

```
In [94]: import numpy as np # Linear algebra
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)

import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline

pd.options.display.float_format = '{:,}'.format
import warnings
warnings.filterwarnings('ignore')
```

```
In [95]: df = pd.read_csv('G:/Military Expenditure.csv', index_col=[0])
df_with_index = pd.read_csv('G:/Military Expenditure.csv')
```

```
In [96]: df.isnull().sum()
```

```
Out[96]: Code          0
Type          0
Indicator Name    0
1960          185
1961          180
...
2014           61
2015           66
2016           67
2017           69
2018           68
Length: 62, dtype: int64
```

```
In [97]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
```

```
Index: 264 entries, Aruba to Zimbabwe
```

```
Data columns (total 62 columns):
```

#	Column	Non-Null Count	Dtype
0	Code	264 non-null	object
1	Type	264 non-null	object
2	Indicator Name	264 non-null	object
3	1960	79 non-null	float64
4	1961	84 non-null	float64
5	1962	93 non-null	float64
6	1963	98 non-null	float64
7	1964	98 non-null	float64
8	1965	104 non-null	float64
9	1966	104 non-null	float64
10	1967	105 non-null	float64
11	1968	113 non-null	float64
12	1969	113 non-null	float64
13	1970	121 non-null	float64
14	1971	122 non-null	float64
15	1972	123 non-null	float64
16	1973	130 non-null	float64
17	1974	128 non-null	float64
18	1975	128 non-null	float64
19	1976	132 non-null	float64
20	1977	137 non-null	float64
21	1978	136 non-null	float64
22	1979	138 non-null	float64
23	1980	140 non-null	float64
24	1981	143 non-null	float64
25	1982	137 non-null	float64
26	1983	136 non-null	float64
27	1984	142 non-null	float64
28	1985	147 non-null	float64
29	1986	143 non-null	float64
30	1987	147 non-null	float64
31	1988	145 non-null	float64
32	1989	154 non-null	float64
33	1990	158 non-null	float64
34	1991	160 non-null	float64
35	1992	167 non-null	float64
36	1993	185 non-null	float64
37	1994	187 non-null	float64
38	1995	184 non-null	float64
39	1996	186 non-null	float64
40	1997	187 non-null	float64
41	1998	182 non-null	float64
42	1999	184 non-null	float64
43	2000	189 non-null	float64
44	2001	190 non-null	float64
45	2002	193 non-null	float64
46	2003	199 non-null	float64
47	2004	199 non-null	float64
48	2005	201 non-null	float64
49	2006	197 non-null	float64
50	2007	195 non-null	float64
51	2008	201 non-null	float64
52	2009	197 non-null	float64
53	2010	196 non-null	float64
54	2011	194 non-null	float64

```
55 2012      199 non-null float64
56 2013      202 non-null float64
57 2014      203 non-null float64
58 2015      198 non-null float64
59 2016      197 non-null float64
60 2017      195 non-null float64
61 2018      196 non-null float64
dtypes: float64(59), object(3)
memory usage: 129.9+ KB
```

```
In [98]: df.shape
```

Out[98]: (264, 62)

```
In [99]: graph_data = df[df['Type'] == 'Country'].sort_values(by='2018', ascending=False)[['2018'
```

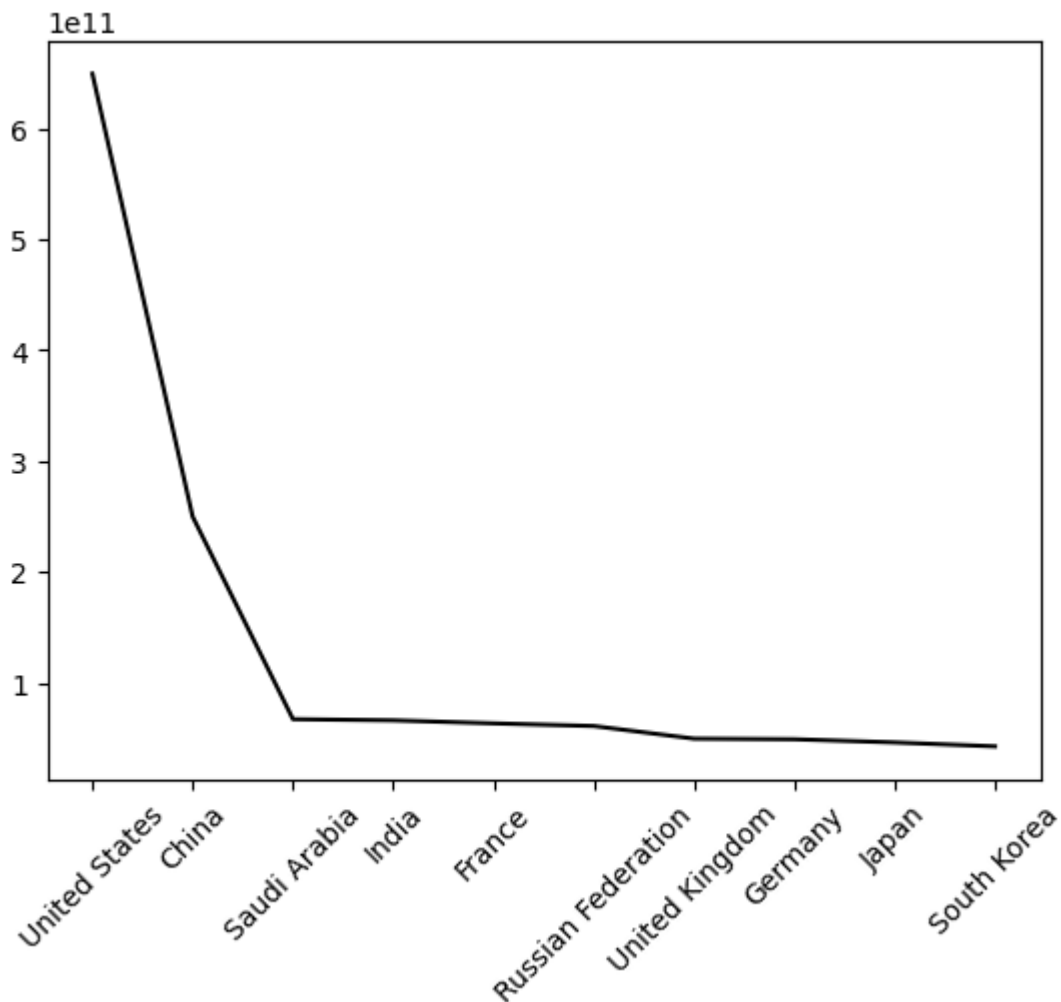
```
In [100]: graph_data
```

Out[100]: **2018**

Name	
United States	649,000,000,000.0
China	250,000,000,000.0
Saudi Arabia	67,554,666,667.0
India	66,510,289,108.0
France	63,799,676,593.0
Russian Federation	61,387,546,980.0
United Kingdom	49,997,192,521.0
Germany	49,470,627,811.0
Japan	46,617,954,864.0
South Korea	43,069,973,343.0

```
In [101]: plt.plot(graph_data["2018"], c='k')
plt.xticks(rotation=45)
```

Out[101]: ([0, 1, 2, 3, 4, 5, 6, 7, 8, 9],  
[Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, ''),  
Text(0, 0, '')])



```
In [102]: df_india = df_with_index[df_with_index["Name"] == "India"]
```

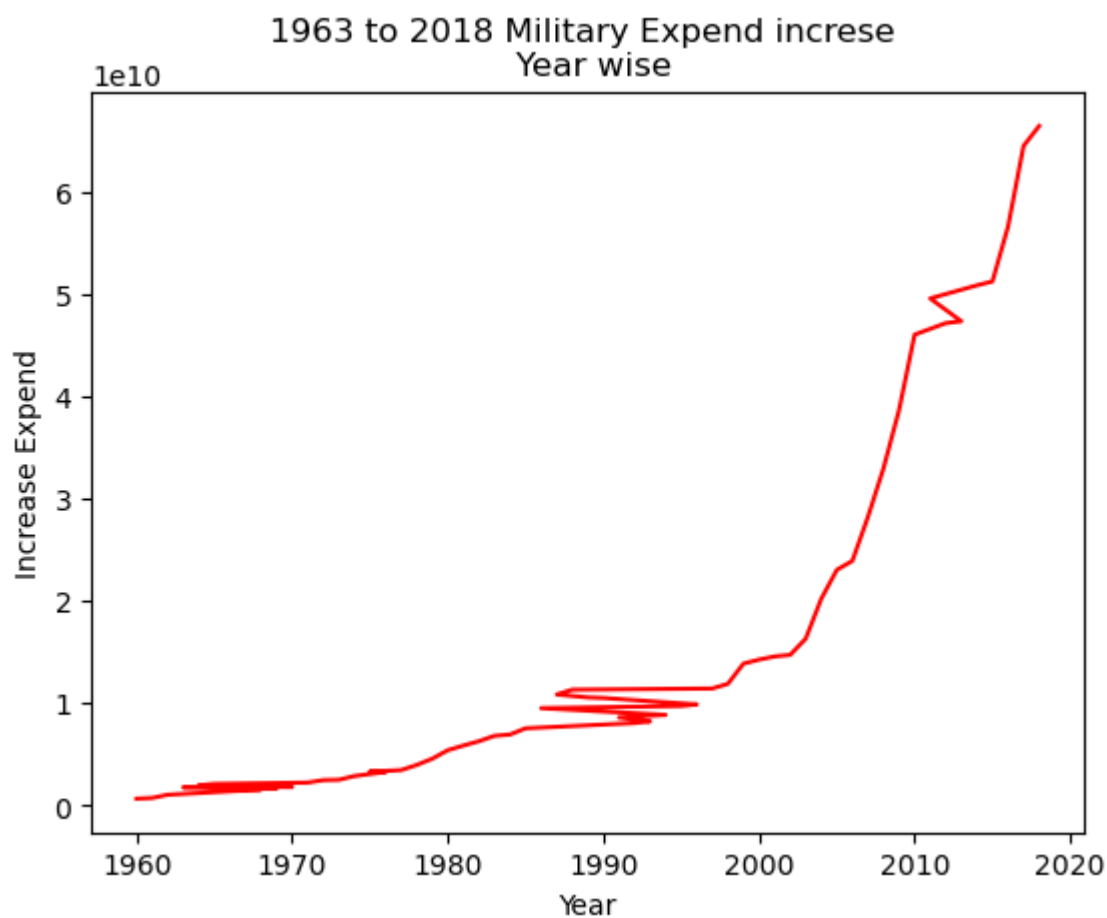
```
In [103]: df_ind = df_india.drop(["Indicator Name", "Code", "Type"], axis = 1)
```

```
In [104]: df_ind_graph = df_ind.melt(id_vars=["Name"],
    var_name=["Date"],
    value_name="Expend").sort_values(by = 'Expend', ascending = False)
```

```
In [105]: df_ind_graph["Date"] = pd.to_datetime(df_ind_graph["Date"])
```

```
In [106]: plt.plot(df_ind_graph['Date'], df_ind_graph['Expend'], c='r')
plt.xlabel("Year")
plt.ylabel("Increase Expend")
plt.title("1963 to 2018 Military Expend increase \n Year wise")
```

```
Out[106]: Text(0.5, 1.0, '1963 to 2018 Military Expend increase \n Year wise')
```



In [107]:

```
'''
conclusion
Military expenditure Budget increase little bit at 1963 due to india-china after that it
it increases so fast.
'''
```

Out[107]:

```
'\nconclusion \nMilitary expenditure Budget increase little bit at 1963 due to india-chi
na after that it was increase in 90s and after 2003\nit increses so fast.\n'
```