In [2]:
```
import pandas as pd
df = pd.read_csv("weather.csv")
df
```

Out[2]:

	Day	Temperature	Windspeed	Event
0	1/1/2017	32	6	Rain
1	1/2/2017	35	7	Sunny
2	1/3/2017	28	2	Snow
3	1/4/2017	24	7	Snow
4	1/5/2017	32	4	Rain
5	1/6/2017	32	2	Sunny

Create DataFrame using python dictionary

In [4]:
```
weather_data = {
    'day' : ['1/1/2017', '1/2/2017', '1/3/2017', '1/4/2017', '1/5/201
7', '1/6/2017'],
    'temperature' : [32,35,28,24,32,32],
    'windspped' : [6,7,2,7,4,2],
    'event' : ['Rain', 'Sunny', 'Snow', 'Snow', 'Rain', 'Sunny']
}
df = pd.DataFrame(weather_data)
df
```

Out[4]:

	day	event	temperature	windspped
0	1/1/2017	Rain	32	6
1	1/2/2017	Sunny	35	7
2	1/3/2017	Snow	28	2
3	1/4/2017	Snow	24	7
4	1/5/2017	Rain	32	4
5	1/6/2017	Sunny	32	2

In [6]:
```
df.shape
```

Out[6]: (6, 4)

In [7]:
```
rows, cols = df.shape
```

```
In [8]: rows
```

Out[8]: 6

```
In [9]: cols
```

Out[9]: 4

```
In [10]: df.head()
```

Out[10]:

	day	event	temperature	windspped
0	1/1/2017	Rain	32	6
1	1/2/2017	Sunny	35	7
2	1/3/2017	Snow	28	2
3	1/4/2017	Snow	24	7
4	1/5/2017	Rain	32	4

```
In [11]: df.head(3)
```

Out[11]:

	day	event	temperature	windspped
0	1/1/2017	Rain	32	6
1	1/2/2017	Sunny	35	7
2	1/3/2017	Snow	28	2

```
In [12]: df.tail()
```

Out[12]:

	day	event	temperature	windspped
1	1/2/2017	Sunny	35	7
2	1/3/2017	Snow	28	2
3	1/4/2017	Snow	24	7
4	1/5/2017	Rain	32	4
5	1/6/2017	Sunny	32	2

```
In [13]: df.tail(2)
```

Out[13]:

	day	event	temperature	windspped
4	1/5/2017	Rain	32	4
5	1/6/2017	Sunny	32	2

In [14]: `df[2:5]`

Out[14]:

	day	event	temperature	windspped
2	1/3/2017	Snow	28	2
3	1/4/2017	Snow	24	7
4	1/5/2017	Rain	32	4

In [15]: `df.columns`

Out[15]: `Index(['day', 'event', 'temperature', 'windspped'], dtype='object')`

In [16]: `df.event` *#or df['event']*

Out[16]:
```
0      Rain
1     Sunny
2      Snow
3      Snow
4      Rain
5     Sunny
Name: event, dtype: object
```

In [18]: `df.event[2]`

Out[18]: `'Snow'`

In [25]: `df[4:5]`

Out[25]:

	day	event	temperature	windspped
4	1/5/2017	Rain	32	4

In [29]: `df[['event','day']]`

Out[29]:

	event	day
0	Rain	1/1/2017
1	Sunny	1/2/2017
2	Snow	1/3/2017
3	Snow	1/4/2017
4	Rain	1/5/2017
5	Sunny	1/6/2017

In [39]: `type(df['event'])`

Out[39]: `pandas.core.series.Series`

In [40]: `df[:] #or just df to show all dataframe`

Out[40]:

	day	event	temperature	windspped
0	1/1/2017	Rain	32	6
1	1/2/2017	Sunny	35	7
2	1/3/2017	Snow	28	2
3	1/4/2017	Snow	24	7
4	1/5/2017	Rain	32	4
5	1/6/2017	Sunny	32	2

In [30]: `df.temperature.max() #or df['temperature'].max`

Out[30]: 35

In [38]: `df['temperature'].max()   ##can be min, mean`

Out[38]: 35

In [42]: `df.describe()`

Out[42]:

	temperature	windspped
count	6.000000	6.000000
mean	30.500000	4.666667
std	3.885872	2.338090
min	24.000000	2.000000
25%	29.000000	2.500000
50%	32.000000	5.000000
75%	32.000000	6.750000
max	35.000000	7.000000

In [44]: `df[df.temperature>=32]`

Out[44]:

	day	event	temperature	windspped
0	1/1/2017	Rain	32	6
1	1/2/2017	Sunny	35	7
4	1/5/2017	Rain	32	4
5	1/6/2017	Sunny	32	2

In [57]: `df[df.temperature == df.temperature.max()]`

Out[57]:

	day	event	temperature	windspped
1	1/2/2017	Sunny	35	7

In [59]: `df['day'][df.temperature == df.temperature.max()]`

Out[59]:
```
1     1/2/2017
Name: day, dtype: object
```

In [51]: `df['event'] [df['temperature'] == 32]`

Out[51]:
```
0      Rain
4      Rain
5      Sunny
Name: event, dtype: object
```

In [53]: `df.event [df.temperature == 32]`

Out[53]:
```
0      Rain
4      Rain
5      Sunny
Name: event, dtype: object
```

In [60]: `df.index`

Out[60]: `RangeIndex(start=0, stop=6, step=1)`

In [ ]: `df.set_index('day', inplace=`**`True`**`) #sets day as index. to modify the d
ata set without creating new one we keep inplace=True`

In [69]: `df`

Out[69]:

	event	temperature	windspped
day			
1/1/2017	Rain	32	6
1/2/2017	Sunny	35	7
1/3/2017	Snow	28	2
1/4/2017	Snow	24	7
1/5/2017	Rain	32	4
1/6/2017	Sunny	32	2

In [71]: `df.loc['1/2/2017']`

Out[71]:
```
event           Sunny
temperature        35
windspped           7
Name: 1/2/2017, dtype: object
```

In [ ]: