

Ordenamientos

1) Burbuja

[100, 22, 95, 1, 23, 45, 450, 18, 35]

```
def ordenamientoBurbuja (lista):
    for i in range (len(lista)-1):
        for j in range (len(lista)-i-1):
            if (lista[j] > lista[j+1]):
                K = lista[j+1]
                lista[j+1] = lista[j]
                lista[j] = K
        print(lista)
```

Bucle for i Bucle for j

N veces	i	lista	len(lista)
1	1	[100, 22, 95, 1, 23, 45, 450, 18, 35]	9
2	2	[22, 95, 1, 23, 45, 100, 18, 35, 450]	9
3	3	[22, 95, 1, 23, 45, 18, 35, 100, 450]	9
4	4	[1, 22, 23, 45, 18, 35, 95, 100, 450]	9
5	5	[1, 22, 23, 18, 35, 45, 95, 100, 450]	9
6	6	[1, 22, 18, 23, 35, 45, 95, 100, 450]	9
7	7	[1, 18, 22, 23, 35, 45, 95, 100, 450]	9
8	8	[1, 18, 22, 23, 35, 45, 95, 100, 450]	9

Buck for j

Primera pasada : rango de 0 a 7

j=0

0 [22, 100, 95, 1, 23, 145, 450, 18, 35]

1 [22, 100, 95, 1, 23, 145, 450, 18, 35]

100 > 22 # si

K=22

Lista[j+1] = lista[j] # 100

Lista[j] = K # 22

[22, 100, 95, 1, 23, 145, 450, 18, 35]

j=1

100 > 95 # si

K=95

Lista[j+1] = 100

Lista[j] = K # 95

[22, 95, 100, 1, 23, 145, 450, 18, 35]

j=2

100 > 1 # si

K=1

Lista[j+1] = 100

Lista[j] = K # 1

[22, 95, 1, 100, 23, 145, 450, 18, 35]

$$j=3$$

$$100 > 23 \quad \# \text{ si}$$

$$K=23$$

$$\text{Lista}[j] = \cancel{23} \# 23$$

$$\text{Lista}[j+1] = 100$$

$$[22, 95, 1, 23, 100, 45, 450, 18, 35]$$

$$j=4$$

$$100 > 95 \quad \# \text{ si}$$

$$\text{Lista}[j] = 95$$

$$\text{Lista}[j+1] = 100$$

$$[22, 95, 1, 23, 95, 100, 450, 18, 35]$$

$$j=5$$

$$100 > 450 \quad \# \text{ NO}$$

$$j=6$$

$$450 > 18 \quad \# \text{ si}$$

$$\text{Lista}[j] = 18$$

$$\text{Lista}[j+1] = 450$$

$$[22, 95, 1, 23, 95, 100, 18, 450, 35]$$

$$j=7$$

$$450 > 35 \quad \# \text{ si}$$

$$\text{Lista}[j] = 35$$

$$\text{Lista}[j+1] = 450$$

$$[22, 95, 1, 23, 95, 100, 18, 35, 450]$$

Segunda pasada : rango 0 a 6

$j=0$ $22 > 95$ # No

$j=1$ $95 > 1$ # Si

$Lista[j] = 1$

$Lista[j+1] = 95$

$[22, 1, 95, 23, 45, 100, 18, 35, 450]$

$j=2$ $95 > 23$ # Si

$Lista[j] = 23$

$Lista[j+1] = 95$

$[22, 1, 23, 95, 45, 100, 18, 35, 450]$

$j=3$ $95 > 95$ # Si

$Lista[j] = 95$

$Lista[j+1] = 95$

$[22, 1, 23, 45, 95, 100, 18, 35, 450]$

$j=4$ $95 > 100$ # No

$j=5$ $100 > 18$

$Lista[j] = 18$

$Lista[j+1] = 100$

$[22, 1, 23, 45, 95, 18, 100, 35, 450]$

$j=6$ $100 > 35$ # si

$Lista[j] = 35$

$Lista[j+1] = 100$

$[22, 1, 23, 95, 95, 18, 35, 100, 450]$

Tercera pasada : rango 0 a 5

$j=0$ $22 > 1$ # si

$Lista[j] = 1$

$Lista[j+1] = 22$

$[1, 22, 23, 95, 95, 18, 35, 100, 450]$

$j=1$ $22 > 23$ # NO

$j=2$ $23 > 95$ # NO

$j=3$ $95 > 95$ # NO

$j=4$ $95 > 18$ # si

$Lista[j] = 18$

$Lista[j+1] = 95$

$[1, 22, 23, 95, 18, 95, 35, 100, 450]$

$j=5$ $95 > 35$ # si

$Lista[j] = 35$

$Lista[j+1] = 95$

$[1, 22, 23, 95, 18, 35, 95, 100, 450]$

Cuarta pasada : rango 0 a 4

$j=0$ $1 > 22$ # No

$j=1$ $22 > 23$ # No

$j=2$ $23 > 45$ # No

$j=3$ $45 > 18$ # Si

Lista[j] = 18

Lista[j+1] = 45

[1, 22, 23, 18, 45, 35, 95, 100, 450]

$j=4$ $45 > 35$ # Si

Lista[j] = 35

Lista[j+1] = 45

[1, 22, 23, 18, 35, 45, 95, 100, 450]

Quinta pasada : rango 0 a 3

$j=0$ $1 > 22$ # No

$j=1$ $22 > 23$ # No

$j=2$ $23 > 18$ # Si

Lista[j] = 18

Lista[j+1] = 23

[1, 22, 18, 23, 35, 45, 95, 100, 450]

$j=3$ $23 > 35$ $\#$ NO

Sexta pasada rango 0 a 2

$j=0$ $1 > 22$ $\#$ NO

$j=1$ $22 > 18$ $\#$ Si

$Lista[j] = 18$

$Lista[j+1] = 22$

$[1, 18, 22, 23, 35, 45, 95, 100, 950]$

$j=2$ $22 > 23$ $\#$ NO

Septima pasada rango 0 a 1

$j=0$ $1 > 18$ $\#$ NO

$j=1$ $18 > 22$ $\#$ NO

$Lista = [1, 18, 22, 23, 35, 45, 95, 100, 950]$

Fin,