Report of assignment 2

1.

1.1 I read the file by pd.csv(sep = '\t'), \t is used for read .tsv file

Use groupby to complete the question, results are shown below:
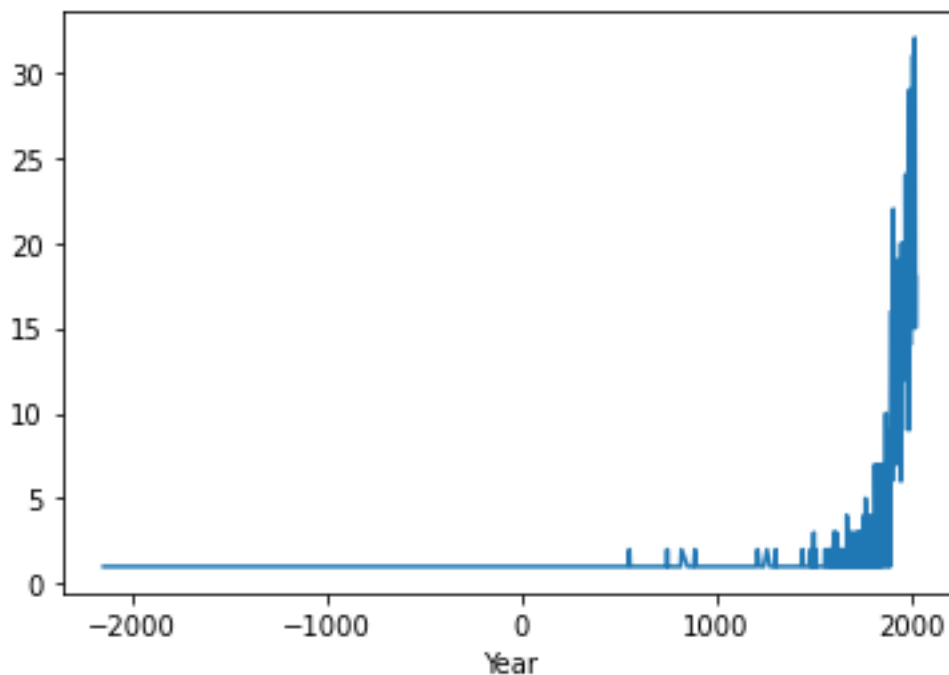
death_country = Sig_eqs.groupby('Country').sum().sort_values('Deaths', ascending = False)['Deaths']

death_country.head(10)

Country	
CHINA	2074900.0
TURKEY	1074569.0
IRAN	1011437.0
SYRIA	439224.0
ITALY	434863.0
HAITI	323472.0
AZERBAIJAN	317219.0
JAPAN	278138.0
ARMENIA	191890.0
PAKISTAN	148783.0

Name: Deaths, dtype: float64

1.2

Select the magnitude by 6.0 then group by year, the series plot is displayed below:

The number of earthquake is increasing. I guess several reasons for this:

1. we have higher sensitive machine to detect earthquake, so we get more and more data

2. the earth activity is increasing. (Because, in recent years, I assume we have same sensitivity machine, but the number is still increasing, so, I guess the earth activity, that makes earthquake, is increasing)
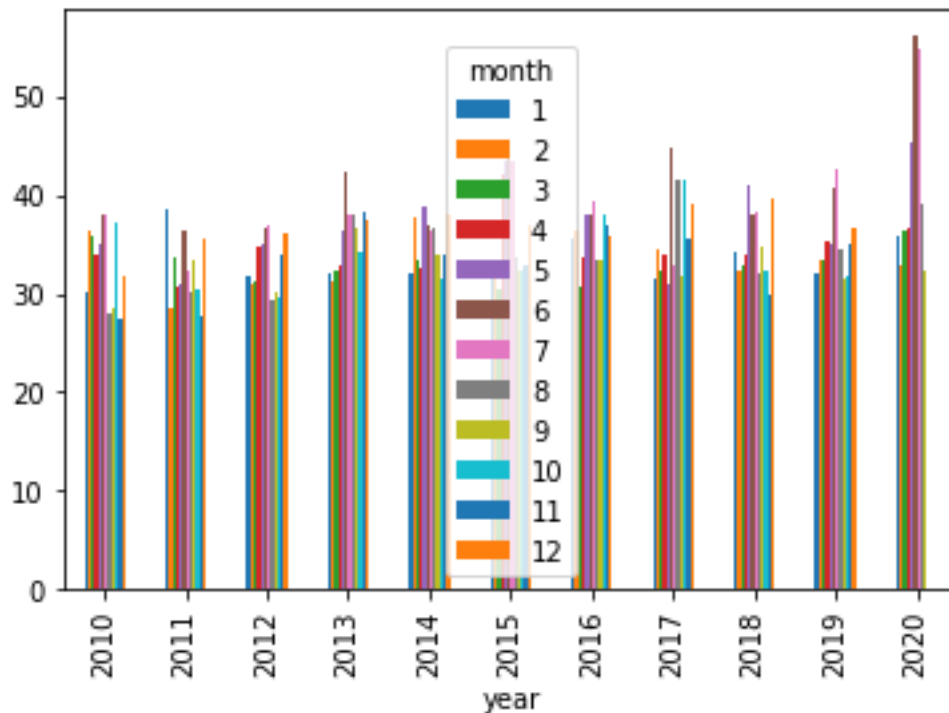
1.3 still working on it…

2.

quality: According to Guide, I removed:

      1. wind direction = 999 and

      2. wind speed = 9999

      3. wind quality >1

      They are nonsense data (missing data and error data, and low quality data)
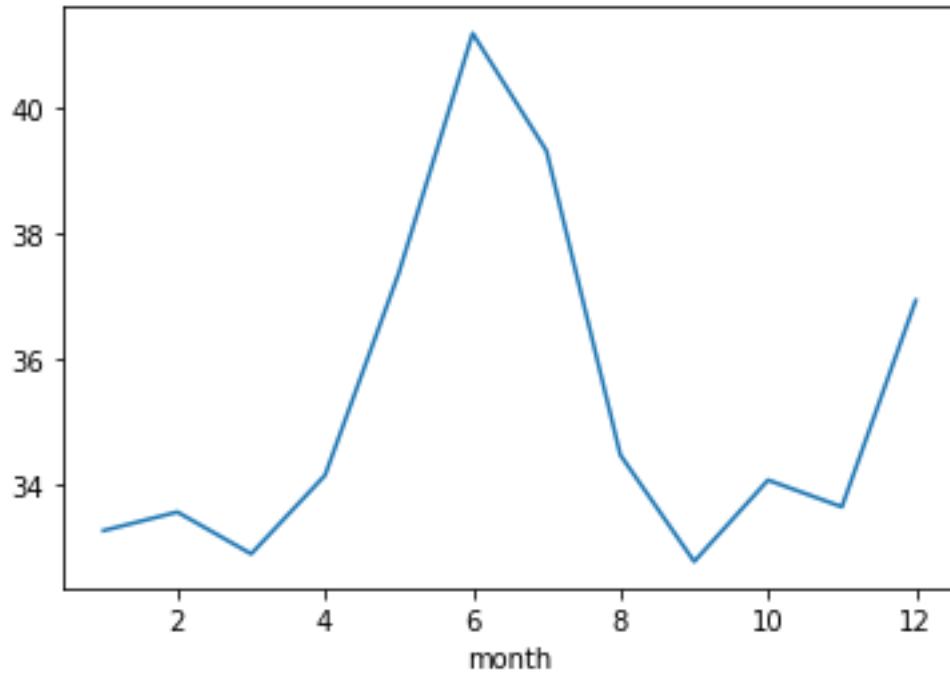
Trend:

(1)

In each, the month average wind speed increase slightly, but the pattern didn't change too much. The average speed move from 30 to 40 slowly. The pattern is that in summer and winter there is a higher wind speed generally.
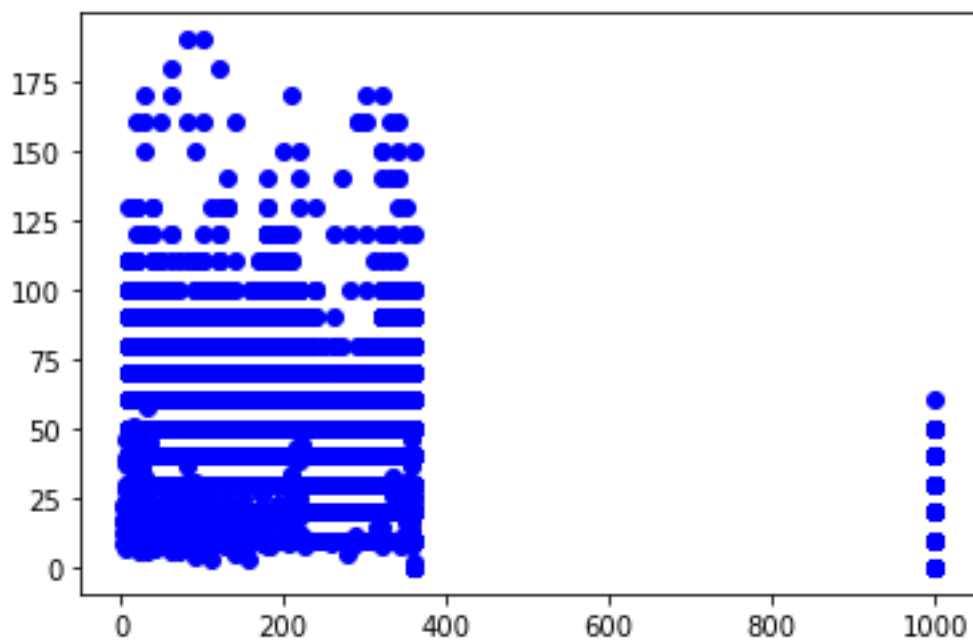
The speed increasing phenomena might be attributed to global warming, which increase the heat power and forming pressure difference.

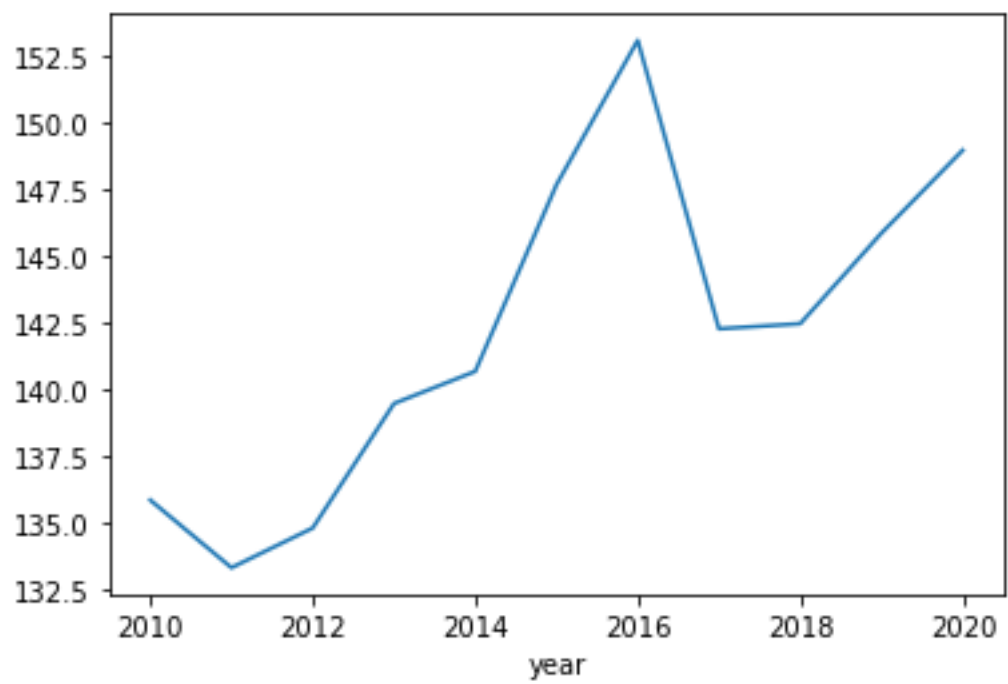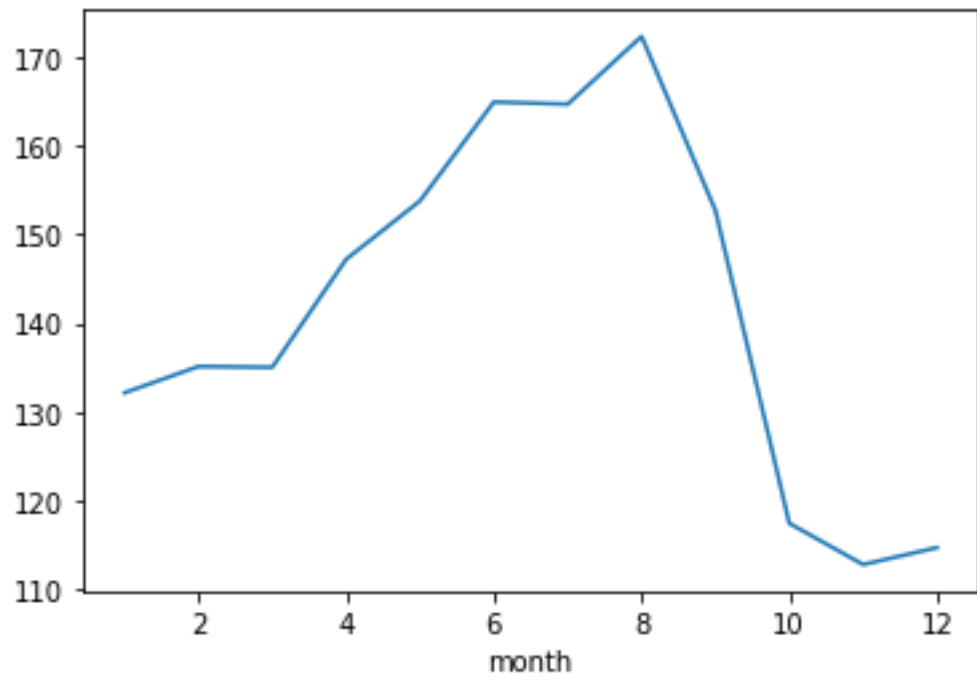**(2)**

This is the monthly average wind speed pattern. Summer and winter showed higher speed.

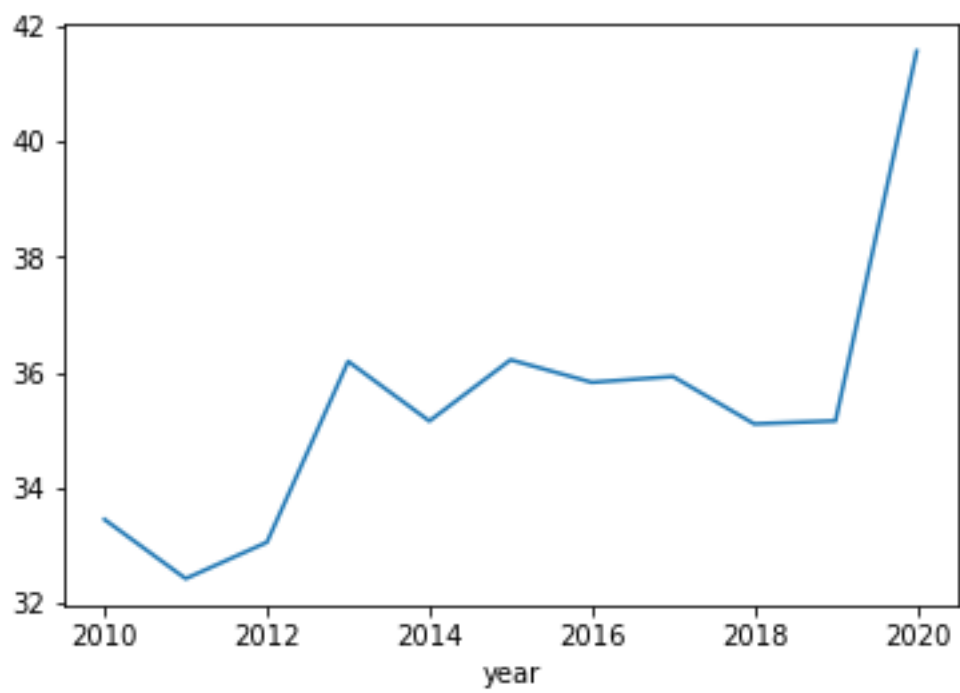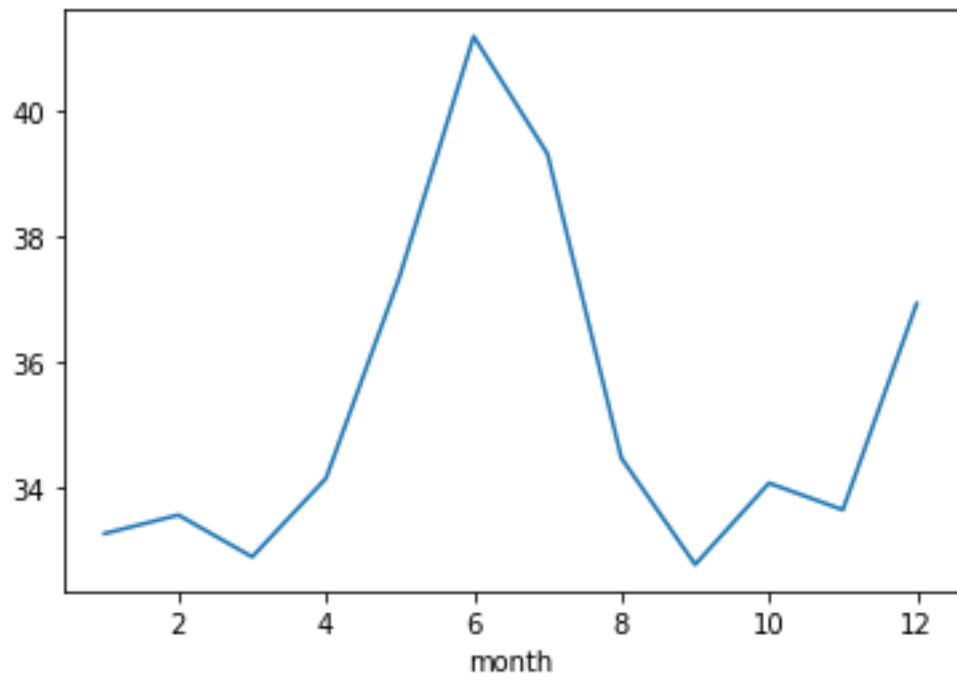**3.** For data, I still use the data in question 2. I want to check more information on this.

(1) wind speed and wind direction relationship

Wind can come from every direction. But slow speed concentrated in left bottom area, which means, some slow speed wind could have same causing reason.

Wind direction by year and month

From these two figures, we can know the main wind direction change.

Wind speed by year and month

From these two figures, we can know the main wind speed change.