In [1]: import pandas as pd

In [3]: data = pd.read_csv('C:\\Users\\UP\\Downloads\\1. Weather Data.csv')

In [4]: data

Out[4]:

]:		Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
	0	1/1/2012 0:00	-1.8	-3.9	86	4	8.0	101.24	Fog
	1	1/1/2012 1:00	-1.8	-3.7	87	4	8.0	101.24	Fog
	2	1/1/2012 2:00	-1.8	-3.4	89	7	4.0	101.26	Freezing Drizzle,Fog
	3	1/1/2012 3:00	-1.5	-3.2	88	6	4.0	101.27	Freezing Drizzle,Fog
	4	1/1/2012 4:00	-1.5	-3.3	88	7	4.8	101.23	Fog
	•••								
	8779	12/31/2012 19:00	0.1	-2.7	81	30	9.7	100.13	Snow
	8780	12/31/2012 20:00	0.2	-2.4	83	24	9.7	100.03	Snow
	8781	12/31/2012 21:00	-0.5	-1.5	93	28	4.8	99.95	Snow
	8782	12/31/2012 22:00	-0.2	-1.8	89	28	9.7	99.91	Snow
	8783	12/31/2012 23:00	0.0	-2.1	86	30	11.3	99.89	Snow

8784 rows × 8 columns

In [6]:

data.head()

Out[6]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
0	1/1/2012 0:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	1/1/2012 1:00	-1.8	-3.7	87	4	8.0	101.24	Fog
2	1/1/2012 2:00	-1.8	-3.4	89	7	4.0	101.26	Freezing Drizzle,Fog

```
Wind
                                         Dew Point
                                                           Rel
                                                                                Visibility_km Press_kPa
               Date/Time Temp_C
                                                                                                            Weather
                                                                  Speed_km/h
                                            Temp_C
                                                      Hum_%
                 1/1/2012
                                                                                                             Freezing
            3
                                -1.5
                                                -3.2
                                                           88
                                                                                          4.0
                                                                                                  101.27
                      3:00
                                                                                                           Drizzle,Fog
                 1/1/2012
            4
                                -1.5
                                               -3.3
                                                            88
                                                                             7
                                                                                          4.8
                                                                                                  101.23
                                                                                                                 Fog
                      4:00
 In [7]:
             data.index
           RangeIndex(start=0, stop=8784, step=1)
 In [8]:
             data.columns
 Out[8]: Index(['Date/Time', 'Temp_C', 'Dew Point Temp_C', 'Rel Hum_%',
                     'Wind Speed_km/h', 'Visibility_km', 'Press_kPa', 'Weather'],
                   dtype='object')
 In [9]:
             data.dtypes
 Out[9]: Date/Time
                                      object
           Temp C
                                    float64
           Dew Point Temp_C
                                    float64
            Rel Hum %
                                       int64
           Wind Speed_km/h
                                       int64
            Visibility km
                                    float64
           Press kPa
                                    float64
           Weather
                                      object
            dtype: object
In [12]:
            data['Weather'].unique()
Out[12]: array(['Fog', 'Freezing Drizzle, Fog', 'Mostly Cloudy', 'Cloudy', 'Rain',
                     'Rain Showers', 'Mainly Clear', 'Snow Showers', 'Snow', 'Clear',
                    'Freezing Rain, Fog', 'Freezing Rain', 'Freezing Drizzle',
                    'Rain, Snow', 'Moderate Snow', 'Freezing Drizzle, Snow', 'Freezing Rain, Snow Grains', 'Snow, Blowing Snow', 'Freezing Fog',
                    'Haze', 'Rain, Fog', 'Drizzle, Fog', 'Drizzle',
                    'Freezing Drizzle, Haze', 'Freezing Rain, Haze', 'Snow, Haze', 'Snow, Fog', 'Snow, Ice Pellets', 'Rain, Haze', 'Thunderstorms, Rain',
                    'Thunderstorms, Rain Showers', 'Thunderstorms, Heavy Rain Showers',
                    'Thunderstorms, Rain Showers, Fog', 'Thunderstorms',
                    'Thunderstorms, Rain, Fog',
                    'Thunderstorms, Moderate Rain Showers, Fog', 'Rain Showers, Fog', 'Rain Showers, Snow Showers', 'Snow Pellets', 'Rain, Snow, Fog',
                    'Moderate Rain, Fog', 'Freezing Rain, Ice Pellets, Fog',
                    'Drizzle, Ice Pellets, Fog', 'Drizzle, Snow', 'Rain, Ice Pellets',
                    'Drizzle, Snow, Fog', 'Rain, Snow Grains', 'Rain, Snow, Ice Pellets', 'Snow Showers, Fog', 'Moderate Snow, Blowing Snow'], dtype=object)
In [16]:
             data.nunique()
           Date/Time
                                    8784
Out[16]:
            Temp C
                                      533
```

Dew Point Temp C

489

```
24
          Visibility_km
          Press kPa
                                 518
          Weather
                                  50
          dtype: int64
In [17]:
           data.count()
Out[17]: Date/Time
                                8784
                                8784
          Temp C
          Dew Point Temp_C
                                8784
          Rel Hum %
                                8784
          Wind Speed km/h
                                8784
          Visibility_km
                                8784
          Press_kPa
                               8784
          Weather
                                8784
          dtype: int64
In [19]:
           data['Weather'].value_counts()
Out[19]: Mainly Clear
                                                        2106
          Mostly Cloudy
                                                        2069
          Cloudy
                                                        1728
          Clear
                                                        1326
          Snow
                                                          390
          Rain
                                                          306
          Rain Showers
                                                          188
                                                          150
          Fog
          Rain, Fog
                                                          116
                                                           80
          Drizzle, Fog
          Snow Showers
                                                           60
          Drizzle
                                                           41
          Snow, Fog
                                                           37
          Snow, Blowing Snow
                                                           19
                                                           18
          Rain, Snow
          Haze
                                                           16
          Thunderstorms, Rain Showers
                                                           16
                                                           15
          Drizzle, Snow, Fog
                                                           14
          Freezing Rain
          Freezing Drizzle, Snow
                                                           11
          Freezing Drizzle
                                                            7
          Snow, Ice Pellets
                                                            6
          Freezing Drizzle, Fog
                                                            6
          Snow, Haze
                                                            5
          Freezing Rain, Fog
                                                            4
                                                            4
          Snow Showers, Fog
                                                            4
          Freezing Fog
                                                            4
          Rain, Snow, Ice Pellets
          Moderate Snow
                                                            4
          Thunderstorms, Rain
                                                            3
                                                            3
          Rain, Haze
                                                            3
          Freezing Drizzle, Haze
          Thunderstorms, Rain Showers, Fog
                                                            3
          Moderate Snow, Blowing Snow
                                                            2
                                                            2
          Freezing Rain, Haze
                                                            2
          Drizzle, Snow
                                                            2
          Thunderstorms
                                                            2
          Rain Showers, Snow Showers
          Thunderstorms, Moderate Rain Showers, Fog
                                                            1
                                                            1
          Thunderstorms, Rain, Fog
```

1

Freezing Rain, Ice Pellets, Fog

83

34

Rel Hum_% Wind Speed_km/h

```
Rain, Ice Pellets
         Moderate Rain, Fog
                                                         1
          Freezing Rain, Snow Grains
                                                         1
          Rain, Snow Grains
                                                         1
         Thunderstorms, Heavy Rain Showers
                                                         1
         Rain Showers, Fog
                                                         1
         Rain, Snow, Fog
                                                         1
         Drizzle, Ice Pellets, Fog
                                                         1
         Snow Pellets
                                                         1
         Name: Weather, dtype: int64
In [20]:
          data.info()
          <class 'pandas.core.frame.DataFrame'>
          RangeIndex: 8784 entries, 0 to 8783
          Data columns (total 8 columns):
              Column
                                 Non-Null Count Dtype
          ---
              _____
                                 _____
                                                 ----
              Date/Time
           0
                                 8784 non-null
                                                  object
           1
                                 8784 non-null
              Temp_C
                                                  float64
           2
              Dew Point Temp_C 8784 non-null
                                                  float64
           3
              Rel Hum %
                                 8784 non-null
                                                  int64
           4
              Wind Speed km/h
                                 8784 non-null
                                                  int64
           5
                                 8784 non-null
                                                  float64
              Visibility_km
              Press kPa
                                 8784 non-null
                                                  float64
           6
           7
              Weather
                                 8784 non-null
                                                  object
          dtypes: float64(4), int64(2), object(2)
         memory usage: 549.1+ KB
In [22]:
          data['Wind Speed_km/h'].unique()
Out[22]: array([ 4, 7, 6, 9, 15, 13, 20, 22, 19, 24, 30, 35, 39, 32, 33, 26, 44,
                 43, 48, 37, 28, 17, 11, 0, 83, 70, 57, 46, 41, 52, 50, 63, 54, 2],
                dtype=int64)
In [27]:
          data.Weather.value_counts()
Out[27]: Mainly Clear
                                                      2106
         Mostly Cloudy
                                                      2069
         Cloudy
                                                      1728
         Clear
                                                      1326
         Snow
                                                       390
         Rain
                                                       306
          Rain Showers
                                                       188
          Fog
                                                       150
          Rain, Fog
                                                       116
         Drizzle, Fog
                                                        80
         Snow Showers
                                                        60
         Drizzle
                                                        41
         Snow, Fog
                                                        37
          Snow, Blowing Snow
                                                        19
         Rain, Snow
                                                        18
         Haze
                                                        16
         Thunderstorms, Rain Showers
                                                        16
         Drizzle, Snow, Fog
                                                        15
         Freezing Rain
                                                        14
         Freezing Drizzle, Snow
                                                        11
         Freezing Drizzle
                                                         7
         Snow, Ice Pellets
                                                         6
          Freezing Drizzle, Fog
                                                         6
          Snow, Haze
                                                         5
```

1

Freezing Rain, Fog	4
Snow Showers, Fog	4
Freezing Fog	4
Rain, Snow, Ice Pellets	4
Moderate Snow	4
Thunderstorms, Rain	3
Rain, Haze	3
Freezing Drizzle, Haze	3
Thunderstorms, Rain Showers, Fog	3
Moderate Snow, Blowing Snow	2
Freezing Rain, Haze	2
Drizzle, Snow	2
Thunderstorms	2
Rain Showers, Snow Showers	2
Thunderstorms, Moderate Rain Showers, Fog	1
Thunderstorms, Rain, Fog	1
Freezing Rain, Ice Pellets, Fog	1
Rain, Ice Pellets	1
Moderate Rain, Fog	1
Freezing Rain, Snow Grains	1
Rain, Snow Grains	1
Thunderstorms, Heavy Rain Showers	1
Rain Showers, Fog	1
Rain, Snow, Fog	1
Drizzle,Ice Pellets,Fog	1
Snow Pellets	1
Name: Weather, dtype: int64	

In [29]:

data[data.Weather == 'Clear']

Out[29]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
67	1/3/2012 19:00	-16.9	-24.8	50	24	25.0	101.74	Clear
114	1/5/2012 18:00	-7.1	-14.4	56	11	25.0	100.71	Clear
115	1/5/2012 19:00	-9.2	-15.4	61	7	25.0	100.80	Clear
116	1/5/2012 20:00	-9.8	-15.7	62	9	25.0	100.83	Clear
117	1/5/2012 21:00	-9.0	-14.8	63	13	25.0	100.83	Clear
•••						•••		
8646	12/26/2012 6:00	-13.4	-14.8	89	4	25.0	102.47	Clear
8698	12/28/2012 10:00	-6.1	-8.6	82	19	24.1	101.27	Clear
8713	12/29/2012 1:00	-11.9	-13.6	87	11	25.0	101.31	Clear
8714	12/29/2012 2:00	-11.8	-13.1	90	13	25.0	101.33	Clear
8756	12/30/2012 20:00	-13.8	-16.5	80	24	25.0	101.52	Clear

In [31]:

data.groupby('Weather').get_group('Clear')

Out[31]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
67	1/3/2012 19:00	-16.9	-24.8	50	24	25.0	101.74	Clear
114	1/5/2012 18:00	-7.1	-14.4	56	11	25.0	100.71	Clear
115	1/5/2012 19:00	-9.2	-15.4	61	7	25.0	100.80	Clear
116	1/5/2012 20:00	-9.8	-15.7	62	9	25.0	100.83	Clear
117	1/5/2012 21:00	-9.0	-14.8	63	13	25.0	100.83	Clear
•••								
8646	12/26/2012 6:00	-13.4	-14.8	89	4	25.0	102.47	Clear
8698	12/28/2012 10:00	-6.1	-8.6	82	19	24.1	101.27	Clear
8713	12/29/2012 1:00	-11.9	-13.6	87	11	25.0	101.31	Clear
8714	12/29/2012 2:00	-11.8	-13.1	90	13	25.0	101.33	Clear
8756	12/30/2012 20:00	-13.8	-16.5	80	24	25.0	101.52	Clear

1326 rows × 8 columns

In [42]:

data[data['Wind Speed_km/h'] == 4]

Out[42]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
0	1/1/2012 0:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	1/1/2012 1:00	-1.8	-3.7	87	4	8.0	101.24	Fog
96	1/5/2012 0:00	-8.8	-11.7	79	4	9.7	100.32	Snow
101	1/5/2012 5:00	-7.0	-9.5	82	4	4.0	100.19	Snow

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
146	1/7/2012 2:00	-8.1	-11.1	79	4	19.3	100.15	Cloudy
•••								•••
8768	12/31/2012 8:00	-8.6	-10.3	87	4	3.2	101.14	Snow Showers
8769	12/31/2012 9:00	-8.1	-9.6	89	4	2.4	101.09	Snow
8770	12/31/2012 10:00	-7.4	-8.9	89	4	6.4	101.05	Snow,Fog
8772	12/31/2012 12:00	-5.8	-7.5	88	4	12.9	100.78	Snow
8773	12/31/2012 13:00	-4.6	-6.6	86	4	12.9	100.63	Snow
vate/	LTILLE	0						
Temp_ Dew P Rel H Wind : Visib Press	C oint Temp_C um_% Speed_km/h ility_km _kPa	0						
Rel H Wind Visib Press Weath dtype	C oint Temp_C um_% Speed_km/h ility_km _kPa	0 0 0 0 0 0						

In [45]:

Out[45]:

In [48]:

Out[48]:

In [51]:

In [52]:

data

Out[52]: **Dew Point** Rel Wind Weather Visibility_km Press_kPa Date/Time Temp_C Temp_C Hum_% Speed_km/h Condition

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
0	1/1/2012 0:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	1/1/2012 1:00	-1.8	-3.7	87	4	8.0	101.24	Fog
2	1/1/2012 2:00	-1.8	-3.4	89	7	4.0	101.26	Freezing Drizzle,Fog
3	1/1/2012 3:00	-1.5	-3.2	88	6	4.0	101.27	Freezing Drizzle,Fog
4	1/1/2012 4:00	-1.5	-3.3	88	7	4.8	101.23	Fog
•••								
8779	12/31/2012 19:00	0.1	-2.7	81	30	9.7	100.13	Snow
8780	12/31/2012 20:00	0.2	-2.4	83	24	9.7	100.03	Snow
8781	12/31/2012 21:00	-0.5	-1.5	93	28	4.8	99.95	Snow
8782	12/31/2012 22:00	-0.2	-1.8	89	28	9.7	99.91	Snow
8783	12/31/2012 23:00	0.0	-2.1	86	30	11.3	99.89	Snow
0704	0 1							

```
In [53]: data.Visibility_km.mean()
```

Out[53]: **27.66444672131151**

```
In [54]: data.Press_kPa.std()
```

Out[54]: **0.8440047459486474**

```
In [56]: data['Rel Hum_%'].var()
```

Out[56]: 286.2485501984998

```
In [57]: data['Weather Condition'].value_counts()
```

Out[57]:	Mainly Clear	2106
	Mostly Cloudy	2069
	Cloudy	1728
	Clear	1326
	Snow	390

Rain	306
Rain Showers	188
Fog	150
Rain, Fog	116
Drizzle, Fog	80
Snow Showers	60
Drizzle	41
Snow, Fog	37
Snow, Blowing Snow	19
Rain, Snow	18
Haze	16
Thunderstorms, Rain Showers	16
Drizzle, Snow, Fog	15
Freezing Rain	14
Freezing Drizzle, Snow	11
Freezing Drizzle	7
Snow, Ice Pellets	6
Freezing Drizzle,Fog	6
Snow, Haze	5
Freezing Rain, Fog	4
Snow Showers, Fog	4
Freezing Fog	4
Rain, Snow, Ice Pellets	4
Moderate Snow	4
Thunderstorms, Rain	3
Rain, Haze	3
Freezing Drizzle,Haze	3
Thunderstorms,Rain Showers,Fog	3
Moderate Snow, Blowing Snow	2
Freezing Rain,Haze	2
Drizzle,Snow	2
Thunderstorms	2
Rain Showers, Snow Showers	2
Thunderstorms, Moderate Rain Showers, Fog	1
Thunderstorms, Rain, Fog	1
Freezing Rain,Ice Pellets,Fog	1
Rain,Ice Pellets	1
Moderate Rain, Fog	1
Freezing Rain, Snow Grains	1
Rain, Snow Grains	1
Thunderstorms, Heavy Rain Showers	1
Rain Showers, Fog	1
Rain, Snow, Fog	1
Drizzle,Ice Pellets,Fog	1
Snow Pellets	1
Name: Weather Condition, dtype: int64	
· · · · · · · · · · · · · · · · · · ·	

In [61]:

data[data['Weather Condition'] == 'Fog']

Out[61]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
0	1/1/2012 0:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	1/1/2012 1:00	-1.8	-3.7	87	4	8.0	101.24	Fog
4	1/1/2012 4:00	-1.5	-3.3	88	7	4.8	101.23	Fog
5	1/1/2012 5:00	-1.4	-3.3	87	9	6.4	101.27	Fog

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
6	1/1/2012 6:00	-1.5	-3.1	89	7	6.4	101.29	Fog
•••								
8716	12/29/2012 4:00	-16.0	-17.2	90	6	9.7	101.25	Fog
8717	12/29/2012 5:00	-14.8	-15.9	91	4	6.4	101.25	Fog
8718	12/29/2012 6:00	-13.8	-15.3	88	4	9.7	101.25	Fog
8719	12/29/2012 7:00	-14.8	-16.4	88	7	8.0	101.22	Fog
8722	12/29/2012 10:00	-12.0	-13.3	90	7	6.4	101.15	Fog

In [63]:

data[data['Weather Condition'].str.contains('Snow')]

Out[63]:

•	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
41	1/2/2012 17:00	-2.1	-9.5	57	22	25.0	99.66	Snow Showers
44	1/2/2012 20:00	-5.6	-13.4	54	24	25.0	100.07	Snow Showers
45	1/2/2012 21:00	-5.8	-12.8	58	26	25.0	100.15	Snow Showers
47	1/2/2012 23:00	-7.4	-14.1	59	17	19.3	100.27	Snow Showers
48	1/3/2012 0:00	-9.0	-16.0	57	28	25.0	100.35	Snow Showers
•••								
8779	12/31/2012 19:00	0.1	-2.7	81	30	9.7	100.13	Snow
8780	12/31/2012 20:00	0.2	-2.4	83	24	9.7	100.03	Snow
8781	12/31/2012 21:00	-0.5	-1.5	93	28	4.8	99.95	Snow
8782	12/31/2012 22:00	-0.2	-1.8	89	28	9.7	99.91	Snow
8783	12/31/2012 23:00	0.0	-2.1	86	30	11.3	99.89	Snow

In [73]:

data[(data['Wind Speed_km/h'] > 24) & (data['Visibility_km'] == 25)]

_		$\Gamma = 0.7$	
() (17	1 / 2 1	
\cup	ィレ	1/21	

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
23	1/1/2012 23:00	5.3	2.0	79	30	25.0	99.31	Cloudy
24	1/2/2012 0:00	5.2	1.5	77	35	25.0	99.26	Rain Showers
25	1/2/2012 1:00	4.6	0.0	72	39	25.0	99.26	Cloudy
26	1/2/2012 2:00	3.9	-0.9	71	32	25.0	99.26	Mostly Cloudy
27	1/2/2012 3:00	3.7	-1.5	69	33	25.0	99.30	Mostly Cloudy
•••								
8705	12/28/2012 17:00	-8.6	-12.0	76	26	25.0	101.34	Mainly Clear
8753	12/30/2012 17:00	-12.1	-15.8	74	28	25.0	101.26	Mainly Clear
8755	12/30/2012 19:00	-13.4	-16.5	77	26	25.0	101.47	Mainly Clear
8759	12/30/2012 23:00	-12.1	-15.1	78	28	25.0	101.52	Mostly Cloudy
8760	12/31/2012 0:00	-11.1	-14.4	77	26	25.0	101.51	Cloudy

308 rows × 8 columns

In [77]:

data.groupby('Weather Condition').mean()

Out[77]:

Temp_C		Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition						
Clear	6.825716	0.089367	64.497738	10.557315	30.153243	101.587443
Cloudy	7.970544	2.375810	69.592593	16.127315	26.625752	100.911441
Drizzle	7.353659	5.504878	88.243902	16.097561	17.931707	100.435366
Drizzle,Fog	8.067500	7.033750	93.275000	11.862500	5.257500	100.786625
Drizzle,Ice Pellets,Fog	0.400000	-0.700000	92.000000	20.000000	4.000000	100.790000
Drizzle,Snow	1.050000	0.150000	93.500000	14.000000	10.500000	100.890000

	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition						
Drizzle, Snow, Fog	0.693333	0.120000	95.866667	15.533333	5.513333	99.281333
Fog	4.303333	3.159333	92.286667	7.946667	6.248000	101.184067
Freezing Drizzle	-5.657143	-8.000000	83.571429	16.571429	9.200000	100.202857
Freezing Drizzle,Fog	-2.533333	-4.183333	88.500000	17.000000	5.266667	100.441667
Freezing Drizzle,Haze	-5.433333	-8.000000	82.000000	10.333333	2.666667	100.316667
Freezing Drizzle,Snow	-5.109091	-7.072727	86.090909	16.272727	5.872727	100.520909
Freezing Fog	-7.575000	-9.250000	87.750000	4.750000	0.650000	102.320000
Freezing Rain	-3.885714	-6.078571	84.642857	19.214286	8.242857	99.647143
Freezing Rain,Fog	-2.225000	-3.750000	89.500000	15.500000	7.550000	99.945000
Freezing Rain,Haze	-4.900000	-7.450000	82.500000	7.500000	2.400000	100.375000
Freezing Rain,Ice Pellets,Fog	-2.600000	-3.700000	92.000000	28.000000	8.000000	100.950000
Freezing Rain, Snow Grains	-5.000000	-7.300000	84.000000	32.000000	4.800000	98.560000
Haze	-0.200000	-2.975000	81.625000	10.437500	7.831250	101.482500
Mainly Clear	12.558927	4.581671	60.667142	14.144824	34.264862	101.248832
Moderate Rain,Fog	1.700000	0.800000	94.000000	17.000000	6.400000	99.980000
Moderate Snow	-5.525000	-7.250000	87.750000	33.750000	0.750000	100.275000
Moderate Snow,Blowing Snow	-5.450000	-6.500000	92.500000	40.000000	0.600000	100.570000
Mostly Cloudy	10.574287	3.131174	62.102465	15.813920	31.253842	101.025288
Rain	9.786275	7.042810	83.624183	19.254902	18.856536	100.233333
Rain Showers	13.722340	9.187766	75.159574	17.132979	22.816489	100.404043
Rain Showers, Fog	12.800000	12.100000	96.000000	13.000000	6.400000	99.830000
Rain Showers, Snow Showers	2.150000	-1.500000	76.500000	22.500000	21.700000	101.100000
Rain,Fog	8.273276	7.219828	93.189655	14.793103	6.873276	100.500862
Rain,Haze	4.633333	2.066667	83.333333	11.666667	6.700000	100.540000
Rain,Ice Pellets	0.600000	-0.600000	92.000000	24.000000	9.700000	100.120000
Rain,Snow	1.055556	-0.566667	89.000000	28.388889	11.672222	99.951111
Rain, Snow Grains	1.900000	-2.100000	75.000000	26.000000	25.000000	100.600000
Rain, Snow, Fog	0.800000	0.300000	96.000000	9.000000	6.400000	100.730000
Rain, Snow, Ice Pellets	1.100000	-0.175000	91.500000	23.250000	6.000000	100.105000
Snow	-4.524103	-7.623333	79.307692	20.038462	11.171795	100.536103

	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition						
Snow Pellets	0.700000	-6.400000	59.000000	35.000000	2.400000	99.700000
Snow Showers	-3.506667	-7.866667	72.350000	19.233333	20.158333	100.963500
Snow Showers,Fog	-10.675000	-11.900000	90.750000	13.750000	7.025000	101.292500
Snow,Blowing Snow	-5.410526	-7.621053	84.473684	34.842105	4.105263	99.704737
Snow,Fog	-5.075676	-6.364865	90.675676	17.324324	4.537838	100.688649
Snow,Haze	-4.020000	-6.860000	80.600000	5.000000	4.640000	100.782000
Snow, Ice Pellets	-1.883333	-3.666667	87.666667	23.833333	7.416667	100.548333
Thunderstorms	24.150000	19.750000	77.000000	7.500000	24.550000	100.230000
Thunderstorms, Heavy Rain Showers	10.900000	9.000000	88.000000	9.000000	2.400000	100.260000
Thunderstorms, Moderate Rain Showers, Fog	19.600000	18.500000	93.000000	15.000000	3.200000	100.010000
Thunderstorms, Rain	20.433333	18.533333	89.000000	15.666667	19.833333	100.420000
Thunderstorms,Rain Showers	20.037500	17.618750	86.375000	18.312500	15.893750	100.233750
Thunderstorms,Rain Showers,Fog	21.600000	18.700000	84.000000	19.666667	9.700000	100.063333
Thunderstorms,Rain,Fog	20.600000	18.600000	88.000000	19.000000	4.800000	100.080000

In [80]:

data.groupby('Weather Condition').min()

Out[80]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition							
Clear	1/11/2012 1:00	-23.3	-28.5	20	0	11.3	99.52
Cloudy	1/1/2012 17:00	-21.4	-26.8	18	0	11.3	98.39
Drizzle	1/23/2012 21:00	1.1	-0.2	74	0	6.4	97.84
Drizzle,Fog	1/23/2012 20:00	0.0	-1.6	85	0	1.0	98.65
Drizzle,Ice Pellets,Fog	12/17/2012 9:00	0.4	-0.7	92	20	4.0	100.79
Drizzle,Snow	12/17/2012 15:00	0.9	0.1	92	9	9.7	100.63

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition							
Drizzle,Snow,Fog	12/18/2012 21:00	0.3	-0.1	92	7	2.4	97.79
Fog	1/1/2012 0:00	-16.0	-17.2	80	0	0.2	98.31
Freezing Drizzle	1/13/2012 10:00	-9.0	-12.2	78	6	4.8	98.44
Freezing Drizzle,Fog	1/1/2012 2:00	-6.4	-9.0	82	6	3.6	98.74
Freezing Drizzle,Haze	2/1/2012 11:00	-5.8	-8.3	81	9	2.0	100.28
Freezing Drizzle,Snow	1/13/2012 3:00	-8.3	-10.4	79	6	2.4	99.19
Freezing Fog	1/22/2012 6:00	-19.0	-22.9	71	0	0.2	101.97
Freezing Rain	1/13/2012 11:00	-6.5	-9.0	81	7	2.8	98.22
Freezing Rain,Fog	1/17/2012 23:00	-6.1	-8.7	82	7	2.8	98.32
Freezing Rain,Haze	2/1/2012 14:00	-4.9	-7.5	82	6	2.0	100.34
Freezing Rain,Ice Pellets,Fog	12/17/2012 3:00	-2.6	-3.7	92	28	8.0	100.95
Freezing Rain,Snow Grains	1/13/2012 9:00	-5.0	-7.3	84	32	4.8	98.56
Haze	1/22/2012 12:00	-11.5	-16.0	68	0	4.8	100.35
Mainly Clear	1/10/2012 11:00	-22.8	-28.0	20	0	12.9	98.67
Moderate Rain,Fog	12/10/2012 8:00	1.7	0.8	94	17	6.4	99.98
Moderate Snow	1/12/2012 15:00	-6.3	-7.6	83	26	0.6	99.88
Moderate Snow,Blowing Snow	12/27/2012 10:00	-5.5	-6.6	92	39	0.6	100.50
Mostly Cloudy	1/1/2012 16:00	-23.2	-28.5	18	0	11.3	98.36
Rain	1/1/2012 18:00	0.3	-5.7	40	0	4.0	97.52
Rain Showers	1/1/2012 22:00	1.6	-7.2	37	0	6.4	98.51

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition							
Rain Showers,Fog	10/20/2012 3:00	12.8	12.1	96	13	6.4	99.83
Rain Showers, Snow Showers	11/4/2012 8:00	2.1	-1.8	75	17	19.3	101.09
Rain,Fog	1/23/2012 18:00	0.0	-1.2	83	0	2.0	98.61
Rain,Haze	3/13/2012 7:00	4.0	1.0	81	7	4.0	100.50
Rain,Ice Pellets	12/18/2012 5:00	0.6	-0.6	92	24	9.7	100.12
Rain,Snow	1/10/2012 5:00	0.6	-1.7	81	13	2.4	98.18
Rain, Snow Grains	12/21/2012 0:00	1.9	-2.1	75	26	25.0	100.60
Rain, Snow, Fog	12/8/2012 21:00	0.8	0.3	96	9	6.4	100.73
Rain, Snow, Ice Pellets	12/21/2012 1:00	0.9	-0.7	88	17	4.8	99.85
Snow	1/10/2012 1:00	-16.7	-24.6	41	0	1.0	97.75
Snow Pellets	11/24/2012 15:00	0.7	-6.4	59	35	2.4	99.70
Snow Showers	1/12/2012 7:00	-13.3	-19.3	52	0	2.4	99.49
Snow Showers,Fog	12/26/2012 9:00	-11.3	-12.7	89	7	4.0	100.63
Snow,Blowing Snow	1/13/2012 21:00	-12.0	-16.2	70	24	0.6	98.11
Snow,Fog	12/16/2012 15:00	-10.1	-12.0	77	4	1.2	99.38
Snow,Haze	2/1/2012 17:00	-4.3	-7.2	80	0	4.0	100.61
Snow, Ice Pellets	12/10/2012 3:00	-4.3	-5.9	76	19	2.8	99.40
Thunderstorms	7/16/2012 1:00	21.6	19.4	67	0	24.1	99.84
Thunderstorms, Heavy Rain Showers	5/29/2012 6:00	10.9	9.0	88	9	2.4	100.26
Thunderstorms, Moderate Rain Showers, Fog	7/17/2012 6:00	19.6	18.5	93	15	3.2	100.01

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition							
Thunderstorms, Rain	5/25/2012 20:00	19.4	18.2	83	4	16.1	100.19
Thunderstorms,Rain Showers	5/29/2012 16:00	11.0	7.0	68	7	6.4	99.65
Thunderstorms,Rain Showers,Fog	6/29/2012 3:00	19.5	16.1	80	7	9.7	99.71
Thunderstorms, Rain, Fog	7/17/2012 5:00	20.6	18.6	88	19	4.8	100.08

In [81]:

data.groupby('Weather Condition').max()

Out[81]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition							
Clear	9/9/2012 5:00	32.8	20.4	99	33	48.3	103.63
Cloudy	9/9/2012 23:00	30.5	22.6	99	54	48.3	103.65
Drizzle	9/30/2012 3:00	18.8	17.7	96	30	25.0	101.56
Drizzle,Fog	9/30/2012 2:00	19.9	19.1	100	28	9.7	102.07
Drizzle,Ice Pellets,Fog	12/17/2012 9:00	0.4	-0.7	92	20	4.0	100.79
Drizzle,Snow	12/19/2012 18:00	1.2	0.2	95	19	11.3	101.15
Drizzle,Snow,Fog	12/22/2012 3:00	1.1	0.6	98	32	9.7	100.15
Fog	9/22/2012 0:00	20.8	19.6	100	22	9.7	103.04
Freezing Drizzle	2/1/2012 5:00	-2.3	-3.3	93	26	12.9	101.02
Freezing Drizzle,Fog	12/10/2012 5:00	-0.3	-2.3	94	33	8.0	101.27
Freezing Drizzle,Haze	2/1/2012 13:00	-5.0	-7.7	83	11	4.0	100.36
Freezing Drizzle,Snow	3/2/2012 12:00	-3.3	-4.6	94	24	12.9	101.18

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition							
Freezing Fog	3/17/2012 6:00	-0.1	-0.3	99	9	0.8	102.85
Freezing Rain	2/1/2012 7:00	0.3	-1.7	92	28	16.1	101.00
Freezing Rain,Fog	12/17/2012 1:00	0.1	-0.9	93	26	9.7	101.01
Freezing Rain,Haze	2/1/2012 15:00	-4.9	-7.4	83	9	2.8	100.41
Freezing Rain,Ice Pellets,Fog	12/17/2012 3:00	-2.6	-3.7	92	28	8.0	100.95
Freezing Rain,Snow Grains	1/13/2012 9:00	-5.0	-7.3	84	32	4.8	98.56
Haze	3/13/2012 23:00	14.1	11.1	86	17	9.7	102.97
Mainly Clear	9/9/2012 9:00	33.0	21.2	99	63	48.3	103.59
Moderate Rain,Fog	12/10/2012 8:00	1.7	0.8	94	17	6.4	99.98
Moderate Snow	12/27/2012 9:00	-4.9	-6.7	93	39	0.8	100.67
Moderate Snow,Blowing Snow	12/27/2012 12:00	-5.4	-6.4	93	41	0.6	100.64
Mostly Cloudy	9/9/2012 2:00	32.4	24.4	100	83	48.3	103.65
Rain	9/5/2012 2:00	22.8	20.4	99	52	48.3	102.26
Rain Showers	9/8/2012 16:00	26.4	23.0	97	41	48.3	102.31
Rain Showers,Fog	10/20/2012 3:00	12.8	12.1	96	13	6.4	99.83
Rain Showers, Snow Showers	12/5/2012 10:00	2.2	-1.2	78	28	24.1	101.11
Rain,Fog	9/30/2012 23:00	21.7	19.5	100	46	9.7	101.77
Rain,Haze	3/13/2012 9:00	5.5	2.9	86	17	9.7	100.61
Rain,Ice Pellets	12/18/2012 5:00	0.6	-0.6	92	24	9.7	100.12
Rain,Snow	4/23/2012 3:00	1.7	0.5	94	52	25.0	101.07

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather Condition							
Rain, Snow Grains	12/21/2012 0:00	1.9	-2.1	75	26	25.0	100.60
Rain,Snow,Fog	12/8/2012 21:00	0.8	0.3	96	9	6.4	100.73
Rain,Snow,Ice Pellets	12/21/2012 5:00	1.3	0.1	94	28	6.4	100.47
Snow	4/27/2012 9:00	3.7	0.3	96	57	25.0	102.73
Snow Pellets	11/24/2012 15:00	0.7	-6.4	59	35	2.4	99.70
Snow Showers	3/4/2012 21:00	2.9	-0.7	94	37	48.3	102.50
Snow Showers,Fog	12/29/2012 13:00	-10.0	-11.1	92	22	9.7	102.52
Snow,Blowing Snow	2/25/2012 9:00	-1.4	-2.9	91	48	9.7	100.62
Snow,Fog	3/14/2012 19:00	1.1	0.8	99	35	9.7	102.07
Snow,Haze	2/1/2012 21:00	-3.6	-6.4	81	15	6.4	100.99
Snow, Ice Pellets	3/3/2012 4:00	0.8	-1.7	92	33	11.3	100.96
Thunderstorms	7/4/2012 16:00	26.7	20.1	87	15	25.0	100.62
Thunderstorms, Heavy Rain Showers	5/29/2012 6:00	10.9	9.0	88	9	2.4	100.26
Thunderstorms, Moderate Rain Showers, Fog	7/17/2012 6:00	19.6	18.5	93	15	3.2	100.01
Thunderstorms, Rain	7/23/2012 18:00	21.3	19.1	93	30	24.1	100.83
Thunderstorms, Rain Showers	9/8/2012 4:00	25.5	23.1	98	32	25.0	101.06
Thunderstorms, Rain Showers, Fog	7/31/2012 20:00	22.9	21.3	91	35	9.7	100.64
Thunderstorms,Rain,Fog	7/17/2012 5:00	20.6	18.6	88	19	4.8	100.08

In [83]:

data[data['Weather Condition'] == 'Fog']

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
0	1/1/2012 0:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	1/1/2012 1:00	-1.8	-3.7	87	4	8.0	101.24	Fog
4	1/1/2012 4:00	-1.5	-3.3	88	7	4.8	101.23	Fog
5	1/1/2012 5:00	-1.4	-3.3	87	9	6.4	101.27	Fog
6	1/1/2012 6:00	-1.5	-3.1	89	7	6.4	101.29	Fog
•••		•••						
8716	12/29/2012 4:00	-16.0	-17.2	90	6	9.7	101.25	Fog
8717	12/29/2012 5:00	-14.8	-15.9	91	4	6.4	101.25	Fog
8718	12/29/2012 6:00	-13.8	-15.3	88	4	9.7	101.25	Fog
8719	12/29/2012 7:00	-14.8	-16.4	88	7	8.0	101.22	Fog
8722	12/29/2012 10:00	-12.0	-13.3	90	7	6.4	101.15	Fog

In [84]:

data[data['Weather Condition'] == 'Clear']

Out[84]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
67	1/3/2012 19:00	-16.9	-24.8	50	24	25.0	101.74	Clear
114	1/5/2012 18:00	-7.1	-14.4	56	11	25.0	100.71	Clear
115	1/5/2012 19:00	-9.2	-15.4	61	7	25.0	100.80	Clear
116	1/5/2012 20:00	-9.8	-15.7	62	9	25.0	100.83	Clear
117	1/5/2012 21:00	-9.0	-14.8	63	13	25.0	100.83	Clear
•••								
8646	12/26/2012 6:00	-13.4	-14.8	89	4	25.0	102.47	Clear

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
8698	12/28/2012 10:00	-6.1	-8.6	82	19	24.1	101.27	Clear
8713	12/29/2012 1:00	-11.9	-13.6	87	11	25.0	101.31	Clear
8714	12/29/2012 2:00	-11.8	-13.1	90	13	25.0	101.33	Clear
8756	12/30/2012 20:00	-13.8	-16.5	80	24	25.0	101.52	Clear

In [91]:

data[(data['Weather Condition'] == 'Clear') | (data['Visibility_km'] > 40)].head(50)

Out[91]

[91]:		Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
	67	1/3/2012 19:00	-16.9	-24.8	50	24	25.0	101.74	Clear
	106	1/5/2012 10:00	-6.0	-10.0	73	17	48.3	100.45	Mainly Clear
	107	1/5/2012 11:00	-5.6	-10.2	70	22	48.3	100.41	Mainly Clear
	108	1/5/2012 12:00	-4.7	-9.6	69	20	48.3	100.38	Mainly Clear
	109	1/5/2012 13:00	-4.4	-9.7	66	26	48.3	100.40	Mainly Clear
	110	1/5/2012 14:00	-5.1	-10.7	65	22	48.3	100.46	Mainly Clear
	111	1/5/2012 15:00	-4.3	-12.0	55	26	48.3	100.52	Mainly Clear
	114	1/5/2012 18:00	-7.1	-14.4	56	11	25.0	100.71	Clear
	115	1/5/2012 19:00	-9.2	-15.4	61	7	25.0	100.80	Clear
	116	1/5/2012 20:00	-9.8	-15.7	62	9	25.0	100.83	Clear
	117	1/5/2012 21:00	-9.0	-14.8	63	13	25.0	100.83	Clear
	183	1/8/2012 15:00	-6.6	-12.9	61	20	48.3	102.04	Mostly Cloudy
	241	1/11/2012 1:00	-10.7	-17.8	56	17	25.0	101.49	Clear

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
242	1/11/2012 2:00	-12.0	-18.9	56	19	25.0	101.57	Clear
243	1/11/2012 3:00	-12.7	-19.4	57	19	25.0	101.64	Clear
244	1/11/2012 4:00	-13.4	-20.1	57	17	25.0	101.66	Clear
324	1/14/2012 12:00	-17.5	-23.8	58	20	48.3	101.16	Mostly Cloudy
325	1/14/2012 13:00	-17.1	-24.1	55	17	48.3	101.18	Mainly Clear
326	1/14/2012 14:00	-16.7	-23.4	56	17	48.3	101.20	Mostly Cloudy
327	1/14/2012 15:00	-16.7	-23.4	56	22	48.3	101.24	Mostly Cloudy
344	1/15/2012 8:00	-23.3	-28.5	62	7	24.1	102.45	Clear
345	1/15/2012 9:00	-22.2	-27.8	60	9	48.3	102.57	Mainly Clear
346	1/15/2012 10:00	-20.6	-26.8	58	9	48.3	102.66	Mainly Clear
347	1/15/2012 11:00	-19.3	-26.1	55	9	48.3	102.68	Mainly Clear
348	1/15/2012 12:00	-18.0	-25.5	52	13	48.3	102.67	Mainly Clear
349	1/15/2012 13:00	-16.8	-24.2	53	20	48.3	102.65	Mainly Clear
350	1/15/2012 14:00	-16.0	-23.4	53	26	48.3	102.66	Mainly Clear
351	1/15/2012 15:00	-15.4	-22.8	53	24	48.3	102.71	Clear
352	1/15/2012 16:00	-15.1	-22.8	52	24	48.3	102.79	Clear
353	1/15/2012 17:00	-16.2	-23.2	55	15	25.0	102.85	Clear
354	1/15/2012 18:00	-16.3	-22.9	57	17	25.0	102.89	Clear
355	1/15/2012 19:00	-16.3	-22.7	58	20	25.0	102.94	Clear
356	1/15/2012 20:00	-16.7	-22.4	61	17	25.0	102.98	Clear
357	1/15/2012 21:00	-16.9	-22.2	63	15	25.0	103.02	Clear

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
358	1/15/2012 22:00	-16.9	-21.7	66	17	25.0	103.07	Clear
359	1/15/2012 23:00	-16.9	-21.4	68	15	25.0	103.09	Clear
360	1/16/2012 0:00	-17.1	-21.9	66	15	25.0	103.09	Clear
361	1/16/2012 1:00	-17.8	-22.7	65	6	25.0	103.05	Clear
362	1/16/2012 2:00	-18.5	-23.0	68	6	25.0	103.08	Clear
363	1/16/2012 3:00	-19.2	-23.8	67	6	25.0	103.07	Clear
364	1/16/2012 4:00	-18.7	-23.5	66	0	25.0	103.05	Clear
365	1/16/2012 5:00	-19.1	-23.3	69	0	25.0	103.02	Clear
366	1/16/2012 6:00	-18.7	-23.2	68	0	25.0	103.01	Clear
367	1/16/2012 7:00	-17.9	-21.5	73	4	48.3	102.96	Mainly Clear
368	1/16/2012 8:00	-17.9	-22.6	67	9	48.3	102.90	Mostly Cloudy
369	1/16/2012 9:00	-14.4	-20.7	59	22	48.3	102.75	Cloudy
370	1/16/2012 10:00	-13.6	-18.7	65	19	48.3	102.62	Mostly Cloudy
371	1/16/2012 11:00	-12.7	-17.7	66	20	48.3	102.44	Mostly Cloudy
372	1/16/2012 12:00	-10.7	-16.9	60	19	48.3	102.17	Mostly Cloudy
373	1/16/2012 13:00	-10.1	-16.1	61	13	48.3	101.92	Cloudy

In [97]:

data[(data['Weather Condition'] == 'Clear') & (data['Rel Hum_%'] > 50) | (data['Visibi

Out[97]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
0	1/1/2012 0:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	1/1/2012 1:00	-1.8	-3.7	87	4	8.0	101.24	Fog

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
2	1/1/2012 2:00	-1.8	-3.4	89	7	4.0	101.26	Freezing Drizzle,Fog
3	1/1/2012 3:00	-1.5	-3.2	88	6	4.0	101.27	Freezing Drizzle,Fog
4	1/1/2012 4:00	-1.5	-3.3	88	7	4.8	101.23	Fog
•••								
8779	12/31/2012 19:00	0.1	-2.7	81	30	9.7	100.13	Snow
8780	12/31/2012 20:00	0.2	-2.4	83	24	9.7	100.03	Snow
8781	12/31/2012 21:00	-0.5	-1.5	93	28	4.8	99.95	Snow
8782	12/31/2012 22:00	-0.2	-1.8	89	28	9.7	99.91	Snow
8783	12/31/2012 23:00	0.0	-2.1	86	30	11.3	99.89	Snow

In []:	
In []:	
In []:	