1. Significant earthquakes since 2150 B.C.

完整代码如下，可将每一小问复制至 Jupyter 看更详细结果：

import numpy as np

import pandas as pd

#from matplotlib import pyplot as plt

#读取 CSV 文件并查看

Sig_Eqs = pd.read_csv('earthquakes-2021-10-22_21-12-33_+0800.tsv',sep='\t')

Sig_Eqs

#1.1

print(Sig_Eqs['Deaths'].sum())

Sig_Eqs.groupby('Country').sum('Total   Deaths').sort_values('Total   Deaths',ascending   =

False).head(10)

#1.2

m = Sig_Eqs.loc[(Sig_Eqs['Mag'] >   6.0)].groupby('Year').count()

m['Country'].plot(figsize=(15,10))   #python   图   片   调   整   参   考

https://www.cnblogs.com/qbdj/p/11010773.html

#1.3

def CountEq_LargestEq(country_input):

    a = Sig_Eqs.loc[(Sig_Eqs['Country'] == country_input)].shape[0]

    b = Sig_Eqs.loc[(Sig_Eqs['Country'] == country_input)].sort_values('Mag').head(2)

    c = str(int(b.iat[0,1]))+'-'+str(b.iat[0,2])+'-'+str(b.iat[0,3])#Python 读取指定位置的值参考

https://blog.csdn.net/weixin_43474731/article/details/101530103 中的 df.iat()函数

    print('the total number of earthquakes since 2150 B.C. in '+country_input+'is '+str(a))

    print('the date of the largest earthquake ever happened in '+country_input+'is '+str(c))

Sig_Eqs = pd.read_csv('earthquakes-2021-10-22_21-12-33_+0800.tsv',sep='\t')

Sig_Eqs = Sig_Eqs.drop(index=0)

Sig_Eqs = Sig_Eqs.drop(index=6271)

country_input_array = Sig_Eqs['Country'].apply(str).unique() #因为 Country 有重复性，所以参考 https://www.delftstack.com/zh/howto/python-pandas/pandas-unique-values-in-column/ 中 的 df.unique()函数，并参考 https://www.delftstack.com/zh/howto/python-pandas/how-to-convert-pandas-dataframe-column-to-string/将 Country 转换为字符串，方便后续对国家进行倒序排序

country_input_array_sorted = sorted(country_input_array,key = str.lower,reverse=True)#Python 中对字符串进行排序，且让其对大小写不敏感，参考 https://blog.csdn.net/weixin_32000561/article/details/112938027

country_input_array_sorted = np.array(country_input_array_sorted)

for x in country_input_array_sorted:

    country_input = x

    CountEq_LargestEq(country_input)
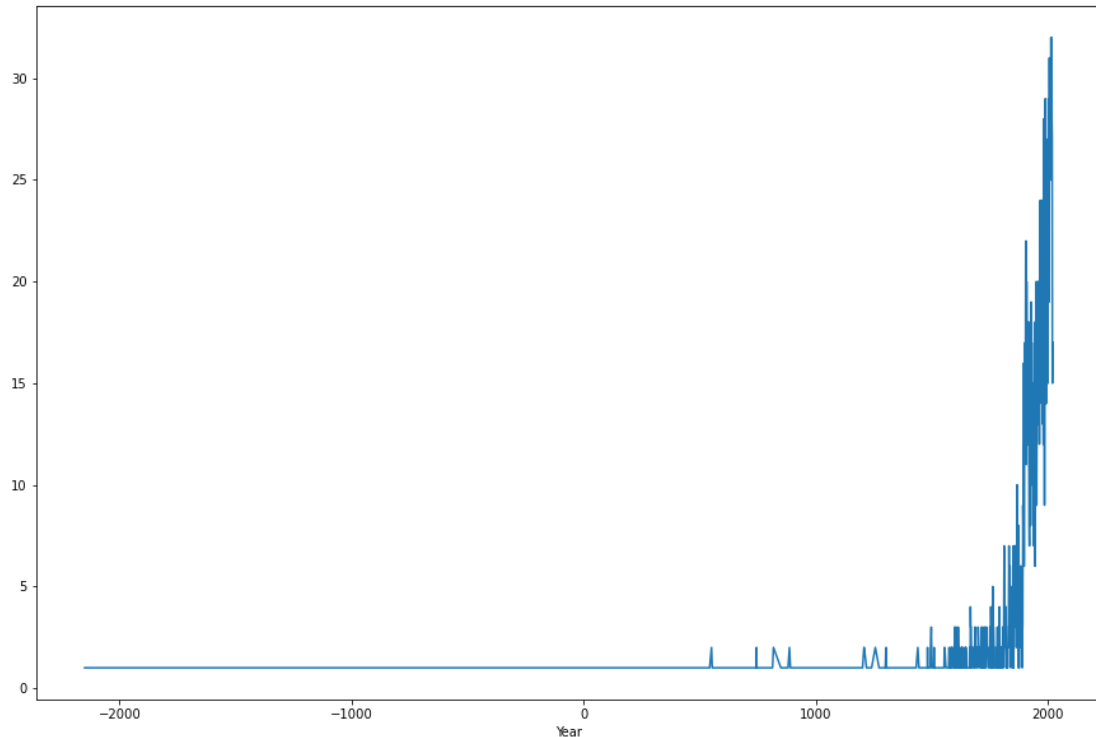
此题结果如下：

1.1

```
#1.1
print(Sig_Eqs['Deaths'].sum())
Sig_Eqs.groupby('Country').sum('Total Deaths').sort_values('Total Deaths',ascending = False).head(10)
```

```
7723077.0
```

Country	Year	Mo	Dy	Hr	Mn	Sec	Tsu	Vol	Region	Latitude	...	Total Missing	Total Missing Description
CHINA	1089016.0	3851.0	8823.0	3849.0	9974.0	9801.2	84530.0	0.0	19250.0	19784.757	...	211.0	8.0
TURKEY	518673.0	1814.0	4396.0	1871.0	5184.0	2743.9	91666.0	0.0	46190.0	12771.406	...	0.0	0.0
IRAN	676454.0	2025.0	4925.0	2355.0	5791.0	5142.3	16472.0	0.0	53200.0	12664.290	...	0.0	0.0
ITALY	546945.0	1863.0	4771.0	2295.0	5024.0	1635.2	192496.0	32294.0	42370.0	13408.435	...	15.0	1.0
JAPAN	748316.0	2735.0	6155.0	2792.0	7290.0	5325.4	519770.0	58252.0	12270.0	14679.326	...	43476.0	4.0
SYRIA	32336.0	99.0	246.0	0.0	0.0	0.0	3943.0	0.0	4610.0	1119.293	...	0.0	0.0
HAITI	31549.0	109.0	224.0	144.0	253.0	43.8	24199.0	0.0	1530.0	320.572	...	329.0	3.0
AZERBAIJAN	27941.0	66.0	125.0	116.0	195.0	194.1	0.0	0.0	640.0	650.630	...	0.0	0.0
INDONESIA	777839.0	2620.0	6220.0	2949.0	8057.0	7595.8	372963.0	33460.0	43640.0	-1263.066	...	670.0	4.0
ARMENIA	19297.0	69.0	116.0	42.0	149.0	42.6	0.0	0.0	520.0	517.504	...	0.0	0.0

10 rows × 44 columns

1.2

1.3（此题不确定是对那个数据进行降序排列，故选用先对国家进行降序排列后，获得地震次数以及最大地震发生日期）（未解决的问题是有些月和日是不存在的，所以无法对月和日进行 int 化）

the total number of earthquakes since 2150 B.C. in ZAMBIA is 1

the date of the largest earthquake ever happened in ZAMBIA is 2017-2.0-24.0

the total number of earthquakes since 2150 B.C. in YEMEN is 10

the date of the largest earthquake ever happened in YEMEN is 1991-11.0-22.0

the total number of earthquakes since 2150 B.C. in WALLIS AND FUTUNA (FRENCH TERRITORY) is 1

the date of the largest earthquake ever happened in WALLIS AND FUTUNA (FRENCH TERRITORY) is 1993-3.0-12.0

the total number of earthquakes since 2150 B.C. in VIETNAM is 5

the date of the largest earthquake ever happened in VIETNAM is 2005-8.0-5.0

the total number of earthquakes since 2150 B.C. in VENEZUELA is 66

the date of the largest earthquake ever happened in VENEZUELA is 2018-4.0-3.0

the total number of earthquakes since 2150 B.C. in VANUATU is 54

the date of the largest earthquake ever happened in VANUATU is 2018-12.0-15.0

the total number of earthquakes since 2150 B.C. in UZBEKISTAN is 14

the date of the largest earthquake ever happened in UZBEKISTAN is 1490-2.0-20.0

the total number of earthquakes since 2150 B.C. in USA TERRITORY is 40

the date of the largest earthquake ever happened in USA TERRITORY is 2010-5.0-29.0

the total number of earthquakes since 2150 B.C. in USA is 271

the date of the largest earthquake ever happened in USA is 2007-8.0-17.0

the total number of earthquakes since 2150 B.C. in URUGUAY is 1

the date of the largest earthquake ever happened in URUGUAY is 1888-6.0-5.0

the total number of earthquakes since 2150 B.C. in UKRAINE is 8

the date of the largest earthquake ever happened in UKRAINE is 1872-12.0-26.0

the total number of earthquakes since 2150 B.C. in UK TERRITORY is 2

the date of the largest earthquake ever happened in UK TERRITORY is 1983-11.0-30.0

the total number of earthquakes since 2150 B.C. in UK is 13

the date of the largest earthquake ever happened in UK is 2007-4.0-28.0

the total number of earthquakes since 2150 B.C. in UGANDA is 4

the date of the largest earthquake ever happened in UGANDA is 1994-2.0-5.0

the total number of earthquakes since 2150 B.C. in TURKMENISTAN is 11

the date of the largest earthquake ever happened in TURKMENISTAN is 1983-4.0-2.0

the total number of earthquakes since 2150 B.C. in TURKEY is 330

the date of the largest earthquake ever happened in TURKEY is 2004-7.0-30.0

the total number of earthquakes since 2150 B.C. in TUNISIA is 9

the date of the largest earthquake ever happened in TUNISIA is 1962-2.0-18.0

the total number of earthquakes since 2150 B.C. in TRINIDAD AND TOBAGO is 8

the date of the largest earthquake ever happened in TRINIDAD AND TOBAGO is 2006-9.0-29.0

the total number of earthquakes since 2150 B.C. in TONGA is 22

the date of the largest earthquake ever happened in TONGA is 1949-8.0-6.0

the total number of earthquakes since 2150 B.C. in TOGO is 2

the date of the largest earthquake ever happened in TOGO is 1788-nan-nan

the total number of earthquakes since 2150 B.C. in THAILAND is 4

the date of the largest earthquake ever happened in THAILAND is 2006-12.0-12.0

the total number of earthquakes since 2150 B.C. in TANZANIA is 8

the date of the largest earthquake ever happened in TANZANIA is 2017-5.0-25.0

the total number of earthquakes since 2150 B.C. in TAJIKISTAN is 26

the date of the largest earthquake ever happened in TAJIKISTAN is 2006-8.0-18.0

the total number of earthquakes since 2150 B.C. in TAIWAN is 98

the date of the largest earthquake ever happened in TAIWAN is 2006-11.0-13.0

the total number of earthquakes since 2150 B.C. in SYRIA is 33

the date of the largest earthquake ever happened in SYRIA is 1151-nan-nan

the total number of earthquakes since 2150 B.C. in SWITZERLAND is 31

the date of the largest earthquake ever happened in SWITZERLAND is 2006-12.0-8.0

the total number of earthquakes since 2150 B.C. in SUDAN is 1

the date of the largest earthquake ever happened in SUDAN is 1993-8.0-1.0

the total number of earthquakes since 2150 B.C. in SRI LANKA is 1

the date of the largest earthquake ever happened in SRI LANKA is 1882-1.0-nan

the total number of earthquakes since 2150 B.C. in SPAIN is 27

the date of the largest earthquake ever happened in SPAIN is 1978-8.0-14.0

the total number of earthquakes since 2150 B.C. in SOUTH SUDAN is 3

the date of the largest earthquake ever happened in SOUTH SUDAN is 1990-5.0-24.0

the total number of earthquakes since 2150 B.C. in SOUTH KOREA is 20

the date of the largest earthquake ever happened in SOUTH KOREA is 1936-7.0-3.0

the total number of earthquakes since 2150 B.C. in SOUTH GEORGIA AND THE SOUTH SANDWICH ISLAND
S is 7

the date of the largest earthquake ever happened in SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS is 2016-8.0-19.0

the total number of earthquakes since 2150 B.C. in SOUTH AFRICA is 14

the date of the largest earthquake ever happened in SOUTH AFRICA is 2018-5.0-3.0

the total number of earthquakes since 2150 B.C. in SOLOMON SEA is 2

the date of the largest earthquake ever happened in SOLOMON SEA is 1972-8.0-17.0

the total number of earthquakes since 2150 B.C. in SOLOMON ISLANDS is 61

the date of the largest earthquake ever happened in SOLOMON ISLANDS is 1987-6.0-18.0

the total number of earthquakes since 2150 B.C. in SLOVENIA is 22

the date of the largest earthquake ever happened in SLOVENIA is 1956-1.0-31.0

the total number of earthquakes since 2150 B.C. in SLOVAKIA is 3

the date of the largest earthquake ever happened in SLOVAKIA is 2004-1.0-10.0

the total number of earthquakes since 2150 B.C. in SIERRA LEONE is 1

the date of the largest earthquake ever happened in SIERRA LEONE is 1795-5.0-20.0

the total number of earthquakes since 2150 B.C. in SERBIA is 15

the date of the largest earthquake ever happened in SERBIA is 2015-3.0-8.0

the total number of earthquakes since 2150 B.C. in SAUDI ARABIA is 3

the date of the largest earthquake ever happened in SAUDI ARABIA is 2004-6.0-9.0

the total number of earthquakes since 2150 B.C. in SAMOA is 8

the date of the largest earthquake ever happened in SAMOA is 2006-9.0-28.0

the total number of earthquakes since 2150 B.C. in SAINT VINCENT AND THE GRENADINES is 1

the date of the largest earthquake ever happened in SAINT VINCENT AND THE GRENADINES is 1844-8.0-30.0

the total number of earthquakes since 2150 B.C. in SAINT LUCIA is 2

the date of the largest earthquake ever happened in SAINT LUCIA is 1788-10.0-12.0

the total number of earthquakes since 2150 B.C. in RWANDA is 5

the date of the largest earthquake ever happened in RWANDA is 2002-1.0-17.0

the total number of earthquakes since 2150 B.C. in RUSSIA is 150

the date of the largest earthquake ever happened in RUSSIA is 1999-2.0-1.0

the total number of earthquakes since 2150 B.C. in ROMANIA is 15

the date of the largest earthquake ever happened in ROMANIA is 1977-11.0-3.0

the total number of earthquakes since 2150 B.C. in PORTUGAL is 26

the date of the largest earthquake ever happened in PORTUGAL is 1909-4.0-23.0

the total number of earthquakes since 2150 B.C. in POLAND is 6

the date of the largest earthquake ever happened in POLAND is 2019-7.0-1.0

the total number of earthquakes since 2150 B.C. in PHILIPPINES is 221

the date of the largest earthquake ever happened in PHILIPPINES is 2004-5.0-19.0

the total number of earthquakes since 2150 B.C. in PERU is 185

the date of the largest earthquake ever happened in PERU is 1999-10.0-31.0

the total number of earthquakes since 2150 B.C. in PAPUA NEW GUINEA is 98

the date of the largest earthquake ever happened in PAPUA NEW GUINEA is 1988-9.0-6.0

the total number of earthquakes since 2150 B.C. in PANAMA is 23

the date of the largest earthquake ever happened in PANAMA is 2006-5.0-4.0

the total number of earthquakes since 2150 B.C. in PALAU is 1

the date of the largest earthquake ever happened in PALAU is 1914-10.0-23.0

the total number of earthquakes since 2150 B.C. in PAKISTAN is 53

the date of the largest earthquake ever happened in PAKISTAN is 1981-12.0-12.0

the total number of earthquakes since 2150 B.C. in PACIFIC OCEAN is 2

the date of the largest earthquake ever happened in PACIFIC OCEAN is 1958-11.0-4.0

the total number of earthquakes since 2150 B.C. in NORWAY is 1

the date of the largest earthquake ever happened in NORWAY is 1819-8.0-31.0

the total number of earthquakes since 2150 B.C. in NORTH KOREA is 6

the date of the largest earthquake ever happened in NORTH KOREA is 1036-7.0-nan

the total number of earthquakes since 2150 B.C. in NICARAGUA is 39

the date of the largest earthquake ever happened in NICARAGUA is 2009-3.0-31.0

the total number of earthquakes since 2150 B.C. in NEW ZEALAND is 71

the date of the largest earthquake ever happened in NEW ZEALAND is 2010-12.0-25.0

the total number of earthquakes since 2150 B.C. in NEW CALEDONIA is 21

the date of the largest earthquake ever happened in NEW CALEDONIA is 2017-11.0-19.0

the total number of earthquakes since 2150 B.C. in NETHERLANDS is 3

the date of the largest earthquake ever happened in NETHERLANDS is 2019-5.0-22.0

the total number of earthquakes since 2150 B.C. in NEPAL is 16

the date of the largest earthquake ever happened in NEPAL is 2017-6.0-21.0

the total number of earthquakes since 2150 B.C. in MYANMAR (BURMA) is 33

the date of the largest earthquake ever happened in MYANMAR (BURMA) is 2008-12.0-25.0

the total number of earthquakes since 2150 B.C. in MOZAMBIQUE is 3

the date of the largest earthquake ever happened in MOZAMBIQUE is 2017-6.0-24.0

the total number of earthquakes since 2150 B.C. in MOROCCO is 20

the date of the largest earthquake ever happened in MOROCCO is 1960-2.0-29.0

the total number of earthquakes since 2150 B.C. in MONTSERRAT is 1

the date of the largest earthquake ever happened in MONTSERRAT is 1897-4.0-25.0

the total number of earthquakes since 2150 B.C. in MONTENEGRO is 9

the date of the largest earthquake ever happened in MONTENEGRO is 2018-1.0-4.0

the total number of earthquakes since 2150 B.C. in MONGOLIA is 6

the date of the largest earthquake ever happened in MONGOLIA is 1974-7.0-4.0

the total number of earthquakes since 2150 B.C. in MICRONESIA, FED. STATES OF is 4

the date of the largest earthquake ever happened in MICRONESIA, FED. STATES OF is 1912-10.0-31.0

the total number of earthquakes since 2150 B.C. in MEXICO is 204

the date of the largest earthquake ever happened in MEXICO is 1982-3.0-28.0

the total number of earthquakes since 2150 B.C. in MARTINIQUE is 10

the date of the largest earthquake ever happened in MARTINIQUE is 2007-11.0-29.0

the total number of earthquakes since 2150 B.C. in MALAYSIA is 3

the date of the largest earthquake ever happened in MALAYSIA is 1991-5.0-26.0

the total number of earthquakes since 2150 B.C. in MALAWI is 4

the date of the largest earthquake ever happened in MALAWI is 2006-6.0-3.0

the total number of earthquakes since 2150 B.C. in MADAGASCAR is 1

the date of the largest earthquake ever happened in MADAGASCAR is 2017-1.0-11.0

the total number of earthquakes since 2150 B.C. in MACEDONIA is 12

the date of the largest earthquake ever happened in MACEDONIA is 1983-2.0-25.0

the total number of earthquakes since 2150 B.C. in LIBYA is 1

the date of the largest earthquake ever happened in LIBYA is 1963-2.0-21.0

the total number of earthquakes since 2150 B.C. in LEBANON is 14

the date of the largest earthquake ever happened in LEBANON is 2008-2.0-15.0

the total number of earthquakes since 2150 B.C. in LAOS is 2

the date of the largest earthquake ever happened in LAOS is 2001-2.0-19.0

the total number of earthquakes since 2150 B.C. in KYRGYZSTAN is 14

the date of the largest earthquake ever happened in KYRGYZSTAN is 1990-12.0-1.0

the total number of earthquakes since 2150 B.C. in KIRIBATI is 1

the date of the largest earthquake ever happened in KIRIBATI is 1905-6.0-30.0

the total number of earthquakes since 2150 B.C. in KERMADEC ISLANDS (NEW ZEALAND) is 17

the date of the largest earthquake ever happened in KERMADEC ISLANDS (NEW ZEALAND) is 1993-6.0
-18.0

the total number of earthquakes since 2150 B.C. in KENYA is 3

the date of the largest earthquake ever happened in KENYA is 1968-3.0-20.0

the total number of earthquakes since 2150 B.C. in KAZAKHSTAN is 10

the date of the largest earthquake ever happened in KAZAKHSTAN is 1990-9.0-27.0

the total number of earthquakes since 2150 B.C. in JORDAN is 5

the date of the largest earthquake ever happened in JORDAN is 2004-2.0-11.0

the total number of earthquakes since 2150 B.C. in JAPAN is 409

the date of the largest earthquake ever happened in JAPAN is 2007-4.0-15.0

the total number of earthquakes since 2150 B.C. in JAMAICA is 19

the date of the largest earthquake ever happened in JAMAICA is 1988-11.0-12.0

the total number of earthquakes since 2150 B.C. in ITALY is 326

the date of the largest earthquake ever happened in ITALY is 1703-7.0-2.0

the total number of earthquakes since 2150 B.C. in ISRAEL is 23

the date of the largest earthquake ever happened in ISRAEL is 1903-3.0-29.0

the total number of earthquakes since 2150 B.C. in IRELAND is 1

the date of the largest earthquake ever happened in IRELAND is 1490-nan-nan

the total number of earthquakes since 2150 B.C. in IRAQ is 24

the date of the largest earthquake ever happened in IRAQ is 1991-7.0-24.0

the total number of earthquakes since 2150 B.C. in IRAN is 380

the date of the largest earthquake ever happened in IRAN is 2017-12.0-26.0

the total number of earthquakes since 2150 B.C. in INDONESIA is 401

the date of the largest earthquake ever happened in INDONESIA is 1992-2.0-4.0

the total number of earthquakes since 2150 B.C. in INDIAN OCEAN is 3

the date of the largest earthquake ever happened in INDIAN OCEAN is 2003-7.0-15.0

the total number of earthquakes since 2150 B.C. in INDIA is 99

the date of the largest earthquake ever happened in INDIA is 2011-10.0-29.0

the total number of earthquakes since 2150 B.C. in ICELAND is 17

the date of the largest earthquake ever happened in ICELAND is 1929-7.0-23.0

the total number of earthquakes since 2150 B.C. in HUNGARY is 5

the date of the largest earthquake ever happened in HUNGARY is 2006-12.0-31.0

the total number of earthquakes since 2150 B.C. in HONDURAS is 13

the date of the largest earthquake ever happened in HONDURAS is 1982-9.0-29.0

the total number of earthquakes since 2150 B.C. in HAITI is 17

the date of the largest earthquake ever happened in HAITI is 1994-3.0-2.0

the total number of earthquakes since 2150 B.C. in GUINEA is 1

the date of the largest earthquake ever happened in GUINEA is 1983-12.0-22.0

the total number of earthquakes since 2150 B.C. in GUATEMALA is 38

the date of the largest earthquake ever happened in GUATEMALA is 1985-10.0-11.0

the total number of earthquakes since 2150 B.C. in GUADELOUPE is 9

the date of the largest earthquake ever happened in GUADELOUPE is 2005-2.0-14.0

the total number of earthquakes since 2150 B.C. in GRENADA is 1

the date of the largest earthquake ever happened in GRENADA is 1822-12.0-1.0

the total number of earthquakes since 2150 B.C. in GREECE is 269

the date of the largest earthquake ever happened in GREECE is 1980-7.0-12.0

the total number of earthquakes since 2150 B.C. in GHANA is 5

the date of the largest earthquake ever happened in GHANA is 1872-4.0-14.0

the total number of earthquakes since 2150 B.C. in GERMANY is 9

the date of the largest earthquake ever happened in GERMANY is 2014-5.0-17.0

the total number of earthquakes since 2150 B.C. in GEORGIA is 15

the date of the largest earthquake ever happened in GEORGIA is 1811-1.0-1.0

the total number of earthquakes since 2150 B.C. in GABON is 1

the date of the largest earthquake ever happened in GABON is 1974-9.0-23.0

the total number of earthquakes since 2150 B.C. in FRENCH POLYNESIA is 1

the date of the largest earthquake ever happened in FRENCH POLYNESIA is 1848-7.0-12.0

the total number of earthquakes since 2150 B.C. in FRENCH GUIANA is 2

the date of the largest earthquake ever happened in FRENCH GUIANA is 1885-8.0-4.0

the total number of earthquakes since 2150 B.C. in FRANCE is 43

the date of the largest earthquake ever happened in FRANCE is 1991-2.0-13.0

the total number of earthquakes since 2150 B.C. in FIJI is 19

the date of the largest earthquake ever happened in FIJI is 1975-12.0-16.0

the total number of earthquakes since 2150 B.C. in ETHIOPIA is 9

the date of the largest earthquake ever happened in ETHIOPIA is 2010-12.0-16.0

the total number of earthquakes since 2150 B.C. in ERITREA is 6

the date of the largest earthquake ever happened in ERITREA is 1921-8.0-14.0

the total number of earthquakes since 2150 B.C. in EL SALVADOR is 38

the date of the largest earthquake ever happened in EL SALVADOR is 2015-8.0-9.0

the total number of earthquakes since 2150 B.C. in EGYPT is 15

the date of the largest earthquake ever happened in EGYPT is 2002-8.0-24.0

the total number of earthquakes since 2150 B.C. in ECUADOR is 64

the date of the largest earthquake ever happened in ECUADOR is 2011-10.0-29.0

the total number of earthquakes since 2150 B.C. in DOMINICAN REPUBLIC is 18

the date of the largest earthquake ever happened in DOMINICAN REPUBLIC is 2003-10.0-16.0

the total number of earthquakes since 2150 B.C. in DJIBOUTI is 1

the date of the largest earthquake ever happened in DJIBOUTI is 1989-8.0-20.0

the total number of earthquakes since 2150 B.C. in CZECH REPUBLIC is 1

the date of the largest earthquake ever happened in CZECH REPUBLIC is 2008-11.0-22.0

the total number of earthquakes since 2150 B.C. in CYPRUS is 6

the date of the largest earthquake ever happened in CYPRUS is 1995-2.0-23.0

the total number of earthquakes since 2150 B.C. in CUBA is 14

the date of the largest earthquake ever happened in CUBA is 1932-2.0-3.0

the total number of earthquakes since 2150 B.C. in CROATIA is 49

the date of the largest earthquake ever happened in CROATIA is 1738-3.0-30.0

the total number of earthquakes since 2150 B.C. in COTE D'IVOIRE is 2

the date of the largest earthquake ever happened in COTE D'IVOIRE is 1889-nan-nan

the total number of earthquakes since 2150 B.C. in COSTA RICA is 35

the date of the largest earthquake ever happened in COSTA RICA is 1990-6.0-8.0

the total number of earthquakes since 2150 B.C. in CONGO is 7

the date of the largest earthquake ever happened in CONGO is 2021-6.0-10.0

the total number of earthquakes since 2150 B.C. in COMOROS is 1

the date of the largest earthquake ever happened in COMOROS is 2018-5.0-15.0

the total number of earthquakes since 2150 B.C. in COLOMBIA is 79

the date of the largest earthquake ever happened in COLOMBIA is 1845-2.0-19.0

the total number of earthquakes since 2150 B.C. in CHINA is 610

the date of the largest earthquake ever happened in CHINA is 2009-8.0-8.0

the total number of earthquakes since 2150 B.C. in CHILE is 198

the date of the largest earthquake ever happened in CHILE is 1986-12.0-19.0

the total number of earthquakes since 2150 B.C. in CENTRAL AFRICAN REPUBLIC is 1

the date of the largest earthquake ever happened in CENTRAL AFRICAN REPUBLIC is 1921-9.0-16.0

the total number of earthquakes since 2150 B.C. in CANARY ISLANDS is 2

the date of the largest earthquake ever happened in CANARY ISLANDS is 1800-nan-nan

the total number of earthquakes since 2150 B.C. in CANADA is 20

the date of the largest earthquake ever happened in CANADA is 1982-1.0-11.0

the total number of earthquakes since 2150 B.C. in CAMEROON is 2

the date of the largest earthquake ever happened in CAMEROON is 1945-9.0-12.0

the total number of earthquakes since 2150 B.C. in BURUNDI is 1

the date of the largest earthquake ever happened in BURUNDI is 2004-2.0-24.0

the total number of earthquakes since 2150 B.C. in BULGARIA is 18

the date of the largest earthquake ever happened in BULGARIA is 2003-12.0-17.0

the total number of earthquakes since 2150 B.C. in BRITISH VIRGIN ISLANDS is 1

the date of the largest earthquake ever happened in BRITISH VIRGIN ISLANDS is 1871-9.0-nan

the total number of earthquakes since 2150 B.C. in BRAZIL is 6

the date of the largest earthquake ever happened in BRAZIL is 2012-5.0-19.0

the total number of earthquakes since 2150 B.C. in BOSNIA-HERZEGOVINA is 10

the date of the largest earthquake ever happened in BOSNIA-HERZEGOVINA is 2015-2.0-21.0

the total number of earthquakes since 2150 B.C. in BOLIVIA is 6

the date of the largest earthquake ever happened in BOLIVIA is 1998-5.0-22.0

the total number of earthquakes since 2150 B.C. in BHUTAN is 5

the date of the largest earthquake ever happened in BHUTAN is 2009-12.0-31.0

the total number of earthquakes since 2150 B.C. in BERING SEA is 1

the date of the largest earthquake ever happened in BERING SEA is 1991-2.0-21.0

the total number of earthquakes since 2150 B.C. in BELGIUM is 1

the date of the largest earthquake ever happened in BELGIUM is 1983-11.0-8.0

the total number of earthquakes since 2150 B.C. in BARBADOS is 1

the date of the largest earthquake ever happened in BARBADOS is 1831-8.0-11.0

the total number of earthquakes since 2150 B.C. in BANGLADESH is 17

the date of the largest earthquake ever happened in BANGLADESH is 1999-7.0-22.0

the total number of earthquakes since 2150 B.C. in AZORES (PORTUGAL) is 27

the date of the largest earthquake ever happened in AZORES (PORTUGAL) is 1964-2.0-18.0

the total number of earthquakes since 2150 B.C. in AZERBAIJAN is 16

the date of the largest earthquake ever happened in AZERBAIJAN is 1842-1.0-2.0

the total number of earthquakes since 2150 B.C. in AUSTRIA is 7

the date of the largest earthquake ever happened in AUSTRIA is 1998-4.0-12.0

the total number of earthquakes since 2150 B.C. in AUSTRALIA is 24

the date of the largest earthquake ever happened in AUSTRALIA is 2009-9.0-22.0

the total number of earthquakes since 2150 B.C. in ATLANTIC OCEAN is 6

the date of the largest earthquake ever happened in ATLANTIC OCEAN is 2008-8.0-26.0

the total number of earthquakes since 2150 B.C. in ARMENIA is 13

the date of the largest earthquake ever happened in ARMENIA is 856-1.0-nan

the total number of earthquakes since 2150 B.C. in ARGENTINA is 21

the date of the largest earthquake ever happened in ARGENTINA is 2008-12.0-10.0

the total number of earthquakes since 2150 B.C. in ANTIGUA AND BARBUDA is 3

the date of the largest earthquake ever happened in ANTIGUA AND BARBUDA is 1974-10.0-8.0

the total number of earthquakes since 2150 B.C. in ANTARCTICA is 5

the date of the largest earthquake ever happened in ANTARCTICA is 2021-1.0-23.0

the total number of earthquakes since 2150 B.C. in ALGERIA is 57

the date of the largest earthquake ever happened in ALGERIA is 1987-1.0-26.0

the total number of earthquakes since 2150 B.C. in ALBANIA is 56

the date of the largest earthquake ever happened in ALBANIA is 2007-4.0-16.0

the total number of earthquakes since 2150 B.C. in AFGHANISTAN is 59

the date of the largest earthquake ever happened in AFGHANISTAN is 1991-4.0-20.0

2. Wind speed in Shenzhen during the past 10 years

完整代码如下，可将每一小问复制至 Jupyter 看更详细结果：

import pandas as pd

working_directory = pd.read_csv('2281305.csv')

working_directory

#根据 user guide 确定 WND 为风速风向数据列，故只将其和时间列放入新 dataframe 中

data = working_directory[['DATE','WND']]

data

data1 = data['DATE'].str.split('-',expand=True)#时间在原表格中是用'-'连接，参考 https://blog.csdn.net/liuweiyuxiang/article/details/90936521 中的在 python 中对字符串进行切分

data2 = data['WND'].str.split(',',expand = True)#切分方式同上

data3 = pd.merge(data1,data2,left_index=True,right_index=True)#将上面两个 dataframe 参考 http://c.biancheng.net/pandas/merge.html 进行合并

#data_final.rename(columns={'0_x':'Year','1_x':'Month','0_y':'Wind_direction_angle','1_y':'Wind_direction_quality_code','2_y':'Wind_type_code','3':'Wind_speed_rate','4':'Wind_speed_quality_code',inplace = True}

data3.columns=['Year','Month','Daytime','Wind_direction_angle','Wind_direction_quality_code','Wind_type_code','Wind_speed_rate','Wind_speed_quality_code']# 更 改 列 名 参 考 https://www.cnblogs.com/shida-liu/p/13096214.html#:~:text=Pandas%E4%B8%AD%E4%BF%AE%E6%94%B9DataFrame%E5%88%97%E5%90%8D.%20%E6%9C%89%E6%97%B6%E5%80%99%E7%BB%8F%E8%BF%87%E6%9F%90%E4%BA%9B%E6%93%8D%E4%BD%9C%E5%90%8E%E7%94%9F%E6%88%90%E7%9A%84DataFrame%E7%9A%84%E5%88%97%E5%90%8D%E7%A7%B0%E6%98%AF%E9%BB%98%E8%AE%A4%E7%9A%84%EF%BC%8C%E4%B8%BA%E4%BA%86%E5%88%97%E5%90%8D%E6%A0%87%E8%AE%B0%E5%B7%B2%E4%B8%8E%E7%90%86%E8%A7%A3%EF%BC%8C%E6%9C%89%E6%97%B6%E5%80%99%E6%88%91%E4
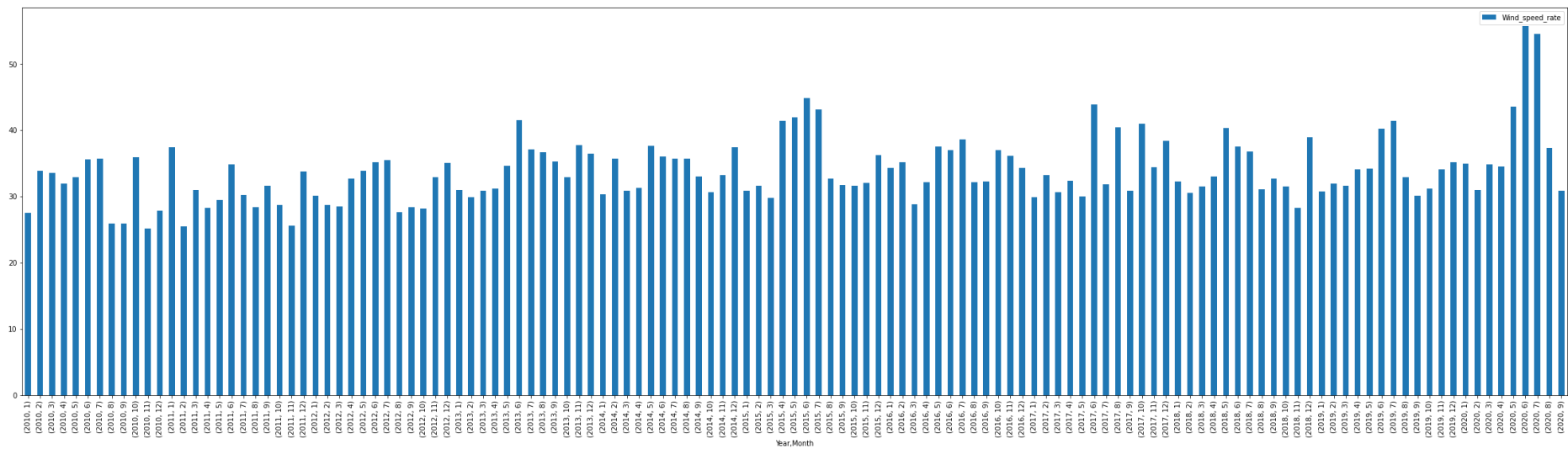
%BB%AC%E4%BC%9A%E6%9C%89%E4%BF%AE%E6%94%B9%E5%88%97%E5%90%8

D%E7%A7%B0%E7%9A%84%E9%9C%80%E6%B1%82%E3%80%82.%20%E6%8F%90%E4

%BE%9B%E4%BF%AE%E6%94%B9%E5%88%97%E5%90%8D%E7%9A%84%E6%96%B9

%E6%B3%95%E5%A6%82%E4%B8%8B%EF%BC%9A.%20%E5%81%87%E5%A6%82%E6

%9C%89%E5%88%9D%E5%A7%8B%E7%9A%84DataFrame%E5%A6%82%E4%B8%8B.%2

0%3E%3E%3E%20import%20pandas%20as,2%205%208%202%203%206%209.%201.

data4   =

data3.drop(columns='Wind_direction_angle').drop(columns='Wind_direction_quality_code').drop(

columns='Wind_type_code').drop(columns='Daytime')

data4 = data4.astype('int')

#j = data4.shape[0]

#for i in range(j):

#data5 = data4.drop(index=data4[data4['Wind_speed_rate']==9999].index[0])

data5 = data4[~data4['Wind_speed_rate'].isin([9999])]

#参考 https://blog.csdn.net/luocheng7430/article/details/80330566 删除含有缺失值 9999 的行

data6 = data5[data5['Wind_speed_quality_code'].isin([1])]

#data6 = data5.drop(index=data5[data5['Wind_speed_quality_code']!='1'].index[0])

data_final = data6.drop(columns='Wind_speed_quality_code')

#data_final = data6.astype('int')

data_final

#data4.dtypes

ave = data_final.groupby(['Year','Month']).agg('mean')

#pd.DataFrame(ave)

ave

ave.plot.bar(figsize=(40,10))

此题结果如下：

3. Explore a data set

```
import pandas as pd

#3.1

working_directory = pd.read_csv('2281305.csv')

working_directory

data = working_directory[['DATE','TMP']]

data

data1 = data['DATE'].str.split('-',expand=True)

data2 = data['TMP'].str.split(',',expand = True)

data3 = pd.merge(data1,data2,left_index=True,right_index=True)

data3.columns=['Year','Month','Daytime','Air_temperature','Air_temperature_quality_code']

data4 = data3.drop(columns='Daytime')

data4 = data4.astype('int')

data5 = data4[~data4['Air_temperature'].isin([+9999])]

data6 = data5.drop(index=data5[data5['Air_temperature_quality_code']!='1'].index[0])

data_final = data6.drop(columns='Air_temperature_quality_code')

data_final


#3.2

ave = data_final.groupby(['Year','Month']).agg('mean')

ave.plot.bar(figsize=(40,10))
```
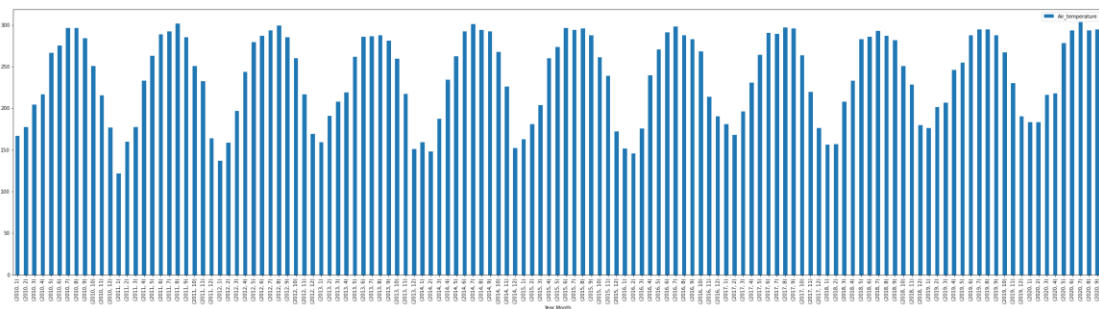
#3.3 相比于第二题是按年、月来聚类，第三题想看看，对于特定月份，每一年的大气温度是否有一个变化趋势，可以看出，对同一月份，不同年温度相近，整体上还是呈现出 7.8 月温度最高的趋势

ave1 = data_final.groupby(['Month','Year']).agg('mean')

ave1.plot.bar(figsize=(10,10))