

1 - 78, 2, 7, 30, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54

RESULTADO FINAL = 78,2,30,7,87,92,93,94,11,90,11,37,61,47,54,51

iterações

1 - 2, 7, 30, 78, 87, 93, 90, 11, 37, 47, 61, 51, 54, 92, 94

2 - 2, 7, 30, 78, 87, 93, 11, 37, 47, 61, 51, 54, 90, 92, 94

3 - 2, 7, 30, 78, 87, 11, 37, 47, 61, 51, 54, 90, 92, 93, 94

4 - 2, 7, 30, 11, 37, 47, 61, 51, 54, 78, 87, 90, 92, 93, 94

5 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

6 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

7 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

8 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

9 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

10 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

11 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

12 - 2, 7, 11, 30, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

13 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

14 - 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93, 94

$$2 - (n-1) + (n-2) + (n-3) + \dots + 1$$

$$s = (n-1) \cdot N \text{ Por } 2$$

Melhor Caso :

Bubble sort é $O(n \text{ elevado a } 2) = n^2 \text{ sobre } 2$

3 - 78, 2, 7, 30, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54

2,7,11,30,37,47,51,54,61,78.87,90,92,93,94

78, 2, 7, 30, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54

2, 78, 7, 30, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54

2, 7, 78, 30, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54

2, 7, 30, 78, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 51, 61, 54
 2, 7, 30, 78, 87, 92, 93, 94, 90, 11, 37, 47, 51, 54, 61
 RESULTADO FINAL = 2, 7, 30, 11, 37, 47, 51, 54, 61, 78, 87, 90,
 92, 93, 94

14 - 2,7,30,11,37,47,51,54,61,78,87,90,92,93,94

4- – Total de comparações : $T(n)=0+1+2+\dots+(n-1)$

Pior caso do insertion sort $O(n \text{ elevado a } 2)$

5 – ITERAÇÕES – selection sort

= 2, 78, 7, 30, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 78, 30, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 92, 87, 93, 94, 90, 11, 37, 47, 61, 51, 54
 2, 7, 30, 78, 11, 87, 93, 94, 90, 92, 37, 47, 61, 51, 54
 2, 7, 30, 78, 11, 87, 93, 94, 90, 92, 37, 47, 61, 51, 54
 2, 7, 30, 78, 11, 37, 93, 94, 90, 92, 87, 47, 61, 51, 54
 2, 7, 30, 78, 11, 37, 47, 94, 90, 92, 87, 93, 61, 51, 54
 2, 7, 30, 78, 11, 37, 47, 51, 90, 92, 87, 93, 61, 94, 54
 2, 7, 30, 78, 11, 37, 47, 51, 54, 92, 87, 93, 61, 94, 90

2, 7, 30, 78, 11, 37, 47, 51, 54, 61, 87, 93, 92, 94, 90
2, 7, 30, 78, 11, 37, 47, 51, 54, 61, 87, 93, 92, 94, 90
2, 7, 30, 78, 11, 37, 47, 51, 54, 61, 87, 90, 92, 94, 93
2, 7, 30, 78, 11, 37, 47, 51, 54, 61, 87, 90, 92, 94, 93

Resultado Final = 2, 7, 11, 30, 37, 47, 51, 54, 61, 78, 87, 90, 92, 93,
94