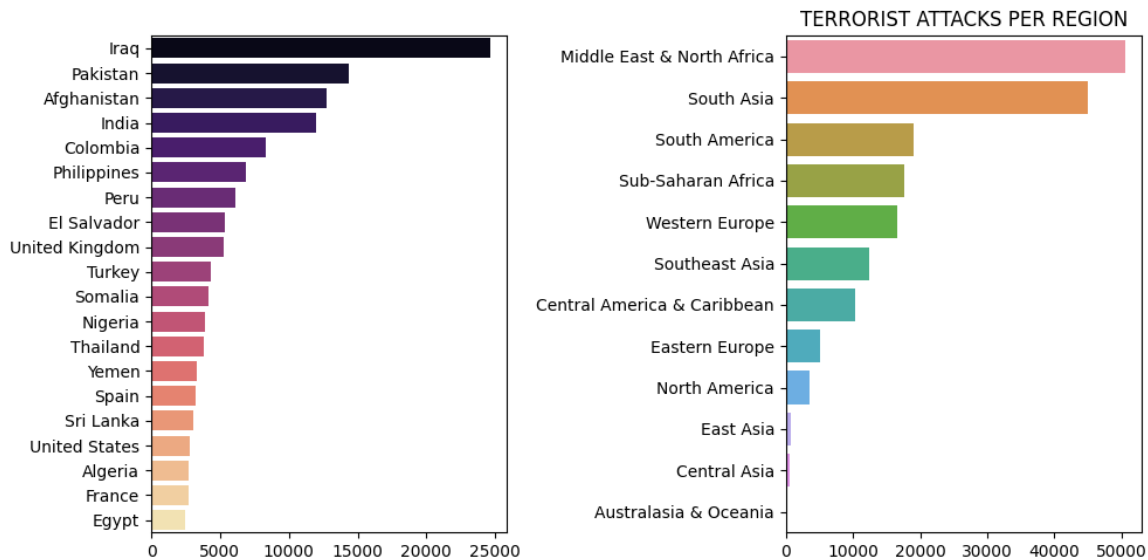
#FROM ABOVE CHART IT IS CLEAR THAT MAXIMUM ATTACK HAPPEN IN PRIVATE CITIZENS AND PROPERTY.....

WHAT ARE The TOTAL NUMBER OF TERRORIST ATTACK IN EACH COUNTRY AND RELIGIOUS USING BARPLOT.....

CHART 2

#TOTAL NUMBER OF TERRORIST ATTACK IN EACH COUNTRY AND RELIGIOUS USING BARPLOT.....

```
fig, axes = plt.subplots(figsize=(10, 5), nrows=1, ncols=2)
sns.barplot(x=data['Country'].value_counts().index, y=data['Country'].value_counts().values, ax=axes[0], palette='magma');
sns.barplot(x=data['Region'].value_counts().index, y=data['Region'].value_counts().values, ax=axes[1])
axes[1].set_title('TERRORIST ATTACKS PER REGION')
fig.tight_layout()
plt.show()
```



1. Why did you pick the specific chart?

we choose area type of plot to show region wise attack to simplyfy the results and find a red zone region of terrorist attacks.

2. What is/are the insight(s) found from the chart?

We found out top 10 red zone terrorist attack regions as follows Middle East & North Africa South Asia South America Sub-Saharan Africa Western Europe Southeast Asia Central America & Caribbean Eastern Europe North America East Asia Central Asia among them Middle east & North Africa and south Asia are most attacked regions Middle east & North Africa have 50474 attacks with 137642 people died and 214308 number of people got wounded. So here we find top 10 terrorist attacked countries with most hazardous and ultra red zone area which are Middle East & North Africa and South Asia which have possibility to get attacked in future also.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

From 2010 the terrorist attacks in Middel east and North Africa got drastically increase due to Democracy and civil conflicts are main drivers of MENA terrorism. Govt. of Middel east and North Africa should take action on these. And regional countries should avoid tourist to visit these 10 regions specially Middile east & North Africa and South Asia.

WE VISUALIZE THE TOTAL NUMBER OF ATTACKS IN EACH COUNTRY BY USING GLOBE

THE TOTAL NUMBER OF ATTACKS IN EACH COUNTRY USING GLOBE..

```
# WE WILL FIRST CREATE A NEW DATA FRAME WHICH CONTAINS THE TOTAL COUNT OF ATTACKS FOR EACH COUNRTY IN ORDER TO USE IT AS A COLOUR BAR...
terror = data.groupby(['Country'],as_index=False).count()
terror
```

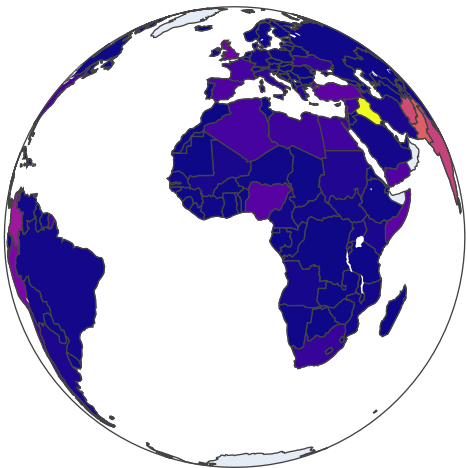
	Country	Year	Month	Day	state	Region	city	latitude	longitude	AttackType	Killed	Wounded	Target
0	Afghanistan	12731	12731	12731	12731	12731	12592	12639	12639	12731	12362	11994	127
1	Albania	80	80	80	71	80	80	79	79	80	76	76	
2	Algeria	2743	2743	2743	2706	2743	2736	2617	2617	2743	2719	2630	270
3	Andorra	1	1	1	1	1	1	0	0	1	0	0	
4	Angola	499	499	499	499	499	499	465	465	499	482	462	49
...	
200	Yemen	3347	3347	3347	3347	3347	3347	3270	3270	3347	3083	2935	334
201	Yugoslavia	203	203	203	198	203	203	202	202	203	195	193	20
202	Zaire	50	50	50	50	50	50	44	44	50	50	48	

▼ Total number of Attacks in the Country from 1970 to 2017

205 rows × 19 columns

```
fig = px.choropleth(terror,locations='Country',locationmode='country names',color='Year',hover_name='Country',projection='orthographic',
                    title='TOTAL NUMBER OF ATTACKS(1970-2017)',labels={'Year':'Attacks'})
fig.show()
```

TOTAL NUMBER OF ATTACKS(1970-2017)



▼ COUNTRY suffers the maximum number or minimum number of attacks on the basis of states and country.

```
#country suffer the maximum attacks (state the number) and country suffered minimum attacks(state the number).....
max_count=terror['Year'].max()
print(max_count)
max_id=terror['Year'].idxmax()
print(max_id)
max_name=terror['Country'][max_id]
print(max_name)
min_count=terror['Year'].min()
print(min_count)
min_id=terror['Year'].idxmin()
print(min_id)
min_name=terror['Country'][min_id]
print(min_name)

24636
84
Iraq
1
3
Andorra
```

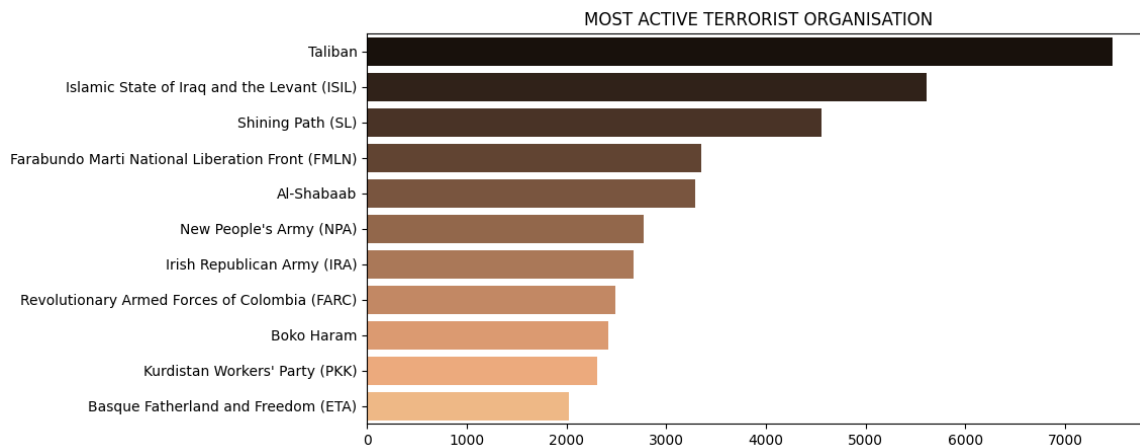
```
print(max_name,'has suffered the maxumum number of terror attacks of',max_count)
print(min_name,'has suffered the maxumum number of terror attacks of',min_count)
```

```
Iraq has suffered the maxumum number of terror attacks of 24636
Andorra has suffered the maxumum number of terror attacks of 1
```

Double-click (or enter) to edit

NOW LET US CHECK OUT WHICH TERRORIST ORGANISATION HAVE CARRIED OUT THEIR OPERATIONS IN EACH COUNTRY..

```
#NOW LET US CHECK OUT WHICH TERRORIST ORGANISATION HAVE CARRIED OUT THEIR OPERATIONS IN EACH COUNTRY..
plt.subplots(figsize=(10,5))
sns.barplot(y=data['Group'].value_counts()[1:12].index,x=data['Group'].value_counts()[1:12].values,palette='copper')
plt.title('MOST ACTIVE TERRORIST ORGANISATION')
plt.show()
```

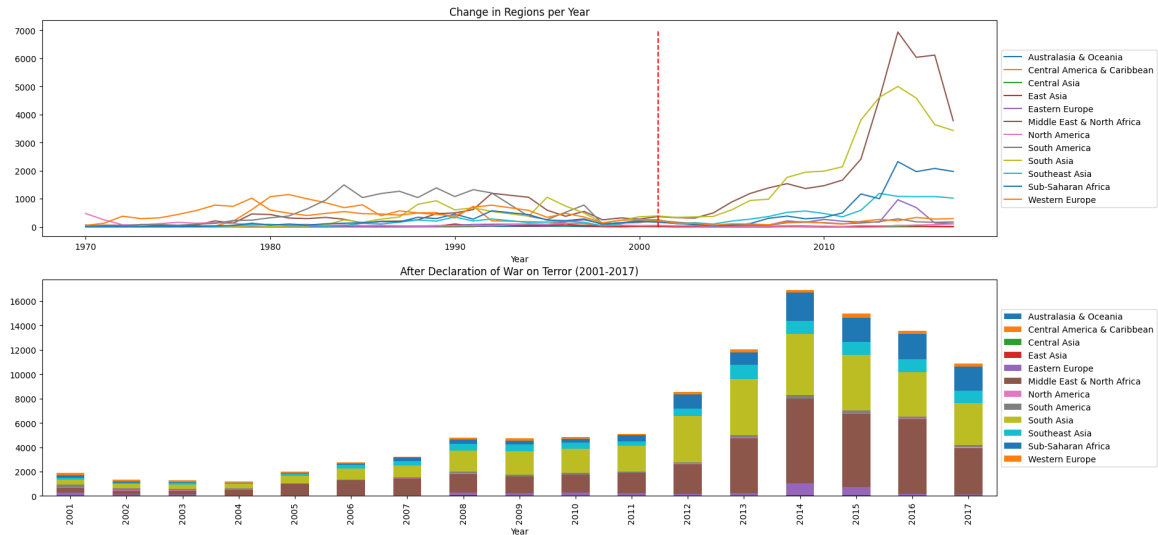


Double-click (or enter) to edit

what we are looking closer at trend Before and after the War on Terror

CHART 3

```
# Now we will look closer at trend Before and after the War on Terror
data_after = data[data['Year']>=2001]
fig,ax = plt.subplots(figsize=(20,10),nrows=2,ncols=1)
ax[0] = pd.crosstab(data.Year,data.Region).plot(ax=ax[0])
ax[0].set_title('Change in Regions per Year')
ax[0].legend(loc='center left',bbox_to_anchor = (1,.5))
ax[0].vlines(x=2001,ymin=0,ymax=7000,colors='red',linestyles='--')
pd.crosstab(data_after.Year,data_after.Region).plot.bar(stacked=True,ax=ax[1])
ax[1].set_title('After Declaration of War on Terror (2001-2017)')
ax[1].legend(loc='center left',bbox_to_anchor = (1,.5))
plt.show()
```

1. Why did you pick the specific chart?

To understand trend Before and after the War on Terror.

2. What is/are the insight(s) found from the chart?

From the first plot, it is very noticeable that the terrorism landscape before and after the War on Terror is vastly different. Before 2001, the regions were much closer together in terms of activity, eventually all dropping to a minimum in 2000. After 2001, the Middle East and South Asia have dictated the rise in terrorism numbers, with a significant increase in Sub-Saharan Africa as well

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.?

From the first plot, it is very noticeable that the terrorism landscape before and after the War on Terror is vastly different. Before 2001, the regions were much closer together in terms of activity, eventually all dropping to a minimum in 2001. After 2001, the Middle East and South Asia have dictated the rise in terrorism numbers, with a significant increase in Sub-Saharan Africa as well

#FROM THE FIRST PLOT,IT IS THAT THE TERRORISM LANDSCAPE BEFORE AND AFTER THE WAR ON TERROR IS VASTLY DIFFERENT .BEFORE 2001,THE REGIONS W
#IN TERMS OF ACTIVITY ,EVENTUALLY ALL DROPPING TO A MINIMUM IN 2001.AFTER 2001,THE MIDDLE EAST AND SOUTH ASIA HAVE DICTATED THE RISE IN T
#INCREASE IN SUB SAHARAN AFRICA AS WELL

- ###
- #1)ATTACK HAS INCREASED BUT NUMBER OF PEOPLE KILLED MANY TIMES AS ATTACK HAPPENED.
 - #2)IRAQ HAS THE MOST ATTACKS.
 - #3)MAXIMUM NUMBER OF ATTACKS ARE FROM BOMBING AND EXPLOSION.
 - #4)THE MIDDLE EAST AND NORTH AFRICA REGIONS HAS MOST TARGETED.
 - #5)THERE ARE MAXIMUM NUMBER OF ATTACKS IN PRIVATE CITIZENS AND PROPERTY.
 - #6)TALIBAN AND ISIL HAS MOST ACTIVE ORGANISATION.

#####

data.head()

```
Year Month Day Country state Region city latitude longitude AttackType Killed Wounded
Dominican Central Santo
data['Killed']=data['Killed'].fillna(0)
data['Killed'].head(2)

0 1.0
1 0.0
Name: Killed, dtype: float64

Southeast
data['Wounded']=data['Wounded'].fillna(0)
data['Wounded'].head(2)

0 0.0
1 0.0
Name: Wounded, dtype: float64

Attack
data['Casualty']=data['Killed']+data['Wounded']
data['Casualty'].head(2)

0 1.0
1 0.0
Name: Casualty, dtype: float64

data.describe()
```

	Year	Month	Day	latitude	longitude	Killed	Wounded
count	181691.000000	181691.000000	181691.000000	177135.000000	1.771340e+05	181691.000000	181691.000000
mean	2002.638997	6.467277	15.505644	23.498343	-4.586957e+02	2.266860	2.883296
std	13.259430	3.388303	8.814045	18.569242	2.047790e+05	11.227057	34.309747
min	1970.000000	0.000000	0.000000	-53.154613	-8.618590e+07	0.000000	0.000000
25%	1991.000000	4.000000	8.000000	11.510046	4.545640e+00	0.000000	0.000000
50%	2009.000000	6.000000	15.000000	31.467463	4.324651e+01	0.000000	0.000000
75%	2014.000000	9.000000	23.000000	34.685087	6.871033e+01	2.000000	2.000000
max	2017.000000	12.000000	31.000000	74.633553	1.793667e+02	1570.000000	8191.000000

Observation

- 1. The data consists of terrorist activities ranging from the year:1970 to 2017
- 2. Maximum number of people killed in an event were: 1570
- 3. Maximum number of people wounded in an event were: 8191
- 4. Maximum number of total casualties in an event were: 9574

What all manipulations have you done and insights you found?

We have changed the column names to more useable names. Also since we found some columns vague and could not understand the values they contained, we filtered our data to include only workable columns

```
#OBSERVATION :::::::::::
#1)THE TERRORIST ACTIVITES RANGING FROM FROM THE YEAR:1970 TO 2017.
#2)MAXIMUM NUMBER OF KILLED IN THE EVENT WERE:1570.
#3)MAXIMUM NUMBER OF PEOPLE WOUNDED IN THE EVENT WERE:8191.
#4)MAXIMUM NUMBER OF TOTAL CASUALTIES IN THE EVENT WERE:9574.

# EXPLORATION OF DATA ANALYSIS AOR VISUALIZATION THE DATA...
# YEAR WISE ATTACKS
#1)NUMBER OF ATTACK IN EACH YEAR..
attacks=data['Year'].value_counts(dropna=False).sort_index().to_frame().reset_index().rename(columns={'index':'Year','Year':'Attacks'}).sort_index()

attacks.head()
```

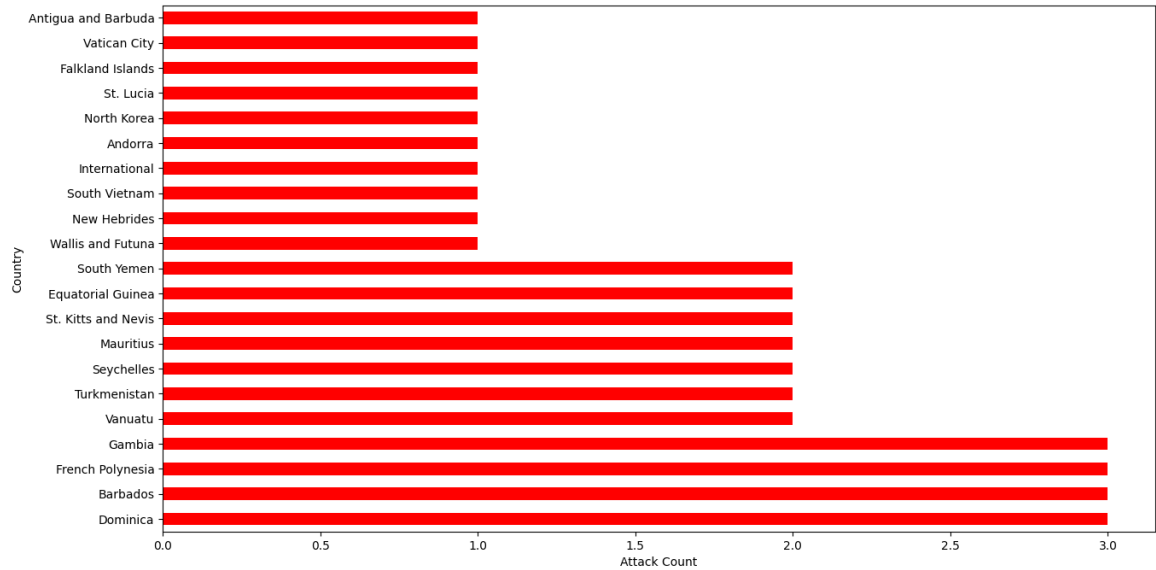
Attacks	
Year	
1970	651
1971	471

4)Data Vizualization, Storytelling & Experimenting with charts : Understand the relationships between variables

What are the Frequent terrorist activities may bring instability to a country's economy. which countries economy is least effected by terrorism?

▼ CHART-4

```
try:
    country_wise_attack_count = data['Country'].value_counts() # counting number of times each co
    country_wise_attack_count.sort_values(axis=0 , inplace=True,ascending=[True] ) # sorting count
except Exception as e:
    print(e)
else:
    # Plotting bar graph for 20 countries
    plt.rcParams['figure.figsize']=(15,8)
    country_wise_attack_count[20::-1].plot(kind='barh', color= "red")
    plt.ylabel('Country')
    plt.xlabel('Attack Count')
```



1. Why did you pick the specific chart?

Bar graphs provide a very easy perception. Humans have a better understanding with length differences than areas or angles. Hence, as we wanted to compare the attacks in different countries, we chose bar graph. Horizontal bar was chosen to accomodate more countries in the screen area.

2. What is/are the insight(s) found from the chart?

The chart clearly shows those countries which are least effected by terrorism. We inferred that the common denominator between countries like North Korea, Antigua & Barboda, Vatican city was the fact that these countries do not have very significant religious diversities which may lead to dissent. A strong central governing power also contributes to better law and order. Are there any insights that lead to negative growth? Justify with specific reason.

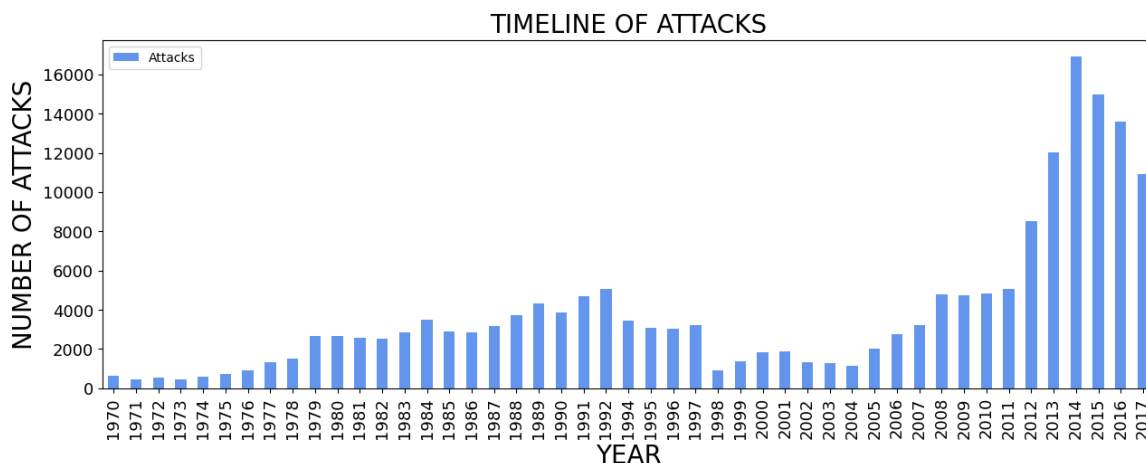
3. Will the gained insights help creating a positive business impact?

Yes, the gained insight can help other nations(like RAW,NIA in India) to better fortify their boundries and manage internal affairs better. Unfortunately, this insight can also infer that religious extremism is the leading cause of terrorism.

WHAT ARE THE VISUALIZATION OF TERRORIST ACTIVITIES AND TERROR ATTACK IN YEAR(INCREASING OR DECREASING).

▼ CHART 5

```
attacks.plot(kind='bar',color='cornflowerblue',figsize=(15,5),fontsize=13)
plt.title("TIMELINE OF ATTACKS",fontsize=20)
plt.xlabel('YEAR',fontsize=20)
plt.ylabel('NUMBER OF ATTACKS',fontsize=20)
plt.show()
```



▼ 1. Why did you pick the specific chart?

Bar graphs provide a very easy perception. Humans have a better understanding with length differences than areas or angles. Hence, as we wanted to compare the number of attacks in the year for the countries, we chose bar graph. vertical bar was chosen to accomodate year more countries in the screen area.

2. What is/are the insight(s) found from the chart?

As we can see from the graph in 1970 terrorist attacks got started it got similar till 1974 then from 1975 attacks start to increase to; 1992 then we see sudden drop in attack which shows our stronger defence then from 2005 it starts increasing till 2012.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

Yes, the identified pattern can help World peacekeeping agencies to focus on the defence system and investigation system to decrease/ prevent these terrorist attacks. The graph result shows that terrorist attacks increasing day by day world should keep eye on them and increase

defence system.

Double-click (or enter) to edit

- ▼ 1)MOST NUMBER OF ATTACKS IN 2014 THAT IS :16100.
- 2)LEAST NUMBER OF ATTACKS IN 1971 IS :500.

#1)MOST NUMBER OF ATTACKS IN 2014 THAT IS :16100.
#2)LEAST NUMBER OF ATTACKS IN 1971 IS :500.

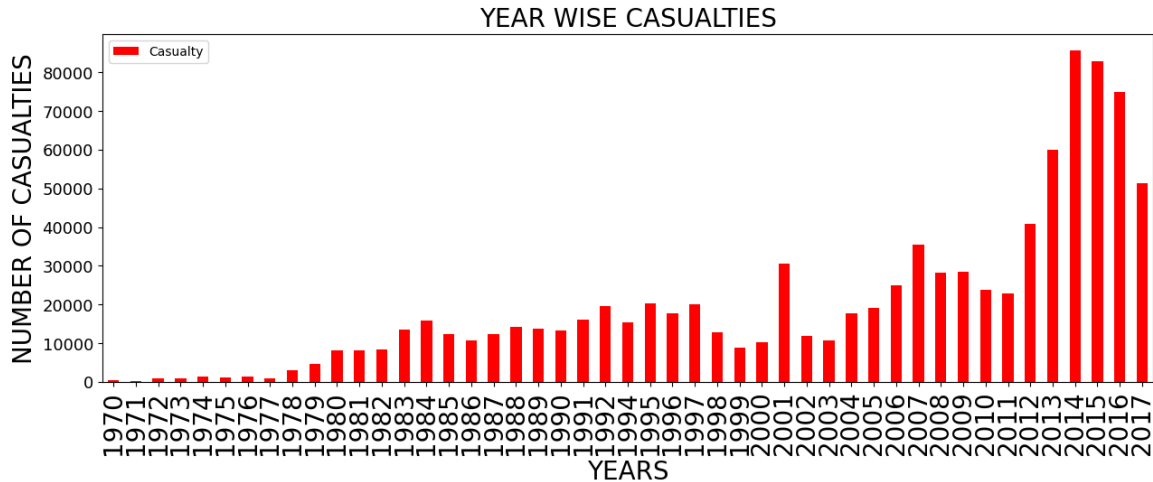
Double-click (or enter) to edit

- ▼ TOTAL CAUSUALTIES (KILLED+WOUNDED) IN EACH YEAR

```
#TOTAL CAUSUALTIES (KILLED+WOUNDED) IN EACH YEAR
#OR
#data.groupby('Year').agg({'Casualty':sum}).head()#
#data.groupby('Year')['Casualty'].sum().reset_index().head(2).#
year_of_casualties =data[['Year', 'Casualty']].groupby('Year').sum()
year_of_casualties.head(2)
```

Casualty	
Year	
1970	386.0
1971	255.0

```
year_of_casualties.plot(kind='bar',color='red',figsize=(15,5),fontsize=13)
plt.title("YEAR WISE CASUALTIES",fontsize=20)
plt.xlabel('YEARS',fontsize=20)
plt.xticks(fontsize=20)
plt.ylabel('NUMBER OF CASUALTIES',fontsize=20)
plt.show()
```



- ▼ Number OF KILLED PEOPLE ☸ IN EACH YEAR

#NO OF KILLED PEOPLE IN EACH YEAR:::;;;

```
#data.groupby('Year')['Killed'].sum().reset_index().head()#
#data.groupby('Year').agg({'Killed':sum}).head()#
year_killed=data[['Year','Killed']].groupby('Year').sum()
year_killed.head(2)
```

Killed	
Year	
1970	174.0
1971	173.0

▼ NUMBER OF WOUNDED PEOPLE IN EACH YEAR

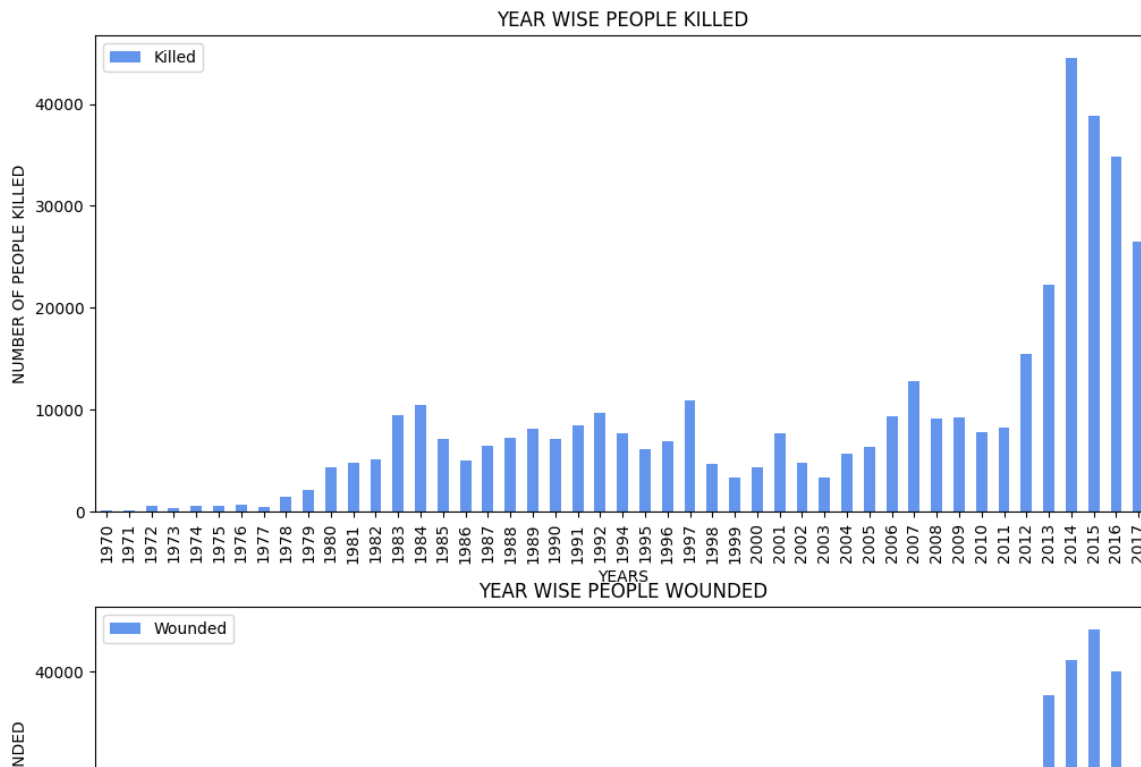
```
# NUMBER OF WOUNDED IN EACH YEAR::::
#data.groupby('Year')['Wounded'].sum().reset_index().head()#
#data.groupby('Year').agg({'Wounded':sum}).head()#
year_wounded=data[['Year','Wounded']].groupby('Year').sum()
year_wounded.head(2)
```

Wounded	
Year	
1970	212.0
1971	82.0

what are the calculation and visualization of number of people killed and wounded in each year?

▼ CHART-6

```
fig=plt.figure()
ax0=fig.add_subplot(2,1,1)
ax1=fig.add_subplot(2,1,2)
#KILLED
year_killed.plot(kind='bar',color='cornflowerblue',figsize=(10,10),ax=ax0)
ax0.set_title("YEAR WISE PEOPLE KILLED")
ax0.set_xlabel('YEARS')
ax0.set_ylabel('NUMBER OF PEOPLE KILLED')
#WOUNDED
year_wounded.plot(kind='bar',color='cornflowerblue',figsize=(12,12),ax=ax1)
ax1.set_title("YEAR WISE PEOPLE WOUNDED")
ax1.set_xlabel('YEARS')
ax1.set_ylabel('NUMBER OF PEOPLE WOUNDED')
plt.show()
```



1. Why did you pick the specific chart?

I coded two graph in one code to compare total number of death and total number of wounded people.

2. What is/are the insight(s) found from the chart?

In 2014 the terrorist attack make a really hazardous attack that total number of death are at it's peak we get more than 45000+ death rate and in 2015 we get 42000+ wounded people which make a permanant emotional and mental of fear on common people.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

Terrorist attacks are increasing day by day govt. and anti terrorist organization should take a look on it.

Find out most terrorism affected region so we can declare it red zone so people avoid the visit to those region and we can also inform the regional govt. to improve their defence system.

▼ REGION WISE ATTACKS IN EACH YEARS AND TO FIND OUT HOT REGION

```
#REGION WISE ATTACKS IN EACH YEARS...
region=pd.crosstab(data.Year,data.Region)
region.head()
```

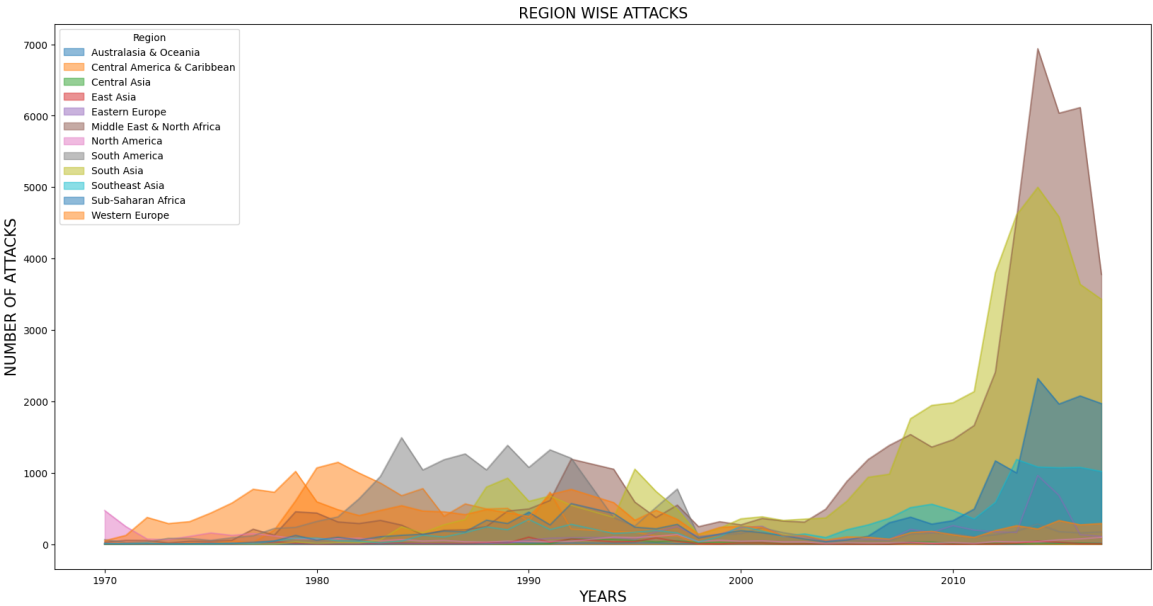
Australasia Central Central East Eastern Middle North South South Southeast Sub- Weste

ploting a graph to calculate the affected region esily

CHART 7

1972 8 3 0 0 1 53 73 33 1 10 4 3

```
## plotting a graph to calculate the affected region easily#
region.plot(kind='area',stacked=False,alpha=0.5,figsize=(20,10))
plt.title('REGION WISE ATTACKS',fontsize=15)
plt.xlabel('YEARS',fontsize=15)
plt.ylabel('NUMBER OF ATTACKS',fontsize=15)
plt.show()
```



```
region.transpose().head(2)
```

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	...	2008	2009	2010	2011	2012	2013	2017
Region																		
Australasia & Oceania	1	1	8	1	1	0	0	0	2	2	...	8	1	1	0	0	1	
Central America & Caribbean	7	5	3	6	11	9	45	24	199	609	...	0	9	1	1	1	14	

TOTAL TERRORIST ATTACK IN EACH REGION FROM 1970-2017

```
#TOTAL TERRORIST ATTACK IN EACH REGION FROM 1970-2017...
regt=region.transpose()
regt['Total']=regt.sum(axis=1)
ra=regt['Total'].sort_values(ascending=False)
ra
```

Region	
Middle East & North Africa	50474
South Asia	44974
South America	18978
Sub-Saharan Africa	17550


```
Western Europe                16639
Southeast Asia                12485
Central America & Caribbean  10344
Eastern Europe                5144
North America                 3456
East Asia                     802
Central Asia                  563
Australasia & Oceania         282
Name: Total, dtype: int64

regt.sum(axis=1).sort_values(ascending=False)

Region
Middle East & North Africa    100948
South Asia                    89948
South America                 37956
Sub-Saharan Africa            35100
Western Europe                33278
Southeast Asia                24970
Central America & Caribbean    20688
Eastern Europe                10288
North America                 6912
East Asia                     1604
Central Asia                  1126
Australasia & Oceania          564
dtype: int64

region.sum(axis=0)

Region
Australasia & Oceania          282
Central America & Caribbean    10344
Central Asia                   563
East Asia                      802
Eastern Europe                 5144
Middle East & North Africa     50474
North America                  3456
South America                  18978
South Asia                     44974
Southeast Asia                 12485
Sub-Saharan Africa             17550
Western Europe                 16639
dtype: int64

ra.plot(kind='bar', color='cornflowerblue', figsize=(15,5), fontsize=13)
plt.title("TOTAL NUMBER OF ATTACKS IN EACH REGION FROM 1970-2017", fontsize=10)
plt.xlabel('REGION', fontsize=10)
plt.xticks(fontsize=10)
plt.ylabel('NUMBER OF ATTACKS', fontsize=10)
plt.show()
```



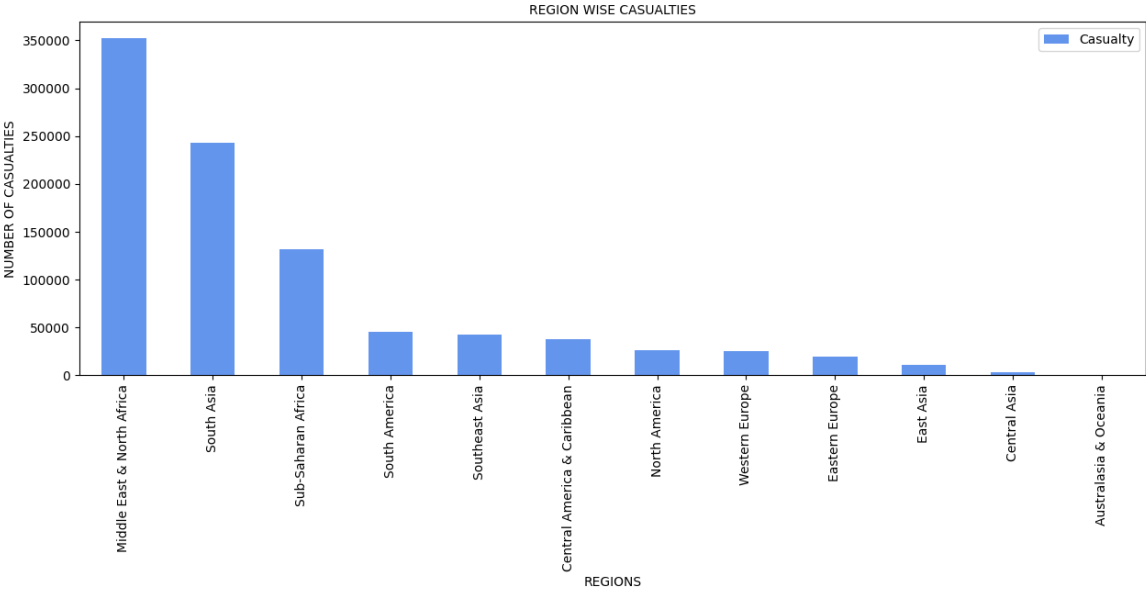
▼ TOTAL NUMBER OF PERSONS CASUALTIES IN EACH REGION:



```
#TOTAL CASUALTIES IN EACH REGION::::::::::
#data.groupby('Region').agg({'Casualty':sum}).head()#
#data.groupby('Region')['Casualty'].sum().reset_index().head()#
region_wise_casualties=data[['Region','Casualty']].groupby('Region').sum().sort_values(by='Casualty',ascending=False)
region_wise_casualties.head(2)
```

Casualty	
Region	
Middle East & North Africa	351950.0
South Asia	242679.0

```
region_wise_casualties.plot(kind='bar',color='cornflowerblue',figsize=(15,5),fontsize=10)
plt.title("REGION WISE CASUALTIES",fontsize=10)
plt.xlabel('REGIONS',fontsize=10)
plt.xticks(fontsize=10)
plt.ylabel('NUMBER OF CASUALTIES',fontsize=10)
plt.show()
```



▼ NUMBER OF PERSONS KILLED IN EACH REGION

```
#KILLED IN EACH REGION;
#data.groupby('Region')['Killed'].sum().reset_index().head()#
#data.groupby('Region').agg({'Killed':sum}).head()#
region_wise_killed=data[['Region','Killed']].groupby('Region').sum().sort_values(by='Killed',ascending=False)
region_wise_killed.head(2)
```

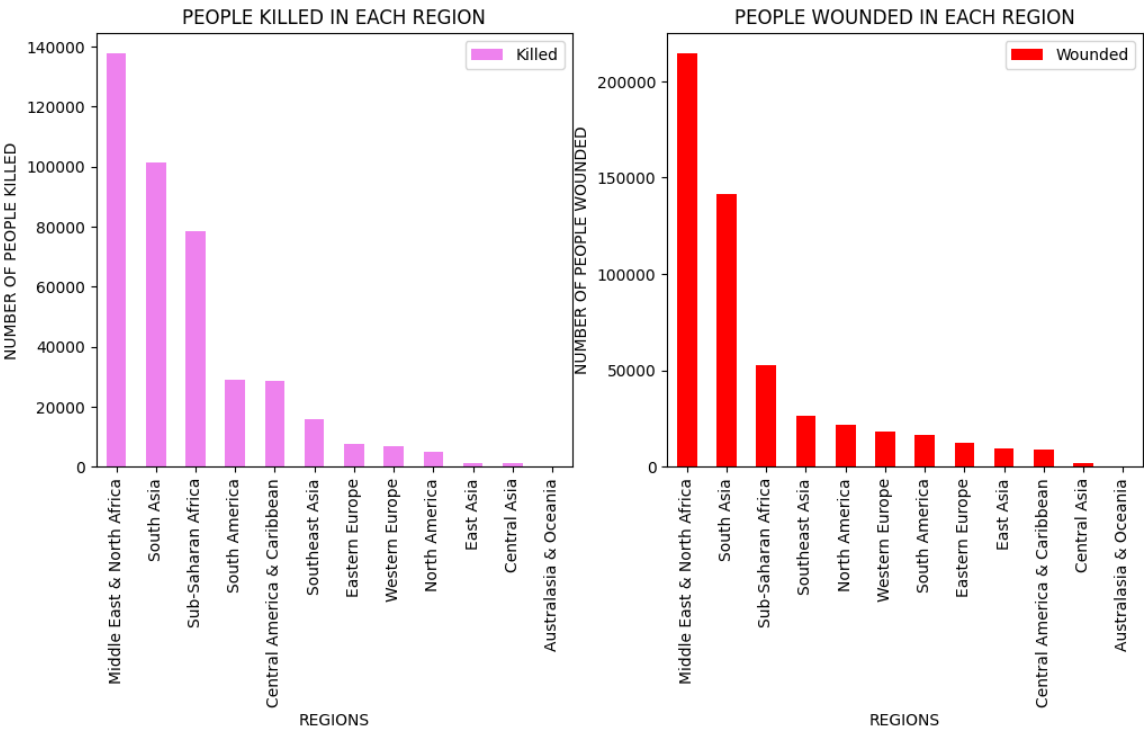
NUMBER OF PERSONS WOUNDED IN EACH REGION:

```
#WOUNDED BY EACH REGION:::::
#data.groupby('Region').agg({'Wounded':sum}).head()#
#data.groupby('Region').agg({'Wounded':sum}).head()#
region_wise_wounded=data[['Region','Wounded']].groupby('Region').sum().sort_values(by='Wounded',ascending=False)
region_wise_wounded.head(2)
```

	Wounded
Region	
Middle East & North Africa	214308.0
South Asia	141360.0

CHART 7

```
fig=plt.figure()
ax0=fig.add_subplot(1,2,1)
ax1=fig.add_subplot(1,2,2)
#KILLED
region_wise_killed.plot(kind='bar',color='violet',figsize=(10,5),ax=ax0)
ax0.set_title("PEOPLE KILLED IN EACH REGION")
ax0.set_xlabel('REGIONS')
ax0.set_ylabel('NUMBER OF PEOPLE KILLED')
#WOUNDED
region_wise_wounded.plot(kind='bar',color='red',figsize=(12,5),ax=ax1)
ax1.set_title("PEOPLE WOUNDED IN EACH REGION")
ax1.set_xlabel('REGIONS')
ax1.set_ylabel('NUMBER OF PEOPLE WOUNDED')
plt.show()
```



1. Why did you pick the specific chart?

we choose area type of plot to show region vise attack to simplyfy the results and find a red zone region of terrorist attacks.

2. What is/are the insight(s) found from the chart?

We found out top 10 red zone terrorist attack regions as follows

Middle East & North Africa

South Asia

South America

Sub-Saharan Africa

Western Europe

Southeast Asia

Central America & Caribbean

Eastern Europe

North America

East Asia

Central Asia

among them Middle east & North Africa and south Asia are most attacked regions Middle east & North Africa have 50474 attacks with 137642 people died and 214308 number of people got wounded. So here we find top 10 terrorist attacked countries with most hazardous and alra red zone area which are Middle East & North Africa and South Asia which have possibility to get attacked in future also.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

From 2010 the terrorist attacks in Middel east and North Africa got drastically increase due to Democracy and civil conflicts are main drivers of MENA terrorism. Govt. of Middel east and North Africa should take action on these. And regional countries should avoid tourist to visit these 10 regions specially Middile east & North Africa and South Asia.

Double-click (or enter) to edit

▼ CITY WISE ATTACKS - TOP 10.....

```
#CITY WISE ATTACK ATTACKS - TOP 10.....
city=data['city'].value_counts().reset_index().sort_values('city',ascending=False)[1:11]
city.head(2)
```

	index	city
1	Baghdad	7589
2	Karachi	2652

#

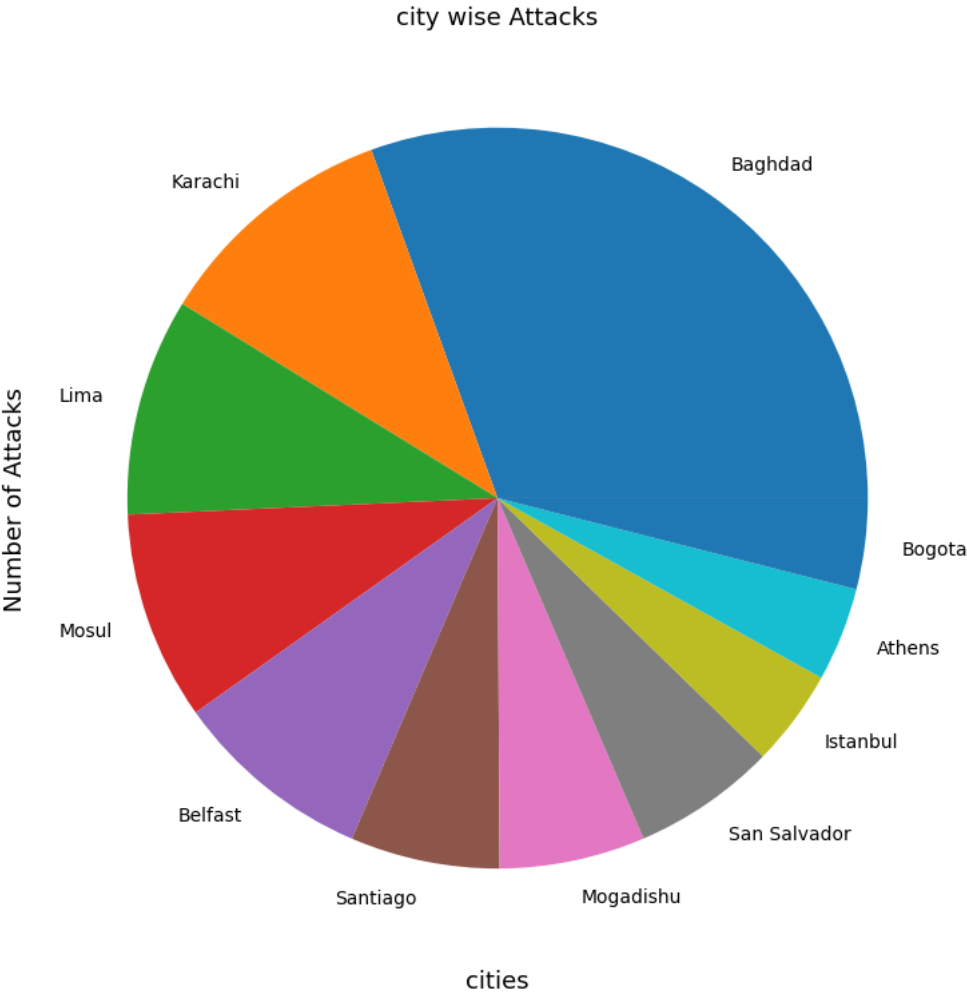
which regional cities in country should avoid travelling to make safety of people and improve their defence . So to increase defence of particular country we should calculate top 10 terrorism affected cities.

▼ CHART 8

```
# find Country wise Attacks - Top 10
# Number of Attacks in each Country
city_wise_attacks=data['city'].value_counts().drop("Unknown").head(11)
print(city_wise_attacks)
# plotting a grap of it to understand easily
city_wise_attacks.plot(kind="pie",figsize=(20,9))
plt.title("city wise Attacks",fontsize=13)
plt.xlabel("cities",fontsize=13)
```

```
plt.xticks(fontsize=12)
plt.ylabel("Number of Attacks",fontsize=13)
plt.show()

Baghdad      7589
Karachi      2652
Lima         2359
Mosul        2265
Belfast      2171
Santiago     1621
Mogadishu    1581
San Salvador 1558
Istanbul     1048
Athens       1019
Bogota       984
Name: city, dtype: int64
```



1. Why did you pick the specific chart?

Camparative charts are really easy to understad for humans that's why I choose this specific chart.

2. What is/are the insight(s) found from the chart?

Bhagdad is the most affected country among all with highest rate of terrorist attacks. Iraq had 7589 attacks. Bogota have 984 attacks which is lowest rate.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

Baghdad 7589 Karachi 2652 Lima 2359 Mosul 2265 Belfast 2171 Santiago 1621 Mogadishu 1581 San Salvador 1558 Istanbul 1048 Athens 1019 Bogota these City should increse their defince system and keep eye on terrorist organizations.

which regional country should avoid travelling to make safety of people and improve their defence . So to increase defence of particular country we should calculate top 10

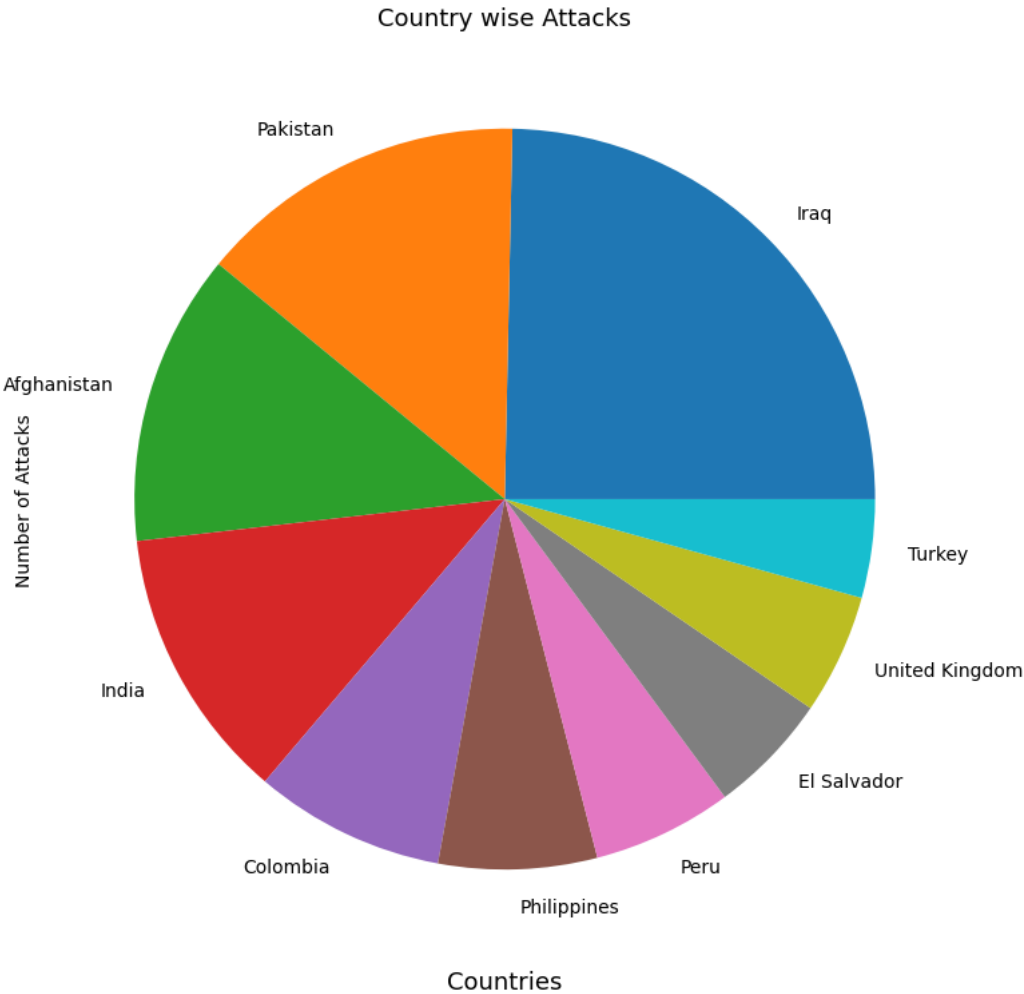
terrorism affected Country.

CHART 9

```
# find Country wise Attacks - Top 10
# Number of Attacks in each Country
ct=data["Country"].value_counts().head(10)
print(ct)
# plotting a grap of it to understand easily
ct.plot(kind="pie",figsize=(20,9))
plt.title("Country wise Attacks",fontsize=13)
plt.xlabel("Countries",fontsize=13)
plt.xticks(fontsize=12)
plt.ylabel("Number of Attacks",fontsize=10)
plt.show()
```

Iraq	24636
Pakistan	14368
Afghanistan	12731
India	11960
Colombia	8306
Philippines	6908
Peru	6096
El Salvador	5320
United Kingdom	5235
Turkey	4292

Name: Country, dtype: int64



1. Why did you pick the specific chart?
- Camparative charts are really easy to understad for humans that's why I choose this specific chart.
2. What is/are the insight(s) found from the chart?

Iraq is the most affected country among all with highest rate of terrorist attacks. Iraq had 24636 attacks. Pakistan Afghanistan And India have similar attacks.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

Iraq Pakistan Afghanistan India Colombia Philippines Peru El Salvador United Kingdom Turkey these country should increase their defence system and keep eye on terrorist organizations.

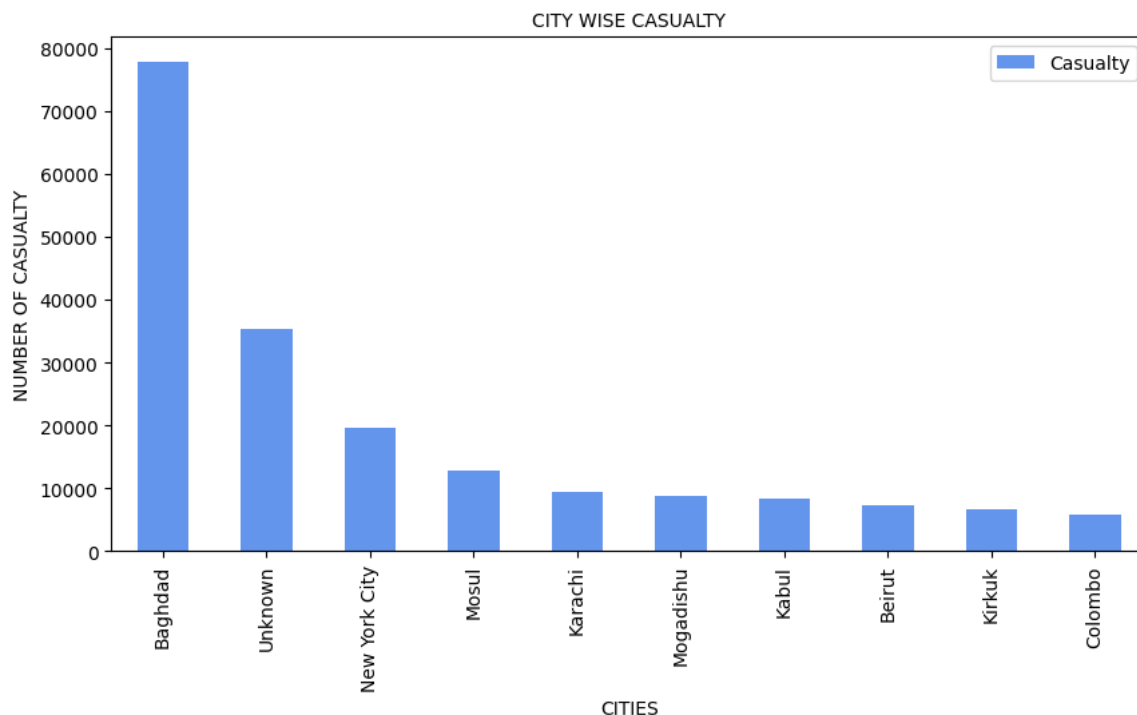
▼ TOP CASUALTIES OF EACH CITIES

```
#TOP CASUALTIES OF EACH CITIES:::
#data.groupby('city').agg({'Casualty':sum}).sort_values('Casualty',ascending=False).head()
#data.groupby('city').agg({'Casualty':sum}).sort_values('Casualty',ascending=False).head()
casualties_in_each_city=data[['city','Casualty']].groupby('city').sum().sort_values('Casualty',ascending=False)[:10]
```

```
casualties_in_each_city.head(3)
```

	Casualty
city	
Baghdad	77876.0
Unknown	35450.0
New York City	19619.0

```
casualties_in_each_city.plot(kind='bar',color='cornflowerblue',figsize=(10,5),fontsize=10)
plt.title("CITY WISE CASUALTY",fontsize=10)
plt.xlabel('CITIES',fontsize=10)
plt.xticks(fontsize=10)
plt.ylabel('NUMBER OF CASUALTY',fontsize=10)
plt.show()
```



▼ TOP NUMBER OF PEOPLE KILLED IN EACH CITIES-

```
#KILLED IN EACH CITY;;
#data.groupby('city').agg({'Killed':sum}).sort_values('Killed',ascending=False).drop('Unknown').head()
#data.groupby('city')['Killed'].sum().reset_index().sort_values('Killed',ascending=False).head()
killed_in_each_city=data[['city','Killed']].groupby('city').sum().sort_values('Killed',ascending=False).drop('Unknown')[:10]
killed_in_each_city.head(3)
```

Killed	
city	
Baghdad	21151.0
Mosul	7140.0
Mogadishu	3913.0

▼ TOP NUMBER OF PEOPLE WOUNDED IN EACH CITIES-

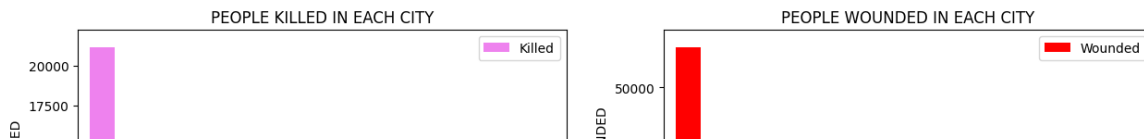
```
#WOUNDED IN EACH CITY;;
#data.groupby('city').agg({'Wounded':sum}).sort_values('Wounded',ascending=False).drop('Unknown').head()
#data.groupby('city')['Wounded'].sum().reset_index().sort_values('Wounded',ascending=False).head()
wounded_in_each_city=data[['city', 'Wounded']].groupby('city').sum().sort_values('Wounded',ascending=False).drop('Unknown')[:10]
wounded_in_each_city.head(3)
```

Wounded	
city	
Baghdad	56725.0
New York City	16781.0
Kabul	5973.0

CALCULATION AND VISUALIZATION OF NUMBER OF PEOPLE KILLED AND WOUNDED IN EACH CITIES.SO THERE SHOULD BE NECCESCCARY TO DE ESTABISH THE TERROR ACTIVITIES.

▼ CHART 10

```
fig=plt.figure()
ax0=fig.add_subplot(1,2,1)
ax1=fig.add_subplot(1,2,2)
#KILLED
killed_in_each_city.plot(kind='bar',color='violet',figsize=(15,5),ax=ax0)
ax0.set_title("PEOPLE KILLED IN EACH CITY")
ax0.set_xlabel('CITY')
ax0.set_ylabel('NUMBER OF PEOPLE KILLED')
#WOUNDED
wounded_in_each_city.plot(kind='bar',color='red',figsize=(15,5),ax=ax1)
ax1.set_title("PEOPLE WOUNDED IN EACH CITY")
ax1.set_xlabel('CITY')
ax1.set_ylabel('NUMBER OF PEOPLE WOUNDED')
plt.show()
```

1. Why did you pick the specific chart?

I coded two graphs in one code to compare total number of death and total number of wounded people.

2. What is/are the insight(s) found from the chart?

In Baghdad the terrorist attack make a really hazardous attack that total number of death are at it's peak we get more than 21,000+ death rate and in Baghdad we get 52000+ wounded people which make a permanent emotional and mental of fear on common people.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

Terrorist attacks are increasing day by day govt. and anti terrorist organization should take a look on it.

data.head(2)

	Year	Month	Day	Country	state	Region	city	latitude	longitude	AttackType	Killed	Wounded	Tz
0	1970	7	2	Dominican Republic	NaN	Central America & Caribbean	Santo Domingo	18.456792	-69.951164	Assassination	1.0	0.0	Gu
1	1970	0	0	Mexico	Federal	North America	Mexico city	19.371887	-99.086624	Hostage Taking (Kidnapping)	0.0	0.0	N C dau

Q1) The main terrorist groups which are operating at worldwide.

Q2) The main terrorist groups operating in the country of most terrorist attacks

CHART 11

```
def top_terror_groups():
    try:
        #Finding top 10 terror groups of the world
        terror_attack_count= data['Group'].value_counts().head(10)

        #Finding name of the most effected country
        most_effected_countries = data['Country'].value_counts().index[0]

        #Segregating attacks on most effected country
        effected_countries_count = data.loc[(data['Country'] == most_effected_countries)]

        #Finding top 5 terror outfits in the most effected country
        effected_countries_count = effected_countries_count["Group"].value_counts()[0:5]

    except Exception as e:
        print(e)

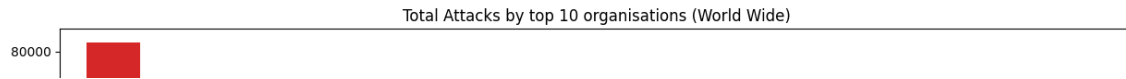
    else:
        #Plotting top 10 terror outfits of the world
        plt.rcParams['figure.figsize']=(15,4)
        terror_attack_count.plot(kind='bar', color = "tab:red")

        plt.title('Total Attacks by top 10 organisations (World Wide)')
        plt.ylabel('Attack count')
        plt.xlabel('Terror Group')
        plt.show()

        print("\n\n ")
        #Plotting top terror groups of the most effected country
```

```
effectuated_countries_count.plot(kind='bar', color = 'cornflowerblue')
plt.title(f'Contribution of top 5 organisations (On top terror target country - {most_effectuated_countries})')
plt.ylabel('Attack count')
plt.xlabel('Terror Group')
plt.show()

top_terror_groups()
```



1. Why did you pick the specific chart?

We chose bar graph to show a comparative study between terror attack counts of the top 10 globally and top 5 terror outfits in a country. The length of the bars gives a relative idea about the count and difference between various terror groups

2. What is/are the insight(s) found from the chart?

As we can see from both the graphs, majority of the terrorist attacks are conducted by 'Unknown' groups world wide and in the most effected nations.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

Yes, the identified pattern can help World peacekeeping agencies to focus on identifying and keeping a watch on these 'Unknown' groups. Curbing the advances of these unknown terror outfits can strengthen national security.

Terror Group

Q)ANALYSE AND VISUALIZE THE FORMATION AND BIRTH OF BOKO HARAM TERRORIST GROUPS IN NIGERIA.

CHART 12

```
def get_Nigeria_boko_details():
    try:
        # Filtering those records where Boko Harams have attacked Nigeria
        nigeria_data = data.loc[(data['Country'] == 'Nigeria') & (data['Group'] == 'Boko Haram')]

        #Finding year wise count of the attacks
        year_wise_attack_count = nigeria_data[['Year']].value_counts()

        #Sorting records year wise
        year_wise_attack_count.sort_index(axis =0 , inplace=True)

    except Exception as e:
        print(e)

    else:

        #Plotting line graph to show trend over the years
        plt.rcParams['figure.figsize']=(10,5)
        year_wise_attack_count.plot(kind='line', color = 'red', linewidth = 6)
        plt.title('Total terror attacks by Boko Harams in Nigeria')

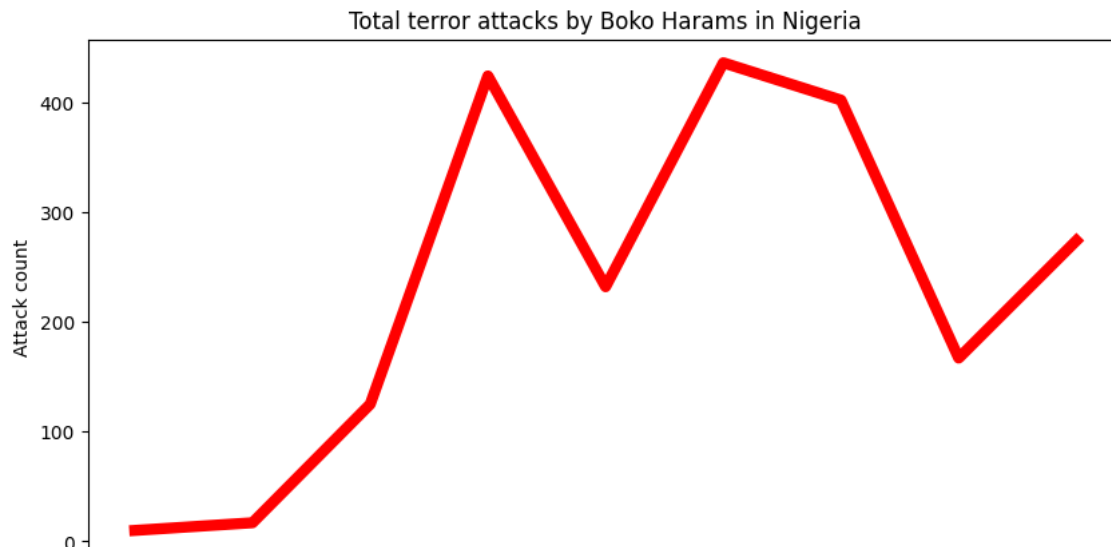
        #Assigning labels for x and y axis
        plt.ylabel('Attack count')
        plt.xlabel('Year')

    try:
        #Finding count of every target type
        primary_targets = nigeria_data[['Target']].value_counts()
        #Sorting values in decreasing order to find most effected targets
        primary_targets.sort_values(axis =0 , inplace=True, ascending=[False])
        #Printing top 3 targets
        print("*****")
        print(f"Total attacks by Boko Harams in Nigeria = {len(nigeria_data)}")
        print(primary_targets[0:3])
        print("*****")

    except Exception as e1:
        print(e1)

get_Nigeria_boko_details()
```

```
*****
Total attacks by Boko Harams in Nigeria = 2087
Target
Village      371
Civilians    153
Town         95
dtype: int64
*****
```



1. Why did you pick the specific chart?

As we wanted to show the trends for different time periods, we chose the line graph. It clearly depicts the rise and fall of the attacks done by the Boko Harams.

2. What is/are the insight(s) found from the chart?

The graph clearly shows how Boko Harams who were a small resilience force from 2002 to 2009, rose as a terror group in Nigeria between the years 2010 and 2012. In 2009, Boko Harams were subjected to excessive use of force by police, which triggered backlashes in the form of bombings and killings. This also questions the planning, proactiveness and policies of the then present government to resolve conflicts by meaningful dialogue.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

This graph highlights 2012 and 2014 as the peak years of terror attacks by Boko Harams. In 2015 President Buhari made meaningful efforts in curbing Boko Harams in Nigeria. The efforts made by the President can be studied and replicated to ensure a positive change in the safety of Nigerians and other countries facing civil unrest worldwide.

```
#TERRORIST GROUPWISE ATTACKS -TOP 10
#NUMBER OF ATTACK BY EACH GROUP..
group = data['Group'].value_counts().drop("Unknown")[:11]
group
```

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
Name: Group, dtype: int64	

Q)ANALYSE AND VISUALIZE THE FORMATION AND BIRTH OF TALIBAN TERRORIST GROUPS.

▼ CHART 13

```
def Taliban_details():
    try:
        # Filtering those records where Boko Harams have attacked Nigeria
        taliban_data = data.loc[(data['Country'] == 'Afghanistan') & (data['Group'] == 'Taliban')]

        #Finding year wise count of the attacks
        year_wise_attack_count = taliban_data[['Year']].value_counts()

        #Sorting records year wise
        year_wise_attack_count.sort_index(axis =0 , inplace=True)

    except Exception as e:
        print(e)

    else:

        #Plotting line graph to show trend over the years
        plt.rcParams['figure.figsize']=(10,5)
        year_wise_attack_count.plot(kind='line', color = 'violet', linewidth = 6)
        plt.title('Total terror attacks by taliban in afghanistan')

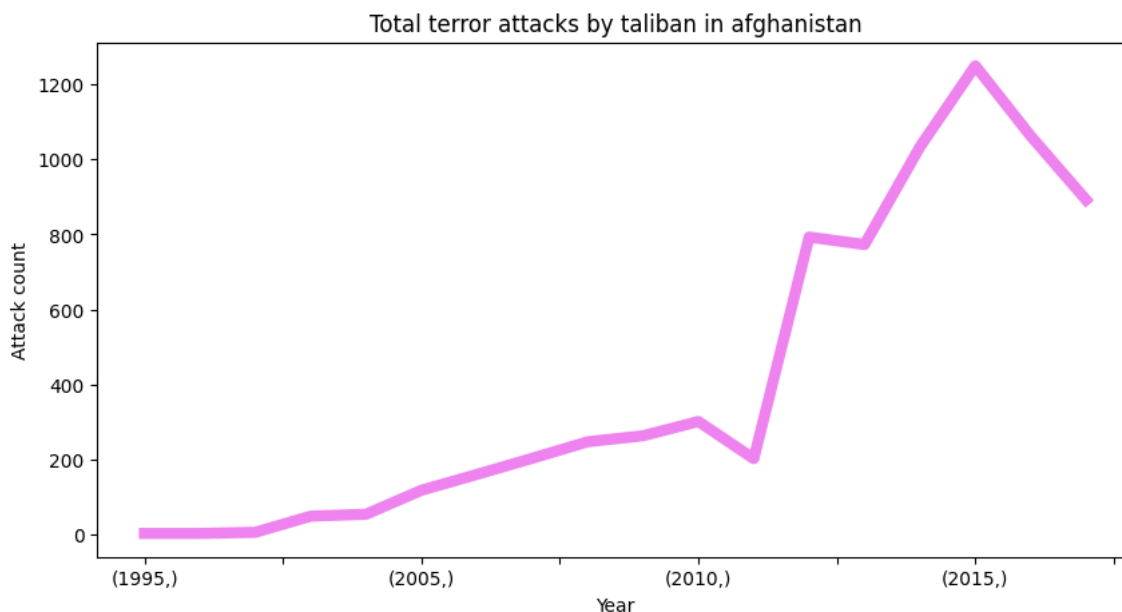
        #Assigning labels for x and y axis
        plt.ylabel('Attack count')
        plt.xlabel('Year')

    try:
        #Finding count of every target type
        primary_targets = taliban_data[['Target']].value_counts()
        #Sorting values in decreasing order to find most effected targets
        primary_targets.sort_values(axis =0 , inplace=True, ascending=[False])
        #Printing top 3 targets
        print("*****")
        print(f"Total attacks by taliban in afghanistan = {len(taliban_data)}")
        print(primary_targets[0:3])
        print("*****")

    except Exception as e1:
        print(e1)

Taliban_details()
```

```
*****
Total attacks by taliban in afghanistan = 7423
Target
Checkpoint    577
Vehicle       365
Civilians     332
dtype: int64
*****
```



1. Why did you pick the specific chart?

As we wanted to show the trends for different time periods, we chose the line graph. It clearly depicts the rise and fall of the attacks done by the TALIBAN.

2. What is/are the insight(s) found from the chart?

The graph clearly shows how TALIBAN who were a small resilience force from 1995 to 2015, rose as a terror group in Afghanistan between the years 1995 to 2015. In 2015, TALIBAN were subjected to excessive use of force by police, which triggered backlashes in the form of bombings and killings. This also questions the planning, proactiveness and policies of the then present government to resolve conflicts by meaningful dialogue.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

This graph highlights 1995 and 2015 as the peak years of terror attacks by TALIBAN. In 2015 President ashraf ghani made meaningful efforts in curbing taliban in afghanistan. The efforts made by the President can be studied and replicated to ensure a positive change in the safety of Nigerians and other countries facing civil unrest worldwide. But now Taliban is ruling in Afghanistan from october 2021.

Q)ANALYSE AND VISUALIZE THE FORMATION OF NAXALITIES IN JHARKHAND,ORISSA AND CHHATISGARH.

▼ CHART 14

```
def formation_of_naxal():
    try:

        #Finding records for the states where Maoists have attacked

        #Odisha
        terror_Od=data.loc[(data['state'] == 'Orissa') & (data['Group'] == 'Maoists')]
        #Jharkhand
        terror_Jh=data.loc[(data['state'] == 'Jharkhand') & (data['Group'] == 'Maoists')]
        #Chhattisgarh
        terror_Ch=data.loc[(data['state'] == 'Chhattisgarh') & (data['Group'] == 'Maoists')]

        #Finding count of attacks by Maoists on the 3 states year wise
        od_count = terror_Od.groupby('Year').size()
        jh_count = terror_Jh.groupby('Year').size()
        ch_count = terror_Ch.groupby('Year').size()

    except Exception as e:
        print(e)

    else:
        #Plotting line graphs
        plt.plot(od_count, linewidth = 4)
        plt.plot(jh_count, linewidth = 4)
        plt.plot(ch_count, linewidth = 4)
        plt.legend(["Odisha", "Jharkhand", "Chhattisgarh"])
        plt.show()

formation_of_naxal()
```



1. Why did you pick the specific chart?

We wanted to show a comparison of the trends in Maoist activities in the states of Odisha, Jharkhand and Chhattisgarh. Line graphs are a good choice to study trends or changes in patterns.

2. What is/are the insight(s) found from the chart?

While states like Odisha have successfully handled the menace of Naxalism systematically , wiping it out almost completely in the year 2013. We see a significant rise in its neighbouring states in the same year. We infer that political unrest in Jharkhand in 2013 may have been a triggering point.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

The various government efforts like education, monetary grants , benefits on surrender can be further facilitated to decrease Naxalism in the states.

```
data.head(2)
```

	Year	Month	Day	Country	state	Region	city	latitude	longitude	AttackType	Killed	Wounded	Tz
0	1970	7	2	Dominican Republic	NaN	Central America & Caribbean	Santo Domingo	18.456792	-69.951164	Assassination	1.0	0.0	Gu
1	1970	0	0	Mexico	Federal	North America	Mexico city	19.371887	-99.086624	Hostage Taking (Kidnapping)	0.0	0.0	N C dau

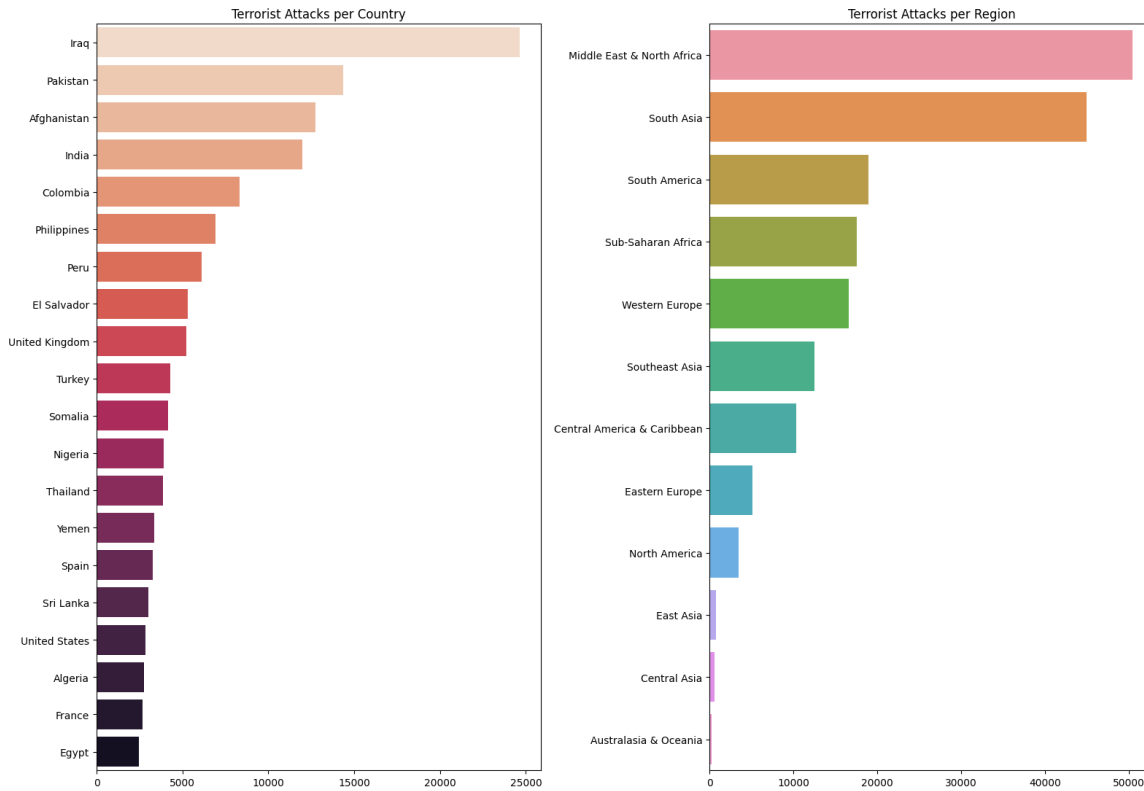
Q)VISUALIZE AND ANALYSE THE TERRORRIST ATTACK VARIES FROM ORRGANIIZATION TO ORGANIZATIONS.

COMPARES VARIOUS ATTACK TYPES AND FRREQUENCY.

CHART 15

Double-click (or enter) to edit

```
fig,axes = plt.subplots(figsize=(16,11),nrows=1,ncols=2)
sns.barplot(x = data['Country'].value_counts()[:20].values, y = data['Country'].value_counts()[:20].index,ax=axes[0],palette = 'rocket_r')
axes[0].set_title('Terrorist Attacks per Country')
sns.barplot(x=data['Region'].value_counts().values,y=data['Region'].value_counts().index,ax=axes[1])
axes[1].set_title('Terrorist Attacks per Region')
fig.tight_layout()
plt.show()
```



1. Why did you pick the specific chart?

We wanted to show the contribution of each weapon in the overall weapons used. Hence to show the distribution out of total, we used a pie chart.

2. What is/are the insight(s) found from the chart?

The chart depicts how out of all the weapons used, almost 50% of attacks are done using explosives. Firearms are also a major weapon used by terrorists. Are there any insights that lead to negative growth? Justify with specific reason.

3. Will the gained insights help creating a positive business impact?

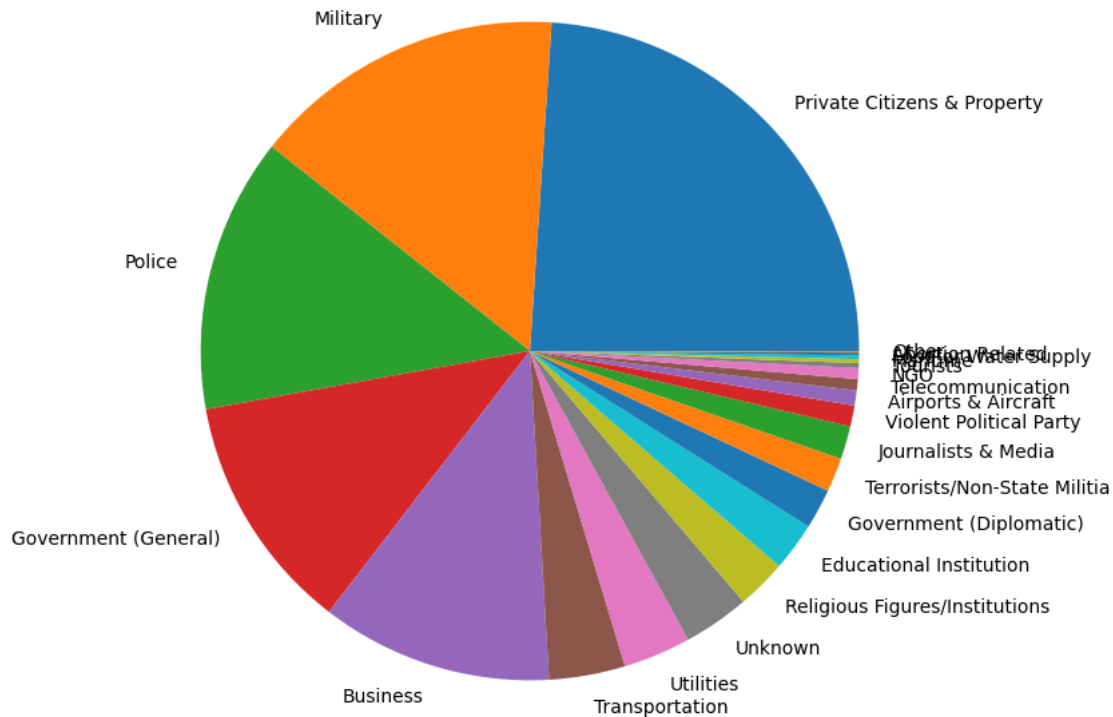
Are there any insights that lead to negative growth? Justify with specific reason.

Yes this analysis can be used by security agencies to impose strict ban and increase vigilance on movement on particular substances especially the raw materials used to build explosives

TERRORIST ORGANISATION HAS SPECIFIC TARGETS.WHAT ARE THE VELNURABLE TARGET(CIVILIAN ,MILITARY,POLITICIANS).

```
def specific_target():
    try:
        #Counting terrorism targets
        primary_target = data.Target_type.value_counts()
    except Exception as e:
        print(e)
    else:
        #Plotting pie chart
        plt.rcParams['figure.figsize']=(15,8)
        plt.pie(primary_target, labels = primary_target.index)
        plt.show()
```


specific_target()



1. Why did you pick the specific chart?

To show distribution of social groups out of the total casualties/targets, we chose a pie chart

2. What is/are the insight(s) found from the chart?

The primary target of terrorists are civilians and private property amounting to approximately 25%. Military, Police and Government officials are almost at equal risk. Are there any insights that lead to negative growth? Justify with specific reason.

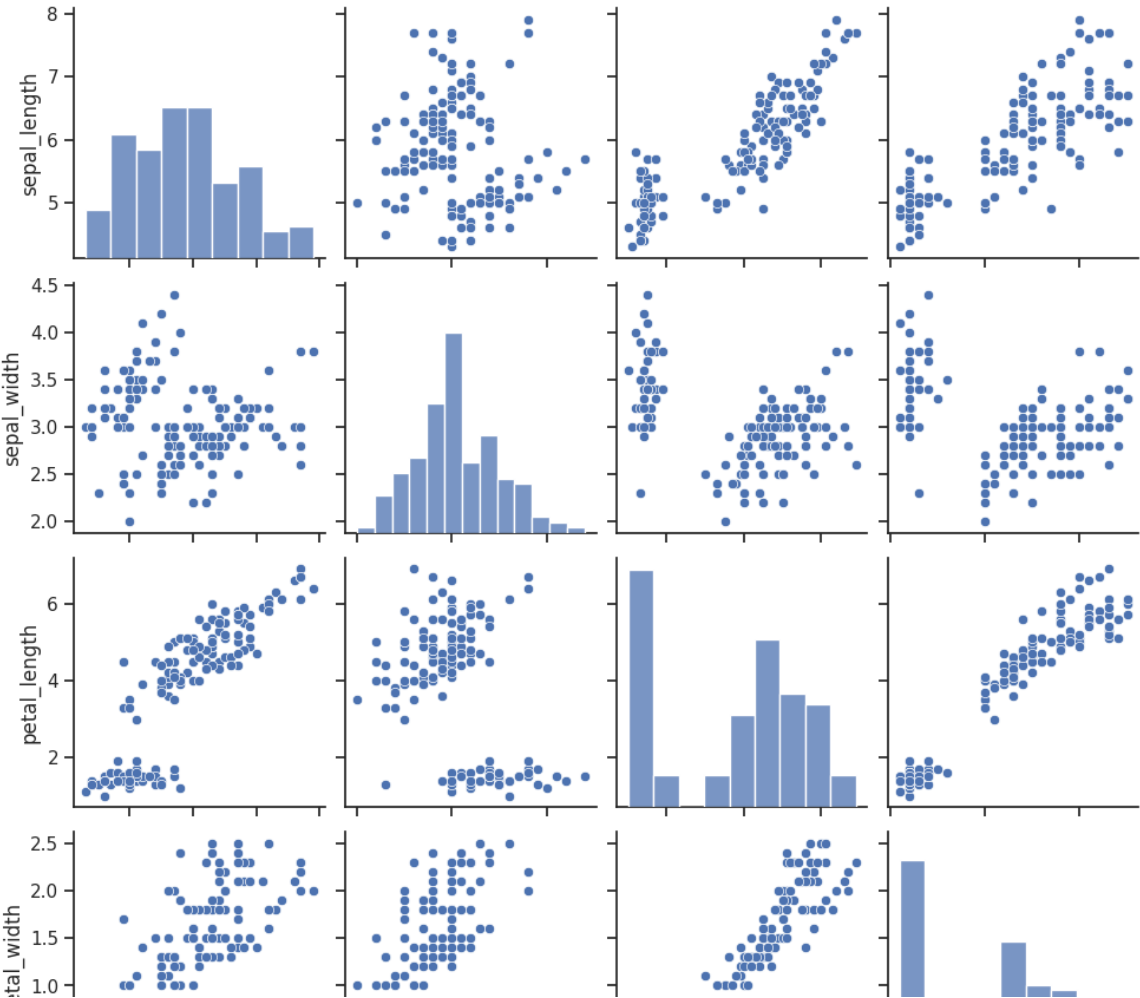
3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

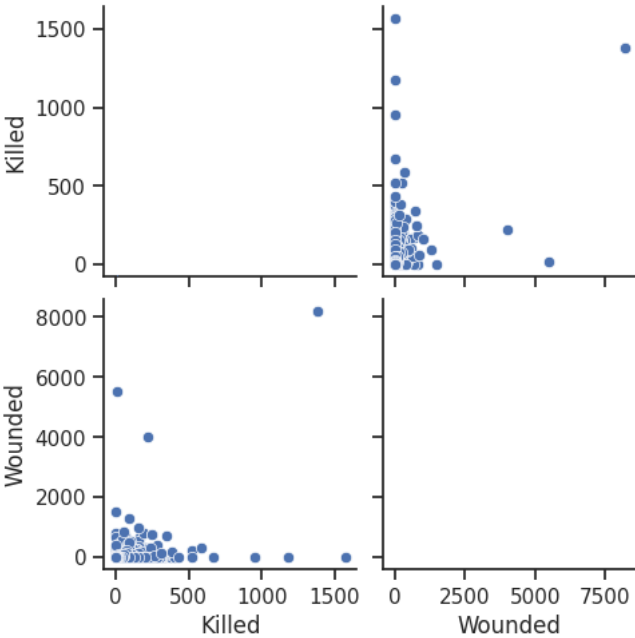
This insight can be used to improve security in public places. The distribution clearly shows that since the terrorists have no personal disputes with the civilians the purpose is primarily to create fear

```
sns.set(style="ticks", color_codes=True)
iris = sns.load_dataset("iris")
g = sns.pairplot(iris)
```

```
import matplotlib.pyplot as plt
plt.show()
```



```
cols_to_plot = ['Group', 'Region', 'AttackType', 'Killed', 'Wounded']
sns.pairplot(data[cols_to_plot])
plt.show()
```



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GLOBAL TERRORISM CAPSTONE PROJECT - Colaboratory

Q)VISUALIZE AND ANALYSE THE SUCCESS RATE OF TERRORIST GROUPS WHICH THERE PLANNING GET EXECUTED AND SUCCESSFULLY DEMAGED THE PROPERTY AND THE ECONOMY OF THE COUNTRY. WHICH ORGANISATION HAS HIGHESTT SUCCESS RATE?

CHART 16

data.head(1)

	Year	Month	Day	Country	state	Region	city	latitude	longitude	AttackType	Killed	Wounded	Tar
0	1970	7	2	Dominican Republic	NaN	Central America & Caribbean	Santo Domingo	18.456792	-69.951164	Assassination	1.0	0.0	J Guzm

```
def success_rate_of_terror_groups():
    try:

        #Counting total attacks by specific groups
        total_attacks = data.groupby('Group')['Group'].count()

        #Counting success of specific groups
        success = data.groupby('Group')['success'].sum()

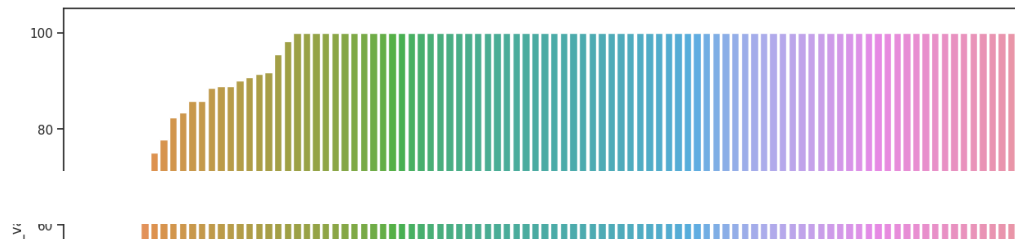
        #merging dataframes on Terror group names(Index)
        success_rate = pd.merge(total_attacks[0:100], success, how='inner', left_index=True, right_index=True)

        # Calculating success rate : Success/Total * 100
        success_rate ["success_rate_value"] = (success_rate["success"]/success_rate["Group"])*100
        success_rate.sort_values(by ='success_rate_value', inplace=True)

    except Exception as e:
        print(e)

    else:
        #Plotting graph depicting success rate of 100 terror groups
        sns.barplot(x = success_rate.index, y =success_rate['success_rate_value'] )

success_rate_of_terror_groups()
```



1. Why did you pick the specific chart?

We wanted to show a comparative study between the success rates of 100 terrorist organisations worldwide. To picturize their values in a more unstandable form, we chose a bar graph

2. What is/are the insight(s) found from the chart?

The chart showcases 100% accuracy for majority of the terror groups chosen. It shows how accurately, strategically and these attacks are planned.

3. Will the gained insights help creating a positive business impact?

Are there any insights that lead to negative growth? Justify with specific reason.

National security agencies can use this data to examine the reason for high success rates and also for low success rates of a few groups. The difference in their operating strategy can be understood to study patterns, foil and tactics more attacks in the future.

5) Solution to Business Objective

What do you suggest the client to achieve Business Objective?

Explain Briefly.

- 1)The Middle East and North Africa regions are the most targeted so the Government of that region should increase their defence and investigation departments and also should ban bombing/explosion raw material.
- 2)Iraq country is the most targeted so the \Government of that country should increase their defence and investigation departments and also should ban bombing/explosion raw material.
- 3)Make people aware about terrorism.
- 4)Anti terrorism organizations and defence department should keep an eye on Taliban and ISIL which are most active organisations.
- 5)World should make a strong law act and actions against the Terrorism,

▼ conclusion

Number of Terror Attacks has increased but number of people killed manier times as Attack incident happened.And The Consequences is demaging,killing,destruction of economy and public livelihood.

Iraq has the most attacks.

The Middle East and North Africa Regions has most targeted by Terror Group.

Maximum number of attacks are from Bombing/Explosions.

There are maximum number of attacks in Private citizens and Property.

Taliban and ISIL has a most active organisation.

It is evident form the trend analysis that since 1971 there has been significant increase in terror attacks globally. Terrorist Groups like ISIL, taliban, Al-Shabaab , B0ko Haram, NPA, assassination, etc. However, in recent times there has been slight decrease in terrorist attacks.

We need to undeerstand that every human live is precious and we should take all efforts to curb terrorism and sponsors of terrorism.

Development of both socio economic and educational are the only permanent solution to this problem.

We should make common people aware about the terrorism.

Double-click (or enter) to edit

```
#TOTAL CASUALTIES BY EACH GROUP.....
#data.groupby('Group').agg({'Casualty':sum}).sort_values('Casualty',ascending=False).drop('Unknown').head()
#data.groupby('city')['Casualty'].sum().reset_index().sort_values('Casualty',ascending=False).head()
casualty_by_each_group=data[['Group','Casualty']].groupby('Group').sum().sort_values('Casualty',ascending=False).drop('Unknown')[:10]
casualty_by_each_group
```

	Casualty
Group	
Islamic State of Iraq and the Levant (ISIL)	69595.0
Taliban	57342.0
Boko Haram	29801.0
Al-Qaida	28372.0
Liberation Tigers of Tamil Eelam (LTTE)	22020.0
Al-Shabaab	16954.0
Tehrik-i-Taliban Pakistan (TTP)	15574.0
Al-Qaida in Iraq	14724.0
Shining Path (SL)	14632.0
Farabundo Marti National Liberation Front (FMLN)	12130.0

```
#KILLED BY EACH GROUP..
#data.groupby('Group').agg({'Killed':sum}).sort_values('Killed',ascending=False).drop('Unknown').head()
#data.groupby('city')['Killed'].sum().reset_index().sort_values('Killed',ascending=False).head()
killed_by_each_group=data[['Group','Killed']].groupby('Group').sum().sort_values('Killed',ascending=False).drop('Unknown')[:10]
killed_by_each_group
```

```
-----
NameError                                Traceback (most recent call last)
<ipython-input-4-a4dd8b0a8833> in <cell line: 4>()
      2 #data.groupby('Group').agg({'Killed':sum}).sort_values('Killed',ascending=False).drop('Unknown').head()
      3 #data.groupby('city')['Killed'].sum().reset_index().sort_values('Killed',ascending=False).head()
----> 4
killed_by_each_group=data[['Group','Killed']].groupby('Group').sum().sort_values('Killed',ascending=False).drop('
[:10]
      5 killed_by_each_group

NameError: name 'data' is not defined
```

```
#WOUNDED BY EACH GROUP..
#data.groupby('Group')['Wounded'].sum().reset_index().sort_values('Wounded',ascending=False).head()
#data.groupby('Group').agg({'Wounded':sum}).sort_values('Wounded',ascending=False).drop('Unknown').head()
wounded_by_each_group=data[['Group','Wounded']].groupby('Group').sum().sort_values('Wounded',ascending=False).drop('Unknown')[:10]
wounded_by_each_group
```

```
-----
NameError                                Traceback (most recent call last)
<ipython-input-2-9b0690d17b16> in <cell line: 4>()
      2 #data.groupby('Group')['Wounded'].sum().reset_index().sort_values('Wounded',ascending=False).head()
      3
#data.groupby('Group').agg({'Wounded':sum}).sort_values('Wounded',ascending=False).drop('Unknown').head()
----> 4
wounded_by_each_group=data[['Group','Wounded']].groupby('Group').sum().sort_values('Wounded',ascending=False).dro
[:10]
      5 wounded_by_each_group

NameError: name 'data' is not defined
```

```
#ATTACK TYPE WISE ATTACKS;;;
#NUMBER OF ATTACKS BY EACH ATTACK TYPE;;;
attack_type = data['AttackType'].value_counts()
attack_type.head()
```

Bombing/Explosion	88255
Armed Assault	42669
Assassination	19312
Hostage Taking (Kidnapping)	11158
Facility/Infrastructure Attack	10356
Name: AttackType, dtype: int64	

```
#TOTAL CASUALTIES BY EACH ATTACK TYPE.....;
#data.groupby('AttackType').agg({'Casualty':sum}).sort_values('Casualty',ascending=False).drop('Unknown').head()
#data.groupby('AttackType')['Casualty'].sum().reset_index().sort_values('Casualty',ascending=False).head()
attack_type_casualties=data[['AttackType','Casualty']].groupby('AttackType').sum().sort_values('Casualty',ascending=False).drop('Unknown')
attack_type_casualties
```

```
-----
NameError                                Traceback (most recent call last)
<ipython-input-3-12c426b70ebf> in <cell line: 4>()
      2
#data.groupby('AttackType').agg({'Casualty':sum}).sort_values('Casualty',ascending=False).drop('Unknown').head()
      3 #data.groupby('AttackType')
['Casualty'].sum().reset_index().sort_values('Casualty',ascending=False).head()
----> 4
attack_type_casualties=data[['AttackType','Casualty']].groupby('AttackType').sum().sort_values('Casualty',ascendi
[:10]
      5 attack_type_casualties

#KILLED BY EACH ATTACK TYPE:::
#data.groupby('AttackType').agg({'Killed':sum}).sort_values('Killed',ascending=False).drop('Unknown').head()
#data.groupby('AttackType')['Killed'].sum().reset_index().sort_values('Killed',ascending=False).head()
attack_type_by_killed=data[['AttackType','Killed']].groupby('AttackType').sum().sort_values('Killed',ascending=False).drop('Unknown')[:10]
attack_type_by_killed
```

	Killed
AttackType	
Armed Assault	160297.0
Bombing/Explosion	157321.0
Assassination	24920.0
Hostage Taking (Kidnapping)	24231.0
Hostage Taking (Barricade Incident)	4478.0
Hijacking	3718.0
Facility/Infrastructure Attack	3642.0
Unarmed Assault	880.0

```
#WOUNDED BY EACH ATTACK TYPE:::
#data.groupby('AttackType').agg({'Wounded':sum}).sort_values('Wounded',ascending=False).drop('Unknown').head()
##data.groupby('AttackType')['Wounded'].sum().reset_index().sort_values('Wounded',ascending=False).head()
attack_type_by_wounded=data[['AttackType','Wounded']].groupby('AttackType').sum().sort_values('Wounded',ascending=False).drop('Unknown')[:10]
attack_type_by_wounded
```

	Wounded
AttackType	
Bombing/Explosion	372686.0
Armed Assault	77366.0
Hijacking	17001.0
Unarmed Assault	14027.0
Assassination	13887.0
Hostage Taking (Kidnapping)	6446.0
Hostage Taking (Barricade Incident)	3966.0
Facility/Infrastructure Attack	3765.0

```
#TARGET TYPEWISE ATTACK:
target_type_wise_attack=data['Target_type'].value_counts()
target_type_wise_attack
```

Private Citizens & Property	43511
Military	27984
Police	24506
Government (General)	21283
Business	20669
Transportation	6799
Utilities	6023
Unknown	5898
Religious Figures/Institutions	4440
Educational Institution	4322
Government (Diplomatic)	3573
Terrorists/Non-State Militia	3039
Journalists & Media	2948
Violent Political Party	1866
Airports & Aircraft	1343
Telecommunication	1009
NGO	970
Tourists	440
Maritime	351
Food or Water Supply	317

Abortion Related 263
Other 137
Name: Target_type, dtype: int64

```
#wounded TARGET_type wise attack;
#data.groupby('Target_type').agg({'Wounded':sum}).sort_values('Wounded',ascending=False).drop('Unknown').head()
#data.groupby('Target_type')['Wounded'].sum().reset_index().sort_values('Wounded',ascending=False).head()
target_type_by_wounded=data[['Target_type','Wounded']].groupby('Target_type').sum().sort_values('Wounded',ascending=False).drop('Unknown')
target_type_by_wounded.head(3)
```

Wounded	
Target_type	
Private Citizens & Property	178672.0
Military	71038.0
Police	64703.0

```
# Casualty TARGET_type wise attack;
#data.groupby('Target_type').agg({'Casualty':sum}).sort_values('Casualty',ascending=False).drop('Unknown').head()
#data.groupby('Target_type')['Casualty'].sum().reset_index().sort_values('Casualty',ascending=False).head()
target_type_by_casualty=data[['Target_type','Casualty']].groupby('Target_type').sum().sort_values('Casualty',ascending=False).drop('Unknown')
target_type_by_casualty.head(3)
```

```
# Killed TARGET_type wise attack;
#data.groupby('Target_type').agg({'Killed':sum}).sort_values('Killed',ascending=False).drop('Unknown').head()
#data.groupby('Target_type')['Killed'].sum().reset_index().sort_values('Killed',ascending=False).head()
target_type_by_killed=data[['Target_type','Killed']].groupby('Target_type').sum().sort_values('Killed',ascending=False).drop('Unknown')[: ]
target_type_by_killed
```

Killed	
Target_type	
Private Citizens & Property	140504.0
Military	106047.0
Police	53704.0
Government (General)	26071.0
Business	23487.0
Transportation	13916.0
Religious Figures/Institutions	13413.0
Terrorists/Non-State Militia	9088.0
Airports & Aircraft	3767.0
Educational Institution	3745.0

```
#GROUPWISE AND COUNTRY WISE
#SORTING BY NUMBER OF ATTACKS
group_country_wise_attack=data[['Group','Country']].value_counts().drop('Unknown')
group_country_wise_attack.head(10)
```

Group	Country	
Taliban	Afghanistan	7423
Islamic State of Iraq and the Levant (ISIL)	Iraq	4797
Shining Path (SL)	Peru	4541
Farabundo Marti National Liberation Front (FMLN)	El Salvador	3330
Al-Shabaab	Somalia	2867
New People's Army (NPA)	Philippines	2770
Irish Republican Army (IRA)	United Kingdom	2575
Revolutionary Armed Forces of Colombia (FARC)	Colombia	2468
Kurdistan Workers' Party (PKK)	Turkey	2109
Boko Haram	Nigeria	2087

dtype: int64

```
#SORTING BY NUMBER OF CASUALTIES::
#data.groupby(['Group','Country']).sum().reset_index().sort_values('Casualty',ascending=False).head()
#data.groupby(['Group','Country']).agg({'Casualty':sum}).sort_values('Casualty',ascending=False).drop('Unknown').head()
group_country_wise_casualty=data[['Group','Country','Casualty']].groupby(['Group','Country']).sum().sort_values('Casualty',ascending=False)
group_country_wise_casualty
```

```
/usr/local/lib/python3.8/dist-packages/pandas/core/generic.py:4150: PerformanceWarning: dropping on a non-lexsort
obj = obj._drop_axis(labels, axis, level=level, errors=errors)
```

Casualty		
	Group	Country
	Taliban	Afghanistan
	Islamic State of Iraq and the Levant (ISIL)	Iraq
	Liberation Tigers of Tamil Eelam (LTTE)	Sri Lanka
	Al-Qaida	United States
	Boko Haram	Nigeria
	Tehrik-i-Taliban Pakistan (TTP)	Pakistan
	Shining Path (SL)	Peru
	Al-Qaida in Iraq	Iraq
	Al-Shabaab	Somalia

```
#SORTING BY NUMBER OF PEOPLE KILLED:::::::::
#data.groupby(['Group', 'Country']).sum().reset_index().sort_values('Killed',ascending=False).head()
#data.groupby(['Group', 'Country']).agg({'Killed':sum}).sort_values('Killed',ascending=False).drop('Unknown').head()
group_country_wise_killed=data[['Group', 'Country', 'Killed']].groupby(['Group', 'Country']).sum().sort_values('Killed',ascending=False).dro
group_country_wise_killed
```

```
/usr/local/lib/python3.8/dist-packages/pandas/core/generic.py:4150: PerformanceWarning: dropping on a non-lexsort
obj = obj._drop_axis(labels, axis, level=level, errors=errors)
```

Killed		
	Group	Country
	Islamic State of Iraq and the Levant (ISIL)	Iraq
	Taliban	Afghanistan
	Boko Haram	Nigeria
	Shining Path (SL)	Peru
	Liberation Tigers of Tamil Eelam (LTTE)	Sri Lanka
	Al-Shabaab	Somalia
	Farabundo Marti National Liberation Front (FMLN)	El Salvador
	Islamic State of Iraq and the Levant (ISIL)	Syria
	Nicaraguan Democratic Force (FDN)	Nicaragua
	Tehrik-i-Taliban Pakistan (TTP)	Pakistan

```
#SORTING BY NUMBER PEOPLE WOUNDED
#data.groupby(['Group', 'Country']).agg({'Wounded':sum}).sort_values('Wounded',ascending=False).drop('Unknown').head()
#data.groupby(['Group', 'Country']).sum().reset_index().sort_values('Wounded',ascending=False).head()
group_country_wise_wounded=data[['Group', 'Country', 'Wounded']].groupby(['Group', 'Country']).sum().sort_values('Wounded',ascending=False).
group_country_wise_wounded
```

```
/usr/local/lib/python3.8/dist-packages/pandas/core/generic.py:4150: PerformanceWarning: dropping on a non-lexsort
obj = obj._drop_axis(labels, axis, level=level, errors=errors)
```

Wounded		
	Group	Country
	Taliban	Afghanistan
	Islamic State of Iraq and the Levant (ISIL)	Iraq
	Al-Qaida	United States
	Liberation Tigers of Tamil Eelam (LTTE)	Sri Lanka
	Al-Qaida in Iraq	Iraq
	Tehrik-i-Taliban Pakistan (TTP)	Pakistan
	Boko Haram	Nigeria
	Al-Shabaab	Somalia
	Aum Shinri Kyo	Japan
	Kurdistan Workers' Party (PKK)	Turkey


```
#HUMANITY AFFECTED(WORLD-WIDE)BY TERRORIST ATTACKS FROM 1970 TO 2017...
#TOTAL CASUALTIES (KILLED+WOUNDED) DUE TO TERRORIST ATTACKS:::::
casualty_affected=data.loc[:, 'Casualty'].sum()
print("Total number of people casualties due to Terrorist Attacks from 1970 to 2017 across the world :\n",casualty_affected)

Total number of people casualties due to Terrorist Attacks from 1970 to 2017 across the world :
872892.0

killed_affected=data.loc[:, 'Killed'].sum()
print("Total number of people Killed due to Terrorist Attacks from 1970 to 2017 across the world :\n",killed_affected)

Total number of people Killed due to Terrorist Attacks from 1970 to 2017 across the world :
411868.0

wounded_affected=data.loc[:, 'Wounded'].sum()
print("Total number of people Wounded due to Terrorist Attacks from 1970 to 2017 across the world :\n",wounded_affected)

Total number of people Wounded due to Terrorist Attacks from 1970 to 2017 across the world :
523869.0
```

▾ Observations

Year wise Attacks :

(i) Attacks

(a) Most number of attacks: 16903 in 2014

(b) Least number of attacks: 471 in 1971

(ii) Casualties

(a) Most number of casualties: 85618 in 2014

(b) Least number of casualties: 255 in 1971

(iii) Killed

(a) Most number of people killed: 44490 in 2014

(b) Least number of people killed: 173 in 1971

(iv) Wounded

(a) Most number of people wounded: 44043 in 2015

(b) Least number of people wounded: 82 in 1971

2. Region wise Attacks :

(i) Attacks

(a) Most number of attacks: 50474 in "Middle East & North Africa"

(b) Least number of attacks: 282 in "Australasia & Oceania"

(ii) Casualties

(a) Most number of casualties: 351950 in "Middle East & North Africa"

(b) Least number of casualties: 410 in Australasia & Oceania

(iii) Killed

(a) Most number of people killed: 137642 in "Middle East & North Africa"

(b) Least number of people killed: 150 in "Australasia & Oceania"

(iv) Wounded

(a) Most number of people wounded: 214308 in "Middle East & North Africa"

(b) Least number of people wounded: 260 in "Australasia & Oceania"

3. Country wise Attacks [Top 10] :

(i) Attacks

(a) Most number of attacks: 24636 in "Iraq"

(b) Least number of attacks: 4292 in "Turkey"

(ii) Casualties

- (a) Most number of casualties: 213279 in "Iraq"
- (b) Least number of casualties: 22926 in "Philippines"

(iii) Killed

- (a) Most number of people killed: 78589 in "Iraq"
- (b) Least number of people killed: 12053 in "El Salvador"

(iv) Wounded

- (a) Most number of people wounded: 134690 in "Iraq"
- (b) Least number of people wounded: 10328 in "Colombia"

4. City wise Attacks [Top 10] :

(i) Attacks

- (a) Most number of attacks: 7589 in "Baghdad"
- (b) Least number of attacks: 1019 in "Athens"

(ii) Casualties

- (a) Most number of casualties: 77876 in "Baghdad"
- (b) Least number of casualties: 5748 in "Aleppo"

(iii) Killed

- (a) Most number of people killed: 21151 in "Baghdad"
- (b) Least number of people killed: 2125 in "Aleppo"

(iv) Wounded

- (a) Most number of people wounded: 56725 in "Baghdad"
- (b) Least number of people wounded: 4955 in "Mogadishu"

5. Terrorist Group wise Attacks [Top 10] :

(i) Attacks

- (a) Most number of attacks : 7478 by "Taliban"
- (b) Least number of attacks : 2418 by "Boko Haram"

(ii) Casualties

- (a) Most number of casualties : 69595 by "Islamic State of Iraq and the Levant (ISIL)"
- (b) Least number of casualties : 12130 by "Farabundo Marti National Liberation Front (FMLN)"

(iii) Killed

- (a) Most number of people killed : 38923 by "Islamic State of Iraq and the Levant (ISIL)"
- (b) Least number of people killed : 5661 by "Revolutionary Armed Forces of Colombia (FARC)"

(iv) Wounded

- (a) Most number of people wounded : 30672 by "Islamic State of Iraq and the Levant (ISIL)"
- (b) Least number of people wounded : 4908 by "Kurdistan Workers' Party (PKK)"

6. Attack Type wise Attacks:

(i) Attacks

- (a) Most number of attacks : 88255 by "Bombing/Explosion"
- (b) Least number of attacks : 659 by "Hijacking"

(ii) Casualties

- (a) Most number of casualties : 530007 by "Bombing/Explosion"
- (b) Least number of casualties : 7407 by "Facility/Infrastructure Attack"

(iii) Killed

- (a) Most number of people killed : 160297 by "Armed Assault"

(b) Least number of people killed : 880 by "Unarmed Assault"

(iv) Wounded

(a) Most number of people wounded : 372686 by "Bombing/Explosion"

(b) Least number of people wounded : 3765 by "Facility/Infrastructure Attack"

7. Target Type wise Attacks

: (i) Attacks

(a) Most number of attacks : 43511 over "Private Citizens & Property"

(b) Least number of attacks : 263 over "Abortion Related"

(ii) Casualties

(a) Most number of casualties : 319176 over "Private Citizens & Property"

(b) Least number of casualties : 56 over "Abortion Related"

(iii) Killed

(a) Most number of people killed : 140504 over "Private Citizens & Property"

(b) Least number of people killed : 10 over "Abortion Related"

(iv) Wounded

(a) Most number of people wounded : 178672 over "Private Citizens & Property"

(b) Least number of people wounded : 46 over "Abortion Related"

8. Group and Country wise Attacks [Top 10] :

(i) Attacks

(a) Most number of attacks : 7423 by "Taliban" in "Afghanistan"

(b) Least number of attacks : 2087 by "Boko Haram" in "Nigeria"

(ii) Casualties

(a) Most number of casualties : 57140 by "Taliban" in "Afghanistan"

(b) Least number of casualties : 12068 by "Farabundo Marti National Liberation Front (FMLN)" in "El Salvador"

(iii) Killed

(a) Most number of people killed : 31058 by "Islamic State of Iraq and the Levant (ISIL)" in "Iraq"

(b) Least number of people killed : 6014 by "Tehrik-i-Taliban Pakistan (TTP)" in "Pakistan"

(iv) Wounded

(a) Most number of people wounded : 27871 by "Taliban" in "Afghanistan"

(b) Least number of people wounded : 4795 by "Kurdistan Workers' Party (PKK)" in "Turkey"

9. Humanity Affected (World-wide) by Terrorist Attacks from 1970 to 2017 :

(i) Total number of Casualties due to Terrorist Attacks from 1970 to 2017 across the world : 935737

(ii) Total number of people killed due to Terrorist Attacks from 1970 to 2017 across the world : 411868

(iii) Total number of people killed due to Terrorist Attacks from 1970 to 2017 across the world : 523869

Double-click (or enter) to edit

Double-click (or enter) to edit