Exploration of IndiaTerror data using python

In [1]:

```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
```

In [2]:

```
df = pd.read_csv('indiadata.csv')
```

Before exploring we should have clear knowledge what the data is, its size, type etc so that it it will be easier to get into the details.Let me first discover the shape of data and what columns does it have along with its data types.

In [3]:

```
df.shape
```

Out[3]:

```
(4972, 14)
```

In [4]:

```
df.columns
```

Out[4]:

```
Index([u'Year', u'City', u'Country', u'latitude', u'longitude', u'attack t
ype',
       u'Target Type', u'Target Sub Type', u'Target', u'Weapon Type',
       u'Weapon sub type', u'Terrorist Organization', u'motive', u'summar
y'],
      dtype='object')
```

In [5]:

```
df.dtypes
```

Out[5]:

```
Year                       int64
City                      object
Country                   object
latitude                 float64
longitude                float64
attack type               object
Target Type               object
Target Sub Type           object
Target                    object
Weapon Type               object
Weapon sub type           object
Terrorist Organization    object
motive                    object
summary                   object
dtype: object
```

As we see we have 4972 rows and 14 columns. As we know before doing any anlysis we should first treat the null values as these cause problems.

In [6]:

```
df.isnull().sum()
```

Out[6]:

```
Year                      0
City                      0
Country                   0
latitude                  0
longitude                 0
attack type               0
Target Type               0
Target Sub Type           0
Target                    0
Weapon Type               0
Weapon sub type           0
Terrorist Organization    0
motive                    0
summary                   0
dtype: int64
```

Fortunately the dataset does not contain any null values.Lets explore it. I will first check the first 3 rows to get an idea of the dataset.

In [7]:

```
df.head(3)
```

Out[7]:

	Year	City	Country	latitude	longitude	attack type	Target Type
0	1975	Samastipur	India	25.863042	85.781004	Bombing/Explosion	Government (General)
1	1997	Unknown	India	33.778175	76.576171	Bombing/Explosion	Transportation
2	1997	Dhalai district	India	23.846698	91.909924	Bombing/Explosion	Military

The date of attack is mentioned in thee summary section. I will extract the date from summary and make another column.

In [8]:

```
df['date'] = df.summary.str.split(':').str.get(0)
df['summary'] = df.summary.str.split(':').str.get(1).str.strip()
```

In [9]:

```
df.head(2)
```

Out[9]:

	Year	City	Country	latitude	longitude	attack type	Target Type
0	1975	Samastipur	India	25.863042	85.781004	Bombing/Explosion	Government (General)
1	1997	Unknown	India	33.778175	76.576171	Bombing/Explosion	Transportatior

What are the attacks types and the weapons used?

Lets first check what type of attcks have been conducted and what are the weapons that are used in these attacks.

In [10]:

```
df['attack type'].value_counts()
```

Out[10]:

```
Bombing/Explosion                      2041
Armed Assault                          1516
Hostage Taking (Kidnapping)             593
Facility/Infrastructure Attack          439
Assassination                           201
Unknown                                 127
Unarmed Assault                          33
Hijacking                                13
Hostage Taking (Barricade Incident)       9
Name: attack type, dtype: int64
```

In [11]:

```
df['Weapon Type'].value_counts()
```

Out[11]:

```
Explosives/Bombs/Dynamite
     2127
Firearms
     1815
Incendiary
      382
Unknown
      374
Melee
      243
Sabotage Equipment
       20
Chemical
        7
Vehicle (not to include vehicle-borne explosives, i.e., car or truck bomb
s)       4
Name: Weapon Type, dtype: int64
```

As we see the attacks are done by using some common weapons.The most used weapon is Explosives/Bombs/Dynamite which is used 2127 times after which Firearms are most used weapons.Then kidnapping comes into picture.Though chemicals and vehicles were used but not many a times.Many attacks and weapons are reported unknown also.Now lets dig into it i.e lets explore the actuals weapons used in the attacks.

In [12]:

```
df.groupby('Weapon Type')['Weapon sub type'].value_counts()
```

Out[12]:

Weapon Type	Weapon sub type	
Chemical		
	.	4
	Poisoning	3
Explosives/Bombs/Dynamite		
	Unknown Explosive Type	674
	Grenade	536
	Other Explosive Type	316
	Land Mine	266
	Remote Trigger	81
	Vehicle	75
	Time Fuse	61
	Dynamite/TNT	53
	Projectile (rockets, mortars, RPGs, etc.)	43
	Suicide (carried bodily by human being)	11
	Pressure Trigger	7
	Letter Bomb	2
	Sticky Bomb	2
Firearms		
	Unknown Gun Type	1566
	Automatic Weapon	180
	Handgun	44
	Other Gun Type	12
	Rifle/Shotgun (non-automatic)	11
	.	2
Incendiary		
	Arson/Fire	329
	Gasoline or Alcohol	46
	Molotov Cocktail/Petrol Bomb	6
	.	1
Melee		
	Knife or Other Sharp Object	181
	Hands, Feet, Fists	30
	Blunt Object	25
	Unknown Weapon Type	3

```
   Unknown Weapon Type                                    3

   Rope or Other Strangling Device                        2

   .                                                      1

   Suffocation                                            1
Sabotage Equipment
   .                                                     20
Unknown
   .                                                    374
Vehicle (not to include vehicle-borne explosives, i.e., car or truck bomb
s)  .                                                    4
Name: Weapon sub type, dtype: int64
```

Who the targets were?

In [13]:

```
df['Target Type'].value_counts()
```

Out[13]:

```
Private Citizens & Property       1538
Government (General)               878
Police                             787
Business                           423
Transportation                     369
Military                           313
Educational Institution            130
Terrorists/Non-State Militia       103
Telecommunication                   89
Violent Political Party             86
Unknown                             83
Religious Figures/Institutions      66
Utilities                           47
Journalists & Media                 25
Tourists                            12
NGO                                  9
Other                                6
Airports & Aircraft                  3
Food or Water Supply                 3
Maritime                             1
Government (Diplomatic)              1
Name: Target Type, dtype: int64
```

In [ ]:

```
We can see private properties are the most attacked targets.Then comes Government which
 is a commo news and ofcourse the police
military are the next targets.then come the telecommunication, education institution an
d religious institutions.There are also
some targets like NGO,airports etc but they dont have significant numbers. Now lets get
 into deeper to see who the actual
victims are.
```

In [14]:

```
df.groupby('Target Type')['Target Sub Type'].value_counts()
```

Out[14]:

Target Type	Target Sub Type	
Airports & Aircraft	Aircraft (not at an airport)	2
	Airport	1
Business	Construction	142
	.	73
	Retail/Grocery/Bakery	51
	Mining	27
	Gas/Oil	23
	Medical/Pharmaceutical	22
	Industrial/Textiles/Factory	19
	Farm/Ranch	18
	Entertainment/Cultural/Stadium/Casino	12
	Hotel/Resort	11
	Bank/Commerce	10
	Multinational Corporation	9
	Restaurant/Bar/Caf&#65533;	6
Educational Institution	School/University/Educational Building	88
	Teacher/Professor/Instructor	26
	Other Personnel	16
Food or Water Supply	Water Supply	2
	Food Supply	1
Government (Diplomatic)	Embassy/Consulate	1
Government (General)	Politician or Political Party Movement/Meeting/Rally	316
	Government Personnel (excluding police, military)	297
	Government Building/Facility/Office	143
	Election-related	101
	Judge/Attorney/Court	12
	Intelligence	7
	.	1
	Head of State	1

```
                 1
Journalists & Media              Newspaper Journalist/Staff/Facility
                21

               ...
Private Citizens & Property      Museum/Cultural Center/Cultural House
                 1
Religious Figures/Institutions   Place of Worship
                35
                                 Religious Figure
                19
                                 Affiliated Institution
                 8
                                 .
                 4
Telecommunication                Telephone/Telegraph
                67
                                 .
                14
                                 Multiple Telecommunication Targets
                 6
                                 Television
                 2
Terrorists/Non-State Militia     Terrorist
                76
                                 Non-State Militia
                17
                                 .
                10
Tourists                         Tourist
                 8
                                 Tour Bus/Van
                 4
Transportation                   Train/Train Tracks/Trolley
               206
                                 Bus (excluding tourists)
                74
                                 Bridge/Car Tunnel
                43
                                 Bus Station/Stop
                29
                                 Highway/Road/Toll/Traffic Signal
                11
                                 .
                 2
                                 Subway
                 2
                                 Taxi/Rickshaw
                 2
Unknown                          .
                83
Utilities                        Electricity
                20
                                 Oil
                14
                                 Gas
                 7
                                 .
                 6
Violent Political Party          Party Official/Candidate/Other Personnel
                73
                                 Rally
```

```
7
                                Party Office/Facility
6
Name: Target Sub Type, dtype: int64
```

In [ ]:

```
The airports seem most secured place as there are hardly any attacks happened.We can se
e most of the attacks are to the
government personnel,buildings,political party meetings etc which states they are at th
e top of the hater list.Though
many attacks also done to the education institutes but all the attacks are intended to
either to buldings or instructors,
but not to the students.In transportation trains are the common victims and so the cons
tructions in Business.
```

Who is conducting the attacks?

In [15]:

```
df['Terrorist Organization'].value_counts().head(50)
```

Out[15]:

```
Communist Party of India - Maoist (CPI-Maoist)                  1547
Unknown                                                         1415
Maoists                                                          385
United Liberation Front of Assam (ULFA)                          238
National Democratic Front of Bodoland (NDFB)                     106
Lashkar-e-Taiba (LeT)                                            100
Other                                                             92
Hizbul Mujahideen (HM)                                            88
Garo National Liberation Army                                     82
People's War Group (PWG)                                          62
National Liberation Front of Tripura (NLFT)                       62
National Socialist Council of Nagaland-Isak-Muivah (NSCN-IM)      50
Indian Mujahideen                                                 34
Naxalites                                                         34
People's Liberation Army (India)                                  33
Kangleipak Communist Party (KCP)                                  30
Militants                                                         29
Maoist Communist Center (MCC)                                     24
People's Liberation Front of India                                24
Dima Halao Daoga (DHD)                                            24
People's Committee against Police Atrocities (PCPA)               22
National Socialist Council of Nagaland-Khaplang (NSCN-K)          21
Jaish-e-Mohammad (JeM)                                            18
Al-Mansoorian                                                     16
Karbi Longri North Cachar Liberation Front (KLNLF)                15
People's Revolutionary Party of Kangleipak (PREPAK)               14
United National Liberation Front (UNLF)                           13
Coordination Committee (CORCOM)                                   12
Al-Ummah                                                          12
Students Islamic Movement of India (SIMI)                         12
Muslim Militants                                                  12
Black Widows                                                      11
Harkatul Jihad-e-Islami                                           10
Karbi People's Liberation Tigers (KPLT)                           10
Tritiya Prastuti Committee (India)                                 9
Kanglei Yawol Kanna Lup (KYKL)                                     9
Bodo Liberation Tigers (BLT)                                       8
Jamiat ul-Mujahedin (JuM)                                          8
Gunmen                                                             8
Deccan Mujahideen                                                  8
Communist Party of India- Marxist-Leninist                         8
United People's Democratic Solidarity (UPDS)                       7
All Tripura Tiger Force (ATTF)                                     7
People's United Liberation Front (PULF)                            6
Achik National Volunteer Council-B (ANVC-B)                        5
Jharkhand Liberation Tigers (JLT)                                  5
Adivasi National Liberation Army (ANLA)                            5
Vishwa Hindu Parishad (VHP)                                        5
Kuki National Front (KNF)                                          5
Lashkar-e-Islam (India)                                            5
Name: Terrorist Organization, dtype: int64
```

As we see the most attacks had been conducted by the Maoists including CPI maoists after which ULFA, NDFB, LET and HM seem involved most actively in terrosism.Some small anti govt organisations like SIMI,NLFT,NSCM etc have also done significant attacks.

What are the most common cities where attacks are conducted?

In [16]:

```
df.City.value_counts().head(10)
```

Out[16]:

```
Imphal                    230
Srinagar                  222
Unknown                   137
Guwahati                   61
Sopore                     40
New Delhi                  38
Latehar district           37
West Midnapore district    36
Malkangiri district        34
Anantnag                   32
Name: City, dtype: int64
```

We can see most of the attacks are happening in the nort zone where the terrorist organisations stay most actively.In the west there are also some areas like Malkanangiri in Odisha where Maoists are hide most actively.

But what do they want ?