untitled-1

September 16, 2023

```
[9]: import pandas as pd
     import matplotlib as plt
```

```
[10]: df=pd.read_csv(r'C:\Users\HP\Desktop\prodigyinfotech\only_road_accidents_data3.
       ↪csv')
```

```
[11]: print(df)
```

```
          STATE/UT  YEAR  0-3 hrs. (Night)  3-6 hrs. (Night)  6-9 hrs (Day)  \
0    A & N Islands  2001                 2                 6             29
1    A & N Islands  2002                 2                 6             22
2    A & N Islands  2003                 2                 8             31
3    A & N Islands  2004                 2                 5             29
4    A & N Islands  2005                 0                 8             27
..             ...   ...               ...               ...            ...
485    West Bengal  2010              1241              1397           1721
486    West Bengal  2011              1200              1493           1687
487    West Bengal  2012              1346              1511           1837
488    West Bengal  2013              1442              1911           2136
489    West Bengal  2014              1455              1634           2022

     9-12 hrs (Day)  12-15 hrs (Day)  15-18 hrs (Day)  18-21 hrs (Night)  \
0                40               39               40                 18
1                41               33               33                 23
2                35               28               36                 25
3                42               43               43                 37
4                28               38               42                 50
..              ...              ...              ...                ...
485            2508             2272             2296               1831
486            2553             2182             2196               1812
487            2831             2328             2268               1966
488            2900             2246             2366               2137
489            2998             2570             2458               2132

     21-24 hrs (Night)  Total
0                    7    181
1                    8    168
2                   15    180
```

```
3                      14     215
4                      13     206
..                     …      …
485                  1459   14725
486                  1345   14468
487                  1521   15608
488                  1411   16549
489                  1836   17105

[490 rows x 11 columns]
```

[12]: `df.head()`

[12]:
```
        STATE/UT  YEAR  0-3 hrs. (Night)  3-6 hrs. (Night)  6-9 hrs (Day)  \
0  A & N Islands  2001                 2                 6             29
1  A & N Islands  2002                 2                 6             22
2  A & N Islands  2003                 2                 8             31
3  A & N Islands  2004                 2                 5             29
4  A & N Islands  2005                 0                 8             27

   9-12 hrs (Day)  12-15 hrs (Day)  15-18 hrs (Day)  18-21 hrs (Night)  \
0              40               39               40                 18
1              41               33               33                 23
2              35               28               36                 25
3              42               43               43                 37
4              28               38               42                 50

   21-24 hrs (Night)  Total
0                  7    181
1                  8    168
2                 15    180
3                 14    215
4                 13    206
```

[13]: `df.tail()`

[13]:
```
        STATE/UT  YEAR  0-3 hrs. (Night)  3-6 hrs. (Night)  6-9 hrs (Day)  \
485  West Bengal  2010              1241              1397           1721
486  West Bengal  2011              1200              1493           1687
487  West Bengal  2012              1346              1511           1837
488  West Bengal  2013              1442              1911           2136
489  West Bengal  2014              1455              1634           2022

     9-12 hrs (Day)  12-15 hrs (Day)  15-18 hrs (Day)  18-21 hrs (Night)  \
485            2508             2272             2296               1831
486            2553             2182             2196               1812
487            2831             2328             2268               1966
```

488	2900	2246	2366	2137
489	2998	2570	2458	2132

	21-24 hrs (Night)	Total
485	1459	14725
486	1345	14468
487	1521	15608
488	1411	16549
489	1836	17105

[14]:
```python
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 490 entries, 0 to 489
Data columns (total 11 columns):
 #   Column            Non-Null Count  Dtype
---  ------            --------------  -----
 0   STATE/UT          490 non-null    object
 1   YEAR              490 non-null    int64
 2   0-3 hrs. (Night)  490 non-null    int64
 3   3-6 hrs. (Night)  490 non-null    int64
 4   6-9 hrs (Day)     490 non-null    int64
 5   9-12 hrs (Day)    490 non-null    int64
 6   12-15 hrs (Day)   490 non-null    int64
 7   15-18 hrs (Day)   490 non-null    int64
 8   18-21 hrs (Night) 490 non-null    int64
 9   21-24 hrs (Night) 490 non-null    int64
 10  Total             490 non-null    int64
dtypes: int64(10), object(1)
memory usage: 42.2+ KB
```

[15]:
```python
df.describe()
```

[15]:
	YEAR	0-3 hrs. (Night)	3-6 hrs. (Night)	6-9 hrs (Day)
count	490.000000	490.000000	490.000000	490.00000
mean	2007.500000	796.320408	969.236735	1371.15102
std	4.035249	1210.999326	1415.984501	1864.19157
min	2001.000000	0.000000	0.000000	0.00000
25%	2004.000000	10.000000	15.000000	36.00000
50%	2007.500000	200.000000	251.500000	498.50000
75%	2011.000000	1114.250000	1355.250000	2073.75000
max	2014.000000	6020.000000	6545.000000	8241.00000

	9-12 hrs (Day)	12-15 hrs (Day)	15-18 hrs (Day)	18-21 hrs (Night)
count	490.000000	490.000000	490.000000	490.000000
mean	1753.967347	1681.814286	1850.283673	1782.918367
std	2400.593532	2326.251665	2643.765262	2587.452453

3

```
min           0.000000        0.000000        0.000000        0.000000
25%          51.250000       59.250000       59.000000       50.000000
50%         678.000000      679.500000      669.000000      517.000000
75%        2680.500000     2265.500000     2289.000000     2072.000000
max       14568.000000    11089.000000    13789.000000    13927.000000

        21-24 hrs (Night)         Total
count          490.000000    490.000000
mean          1228.810204  11434.502041
std           1836.242850  15948.689470
min              0.000000      0.000000
25%             25.250000    357.750000
50%            343.500000   4174.500000
75%           1594.750000  16463.500000
max          10364.000000  75480.000000
```

[18]: `df.isnull().sum()`

[18]:
```
STATE/UT            0
YEAR                0
0-3 hrs. (Night)    0
3-6 hrs. (Night)    0
6-9 hrs (Day)       0
9-12 hrs (Day)      0
12-15 hrs (Day)     0
15-18 hrs (Day)     0
18-21 hrs (Night)   0
21-24 hrs (Night)   0
Total               0
dtype: int64
```
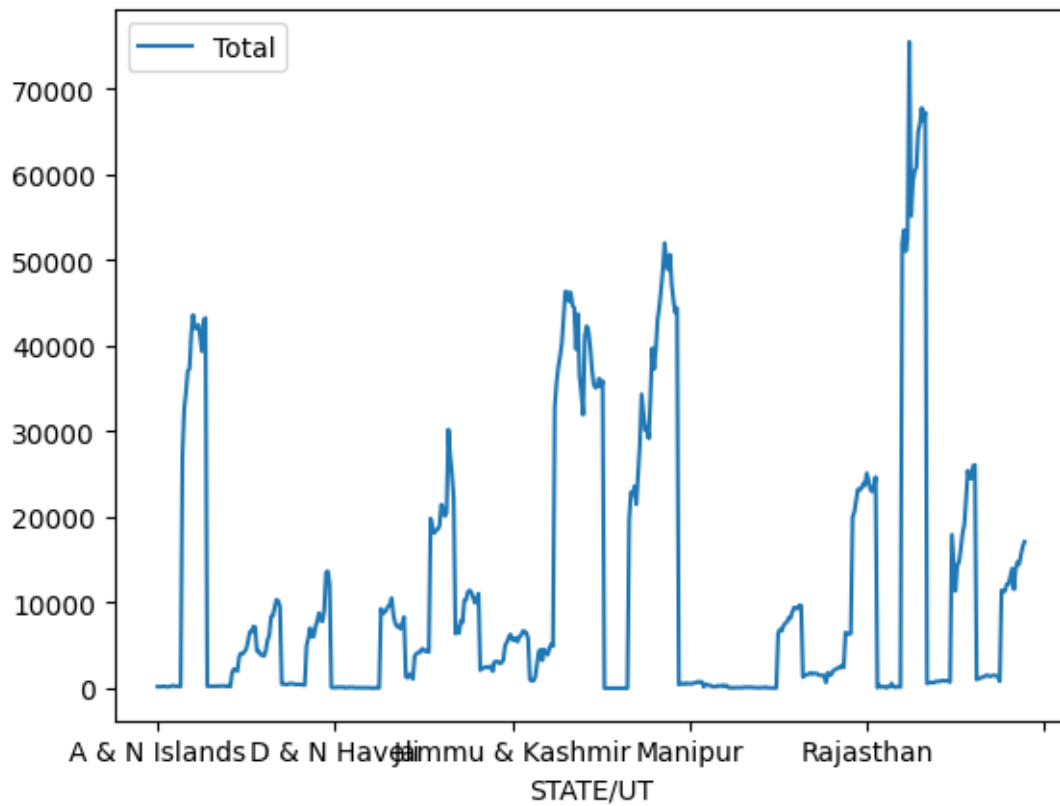
[19]: `df.nunique()`

[19]:
```
STATE/UT             35
YEAR                 14
0-3 hrs. (Night)    316
3-6 hrs. (Night)    334
6-9 hrs (Day)       381
9-12 hrs (Day)      390
12-15 hrs (Day)     390
15-18 hrs (Day)     389
18-21 hrs (Night)   387
21-24 hrs (Night)   361
Total               454
dtype: int64
```

```
[31]: x='STATE/UT'
      y='Total'

      df.plot(x,y)
```
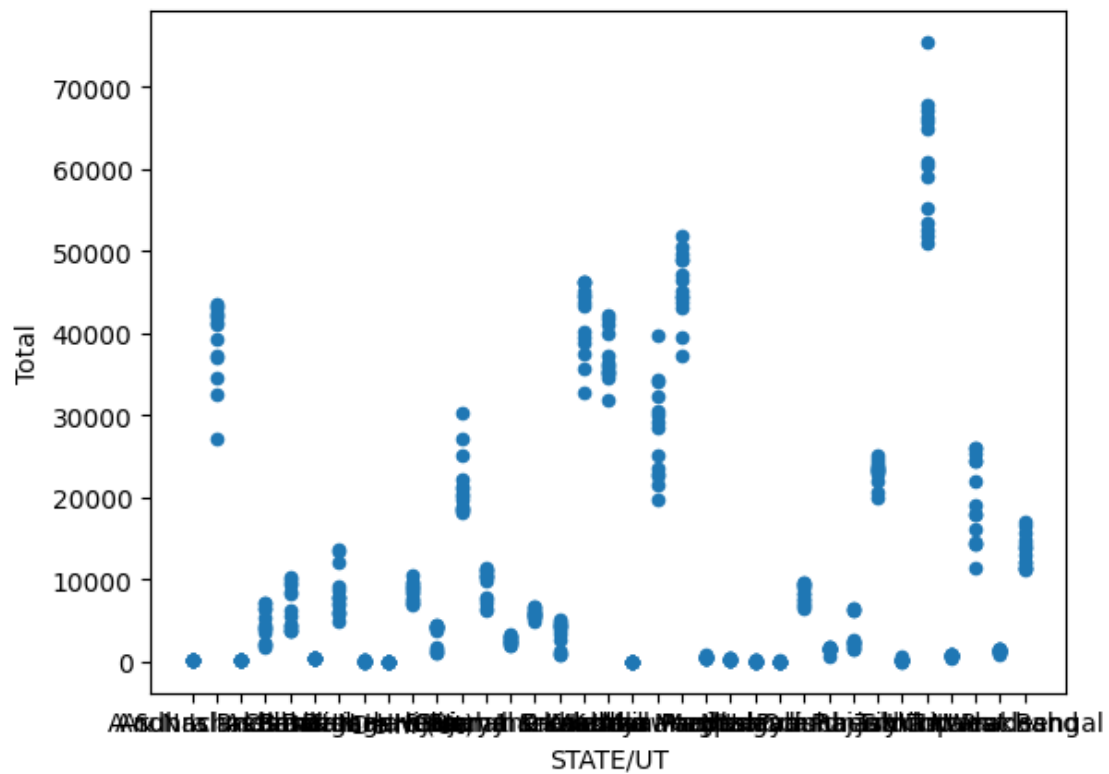
[31]: <Axes: xlabel='STATE/UT'>


```
[39]: df1=pd.DataFrame(df)
```

```
[57]: df1.plot.scatter(x,y)
```

[57]: <Axes: xlabel='STATE/UT', ylabel='Total'>

```
[58]: y='STATE/UT'
      x='Total'
      df1.plot.scatter(x,y)
```

```
[58]: <Axes: xlabel='Total', ylabel='STATE/UT'>
```