

### Exploratory Data Analysis on Global Terrorism

Dataset:--- https://drive.google.com/drive/folders/14hpoXhDQgP2x5gGAcYwunA6tMlNPZEKG

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

#### Reading the Data and Analyzing

```
Terr data = pd.read csv(r'C:\Users\user\Desktop\Terrorism.csv',
encoding='latin')
C:\Users\user\AppData\Local\Temp\ipykernel 11420\1843720532.py:1:
DtypeWarning: Columns
(4,6,31,33,61,62,63,76,79,90,92,94,96,114,115,121) have mixed types.
Specify dtype option on import or set low memory=False.
  Terr data = pd.read csv(r'C:\Users\user\Desktop\Terrorism.csv',
encoding='latin')
Terr data
                       ivear
                               imonth
                                       iday approxdate
              eventid
resolution
        197000000001
                        1970
                                           2
                                                    NaN
                                                                 0
NaN
1
        197000000002
                        1970
                                                    NaN
                                                                 0
NaN
2
        197001000001
                        1970
                                           0
                                                    NaN
                                                                 0
NaN
        197001000002
3
                        1970
                                           0
                                                    NaN
                                                                 0
NaN
4
        197001000003
                        1970
                                                    NaN
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NaN
. . .
181686
        201712310022
                        2017
                                   12
                                         31
                                                    NaN
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181687
        201712310029
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181688
        201712310030
                        2017
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        201712310031
                        2017
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```

| NaN  |  |   |  |                                     |  |                  |
|--|--|---|--|-------------------------------------|--|------------------|
| 181690<br>NaN                                  | 20171231                                 | .0032 2017  | 12   | 31                                  | NaN                                      | 0                |
| IVAIV  | count my                                 | coun  | +  | roaion                              | addmata.                                 | - \              |
| 0<br>1<br>2<br>3<br>4                          | country<br>58<br>130<br>160<br>78<br>101 | Dominican R   | try_txt<br>epublic<br>Mexico<br>ippines<br>Greece<br>Japan | region<br>2<br>1<br>5<br>8<br>4     | addnote: Nal Nal Nal Nal                 | N<br>N<br>N<br>N |
| 181686<br>181687<br>181688<br>181689<br>181690 | 182<br>200<br>160<br>92<br>160           | Phil  | Somalia<br>Syria<br>ippines<br>India<br>ippines            | 11<br>10<br>5<br>6<br>5             | Nal                                      | V<br>V<br>V      |
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| 181686<br>181687<br>181688<br>181689<br>181690 | "Putin's<br>"Maguind<br>"Trader          | : Al-Shabaab<br>s'victory' i<br>lanao clashes<br>escapes gren<br>sy tightened | n Syria h<br>trap tri<br>ade attad                         | nas turne<br>ibe membe<br>ck in Imp | ed into aers," Philohal," Bus            |                  |
| 0<br>1<br>2<br>3<br>4                          |  |   |  |                                     | scite<br>Nal<br>Nal<br>Nal<br>Nal<br>Nal | V<br>V<br>V      |
| 181686<br>181687<br>181688<br>181689<br>181690 | "Two Rus                                 | hts: Somalia<br>sian soldier<br>y tightened                                   | s kilĺed   | at Hmeyn                            | nim base i<br>Nal<br>Nal                 | N                |
| 0<br>1<br>2<br>3<br>4                          |  |   |  |                                     | scite<br>Nal<br>Nal<br>Nal<br>Nal<br>Nal | N<br>N<br>N<br>N |

| 181686<br>181687<br>181688<br>181689<br>181690 | "Highlights<br>"Two Russia |          |            |            |          |           |           |
|--|----------------------------|----------|------------|------------|----------|-----------|-----------|
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|  |                            | ar       | source     | INT_LOG    | TMI_TDE0 | INT_MISC  | INI_ANY   |
| related  |                            |          | DCTC       | 0          | 0        | 0         | 0         |
| 0<br>NaN                                       |                            |          | PGIS       | 0          | 0        | 0         | Θ         |
| nan<br>1                                       |                            |          | PGIS       | 0          | 1        | 1         | 1         |
| NaN  |                            |          | PG13       | О          | т.       | 1         | 1         |
| Nan<br>2                                       |                            |          | PGIS       | -9         | -9       | 1         | 1         |
| ∠<br>NaN                                       |                            |          | PG13       | -9         | - 9      | 1         | 1         |
| Nan<br>3                                       |                            |          | PGIS       | -9         | -9       | 1         | 1         |
| NaN  |                            |          | PG13       | -9         | - 9      | 1         | 1         |
| NaN<br>4                                       |                            |          | PGIS       | -9         | -9       | 1         | 1         |
|  |                            |          | PG13       | -9         | - 9      | 1         | 1         |
| NaN  |                            |          |            |            |          |           |           |
|  |                            |          |            |            |          |           |           |
| 101606   | CTART Deime                | . m Coll | action     | 0          | Θ        | 0         | 0         |
| 181686   | START Prima                | ary Coti | rection    | 0          | 9        | 0         | Θ         |
| NaN  | CTART Deime                | . m Coll | action     | 0          | 0        | 1         | 1         |
| 181687   | START Prima                | ary coci | ection     | -9         | -9       | 1         | 1         |
| NaN  | CTART Dadma                | Call     |            | 0          | 0        | 0         | 0         |
| 181688   | START Prima                | ary Coti | ection     | 0          | 0        | 0         | 0         |
| NaN  | CTART During               | C-11     |            | 0          | 0        | 0         | 0         |
| 181689   | START Prima                | ary Coti | ection     | -9         | -9       | 0         | - 9       |
| NaN  | CTART Deime                | . m Coll | oction     | 0          | -9       | 0         | - 9       |
| 181690   | START Prima                | ary Coti | ection     | -9         | -9       | 0         | - 9       |
| NaN  |                            |          |            |            |          |           |           |
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| [101091  | 10M2 X 133                 | Cocumins | <b>)</b> ] |            |          |           |           |
| # aetti  | ng the first               | t five i | ows valu   | ues        |          |           |           |
|  | ta.head()                  |          |            |            |          |           |           |
|  | 20.11.20.0.( )             |          |            |            |          |           |           |
|  |                            | year in  | nonth i    | day approx | date ex  | tended re | solution  |
| country  | \                          |          |            |            |          |           |           |
|  | 00000001                   | 1970     | 7          | 2          | NaN      | 0         | NaN       |
| 58   |                            |          |            |            |          |           |           |
| 1 1970   | 00000002                   | 1970     | Θ          | 0          | NaN      | 0         | NaN       |
| 130  |                            |          |            |            |          |           |           |
| 2 1970   | 01000001                   | 1970     | 1          | 0          | NaN      | 0         | NaN       |
| 160  |                            |          |            |            |          |           |           |
| 3 1970   | 01000002                   | 1970     | 1          | 0          | NaN      | 0         | NaN       |
| 78   |                            |          |            |            |          |           |           |
|  | 01000003                   | 1970     | 1          | 0          | NaN      | 0         | NaN       |
| 101  |                            |          |            |            |          |           |           |
|  |                            |          |            |            |          |           |           |
|  | country_1                  | txt red  | gion       | . addnotes | scitel   | scite2 s  | cite3     |
|  |                            |          |            |            |          |           |           |

| dbsourc<br>0 Domi  | e \                           |  |                                  |                        |                              |                   |        |     |
|--|-------------------------------|--|----------------------------------|------------------------|------------------------------|-------------------|--------|-----|
|  | nican R                       | epublic  | 2                                |                        | NaN                          | NaN               | NaN    | NaN |
| PGIS<br>1  |                               | Mexico   | 1                                |                        | NaN                          | NaN               | NaN    | NaN |
| PGIS<br>2  | Phil:                         | ippines  | 5                                |                        | NaN                          | NaN               | NaN    | NaN |
| PGIS<br>3  |                               | Greece   | 8                                |                        | NaN                          | NaN               | NaN    | NaN |
| PGIS   |                               |  |                                  |                        |                              |                   |        |     |
| 4<br>PGIS  |                               | Japan  | 4                                |                        | NaN                          | NaN               | NaN    | NaN |
| INT_<br>0<br>1<br>2<br>3<br>4                                    | LOG IN<br>0<br>0<br>-9<br>-9  | T_IDEO I<br>0<br>1<br>-9<br>-9   | NT_MISC<br>0<br>1<br>1<br>1<br>1 | INT_ANY<br>6<br>1<br>1 | ) Na<br>L Na<br>L Na<br>L Na | N<br>N<br>N       |        |     |
| [5 rows  | x 135                         | columns]   |                                  |                        |                              |                   |        |     |
| Terr_da  | ta.tail<br>e                  |  |                                  | values<br>imonth       | iday app                     | roxdate           | extend | ed  |
| resolut  | -                             |  |                                  |                        |                              |                   |        |     |
| 181686   | 2017123                       | 310022   | 2017                             | 12                     | 31                           | NaN               |        | 0   |
| NaN<br>181687  | 2017123                       |  | 2017                             | 12<br>12               | 31<br>31                     | NaN<br>NaN        |        | 0   |
| NaN<br>181687<br>NaN<br>181688                                   |                               | 310029   |                                  |                        |                              |                   |        |     |
| NaN<br>181687<br>NaN<br>181688<br>NaN<br>181689                  | 2017123                       | 310029<br>310030   | 2017                             | 12                     | 31                           | NaN               |        | Θ   |
| NaN<br>181687<br>NaN<br>181688<br>NaN                            | 2017123                       | 310029<br>310030<br>310031   | 2017<br>2017                     | 12<br>12               | 31<br>31                     | NaN<br>NaN        |        | 0   |
| NaN<br>181687<br>NaN<br>181688<br>NaN<br>181689<br>NaN<br>181690 | 2017123<br>2017123<br>2017123 | 310029<br>310030<br>310031<br>310032<br>y count<br>2 S<br>0 Phili<br>2 | 2017<br>2017<br>2017             | 12<br>12<br>12         | 31<br>31<br>31<br>31         | NaN<br>NaN<br>NaN |        | 0 0 |

```
scite2 \
        "Highlights: Somalia Daily Media Highlights 2 ...
181686
        "Two Russian soldiers killed at Hmeymim base i...
181687
181688
181689
                                                        NaN
        "Security tightened in Cotabato City," Manila ...
181690
        "Highlights: Somalia Daily Media Highlights 1 ...
181686
        "Two Russian servicemen killed in Syria mortar...
181687
181688
181689
                                                        NaN
181690
                                                        NaN
                         dbsource INT LOG INT IDEO INT MISC INT ANY
related
181686 START Primary Collection
                                         0
                                                    0
                                                             0
                                                                     0
NaN
        START Primary Collection
181687
                                         - 9
                                                   - 9
                                                                      1
NaN
181688 START Primary Collection
                                         0
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NaN
181689 START Primary Collection
                                        -9
                                                   - 9
                                                                     - 9
NaN
181690 START Primary Collection
                                        -9
                                                   - 9
                                                                     - 9
NaN
[5 rows x 135 columns]
```

### Understanding the dataset

```
Terr_data.shape
(181691, 135)

Terr_data.columns

Index(['eventid', 'iyear', 'imonth', 'iday', 'approxdate', 'extended', 'resolution', 'country', 'country_txt', 'region', 'iddnotes', 'scite1', 'scite2', 'scite3', 'dbsource', 'INT_LOG', 'INT_MISC', 'INT_ANY', 'related'], dtype='object', length=135)

Terr_data.describe()
```

```
eventid
                                               imonth
                                                                 iday
                                                                        \
                               ivear
count
       1.816910e+05
                       181691.000000
                                       181691.000000
                                                        181691.000000
       2.002705e+11
                         2002.638997
                                            6.467277
                                                            15.505644
mean
       1.325957e+09
                           13.259430
                                            3.388303
                                                             8.814045
std
min
       1.970000e+11
                         1970.000000
                                            0.000000
                                                             0.000000
25%
       1.991021e+11
                         1991,000000
                                            4.000000
                                                             8.000000
50%
       2.009022e+11
                         2009.000000
                                            6.000000
                                                            15.000000
75%
       2.014081e+11
                         2014,000000
                                            9.000000
                                                            23,000000
                         2017.000000
                                           12.000000
max
       2.017123e+11
                                                            31.000000
                                                region
                                                              latitude
             extended
                              country
       181691.000000
                                        181691.000000
                        181691.000000
                                                         177135.000000
count
mean
             0.045346
                           131.968501
                                              7.160938
                                                             23.498343
             0.208063
                           112.414535
                                              2.933408
                                                             18.569242
std
min
             0.000000
                             4.000000
                                              1.000000
                                                            -53.154613
25%
             0.000000
                            78,000000
                                              5.000000
                                                             11.510046
50%
             0.000000
                            98.000000
                                              6.000000
                                                             31.467463
75%
             0.00000
                           160.000000
                                            10.000000
                                                             34.685087
             1.000000
                          1004.000000
                                            12.000000
                                                             74.633553
max
          longitude
                         specificity
                                                             ransomamtus
                                                                           \
                                                ransomamt
count
       1.771340e+05
                       181685.000000
                                            1.350000e+03
                                                            5.630000e+02
                                       . . .
      -4.586957e+02
                            1.451452
                                            3.172530e+06
                                                            5.784865e+05
mean
       2.047790e+05
                            0.995430
                                            3.021157e+07
                                                            7.077924e+06
std
min
      -8.618590e+07
                            1.000000
                                            -9.900000e+01
                                                           -9.900000e+01
25%
       4.545640e+00
                            1.000000
                                            0.000000e+00
                                                            0.000000e+00
50%
       4.324651e+01
                            1.000000
                                            1.500000e+04
                                                            0.000000e+00
75%
       6.871033e+01
                            1.000000
                                            4.000000e+05
                                                            0.000000e+00
       1.793667e+02
                            5.000000
                                            1.000000e+09
                                                            1.320000e+08
max
          ransompaid
                       ransompaidus
                                      hostkidoutcome
                                                           nreleased
                                        10991.000000
count
       7.740000e+02
                         552.000000
                                                        10400.000000
       7.179437e+05
                         240.378623
                                            4.629242
                                                          -29.018269
mean
std
       1.014392e+07
                        2940,967293
                                            2.035360
                                                           65.720119
      -9.900000e+01
                         -99.000000
                                            1.000000
                                                          -99.000000
min
      -9.900000e+01
                           0.00000
                                                          -99.000000
25%
                                            2.000000
50%
       0.000000e+00
                           0.000000
                                            4.000000
                                                            0.00000
75%
       1.273412e+03
                           0.000000
                                            7.000000
                                                            1.000000
       2.750000e+08
                       48000.000000
                                            7.000000
                                                         2769.000000
max
              INT LOG
                             INT IDEO
                                              INT MISC
                                                               INT ANY
count
       181691.000000
                        181691.000000
                                        181691.000000
                                                         181691.000000
            -4.543731
                            -4.464398
                                              0.090010
                                                             -3.945952
mean
std
             4.543547
                             4.637152
                                              0.568457
                                                              4.691325
min
            -9.000000
                            -9.000000
                                             -9.000000
                                                             -9.000000
                                                             -9.000000
25%
            -9.000000
                            -9.000000
                                              0.000000
50%
            -9.000000
                            -9.000000
                                              0.000000
                                                              0.000000
75%
             0.000000
                             0.000000
                                              0.000000
                                                              0.000000
             1.000000
                                              1.000000
                                                              1.000000
max
                             1.000000
```

```
[8 rows x 77 columns]
```

As we all can see that the data has lots of Null values so lets find the percentage of null values in our dataset.

```
missing_values =
(((Terr_data.isnull().sum()).sum())/Terr_data.size)*100
missing_values
56.481718962414206
```

So we found the dataset has 50% more than null values so we have to clean the dataset first.

#### **Data Cleaning**

First we rename the columns name as per mine utility

```
Terr_data.rename(columns={'iyear':'Year','imonth':'Month','iday':'Day'
,'country_txt':'Country','provstate':'State',
'region_txt':'region','attacktype1_txt':'attack_type','target1':'Targe
t', 'nkill': 'Killed',
                          'nwound':'wounded',
'gname':'Group','targtype1_txt':'Target_type','weaptype1_txt':'Weapon_
type',
'latitude': 'Latitude', 'longitude': 'Longitude', 'city': 'city'},
inplace=True)
Terr data.head()
                                               extended resolution
        eventid Year Month Day approxdate
country
   197000000001
                 1970
                                 2
                                          NaN
                                                       0
                                                                NaN
0
58
                 1970
1
   197000000002
                            0
                                          NaN
                                                                NaN
130
   197001000001
                 1970
                            1
                                 0
                                          NaN
                                                                NaN
160
3
   197001000002
                                                                NaN
                 1970
                            1
                                          NaN
78
  197001000003
                 1970
                            1
                                 0
                                          NaN
                                                       0
                                                                NaN
101
              Country region ... addnotes scite1 scite2
                                                             scite3
dbsource \
0 Dominican Republic
                             2 ...
                                         NaN
                                                 NaN
                                                        NaN
                                                                NaN
PGIS
```

| PGIS 2   |
|--|
| <pre>3     Greece    8</pre>   |
| PGIS 4   |
| INT_LOG  |
| <pre>INT_LOG INT_IDEO INT_MISC INT_ANY related 0</pre>   |
| <pre>0</pre>   |
| <pre>2</pre>   |
| 3 -9 -9 1 1 1 NaN  [5 rows x 135 columns]  Terr_data =  Terr_data[['Year','Month','Day','Country','State','region','city','Lat itude','Longitude', 'attack_type','Group',  'Killed','wounded','Target','Target_type','Weapon_type']]  Terr_data.head(10)  Year Month Day Country State region \ 0 1970 7 2 Dominican Republic NaN 2 1 1970 0 0 Mexico Federal 1 2 1970 1 0 Philippines Tarlac 5 3 1970 1 0 Greece Attica 8 |
| <pre>[5 rows x 135 columns] Terr_data = Terr_data[['Year','Month','Day','Country','State','region','city','Lat itude','Longitude', 'attack_type','Group',  'Killed','wounded','Target','Target_type','Weapon_type']] Terr_data.head(10)  Year Month Day Country State region \ 0 1970 7 2 Dominican Republic NaN 2 1 1970 0 0 Mexico Federal 1 2 1970 1 0 Philippines Tarlac 5 3 1970 1 0 Greece Attica 8</pre>            |
| <pre>Terr_data = Terr_data[['Year','Month','Day','Country','State','region','city','Lat itude','Longitude', 'attack_type','Group',  'Killed','wounded','Target','Target_type','Weapon_type']] Terr_data.head(10)  Year Month Day Country State region \ 0 1970 7 2 Dominican Republic NaN 2 1 1970 0 0 Mexico Federal 1 2 1970 1 0 Philippines Tarlac 5 3 1970 1 0 Greece Attica 8</pre>                                   |
| <pre>Terr_data[['Year','Month','Day','Country','State','region','city','Lat itude','Longitude', 'attack_type','Group',  'Killed','wounded','Target','Target_type','Weapon_type']] Terr_data.head(10)  Year Month Day Country State region \ 0 1970 7 2 Dominican Republic NaN 2 1 1970 0 0 Mexico Federal 1 2 1970 1 0 Philippines Tarlac 5 3 1970 1 0 Greece Attica 8</pre>   |
| Terr_data.head(10)  Year Month Day Country State region \ 0 1970    7    2 Dominican Republic NaN    2 1 1970    0   |
| 0       1970       7       2       Dominican Republic       NaN       2         1       1970       0       0       Mexico       Federal       1         2       1970       1       0       Philippines       Tarlac       5         3       1970       1       0       Greece       Attica       8   |
| 1 1970 0 0 Mexico Federal 1<br>2 1970 1 0 Philippines Tarlac 5<br>3 1970 1 0 Greece Attica 8   |
| 3 1970 1 0 Greece Attica 8   |
|  |
| 4 1970 1 0 Japan Fukouka 4   |
| 5 1970 1 1 United States Illinois 1<br>6 1970 1 2 Uruguay Montevideo 3   |
| 7 1970 1 2 United States California 1  |
| 8 1970 1 2 United States Wisconsin 1<br>9 1970 1 3 United States Wisconsin 1   |
| region city Latitude   |
| Longitude \  |
| O Central America & Caribbean Santo Domingo 18.456792 -69.951164   |
| 1 North America Mexico city 19.371887 -99.086624   |
| 2 Southeast Asia Unknown 15.478598 120.599741  |
| 3 Western Europe Athens 37.997490 23.762728  |
| 4 East Asia Fukouka 33.580412 130.396361   |
|  |

| 6   | South America                                    | Montevideo -34.891151 -56.187214  |
|---|--|---|
| 7   | North America                                    | Oakland 37.791927 -122.225906   |
| 8   | North America                                    | Madison 43.076592 -89.412488  |
| 9   | North America                                    | Madison 43.072950 -89.386694  |
| Killed \  | attack_type                                      | Group   |
| 0<br>1.0  | Assassination                                    | MANO - D  |
|   | age Taking (Kidnapping)                          | 23rd of September Communist League  |
| 2   | Assassination                                    | Unknown   |
| 3   | Bombing/Explosion                                | Unknown   |
| NaN<br>4 Facilit<br>NaN   | y/Infrastructure Attack                          | Unknown   |
| 5<br>0.0  | Armed Assault                                    | Black Nationalists  |
| 6   | Assassination                                    | Tupamaros (Uruguay)   |
| 0.0<br>7  | Bombing/Explosion                                | Unknown   |
| 0.0<br>8 Facilit<br>0.0   | y/Infrastructure Attack                          | New Year's Gang   |
|   | y/Infrastructure Attack                          | New Year's Gang   |
| wounded 0 0.0 1 0.0 2 0.0 3 NaN 4 NaN 5 0.0 6 0.0 7 0.0 8 0.0 9 0.0 | Juan Maria de Lucah/Ch<br>R.O.T.C. offices at Un | Target \ Julio Guzman Nadine Chaval, daughter Employee U.S. Embassy U.S. Consulate Cairo Police Headquarters ief of Directorate of in Edes Substation iversity of Wisconsin, M quarters in Madison Wisc |
| 1 Gov<br>2<br>3 Gov   |  | pon_type Unknown Unknown Unknown plosives cendiary  |

```
5
                        Police
                                   Firearms
6
                        Police
                                   Firearms
7
                     Utilities
                                Explosives
8
                      Military
                                Incendiary
9
          Government (General)
                                Incendiary
# getting unique values in columns
for i in Terr data.columns:
    print(i,Terr data[i].nunique())
Year 47
Month 13
Day 32
Country 205
State 2855
region region
                 12
region
          12
dtype: int64
region region
                 12
region
          12
dtype: int64
city 36674
Latitude 48322
Longitude 48039
attack type 9
Group 3537
Killed 205
wounded 238
Target 86006
Target type 22
Weapon type 12
# getting information about dataset
Terr data.info()
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 181691 entries, 0 to 181690
Data columns (total 17 columns):
#
     Column
                  Non-Null Count
                                   Dtype
- - -
0
                  181691 non-null
     Year
                                   int64
1
     Month
                  181691 non-null int64
 2
     Day
                  181691 non-null int64
 3
     Country
                  181691 non-null
                                   object
 4
                  181270 non-null object
     State
 5
     region
                  181691 non-null
                                   int64
 6
     region
                  181691 non-null
                                   object
 7
     city
                  181257 non-null object
8
     Latitude
                  177135 non-null float64
 9
                  177134 non-null float64
     Longitude
```

```
10 attack_type 181691 non-null
                                 object
11
    Group
                181691 non-null object
12
    Killed
                171378 non-null float64
13 wounded
                165380 non-null float64
14 Target
                181055 non-null object
    Target_type 181691 non-null object
15
16 Weapon type 181691 non-null object
dtypes: float64(4), int64(4), object(9)
memory usage: 23.6+ MB
```

As we can see that "Killed" and "Wounded" have lots of Missing values, so we have to fill the null values.

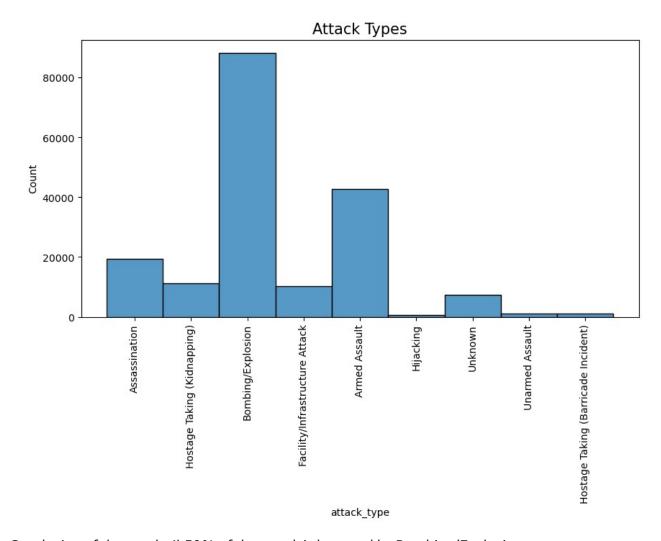
```
Terr data['Killed'] = Terr data['Killed'].fillna(0).astype(int)
Terr data['wounded'] = Terr data['wounded'].fillna(0).astype(int)
C:\Users\user\AppData\Local\Temp\ipykernel 11420\1082661408.py:1:
SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row indexer,col indexer] = value instead
See the caveats in the documentation:
https://pandas.pydata.org/pandas-docs/stable/user guide/indexing.html#
returning-a-view-versus-a-copy
  Terr data['Killed'] = Terr data['Killed'].fillna(0).astype(int)
C:\Users\user\AppData\Local\Temp\ipykernel 11420\1082661408.py:2:
SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row indexer,col indexer] = value instead
See the caveats in the documentation:
https://pandas.pydata.org/pandas-docs/stable/user guide/indexing.html#
returning-a-view-versus-a-copy
 Terr data['wounded'] = Terr data['wounded'].fillna(0).astype(int)
Terr data.info()
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 181691 entries, 0 to 181690
Data columns (total 17 columns):
     Column
                  Non-Null Count
#
                                   Dtype
     _ _ _ _ _ _
 0
     Year
                  181691 non-null int64
 1
                  181691 non-null int64
     Month
 2
     Day
                  181691 non-null int64
 3
                  181691 non-null object
     Country
4
     State
                  181270 non-null object
 5
                  181691 non-null int64
     region
 6
     region
                  181691 non-null
                                   object
 7
     city
                  181257 non-null object
```

```
Latitude
                 177135 non-null float64
    Longitude
9
                 177134 non-null float64
10 attack type
                 181691 non-null object
 11 Group
                 181691 non-null object
12 Killed
                 181691 non-null int32
                 181691 non-null int32
13 wounded
14 Target
                 181055 non-null object
15 Target_type 181691 non-null object
16 Weapon type 181691 non-null
                                 object
dtypes: float64(2), int32(2), int64(4), object(9)
memory usage: 22.2+ MB
```

Now data is Cleaned

### Getting the types of Attack

```
Terr data['attack type'].value counts()
Bombing/Explosion
                                        88255
Armed Assault
                                        42669
Assassination
                                        19312
Hostage Taking (Kidnapping)
                                        11158
Facility/Infrastructure Attack
                                        10356
Unknown
                                         7276
Unarmed Assault
                                         1015
Hostage Taking (Barricade Incident)
                                          991
Hijacking
                                          659
Name: attack type, dtype: int64
(Terr data['attack type'].value counts()/Terr data.shape[0])*100
Bombing/Explosion
                                        48.574228
Armed Assault
                                        23.484377
Assassination
                                        10.629035
Hostage Taking (Kidnapping)
                                         6.141196
Facility/Infrastructure Attack
                                         5.699787
Unknown
                                         4.004601
Unarmed Assault
                                         0.558641
Hostage Taking (Barricade Incident)
                                         0.545432
                                         0.362704
Hijacking
Name: attack type, dtype: float64
# showing Histogram for understanding the attack type
plt.figure(figsize=(10,5))
sns.histplot(Terr data['attack type'], palette='flare')
plt.title("Attack Types", fontsize = 15)
plt.xticks(rotation=90)
plt.show()
```



Conclusion of the graph: 1) 50% of the attack is happend by Bombing/Explosion.

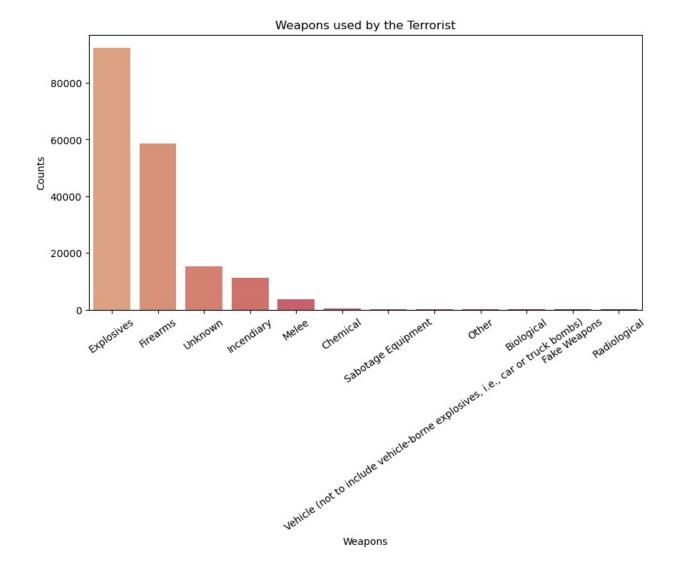
2) 10-20% of the attack is happend by Armed Assault and Assassination.

## Weapons used by the Terrorist

```
Terr_data['Weapon_type'].value_counts()

Explosives
92426
Firearms
58524
Unknown
15157
Incendiary
11135
Melee
```

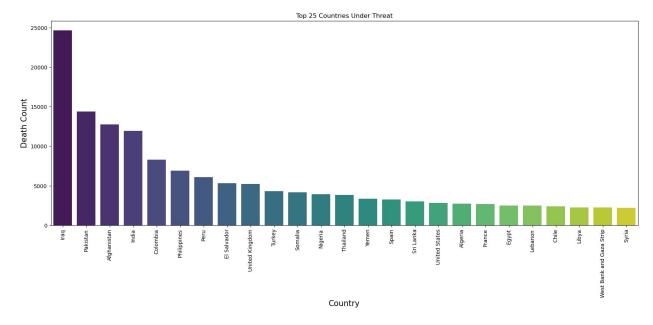
```
3655
Chemical
321
Sabotage Equipment
Vehicle (not to include vehicle-borne explosives, i.e., car or truck
bombs) 136
0ther
114
Biological
Fake Weapons
33
Radiological
Name: Weapon type, dtype: int64
# showing the about the used weapons by the terrorist
plt.figure(figsize=(10,5))
sns.barplot(Terr data['Weapon type'].value counts().index,
Terr data['Weapon type'].value counts().values, palette = 'flare')
plt.title('Weapons used by the Terrorist')
plt.xlabel('Weapons')
plt.ylabel('Counts')
plt.xticks(rotation=35)
plt.show()
C:\Users\user\anaconda3\lib\site-packages\seaborn\ decorators.py:36:
FutureWarning: Pass the following variables as keyword args: x, y.
From version 0.12, the only valid positional argument will be `data`,
and passing other arguments without an explicit keyword will result in
an error or misinterpretation.
 warnings.warn(
```



# Top 25 Country which suffer most from the Terrorism.

| Iraq       24636         Pakistan       14368         Afghanistan       12731         India       11960         Colombia       8306         Philippines       6908         Peru       6096         El Salvador       5320         United Kingdom       5235 | Terr_data.Country | .value_counts()[:25] |  |
|---|-------------------|----------------------|--|
| India 11960 Colombia 8306 Philippines 6908 Peru 6096 El Salvador 5320 United Kingdom 5235   | Pakistan          | 14368                |  |
| Peru 6096 El Salvador 5320 United Kingdom 5235  | India             | 11960                |  |
| United Kingdom 5235   | Peru              |                      |  |
|   |                   |                      |  |

```
Somalia
                             4142
                             3907
Nigeria
Thailand
                             3849
Yemen
                             3347
Spain
                             3249
Sri Lanka
                             3022
United States
                             2836
                             2743
Algeria
France
                             2693
Egypt
                             2479
Lebanon
                             2478
Chile
                             2365
                             2249
Libya
West Bank and Gaza Strip
                             2227
Syria
                             2201
Name: Country, dtype: int64
plt.figure(figsize = (20,7))
sns.barplot(Terr data['Country'].value counts()[:25].index,
Terr data['Country'].value counts()[:25].values, palette = 'viridis')
plt.xlabel('Country', fontsize = 15)
plt.ylabel('Death Count', fontsize = 15)
plt.title('Top 25 Countries Under Threat')
plt.xticks(rotation = 90)
plt.show()
C:\Users\user\anaconda3\lib\site-packages\seaborn\ decorators.py:36:
FutureWarning: Pass the following variables as keyword args: x, y.
From version 0.12, the only valid positional argument will be `data`
and passing other arguments without an explicit keyword will result in
an error or misinterpretation.
  warnings.warn(
```



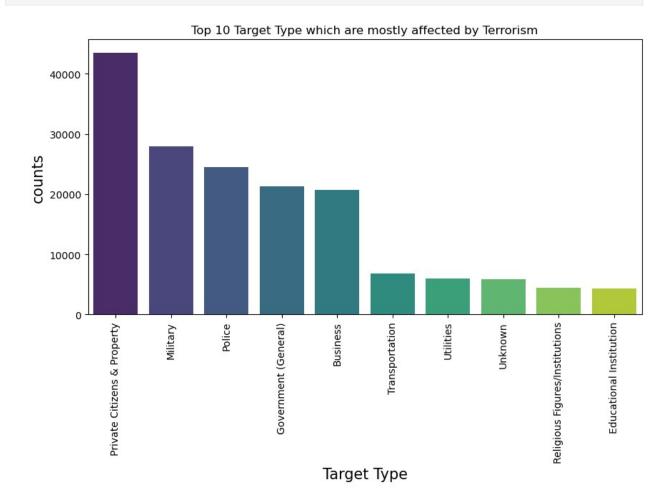
According to the graph Iraq has most death with the no. of 24636 death

# Top 10 Target Type which are mostly affected by Terrorism

```
Terr_data.Target_type.value_counts()[:10]
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
Name: Target_type, dtype: int64
# showing in graph the data
plt.figure(figsize=(10,5))
sns.barplot(Terr data['Target type'].value counts()
[:10].index,Terr_data['Target_type'].value_counts()[:10].values,
            palette='viridis')
plt.title('Top 10 Target Type which are mostly affected by Terrorism')
plt.xlabel('Target Type', fontsize = 15)
plt.ylabel('counts', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
```

C:\Users\user\anaconda3\lib\site-packages\seaborn\\_decorators.py:36: FutureWarning: Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.

warnings.warn(



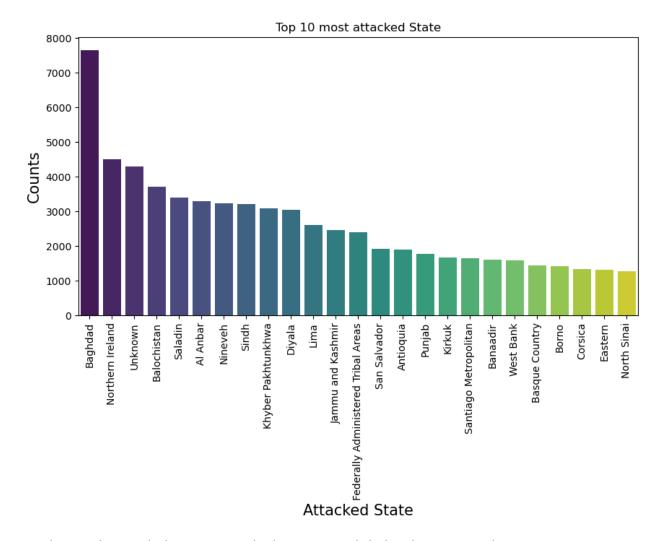
Explanation: According to the bar graph 1) The most attacked Target is Private Citizens & Property about 20%.

2) 10-20% attacked targets are the Military, Police, Government, Business.

#### Top 25 most attacked State

Terr\_data.State.value\_counts()[:25]

```
Baghdad
                                        7645
Northern Ireland
                                        4498
Unknown
                                        4290
Balochistan
                                        3710
Saladin
                                        3411
Al Anbar
                                        3299
Nineveh
                                        3241
Sindh
                                        3206
Khyber Pakhtunkhwa
                                        3084
Divala
                                        3041
Lima
                                        2615
Jammu and Kashmir
                                        2454
Federally Administered Tribal Areas
                                        2392
                                        1923
San Salvador
Antioquia
                                        1891
                                        1778
Punjab
Kirkuk
                                        1669
Santiago Metropolitan
                                        1639
                                        1613
Banaadir
West Bank
                                        1584
                                        1446
Basque Country
Borno
                                        1423
Corsica
                                        1345
Eastern
                                        1316
North Sinai
                                        1277
Name: State, dtype: int64
plt.figure(figsize=(10,5))
sns.barplot(Terr data.State.value counts()
[:25].index,Terr data.State.value counts()[:25].values, palette =
'viridis')
plt.title('Top 10 most attacked State')
plt.xlabel('Attacked State', fontsize = 15)
plt.ylabel('Counts', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
C:\Users\user\anaconda3\lib\site-packages\seaborn\ decorators.py:36:
FutureWarning: Pass the following variables as keyword args: x, y.
From version 0.12, the only valid positional argument will be `data`,
and passing other arguments without an explicit keyword will result in
an error or misinterpretation.
 warnings.warn(
```

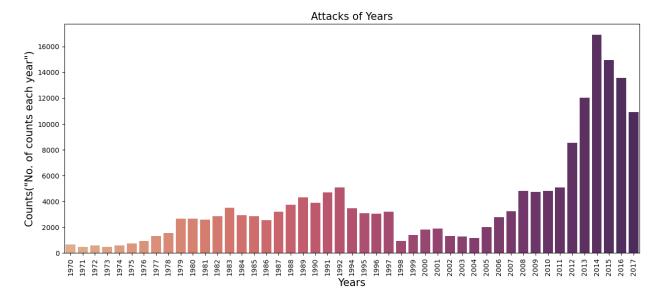


According to the graph the most attacked State is Baghdad with 7645 attack.

#### Attack in each Year

```
x_year = Terr_data['Year'].unique()
y_count_of_year =
Terr_data['Year'].value_counts(dropna=False).sort_index()
plt.figure(figsize=(15,6))
sns.barplot(x_year, y_count_of_year, palette = 'flare')
plt.title('Attacks of Years', fontsize = 15)
plt.xlabel('Years', fontsize = 15)
plt.ylabel('Counts("No. of counts each year")', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
C:\Users\user\anaconda3\lib\site-packages\seaborn\_decorators.py:36:
FutureWarning: Pass the following variables as keyword args: x, y.
From version 0.12, the only valid positional argument will be `data`,
```

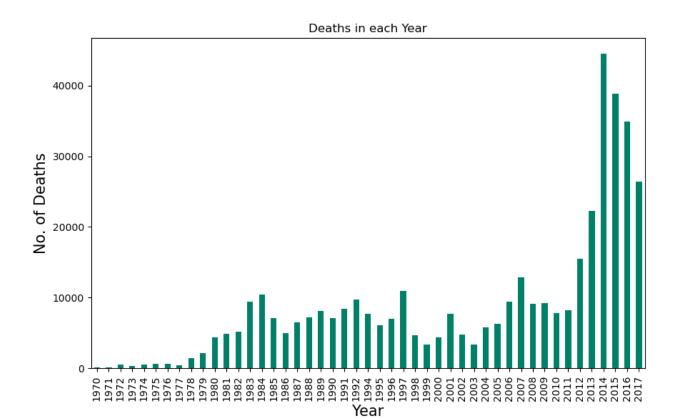
and passing other arguments without an explicit keyword will result in an error or misinterpretation. warnings.warn(



2014 appears to be the witness of the most terrorist attack.

#### Deaths in each Year

```
plt.figure(figsize=(10,6))
Terr_data.groupby(['Year'])['Killed'].sum().plot(kind='bar',
colormap='summer')
plt.title('Deaths in each Year')
plt.xlabel('Year', fontsize = 15)
plt.ylabel('No. of Deaths', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
```



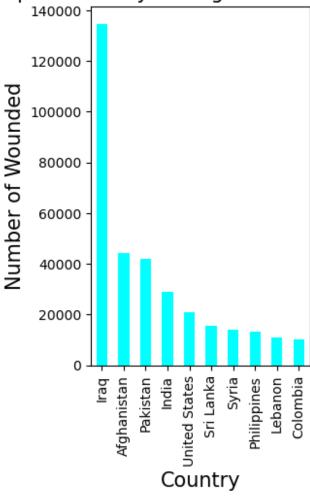
2014 appear most death in attack

## Comparing the Wounded and Killed on the year 2014 (As year 2014 has most deaths)

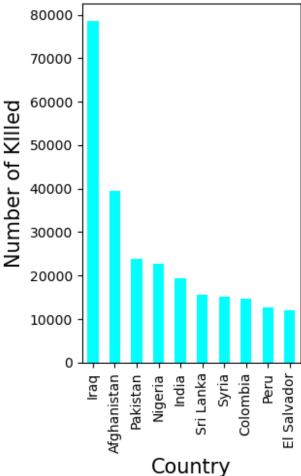
```
# creating the new data frame for the year 2014.
Terr data 2014 = Terr data[Terr data.Year == 2014]
plt.subplot(1,2,1)
Terr_data.groupby(['Country'])
['wounded'].sum().sort values(ascending=False).head(10).plot(kind =
'bar', colormap = 'cool')
plt.title('Top 10 Country having wounded in 2014', fontsize = 15)
plt.xlabel('Country', fontsize = 15)
plt.ylabel('Number of Wounded', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
plt.subplot(1,2,2)
Terr_data.groupby(['Country'])
['Killed'].sum().sort values(ascending=False).head(10).plot(kind =
'bar', colormap = 'cool')
plt.title('Top 10 Country having Killed in 2014', fontsize = 15)
```

```
plt.xlabel('Country', fontsize = 15)
plt.ylabel('Number of KIlled', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
```









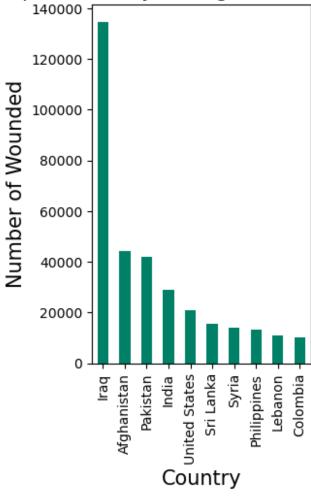
# Comparing the Wounded and Killed on the same Country

```
plt.subplot(1,2,1)
Terr_data.groupby(['Country'])
['wounded'].sum().sort_values(ascending=False).head(10).plot(kind =
'bar', colormap = 'summer')
plt.title('Top 10 Country having wounded people', fontsize = 15)
plt.xlabel('Country', fontsize = 15)
plt.ylabel('Number of Wounded', fontsize = 15)
plt.xticks(rotation=90)
plt.show()

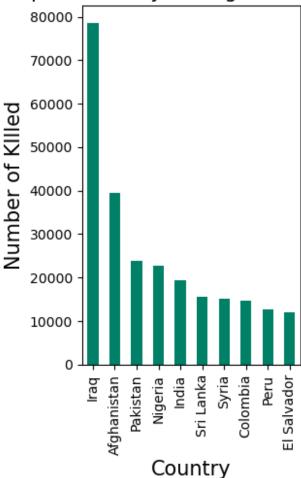
plt.subplot(1,2,2)
Terr_data.groupby(['Country'])
['Killed'].sum().sort_values(ascending=False).head(10).plot(kind =
```

```
'bar', colormap = 'summer')
plt.title('Top 10 Country having Killed people', fontsize = 15)
plt.xlabel('Country', fontsize = 15)
plt.ylabel('Number of KIlled', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
```

Top 10 Country having wounded people







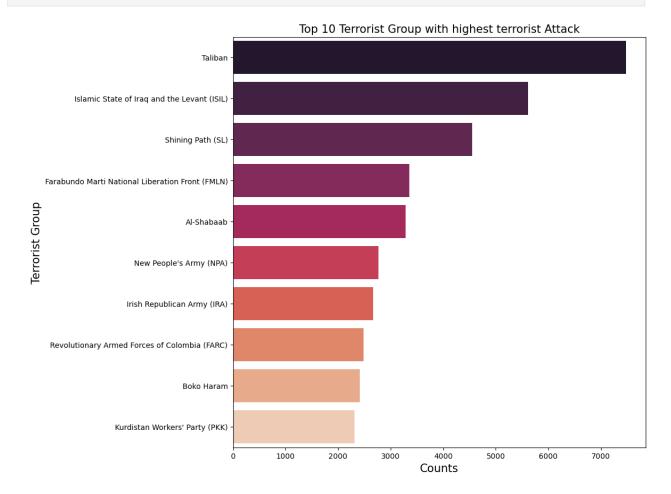
## Top 10 Terrorist Group with highest terrorist Attack

```
plt.figure(figsize=(10,10))
sns.barplot(Terr_data['Group'].value_counts()
[1:11].values,Terr_data['Group'].value_counts()
[1:11].index,palette='rocket')
plt.title('Top 10 Terrorist Group with highest terrorist Attack',
fontsize = 15)
plt.xlabel('Counts', fontsize = 15)
plt.ylabel('Terrorist Group', fontsize = 15)
plt.show()

C:\Users\user\anaconda3\lib\site-packages\seaborn\_decorators.py:36:
FutureWarning: Pass the following variables as keyword args: x, y.
From version 0.12, the only valid positional argument will be `data`,
```

and passing other arguments without an explicit keyword will result in an error or misinterpretation.

warnings.warn(



Since Most of the attack happened by Taliban Group.

So lets understand the Taliban Group deeply.

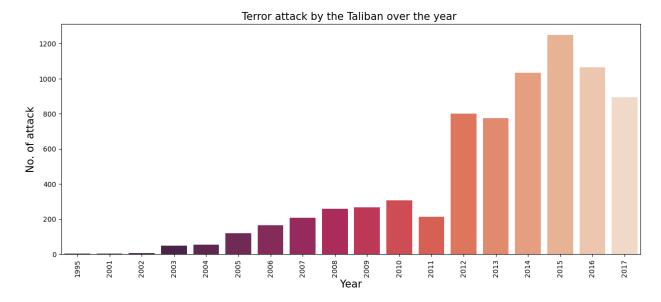
```
# Making new data frame for Taliban Group
Terr_data_taliban = Terr_data[Terr_data.Group == 'Taliban']
```

#### Terror attack over the year by the Taliban

```
plt.figure(figsize=(15,6))
sns.barplot(Terr_data_taliban['Year'].value_counts().index,Terr_data_t
aliban['Year'].value_counts().values,palette='rocket')
plt.title('Terror attack by the Taliban over the year ', fontsize =
15)
plt.xlabel('Year', fontsize = 15)
plt.ylabel('No. of attack', fontsize = 15)
```

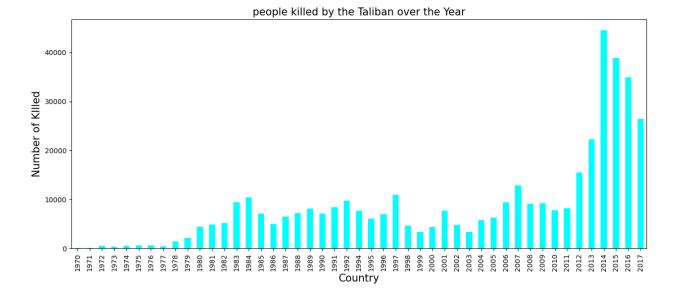
```
plt.xticks(rotation=90)
plt.show()

C:\Users\user\anaconda3\lib\site-packages\seaborn\_decorators.py:36:
FutureWarning: Pass the following variables as keyword args: x, y.
From version 0.12, the only valid positional argument will be `data`,
and passing other arguments without an explicit keyword will result in
an error or misinterpretation.
   warnings.warn(
```



Taliban beacome more active since 2012 and they are responsible for most of the terror attacks.

```
plt.figure(figsize=(15,6))
Terr_data.groupby(['Year'])['Killed'].sum().plot(kind = 'bar',
    colormap = 'cool')
plt.title('people killed by the Taliban over the Year', fontsize = 15)
plt.xlabel('Country', fontsize = 15)
plt.ylabel('Number of KIlled', fontsize = 15)
plt.xticks(rotation=90)
plt.show()
```



#### Conclusion:

- 1) 50% of the attack is happend by Bombing/Explosion and followed by Armed Assault and Assassination.
- 2) Iraq has most death with the no. of 24636 death and followed by Pakistan and Afganistan.
- 3) The most attacked target is Private Citizens & Property and followed by Military, police, Government, Business.
- 4) The most attacked State is Baghdad with 7645 attack.
- 5) 2014 seems to be witnessing the maximum number of terrorist attacks and Death. after that also 2015 2016 2107.
- 6) Taliban beacome more active since 2012 and they are responsible for most of the terror attacks and deaths.