Pandas_exercise

January 28, 2026

[2]:
```
import pandas as pd
weather_data ={
    'days': ['1/1/2026','2/1/2026','3/1/2026','4/1/2026','5/1/2026','6/1/2026'],
    'temperature':[32,35,20,28,25,30],
    'windspeed': [2,4,5,6,7,9],
    'event': ['rain','sun','snow','snow','rain','sun']
}
df2=pd.DataFrame(weather_data)
df2
```

[2]:

	days	temperature	windspeed	event
0	1/1/2026	32	2	rain
1	2/1/2026	35	4	sun
2	3/1/2026	20	5	snow
3	4/1/2026	28	6	snow
4	5/1/2026	25	7	rain
5	6/1/2026	30	9	sun

[4]:
```
import pandas as pd
df=pd.read_csv(r"C:\Users\visha\Downloads\weather_data.csv")
df
```

[4]:

	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	31	2	Sunny

[5]:
```
df.shape
```

[5]: (6, 4)

[6]:
```
rows,columns =df.shape
```

[7]:
```
rows
```

[7]:
```
6
```

[8]:
```
columns
```

[8]:
```
4
```

[9]:
```
df.head()
```

[9]:

	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

[10]:
```
df.head(2)
```

[10]:

	day	temperature	windspeed	event
0	1/1/2017	32	6	Rain
1	1/2/2017	35	7	Sunny

[11]:
```
df.tail()
```

[11]:

	day	temperature	windspeed	event
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	31	2	Sunny

[12]:
```
df.tail(1)
```

[12]:

	day	temperature	windspeed	event
5	1/6/2017	31	2	Sunny

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

[14]:

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

[15]:
```
df[1:6:1]
```

[15]:

	day	temperature	windspeed	event
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           31          2  Sunny
```

[16]:
```
df[0:6:2]
```

[16]:
```
         day  temperature  windspeed event
0  1/1/2017           32          6  Rain
2  1/3/2017           28          2  Snow
4  1/5/2017           32          4  Rain
```

[18]:
```
df.columns
```

[18]:
```
Index(['day', 'temperature', 'windspeed', 'event'], dtype='object')
```

[19]:
```
df.day
```

[19]:
```
0    1/1/2017
1    1/2/2017
2    1/3/2017
3    1/4/2017
4    1/5/2017
5    1/6/2017
Name: day, dtype: object
```

[20]:
```
df.event
```

[20]:
```
0     Rain
1    Sunny
2     Snow
3     Snow
4     Rain
5    Sunny
Name: event, dtype: object
```

[21]:
```
df.temperature
```

[21]:
```
0    32
1    35
2    28
3    24
4    32
5    31
Name: temperature, dtype: int64
```

[22]:
```
df[['event','day','temperature']]
```

[22]:
```
   event       day  temperature
0   Rain  1/1/2017           32
```

```
1  Sunny  1/2/2017          35
2   Snow  1/3/2017          28
3   Snow  1/4/2017          24
4   Rain  1/5/2017          32
5  Sunny  1/6/2017          31
```

[23]:
```
df
```

[23]:
```
         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           31          2  Sunny
```

[24]:
```
df['temperature'].max()
```

[24]:
```
35
```

[25]:
```
df['temperature'].min()
```

[25]:
```
24
```

[26]:
```
df['temperature'].mean()
```

[26]:
```
np.float64(30.333333333333332)
```

[27]:
```
df.describe()
```

[27]:
```
       temperature  windspeed
count     6.000000   6.000000
mean     30.333333   4.666667
std       3.829708   2.338090
min      24.000000   2.000000
25%      28.750000   2.500000
50%      31.500000   5.000000
75%      32.000000   6.750000
max      35.000000   7.000000
```

[28]:
```
df[df.temperature>=32]
```

[28]:
```
         day  temperature  windspeed  event
0  1/1/2017           32          6   Rain
1  1/2/2017           35          7  Sunny
4  1/5/2017           32          4   Rain
```

[29]:
```
df[df.temperature==df.temperature.max()]
```

[29]:
```
         day  temperature  windspeed  event
1  1/2/2017           35          7  Sunny
```

[30]:
```
df['day'][df.temperature==df.temperature.max()]
```

[30]:
```
1    1/2/2017
Name: day, dtype: object
```

[31]:
```
df[['day','temperature']][df.temperature==df.temperature.max()]
```

[31]:
```
         day  temperature
1  1/2/2017           35
```

[32]:
```
df
```

[32]:
```
         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           31          2  Sunny
```

[33]:
```
df.index
```

[33]:
```
RangeIndex(start=0, stop=6, step=1)
```

[34]:
```
df.set_index('day')
```

[34]:
```
           temperature  windspeed  event
day
1/1/2017           32          6   Rain
1/2/2017           35          7  Sunny
1/3/2017           28          2   Snow
1/4/2017           24          7   Snow
1/5/2017           32          4   Rain
1/6/2017           31          2  Sunny
```

[36]:
```
df.set_index('day',inplace=True)
```

[37]:
```
df
```

[37]:
```
           temperature  windspeed  event
day
1/1/2017           32          6   Rain
1/2/2017           35          7  Sunny
1/3/2017           28          2   Snow
1/4/2017           24          7   Snow
```

```
1/5/2017           32          4   Rain
1/6/2017           31          2  Sunny
```

[39]:
```
df.loc['1/1/2017']
```

[39]:
```
temperature      32
windspeed         6
event          Rain
Name: 1/1/2017, dtype: object
```

[40]:
```
df.reset_index(inplace=True)
```

[41]:
```
df
```

[41]:

	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	31	2	Sunny

[42]:
```
df.set_index('event',inplace=True)
```

[43]:
```
df
```

[43]:

event	day	temperature	windspeed
Rain	1/1/2017	32	6
Sunny	1/2/2017	35	7
Snow	1/3/2017	28	2
Snow	1/4/2017	24	7
Rain	1/5/2017	32	4
Sunny	1/6/2017	31	2

[45]:
```
df.loc['Snow']
```

[45]:

event	day	temperature	windspeed
Snow	1/3/2017	28	2
Snow	1/4/2017	24	7

[ ]:
```
```