
Algorithm 1: QuickSort

Data: $A, low, high$

Result: sorted array A

// Array A , Range-left low , Range-right $high$

```
1 if  $low < high$  then
2    $p \leftarrow \text{Partition}(A, low, high);$ 
3   QuickSort( $A, low, p-1$ );
4   QuickSort( $A, p+1, high$ );
```

Algorithm 2: Partition

Data: $A, low, high$

Result: pivot index j

// Array A , Range-left low , Range-right $high$

```
1  $pivot \leftarrow A[high];$ 
2  $i \leftarrow low;$ 
3 for  $j = low$  to  $high - 1$  do
4   if  $A[j] \leq pivot$  then
5     swap( $A[i], A[j]$ );
6      $i \leftarrow i + 1;$ 
7 end
8 swap( $A[i], A[high]$ );
9 return  $i;$ 
```
