

1. Significant earthquakes since 2150 B.C

1.1 Compute the total number of deaths caused by earthquakes since 2150 B.C. in each country, and then print the top ten countries along with the total number of deaths.

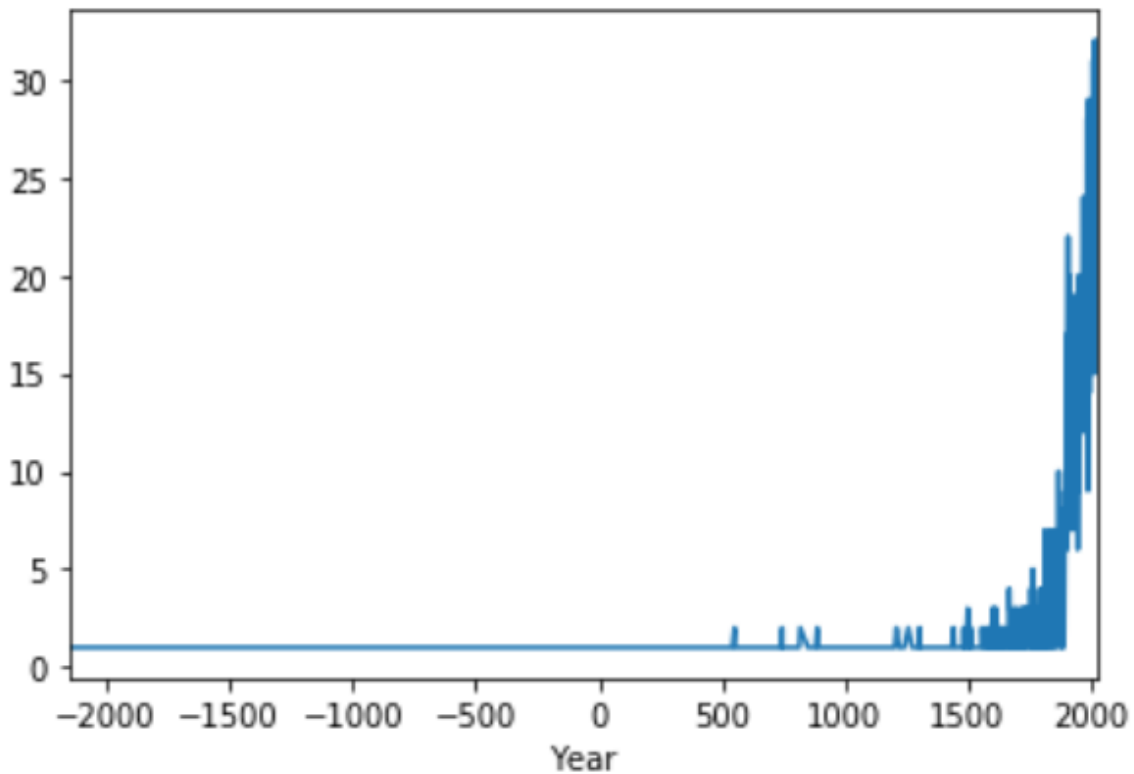
```
# The result of top ten countries along with the total number of deaths is
following:
Country
CHINA          2041784.0
TURKEY         867454.0
IRAN           758638.0
SYRIA          437700.0
ITALY          359064.0
JAPAN          355137.0
HAITI          323770.0
AZERBAIJAN     310119.0
INDONESIA       280351.0
ARMENIA        189000.0
Name: Total Deaths, dtype: float64
```

1.2 Compute the total number of earthquakes with magnitude larger than 6.0 (use column Mag as the magnitude) worldwide each year, and then plot the time series. Do you observe any trend? Explain why or why not?

```
# The result of the total number of earthquakes with magnitude larger than 6.0
worldwide each year is following:
Year
-2150.0      1
-2000.0      1
-1250.0      1
-1050.0      1
-479.0       1
..
2017.0      32
2018.0      28
2019.0      27
2020.0      15
2021.0      18
Name: Year, Length: 530, dtype: int64
```

The figure of time series only use the year as the x.

通过下图可以看出全球地震震级大于6级以上的地震总次数呈现一个先总体不变，然后在1500年左右开始出现上升的趋势，同时，近百年来的次数显著大于过去。猜测这种现象出现的一个主要原因是随着时间的推进，监测地震的技术手段在提升，因此观测到的6级以上的地震次数增加，而古代的数据可能只有造成重大影响的地震才有可能被记录下来，因此存在数据缺失等问题，至于在千年中的地壳活跃程度是否变得更加剧烈还有待别的证据来证明。



1.3 Write a function `CountEq_LargestEq` that returns both (1) the total number of earthquakes since 2150 B.C. in a given country AND (2) the date of the largest earthquake ever happened in this country. Apply `CountEq_LargestEq` to every country in the file, report your results in a descending order.

#(1)对`CountEq_LargestEq(Sig_Eqs, Country)`的测试结果:

#以`Country = 'CHINA'`为例, 输出的结果为:

Date

1668-07-25 in CHINA 610

Name: CountEq, dtype: int64

#(2)Apply `CountEq_LargestEq` to every country in the file and result in a descending order

#输出结果为: (期中`Total_number`代表的是对应国家发生地震的总次数, 而`Date-I~III`代表的是对应国家历史上发生最大的地震的日期, 格式为`Year-Month-Day`, 数据类型为`str`)

	Total_number		Date-I	Date-II	Date-III
0	610	1668-07-25 in CHINA	None	None	
1	409	2011-03-11 in JAPAN	None	None	
2	401	2004-12-26 in INDONESIA	None	None	
3	380	856-12-22 in IRAN	None	None	
4	330	1916-01-24 in TURKEY	None	None	
..	
152	1	1819-08-31 in NORWAY	None	None	
153	1	1921-09-16 in CENTRAL AFRICAN REPUBLIC	None	None	
154	1	1914-10-23 in PALAU	None	None	
155	1	1905-06-30 in KIRIBATI	None	None	
156	1	2021-10-12 in NAN	None	None	

[157 rows x 4 columns]

