- 1) Filna to fill missing values using different ways
- 2) Interpolate to make a guess on missing values using interpolation
- 3) Dropna to drop rows with missing values

```
In [14]: import pandas as pd
    df = pd.read_csv("C:/Users/prasa/Desktop/ds projects/panda/weather_data
    5.csv",parse_dates=["day"])
    df.set_index('day', inplace=True) #change date from string formate
    df
```

event

12.0 Sunny

Out[14]:

day			
2017-01-01	32.0	6.0	Rain
2017-01-04	NaN	9.0	Sunny
2017-01-05	28.0	NaN	Snow
2017-01-06	NaN	7.0	NaN
2017-01-07	32.0	NaN	Rain
2017-01-08	NaN	NaN	Sunny
2017-01-09	NaN	NaN	NaN
2017-01-10	34.0	8.0	Cloudy

40.0

temperature windspeed

```
In [15]: new_df=df.fillna(0)
    new_df
```

2017-01-11

Out[15]:

temperature windspeed event

day	temperature	windspeed	event
day			
2017-01-01	32.0	6.0	Rain
2017-01-04	0.0	9.0	Sunny
2017-01-05	28.0	0.0	Snow
2017-01-06	0.0	7.0	0
2017-01-07	32.0	0.0	Rain
2017-01-08	0.0	0.0	Sunny
2017-01-09	0.0	0.0	0
2017-01-10	34.0	8.0	Cloudy
2017-01-11	40.0	12.0	Sunny
'temp 'wind 'ever	df.fillna perature': dspeed': 0 nt' : 'no e	0,	
'temp	perature': dspeed': 0	0, event'	event
'temp 'wind 'ever })	perature': dspeed': 0 nt' : 'no 6	0, event'	event
'temp 'wind 'ever }) new_df	perature': dspeed': 0 nt' : 'no 6	0, event'	
'temp 'wind 'ever }) new_df	perature': dspeed': 0 nt' : 'no e temperature	o, event' windspeed	event Rain Sunny
'temp 'wind 'ever }) new_df day 2017-01-01	temperature 32.0	windspeed	Rain
'temp 'wind 'ever }) new_df day 2017-01-01	temperature 32.0	windspeed 6.0 9.0	Rain Sunny
'temp 'wind 'ever }) new_df day 2017-01-01 2017-01-04 2017-01-05	temperature 32.0 0.0 28.0	windspeed 6.0 9.0 0.0	Rain Sunny Snow
'temp 'wind 'ever }) new_df day 2017-01-01 2017-01-04 2017-01-05 2017-01-06	temperature 32.0 0.0 28.0 0.0	0, event' windspeed 6.0 9.0 0.0 7.0	Rain Sunny Snow no event

In [20]:

Out[20]:

```
temperature windspeed
                                                event
                  day
            2017-01-10
                             34.0
                                              Cloudy
                                         8.0
            2017-01-11
                             40.0
                                        12.0
                                               Sunny
           new df = df.fillna(method='ffill' ) #'bfill' axis='columns' copy vertic
In [23]:
           ally
           new df
Out[23]:
                       temperature windspeed
                                              event
                  day
            2017-01-01
                             32.0
                                         6.0
                                               Rain
                             32.0
            2017-01-04
                                         9.0
                                             Sunny
                                         9.0
            2017-01-05
                             28.0
                                              Snow
            2017-01-06
                             28.0
                                         7.0
                                              Snow
            2017-01-07
                             32.0
                                         7.0
                                               Rain
            2017-01-08
                                             Sunny
                             32.0
                                         7.0
            2017-01-09
                             32.0
                                         7.0
                                             Sunny
            2017-01-10
                             34.0
                                         8.0 Cloudy
            2017-01-11
                                             Sunny
                             40.0
                                        12.0
           Pandas fill na
           new df = df.fillna(method='ffill', limit=1 )
In [27]:
           new_df
Out[27]:
                      temperature windspeed
                                              event
                  day
```

		temperature	windspeed	event
	day			
	2017-01-01	32.0	6.0	Rain
	2017-01-04	32.0	9.0	Sunny
	2017-01-05	28.0	9.0	Snow
	2017-01-06	28.0	7.0	Snow
	2017-01-07	32.0	7.0	Rain
	2017-01-08	32.0	NaN	Sunny
	2017-01-09	NaN	NaN	Sunny
	2017-01-10	34.0	8.0	Cloudy
	2017-01-11	40.0	12.0	Sunny
In [29]:		a i i i i i c c i p	olate(met	iiou— L
Out[29]:	new_df	temperature		event
	_			
	new_df			
	new_df	temperature	windspeed	event
	day 2017-01-01	temperature 32.000000	windspeed 6.00	event Rain
	day 2017-01-01 2017-01-04	32.000000 29.000000	windspeed 6.00 9.00	event Rain Sunny
	day 2017-01-01 2017-01-04 2017-01-05	32.000000 29.000000 28.000000	6.00 9.00 8.00	event Rain Sunny Snow
	day 2017-01-01 2017-01-04 2017-01-05 2017-01-06	32.000000 29.000000 28.000000 30.000000	6.00 9.00 8.00 7.00	event Rain Sunny Snow NaN
	day 2017-01-01 2017-01-04 2017-01-05 2017-01-06 2017-01-07	32.000000 29.000000 28.000000 30.000000 32.000000	6.00 9.00 8.00 7.00 7.25	event Rain Sunny Snow NaN Rain
	day 2017-01-01 2017-01-04 2017-01-05 2017-01-07 2017-01-08	32.000000 29.000000 28.000000 30.000000 32.000000 32.6666667	6.00 9.00 8.00 7.00 7.25 7.50	event Rain Sunny Snow NaN Rain Sunny

```
In [31]: new_df = df.dropna(how="all")
           new_df
Out[31]:
                       temperature windspeed
                                              event
                  day
                             32.0
                                               Rain
            2017-01-01
                                         6.0
                                         9.0
            2017-01-04
                             NaN
                                              Sunny
            2017-01-05
                             28.0
                                        NaN
                                              Snow
            2017-01-06
                             NaN
                                         7.0
                                               NaN
            2017-01-07
                             32.0
                                               Rain
                                        NaN
            2017-01-08
                             NaN
                                        NaN
                                             Sunny
            2017-01-10
                             34.0
                                         8.0
                                             Cloudy
            2017-01-11
                             40.0
                                        12.0
                                             Sunny
In [36]:
           new_df = df.dropna(thresh=2)
           new_df
Out[36]:
                       temperature windspeed
                                              event
                  day
            2017-01-01
                             32.0
                                         6.0
                                               Rain
                                              Sunny
            2017-01-04
                             NaN
                                         9.0
            2017-01-05
                             28.0
                                        NaN
                                              Snow
            2017-01-07
                             32.0
                                        NaN
                                               Rain
                                         8.0 Cloudy
            2017-01-10
                             34.0
                                              Sunny
            2017-01-11
                             40.0
                                        12.0
In [39]: | dt = pd.date_range("01-01-2017","01-11-2017")
           idx = pd.DatetimeIndex(dt)
```

df=df.reindex(idx)
df

Out[39]:

	temperature	windspeed	event
2017-01-01	32.0	6.0	Rain
2017-01-02	NaN	NaN	NaN
2017-01-03	NaN	NaN	NaN
2017-01-04	NaN	9.0	Sunny
2017-01-05	28.0	NaN	Snow
2017-01-06	NaN	7.0	NaN
2017-01-07	32.0	NaN	Rain
2017-01-08	NaN	NaN	Sunny
2017-01-09	NaN	NaN	NaN
2017-01-10	34.0	8.0	Cloudy
2017-01-11	40.0	12.0	Sunny