

## Tutorial 8: Ordenar-Agrupar

In [1]:

```
import pandas as pd
import numpy as np
```

In [2]:

```
s=pd.Series(range(5),
            index=["e","d","a","b","c"])
s
```

Out[2]:

```
e    0
d    1
a    2
b    3
c    4
dtype: int64
```

In [3]:

```
s.sort_index()
```

Out[3]:

```
a    2
b    3
c    4
d    1
e    0
dtype: int64
```

In [4]:

```
df=pd.DataFrame(
    np.arange(12).reshape(3,4),
    index=["uno","dos","tres"],
    columns=["d","a","b","c"])
df
```

Out[4]:

	d	a	b	c
uno	0	1	2	3
dos	4	5	6	7
tres	8	9	10	11

In [8]:

```
df.sort_index(ascending=False)
```

Out[8]:

	d	a	b	c
uno	0	1	2	3
tres	8	9	10	11
dos	4	5	6	7

In [6]:

```
df.sort_index(axis=1)
```

Out[6]:

	a	b	c	d
uno	1	2	3	0
dos	5	6	7	4
tres	9	10	11	8

In [7]:

```
df.sort_index(axis=1, ascending=False)
```

Out[7]:

	d	c	b	a
uno	0	3	2	1
dos	4	7	6	5
tres	8	11	10	9

In [9]:

```
s2=pd.Series([5,np.nan,3,-1,9])  
s2
```

Out[9]:

```
0    5.0  
1    NaN  
2    3.0  
3   -1.0  
4    9.0  
dtype: float64
```

In [10]:

```
s2.sort_values()
```

Out[10]:

```
3   -1.0  
2    3.0  
0    5.0  
4    9.0  
1    NaN  
dtype: float64
```

In [11]:

```
df2=pd.DataFrame(  
    {"a": [5,3,-1,9], "b": [1,-2,0,5]})  
df2
```

Out[11]:

	a	b
0	5	1
1	3	-2
2	-1	0
3	9	5

In [12]:

```
df2.sort_values(b, ascending=False)
```

```
df2.sort_values(by="b")
```

Out[12]:

	a	b
1	3	-2
2	-1	0
0	5	1
3	9	5

In [13]:

```
df2.sort_values(by=["b", "a"])
```

Out[13]:

	a	b
1	3	-2
2	-1	0
0	5	1
3	9	5

## Práctica

Practiquemos usando datos reales (ejemplo videojuegos).

In [14]:

```
data=pd.read_csv("DataSets/vgsalesGlobale.csv")
```

In [15]:

```
data.head()
```

Out[15]:

	Rank	Name	Platform	Year	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales
0	1	Wii Sports	Wii	2006.0	Sports	Nintendo	41.49	29.02	3.77	8.46	82.74
1	2	Super Mario Bros.	NES	1985.0	Platform	Nintendo	29.08	3.58	6.81	0.77	40.24
2	3	Mario Kart Wii	Wii	2008.0	Racing	Nintendo	15.85	12.88	3.79	3.31	35.82
3	4	Wii Sports Resort	Wii	2009.0	Sports	Nintendo	15.75	11.01	3.28	2.96	33.00
4	5	Pokemon Red/Pokemon Blue	GB	1996.0	Role-Playing	Nintendo	11.27	8.89	10.22	1.00	31.37

In [16]:

```
data["Name"].sort_values(ascending=False)
```

Out[16]:

```
9135      ;Shin Chan Flipa en colores!
470        wwe Smackdown vs. Raw 2006
15523      uDraw Studio: Instant Artist
7835      uDraw Studio: Instant Artist
627        uDraw Studio
...
8304      .hack//G.U. Vol.3//Redemption
8602      .hack//G.U. Vol.2//Reminisce (jp sales)
7107      .hack//G.U. Vol.2//Reminisce
```

8357 .hack//G.U. Vol.1//Rebirth  
4754 '98 Koshien  
Name: Name, Length: 16598, dtype: object

In [17]:

```
data.sort_values("Name")
```

Out[17]:

Rank		Name	Platform	Year	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_S
4754	4756	'98 Koshien	PS	1998.0	Sports	Magical Company	0.15	0.10	0.12	0.03	
8357	8359	.hack//G.U. Vol.1//Rebirth	PS2	2006.0	Role-Playing	Namco Bandai Games	0.00	0.00	0.17	0.00	
7107	7109	.hack//G.U. Vol.2//Reminisce	PS2	2006.0	Role-Playing	Namco Bandai Games	0.11	0.09	0.00	0.03	
8602	8604	.hack//G.U. Vol.2//Reminisce (jp sales)	PS2	2006.0	Role-Playing	Namco Bandai Games	0.00	0.00	0.16	0.00	
8304	8306	.hack//G.U. Vol.3//Redemption	PS2	2007.0	Role-Playing	Namco Bandai Games	0.00	0.00	0.17	0.00	
...	...	...	...	...	...	...	...	...	...	...	...
627	628	uDraw Studio	Wii	2010.0	Misc	THQ	1.67	0.58	0.00	0.20	
7835	7837	uDraw Studio: Instant Artist	Wii	2011.0	Misc	THQ	0.08	0.09	0.00	0.02	
15523	15526	uDraw Studio: Instant Artist	X360	2011.0	Misc	THQ	0.01	0.01	0.00	0.00	
470	471	wwe Smackdown vs. Raw 2006	PS2	NaN	Fighting	NaN	1.57	1.02	0.00	0.41	
9135	9137	¡Shin Chan Flipa en colores!	DS	2007.0	Platform	505 Games	0.00	0.00	0.14	0.00	

16598 rows × 11 columns



In [20]:

```
data.sort_values("Year")
```

Out[20]:

Rank		Name	Platform	Year	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales
6896	6898	Checkers	2600	1980.0	Misc	Atari	0.22	0.01	0.0	0.00	0.24
2669	2671	Boxing	2600	1980.0	Fighting	Activision	0.72	0.04	0.0	0.01	0.77
5366	5368	Freeway	2600	1980.0	Action	Activision	0.32	0.02	0.0	0.00	0.34
1969	1971	Defender	2600	1980.0	Misc	Atari	0.99	0.05	0.0	0.01	1.05
1766	1768	Kaboom!	2600	1980.0	Misc	Activision	1.07	0.07	0.0	0.01	1.15
...	...	...	...	...	...	...	...	...	...	...	...
16307	16310	Freaky Flyers	GC	NaN	Racing	Unknown	0.01	0.00	0.0	0.00	0.01
16327	16330	Inversion	PC	NaN	Shooter	Namco Bandai Games	0.01	0.00	0.0	0.00	0.01
16366	16369	Hakuouki: Shinsengumi Kitan	PS3	NaN	Adventure	Unknown	0.01	0.00	0.0	0.00	0.01

	Rank	Name	Platform	Year	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales
16427	16430	Virtua Quest	GC	NaN	Role-Playing	Unknown	0.01	0.00	0.0	0.00	0.01
16493	16496	The Smurfs	3DS	NaN	Action	Unknown	0.00	0.01	0.0	0.00	0.01

16598 rows x 11 columns



In [21]:

```
data.sort_values(["Year", "Name"])
```

Out[21]:

	Rank	Name	Platform	Year	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales	
	258	259	Asteroids	2600	1980.0	Shooter	Atari	4.00	0.26	0.00	0.05	4.31
	2669	2671	Boxing	2600	1980.0	Fighting	Activision	0.72	0.04	0.00	0.01	0.77
	6317	6319	Bridge	2600	1980.0	Misc	Activision	0.25	0.02	0.00	0.00	0.27
	6896	6898	Checkers	2600	1980.0	Misc	Atari	0.22	0.01	0.00	0.00	0.24
	1969	1971	Defender	2600	1980.0	Misc	Atari	0.99	0.05	0.00	0.01	1.05
	...	...	...	...	...	...	...	...	...	...	...	...
	7351	7353	Yu Yu Hakusho: Dark Tournament	PS2	NaN	Fighting	NaN	0.10	0.08	0.00	0.03	0.21
	15476	15479	Yu-Gi-Oh! 5D's Wheelie Breakers (JP sales)	Wii	NaN	Racing	Unknown	0.00	0.00	0.02	0.00	0.02
	11409	11411	Zero: Tsukihami no Kamen	Wii	NaN	Action	Nintendo	0.00	0.00	0.08	0.00	0.08
	8899	8901	eJay Clubworld	PS2	NaN	Misc	Empire Interactive	0.07	0.06	0.00	0.02	0.15
	470	471	wwe Smackdown vs. Raw 2006	PS2	NaN	Fighting	NaN	1.57	1.02	0.00	0.41	3.00

16598 rows x 11 columns

In [ ]: