Import Database In [2]: **import** pandas **as** pd In [13]: data=pd.read\_csv(r'E:\\Project Data\\London Housing\\file.csv') data.head() Out[13]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa Weather **0** 01-01-2012 00:00 -1.8 -3.9 101.24 Fog 1 01-01-2012 01:00 -1.8 -3.7 87 4 8.0 101.24 Fog 7 2 01-01-2012 02:00 -1.8 -3.4 89 101.26 Freezing Drizzle,Fog 4.0 **3** 01-01-2012 03:00 -1.5 -3.2 88 6 4.0 101.27 Freezing Drizzle,Fog 7 4 01-01-2012 04:00 -1.5 -3.3 88 4.8 101.23 Fog How to analyze data In [15]: data.shape Out[15]: (8784, 8) In [16]: data.describe() Out[16]: Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa count 8784.000000 8784.000000 8784.000000 8784.000000 8784.000000 8784.000000 8.798144 2.555294 67.431694 14.945469 27.664447 101.051623 mean 11.687883 10.883072 16.918881 8.688696 12.622688 0.844005 std -23.300000 -28.500000 18.000000 0.000000 0.200000 97.520000 25% 0.100000 -5.900000 56.000000 9.000000 24.100000 100.560000 9.300000 3.300000 68.000000 13.000000 25.000000 50% 101.070000 18.800000 11.800000 81.000000 20.000000 25.000000 101.590000 75% 33.000000 24.400000 100.000000 83.000000 48.300000 103.650000 In [25]: data.index data.columns data.dtypes data['Weather'].unique() data.nunique() data.count() data['Weather'].value\_counts() data.info() <class 'pandas.core.frame.DataFrame'> RangeIndex: 8784 entries, 0 to 8783 Data columns (total 8 columns): # Column Non-Null Count Dtype 0 Date/Time 8784 non-null object 1 Temp\_C 8784 non-null float64 Dew Point Temp\_C 8784 non-null Rel Hum\_% 8784 non-null int64 Wind Speed\_km/h 8784 non-null int64 8784 non-null float64 Visibility\_km 8784 non-null float64 Press\_kPa 8784 non-null object 7 Weather dtypes: float64(4), int64(2), object(2) memory usage: 549.1+ KB Change data type of ' Date/Time' column as datetime format In [36]: data['Date/Time'] = pd.to\_datetime(data['Date/Time'], format='mixed') 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 8784 non-null datetime64[ns] 1 Temp\_C 8784 non-null float64 Dew Point Temp\_C 8784 non-null float64 Rel Hum\_% 8784 non-null int64 Wind Speed\_km/h 8784 non-null int64 Visibility\_km 8784 non-null float64 Press\_kPa 8784 non-null float64 7 Weather 8784 non-null object dtypes: datetime64[ns](1), float64(4), int64(2), object(1) memory usage: 549.1+ KB 1. Find all the unique wind speed value in the data. In [37]: data['Wind Speed\_km/h'].unique() Out[37]: 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) 2. Find the number of time when the 'weather is exactly clear'? In [43]: # value\_count() data.Weather.value\_counts() # Filering data[data.Weather == 'Clear'] # Groupby data.groupby('Weather').get\_group('Clear') Out[43]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa Weather 67 2012-01-03 19:00:00 -16.9 -24.8 24 25.0 101.74 Clear **114** 2012-01-05 18:00:00 11 -7.1 -14.4 25.0 100.71 Clear **115** 2012-01-05 19:00:00 Clear -9.2 -15.4 61 7 25.0 100.80 **116** 2012-01-05 20:00:00 -9.8 -15.7 9 25.0 100.83 Clear 117 2012-01-05 21:00:00 -14.8 63 13 100.83 -9.0 25.0 Clear 8646 2012-12-26 06:00:00 -13.4 -14.8 89 4 25.0 102.47 Clear 8698 2012-12-28 10:00:00 101.27 Clear **8713** 2012-12-29 01:00:00 -11.9 -13.6 87 11 25.0 101.31 Clear **8714** 2012-12-29 02:00:00 101.33 Clear **8756** 2012-12-30 20:00:00 -13.8 -16.5 24 25.0 101.52 Clear 1326 rows × 8 columns 3. Find the number of times when the 'wind speed was exacatly 4 Km/h' In [44]: data[data['Wind Speed\_km/h'] == 4] Out[44]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa Weather 0 2012-01-01 00:00:00 -3.9 101.24 -1.8 8.0 Fog 1 2012-01-01 01:00:00 -3.7 8.0 101.24 Fog 96 2012-01-05 00:00:00 79 -8.8 -11.7 4 9.7 100.32 Snow 101 2012-01-05 05:00:00 -9.5 100.19 -7.0 4.0 Snow 79 **146** 2012-01-07 02:00:00 4 19.3 100.15 -8.1 -11.1 Cloudy 8768 2012-12-31 08:00:00 -8.6 -10.3 87 4 3.2 101.14 Snow Showers **8769** 2012-12-31 09:00:00 -9.6 101.09 -8.1 2.4 Snow **8770** 2012-12-31 10:00:00 -8.9 89 101.05 -7.4 4 Snow,Fog 6.4 8772 2012-12-31 12:00:00 100.78 -5.8 -7.5 12.9 Snow **8773** 2012-12-31 13:00:00 86 -4.6 -6.6 12.9 100.63 Snow 474 rows × 8 columns 4. Find the null values in dataset. In [46]: data.isnull().sum() data.notnull().sum() Out[46]: Date/Time 8784 Temp\_C 8784 Dew Point Temp\_C 8784 8784 Rel Hum\_% 8784 Wind Speed\_km/h Visibility\_km 8784 Press\_kPa 8784 Weather 8784 dtype: int64 5 . Rename the column Name 'Weather' as 'Weather Condition' In [48]: data.rename( columns= {'Weather':'Weather Condition'},inplace=True) data Out[48]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa **Weather Condition** 0 2012-01-01 00:00:00 -3.9 101.24 Fog 1 2012-01-01 01:00:00 -3.7 101.24 8.0 2 2012-01-01 02:00:00 101.26 Freezing Drizzle, Fog 101.27 Freezing Drizzle,Fog **3** 2012-01-01 03:00:00 -3.2 4 2012-01-01 04:00:00 -3.3 101.23 -1.5 4.8 Fog **8779** 2012-12-31 19:00:00 30 100.13 -2.7 Snow 8780 2012-12-31 20:00:00 0.2 -2.4 24 100.03 9.7 Snow 28 **8781** 2012-12-31 21:00:00 -0.5 -1.5 93 4.8 99.95 Snow 8782 2012-12-31 22:00:00 -0.2 -1.8 28 9.7 99.91 Snow -2.1 86 30 **8783** 2012-12-31 23:00:00 0.0 11.3 99.89 Snow 8784 rows × 8 columns 7. What is the mean() of 'Visibility'? In [49]: data.Visibility\_km.mean() Out[49]: 27.664446721311478 8. What is the SD of 'pressure'? In [50]: data.Press\_kPa.std() Out[50]: 0.8440047459486474 9. Find all the instance whom 'Snow' was recorded? In [54]: # value\_count() data['Weather Condition'].value\_counts() # Filtering data[data['Weather Condition'] == 'Snow'] # Groupby data.groupby('Weather Condition').get\_group('Snow') Out[54]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa Weather Condition 55 2012-01-03 07:00:00 -14.0 -19.5 63 19 25.0 100.95 Snow **84** 2012-01-04 12:00:00 -13.7 -21.7 11 24.1 101.25 Snow 86 2012-01-04 14:00:00 -11.3 -19.0 53 7 100.97 19.3 Snow **87** 2012-01-04 15:00:00 11 -10.2 -16.3 100.89 Snow 88 2012-01-04 16:00:00 13 -9.4 -15.5 61 19.3 100.79 Snow **8779** 2012-12-31 19:00:00 0.1 -2.7 81 30 9.7 100.13 Snow 24 **8780** 2012-12-31 20:00:00 0.2 -2.4 9.7 100.03 Snow **8781** 2012-12-31 21:00:00 -0.5 -1.5 93 28 99.95 4.8 Snow **8782** 2012-12-31 22:00:00 99.91 Snow **8783** 2012-12-31 23:00:00 0.0 -2.1 86 30 11.3 99.89 Snow 390 rows × 8 columns 10. find the instance when wind speed is above 24' and 'visibility is 25'. In [57]: data[(data['Wind Speed\_km/h']> 24) & (data['Visibility\_km'] == 25)] Out[57]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa Weather Condition 23 2012-01-01 23:00:00 5.3 2.0 79 30 Cloudy 25.0 99.31 24 2012-01-02 00:00:00 1.5 25.0 99.26 Rain Showers 72 **25** 2012-01-02 01:00:00 4.6 0.0 39 25.0 99.26 Cloudy 26 2012-01-02 02:00:00 3.9 -0.9 71 32 25.0 99.26 Mostly Cloudy 69 33 **27** 2012-01-02 03:00:00 3.7 -1.5 25.0 99.30 Mostly Cloudy **8705** 2012-12-28 17:00:00 -8.6 76 26 Mainly Clear -12.0 25.0 101.34 **8753** 2012-12-30 17:00:00 -12.1 28 Mainly Clear -15.8 25.0 101.26 **8755** 2012-12-30 19:00:00 -16.5 77 26 101.47 Mainly Clear -13.4 25.0 **8759** 2012-12-30 23:00:00 -12.1 -15.1 25.0 101.52 Mostly Cloudy 26 **8760** 2012-12-31 00:00:00 77 101.51 Cloudy -11.1 -14.4 25.0 308 rows × 8 columns 12. What is the mean value of each column against "weather Condition'? In [59]: data.groupby('Weather Condition').mean() Out[59]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa **Weather Condition** Clear 2012-06-25 18:03:12.760180992 6.825716 0.089367 64.497738 10.557315 30.153243 101.587443 Cloudy 2012-07-01 16:51:29.583333376 2.375810 69.592593 16.127315 26.625752 100.911441 Drizzle 2012-09-17 15:00:00.000000000 7.353659 5.504878 88.243902 16.097561 17.931707 100.435366 Drizzle,Fog 2012-06-30 00:44:15.000000000 93.275000 11.862500 7.033750 5.257500 100.786625 Drizzle,Ice Pellets,Fog 2012-12-17 09:00:00.000000000 92.000000 20.000000 0.400000 -0.700000 4.000000 100.790000 1.050000 93.500000 14.000000 10.500000 100.890000 Drizzle, Snow 2012-12-18 16:30:00.000000000 0.150000 Drizzle, Snow, Fog 2012-12-19 20:56:00.000000000 0.693333 0.120000 95.866667 15.533333 5.513333 99.281333 92.286667 Fog 2012-06-24 21:08:00.000000000 4.303333 3.159333 7.946667 6.248000 101.184067 Freezing Drizzle 2012-03-05 23:25:42.857142784 -5.657143 -8.000000 83.571429 16.571429 9.200000 100.202857 Freezing Drizzle,Fog 2012-04-30 06:20:00.000000000 88.500000 17.000000 -2.533333 -4.183333 5.266667 100.441667 Freezing Drizzle, Haze 2012-02-01 12:00:00.000000000 -5.433333 -8.000000 82.000000 10.333333 2.666667 100.316667 Freezing Drizzle, Snow 2012-06-27 12:32:43.636363520 -5.109091 -7.072727 86.090909 16.272727 5.872727 100.520909 Freezing Fog 2012-02-22 06:45:00.000000000 -7.575000 -9.250000 87.750000 4.750000 0.650000 102.320000 Freezing Rain 2012-02-14 01:34:17.142857216 -3.885714 -6.078571 84.642857 19.214286 8.242857 99.647143 99.945000 Freezing Rain,Fog 2012-06-28 15:45:00.000000000 -2.225000 89.500000 15.500000 7.550000 -3.750000 Freezing Rain, Haze 2012-02-01 14:30:00.000000000 -7.450000 82.500000 7.500000 2.400000 100.375000 Freezing Rain,Ice Pellets,Fog 2012-12-17 03:00:00.00000000 -2.600000 -3.700000 92.000000 28.000000 8.000000 100.950000 Freezing Rain, Snow Grains 2012-01-13 09:00:00.000000000 -7.300000 84.000000 32.000000 4.800000 98.560000 Haze 2012-06-06 00:37:30.000000000 -0.200000 -2.975000 81.625000 10.437500 7.831250 101.482500 Mainly Clear 2012-07-12 06:48:08.888888832 12.558927 60.667142 4.581671 14.144824 34.264862 101.248832 Moderate Rain,Fog 2012-12-10 08:00:00.000000000 1.700000 0.800000 94.000000 17.000000 6.400000 99.980000 Moderate Snow 2012-07-05 12:00:00.000000000 -5.525000 -7.250000 87.750000 33.750000 0.750000 100.275000 Moderate Snow, Blowing Snow 2012-12-27 11:00:00.000000000 -5.450000 -6.500000 92.500000 40.000000 0.600000 100.570000 Mostly Cloudy 2012-07-01 10:42:53.417109760 10.574287 3.131174 62.102465 15.813920 31.253842 101.025288 Rain 2012-07-02 07:18:02.352941056 9.786275 7.042810 83.624183 19.254902 18.856536 100.233333 Rain Showers 2012-07-14 17:25:51.063829760 13.722340 9.187766 75.159574 17.132979 22.816489 100.404043 Rain Showers,Fog 2012-10-20 03:00:00.000000000 12.800000 12.100000 96.000000 13.000000 6.400000 99.830000 76.500000 22.500000 Rain Showers, Snow Showers 2012-11-19 21:00:00.000000000 -1.500000 21.700000 101.100000 Rain,Fog 2012-08-17 05:19:08.275862016 8.273276 7.219828 93.189655 14.793103 6.873276 100.500862 83.333333 11.666667 Rain, Haze 2012-03-13 08:00:00.000000000 4.633333 2.066667 6.700000 100.540000 Rain,Ice Pellets 2012-12-18 05:00:00.000000000 0.600000 -0.600000 92.000000 24.000000 9.700000 100.120000 Rain, Snow 2012-07-22 00:23:20.000000000 -0.566667 89.000000 28.388889 11.672222 99.951111 Rain, Snow Grains 2012-12-21 00:00:00.0000000000 1.900000 -2.100000 75.000000 26.000000 25.000000 100.600000 Rain, Snow, Fog 2012-12-08 21:00:00.000000000 0.300000 96.000000 9.000000 6.400000 100.730000 Rain, Snow, Ice Pellets 2012-12-21 03:15:00.000000000 1.100000 -0.175000 91.500000 23.250000 6.000000 100.105000 -7.623333 79.307692 Snow 2012-04-18 19:10:36.923076864 -4.524103 20.038462 11.171795 100.536103 Snow Pellets 2012-11-24 15:00:00.000000000 0.700000 -6.400000 59.000000 35.000000 2.400000 99.700000 Snow Showers 2012-07-21 22:40:59.999999744 -3.506667 -7.866667 72.350000 19.233333 20.158333 100.963500 Snow Showers,Fog 2012-12-28 17:15:00.000000000 -10.675000 -11.900000 90.750000 13.750000 7.025000 101.292500 Snow, Blowing Snow 2012-08-08 17:44:12.631578880 -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Fog 2012-10-21 17:42:09.729729792 -5.075676 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow, Haze 2012-02-01 19:00:00.000000000 -4.020000 -6.860000 80.600000 5.000000 4.640000 100.782000 Snow,Ice Pellets 2012-09-14 21:00:00.000000000 -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 77.000000 7.500000 Thunderstorms 2012-07-10 08:30:00.000000000 24.150000 19.750000 24.550000 100.230000 Thunderstorms, Heavy Rain Showers 2012-05-29 06:00:00.000000000 10.900000 9.000000 88.000000 9.000000 2.400000 100.260000 93.000000 Thunderstorms, Moderate Rain Showers, Fog 2012-07-17 06:00:00.000000000 19.600000 18.500000 15.000000 3.200000 100.010000 Thunderstorms, Rain 2012-07-04 02:20:00.00000000 20.433333 18.533333 89.000000 15.666667 19.833333 100.420000 Thunderstorms, Rain Showers 2012-07-18 14:48:45.000000000 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms, Rain Showers, Fog 2012-07-16 02:40:00.000000000 21.600000 84.000000 19.666667 9.700000 100.063333 18.700000 Thunderstorms, Rain, Fog 2012-07-17 05:00:00.000000000 20.600000 18.600000 88.000000 4.800000 100.080000 13. What is the max & min value of each column against each 'Weather Condition'? In [60]: data.groupby('Weather Condition').max() Out[60]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa **Weather Condition** Clear 2012-12-30 20:00:00 103.63 32.8 20.4 99 33 48.3 Cloudy 2012-12-31 06:00:00 30.5 22.6 103.65 48.3 Drizzle 2012-12-22 01:00:00 18.8 17.7 96 30 25.0 101.56 Drizzle,Fog 2012-12-19 10:00:00 19.1 100 28 19.9 9.7 102.07 Drizzle,Ice Pellets,Fog 2012-12-17 09:00:00 -0.7 92 20 0.4 100.79 4.0 **Drizzle, Snow** 2012-12-19 18:00:00 0.2 19 1.2 11.3 101.15 Drizzle, Snow, Fog 2012-12-22 03:00:00 1.1 0.6 98 32 100.15 9.7 Fog 2012-12-29 10:00:00 20.8 19.6 100 22 103.04 Freezing Drizzle 2012-12-17 00:00:00 -2.3 -3.3 93 26 12.9 101.02 Freezing Drizzle,Fog 2012-12-10 05:00:00 -2.3 33 101.27 Freezing Drizzle, Haze 2012-02-01 13:00:00 -5.0 -7.7 83 11 100.36 4.0 Freezing Drizzle, Snow 2012-12-28 02:00:00 24 -3.3 -4.6 12.9 101.18 8.0 Freezing Fog 2012-03-17 06:00:00 -0.1 -0.3 99 9 102.85 Freezing Rain 2012-12-17 02:00:00 -1.7 0.3 16.1 101.00 Freezing Rain,Fog 2012-12-17 01:00:00 0.1 -0.9 93 26 101.01 9.7 Freezing Rain, Haze 2012-02-01 15:00:00 83 -4.9 -7.4 2.8 100.41 Freezing Rain,Ice Pellets,Fog 2012-12-17 03:00:00 -2.6 -3.7 92 28 8.0 100.95 Freezing Rain, Snow Grains 2012-01-13 09:00:00 -7.3 32 98.56 Haze 2012-12-13 12:00:00 14.1 11.1 86 17 102.97 9.7 Mainly Clear 2012-12-30 22:00:00 33.0 99 63 103.59 21.2 48.3 Moderate Rain,Fog 2012-12-10 08:00:00 17 1.7 8.0 94 99.98 6.4 Moderate Snow 2012-12-27 09:00:00 -6.7 39 -4.9 8.0 100.67 Moderate Snow, Blowing Snow 2012-12-27 12:00:00 -5.4 -6.4 93 41 0.6 100.64 83 Mostly Cloudy 2012-12-31 03:00:00 32.4 24.4 100 48.3 103.65 Rain 2012-12-21 21:00:00 22.8 20.4 99 52 48.3 102.26 23.0 Rain Showers 2012-12-14 11:00:00 26.4 41 48.3 102.31 Rain Showers,Fog 2012-10-20 03:00:00 12.8 12.1 96 13 99.83 6.4 Rain Showers, Snow Showers 2012-12-05 10:00:00 2.2 -1.2 78 28 24.1 101.11 Rain,Fog 2012-12-10 17:00:00 21.7 100 101.77 19.5 9.7 Rain, Haze 2012-03-13 09:00:00 5.5 2.9 17 9.7 100.61 Rain,Ice Pellets 2012-12-18 05:00:00 -0.6 0.6 92 24 100.12 9.7 Rain, Snow 2012-12-21 09:00:00 1.7 0.5 101.07 Rain, Snow Grains 2012-12-21 00:00:00 1.9 -2.1 75 26 100.60 25.0 Rain, Snow, Fog 2012-12-08 21:00:00 9 100.73 28 Rain, Snow, Ice Pellets 2012-12-21 05:00:00 0.1 94 100.47 1.3 6.4 Snow 2012-12-31 23:00:00 3.7 57 25.0 102.73 59 35 Snow Pellets 2012-11-24 15:00:00 0.7 -6.4 99.70 2.4 Snow Showers 2012-12-31 08:00:00 -0.7 37 48.3 102.50 Snow Showers,Fog 2012-12-29 13:00:00 -10.0 -11.1 92 22 9.7 102.52 Snow, Blowing Snow 2012-12-27 19:00:00 -2.9 100.62 99 Snow,Fog 2012-12-31 10:00:00 8.0 35 102.07 1.1 9.7 Snow, Haze 2012-02-01 21:00:00 15 100.99 Snow,Ice Pellets 2012-12-17 06:00:00 8.0 -1.7 92 33 100.96 11.3 Thunderstorms 2012-07-16 01:00:00 26.7 20.1 87 15 25.0 100.62 Thunderstorms, Heavy Rain Showers 2012-05-29 06:00:00 88 9 100.26 10.9 9.0 2.4 Thunderstorms, Moderate Rain Showers, Fog 2012-07-17 06:00:00 19.6 18.5 15 3.2 100.01 Thunderstorms, Rain 2012-07-23 18:00:00 19.1 93 30 100.83 21.3 24.1 Thunderstorms, Rain Showers 2012-09-14 20:00:00 25.5 23.1 32 101.06 25.0 Thunderstorms, Rain Showers, Fog 2012-07-31 20:00:00 22.9 21.3 91 35 9.7 100.64 Thunderstorms, Rain, Fog 2012-07-17 05:00:00 20.6 18.6 100.08 In [61]: data.groupby('Weather Condition').min() Out[61]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa **Weather Condition** Clear 2012-01-03 19:00:00 -23.3 -28.5 20 0 11.3 99.52 Cloudy 2012-01-01 17:00:00 -21.4 -26.8 18 0 11.3 98.39 Drizzle 2012-01-23 21:00:00 1.1 -0.2 74 0 6.4 97.84 Drizzle,Fog 2012-01-23 20:00:00 -1.6 0 98.65 0.0 1.0 Drizzle,Ice Pellets,Fog 2012-12-17 09:00:00 0.4 -0.7 92 20 4.0 100.79 Drizzle, Snow 2012-12-17 15:00:00 0.1 92 100.63 0.9 9.7 Drizzle, Snow, Fog 2012-12-18 21:00:00 0.3 -0.1 92 7 2.4 97.79 Fog 2012-01-01 00:00:00 -16.0 -17.2 98.31 0.2 Freezing Drizzle 2012-01-07 11:00:00 -12.2 78 98.44 Freezing Drizzle,Fog 2012-01-01 02:00:00 -9.0 98.74 Freezing Drizzle, Haze 2012-02-01 11:00:00 2.0 100.28 Freezing Drizzle, Snow 2012-01-13 03:00:00 -8.3 -10.4 79 99.19 2.4 Freezing Fog 2012-01-22 06:00:00 -19.0 -22.9 71 0 0.2 101.97 Freezing Rain 2012-01-07 10:00:00 -6.5 -9.0 98.22 2.8 Freezing Rain,Fog 2012-01-07 09:00:00 -6.1 -8.7 82 2.8 98.32 Freezing Rain, Haze 2012-02-01 14:00:00 -7.5 100.34 2.0 Freezing Rain,Ice Pellets,Fog 2012-12-17 03:00:00 -2.6 -3.7 92 28 8.0 100.95 32 Freezing Rain, Snow Grains 2012-01-13 09:00:00 -5.0 -7.3 4.8 98.56 Haze 2012-01-22 12:00:00 -11.5 -16.0 68 0 4.8 100.35 Mainly Clear 2012-01-02 12:00:00 0 98.67 -22.8 -28.0 20 12.9 17 Moderate Rain,Fog 2012-12-10 08:00:00 1.7 8.0 94 6.4 99.98 Moderate Snow 2012-01-12 15:00:00 -6.3 -7.6 26 99.88 0.6 Moderate Snow, Blowing Snow 2012-12-27 10:00:00 -5.5 -6.6 92 39 0.6 100.50 Mostly Cloudy 2012-01-01 16:00:00 -23.2 -28.5 0 98.36 11.3 Rain 2012-01-01 18:00:00 0.3 -5.7 40 0 4.0 97.52 0 Rain Showers 2012-01-01 22:00:00 1.6 -7.2 98.51 6.4 13 Rain Showers,Fog 2012-10-20 03:00:00 12.8 12.1 96 6.4 99.83 17 Rain Showers, Snow Showers 2012-11-04 08:00:00 -1.8 75 19.3 101.09 2.1 Rain,Fog 2012-01-23 18:00:00 0.0 -1.2 83 0 2.0 98.61 Rain, Haze 2012-03-13 07:00:00 4.0 1.0 81 4.0 100.50 Rain, Ice Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100.12 Rain, Snow 2012-01-10 05:00:00 -1.7 13 98.18 0.6 Rain, Snow Grains 2012-12-21 00:00:00 1.9 -2.1 75 26 25.0 100.60 Rain, Snow, Fog 2012-12-08 21:00:00 8.0 0.3 9 100.73 6.4 17 Rain, Snow, Ice Pellets 2012-12-21 01:00:00 0.9 -0.7 88 4.8 99.85 0 Snow 2012-01-03 07:00:00 -16.7 -24.6 97.75 1.0 Snow Pellets 2012-11-24 15:00:00 35 0.7 -6.4 59 2.4 99.70 Snow Showers 2012-01-02 17:00:00 -13.3 -19.3 52 0 99.49 2.4 Snow Showers,Fog 2012-12-26 09:00:00 -11.3 -12.7 89 7 4.0 100.63 Snow, Blowing Snow 2012-01-13 21:00:00 -12.0 -16.2 70 24 0.6 98.11 Snow,Fog 2012-02-10 23:00:00 -10.1 -12.0 77 4 1.2 99.38 0 Snow, Haze 2012-02-01 17:00:00 -4.3 -7.2 100.61 4.0 Snow,Ice Pellets 2012-03-03 04:00:00 -4.3 -5.9 76 19 2.8 99.40 Thunderstorms 2012-07-04 16:00:00 19.4 0 99.84 21.6 24.1 Thunderstorms, Heavy Rain Showers 2012-05-29 06:00:00 10.9 9.0 88 2.4 100.26 Thunderstorms, Moderate Rain Showers, Fog 2012-07-17 06:00:00 100.01 19.6 18.5 3.2 Thunderstorms, Rain 2012-05-25 20:00:00 19.4 18.2 83 16.1 100.19 Thunderstorms, Rain Showers 2012-05-29 04:00:00 11.0 7.0 99.65 6.4 Thunderstorms, Rain Showers, Fog 2012-06-29 03:00:00 19.5 16.1 80 7 9.7 99.71 Thunderstorms, Rain, Fog 2012-07-17 05:00:00 20.6 18.6 19 4.8 100.08 16. Show all the records where 'Wheather Condition' is 'Fog'. In [63]: data[data['Weather Condition'] == 'Fog'] Out[63]: Date/Time Temp\_C Dew Point Temp\_C Rel Hum\_% Wind Speed\_km/h Visibility\_km Press\_kPa Weather Condition 0 2012-01-01 00:00:00 -1.8 -3.9 101.24 Fog 8.0 1 2012-01-01 01:00:00 -1.8 -3.7 8.0 101.24 Fog -3.3 88 7 4 2012-01-01 04:00:00 -1.5 101.23 4.8 Fog **5** 2012-01-01 05:00:00 -3.3 101.27 -1.4 6.4 Fog 7 **6** 2012-01-01 06:00:00 -3.1 89 101.29 -1.5 6.4 Fog 8716 2012-12-29 04:00:00 101.25 -16.0 -17.2 6 9.7 Fog **8717** 2012-12-29 05:00:00 -14.8 -15.9 101.25 6.4 Fog **8718** 2012-12-29 06:00:00 -13.8 -15.3 4 101.25 9.7 Fog **8719** 2012-12-29 07:00:00 -14.8 -16.4 7 8.0 101.22 Fog

**8722** 2012-12-29 10:00:00 -12.0 -13.3 90 7 6.4 101.15 Fog

150 rows × 8 columns