

Bubble Sort

Alg.: BUBBLESORT(A)

for $i \leftarrow 1$ to $\text{length}[A]$

do for $j \leftarrow \text{length}[A]$ downto $i + 1$

do if $A[j] < A[j - 1]$

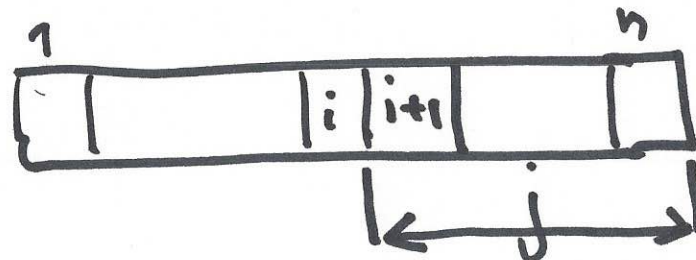
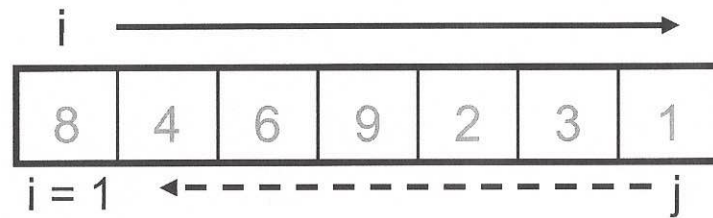
then exchange $A[j] \Leftrightarrow A[j - 1]$

$\leq n$

$n+1$

$$\sum_{i=1}^n (n-i+1)$$

$$\sum_{i=1}^n (n-i)$$



$$\sum_{i=1}^n (n-i+1)$$

Selection Sort

Alg.: SELECTION-SORT(A)

$n \leftarrow \text{length}[A]$

for $j \leftarrow 1$ to $n - 1$

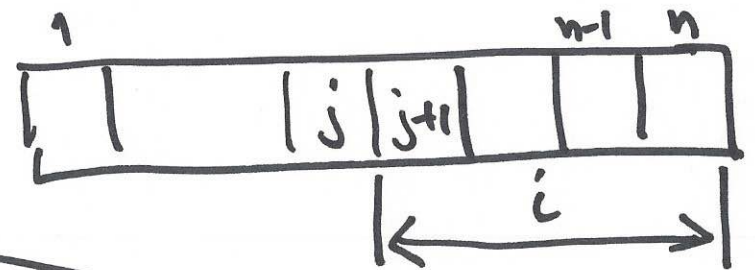
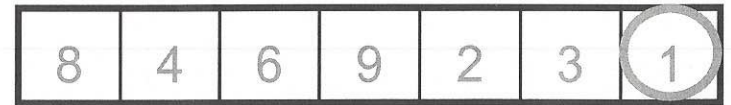
do $\text{smallest} \leftarrow j$

for $i \leftarrow j + 1$ to n

{ do if $A[i] < A[\text{smallest}]$

then $\text{smallest} \leftarrow i$

exchange $A[j] \Leftrightarrow A[\text{smallest}]$



$$\sum_{j=1}^{n-1} (n-j+1)$$